

TransAlta Utilities Corporation

AIR QUALITY MONITORING October 2017 Monthly Report

Prepared by:

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

November 15, 2017

Attention: Mr. Ken Woolard
GBS Building
RR#1, Site 4, Box #1
Duffield AB T0E 0N0

Dear Sir:

**Monthly Ambient Air Quality Monitoring Report for October 2017
For TransAlta Utilities Corporation**

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

Network Stations are	AMS 907	Power
Identified as:	AMS 908	Meadows
	AMS 959	Wagner2

The person responsible for this reporting is Gary Redmond, Executive Director of West Central Airshed Society.

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

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

There were no readings in excess of the AAAQO as indicated in Air Monitoring Directive Section III.A.3. (a&b) for SO₂, NO₂, or PM_{2.5}.

2. Operational times less than 90 percent:

All analyzers returned operational uptimes of greater than 90% for the month of October.

3. Monitoring Notes:

AMS 907 (Power)

The SO₂ and NO_x analyzers returned uptimes of 92.7%, and the PM_{2.5} analyzer returned an uptime of 93.2%. Station internal temperatures exceeded 30°C; affected pollutant parameter data was invalidated. All meteorological sensors returned uptimes of 100% for the month of October.

AMS 908 (Meadows)

The wind instrument returned an uptime of 99.5% due to malfunctioning, attributed to cold temperatures and precipitation causing the instrument to freeze up. All other analyzers and meteorological sensors returned uptimes of 100% for the month of October.

AMS 959 (Wagner2)

The wind instrument returned an uptime of 96.1% due to malfunctioning, attributed to cold temperatures and precipitation causing the instrument to freeze up. All other analyzers and meteorological sensors returned uptimes of 100% for the month of October.

If additional information is required, please call (587) 499-4900.

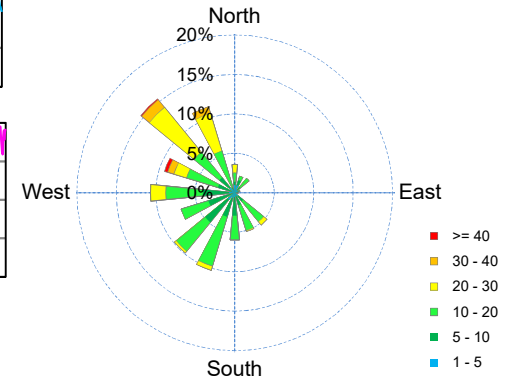
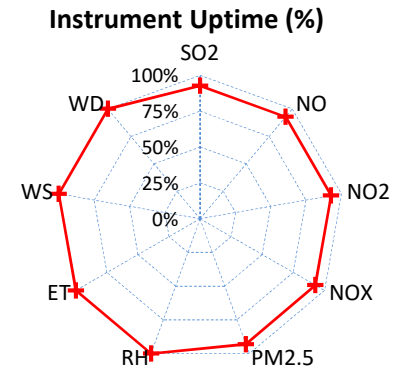
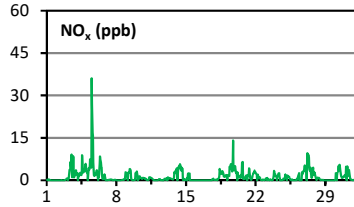
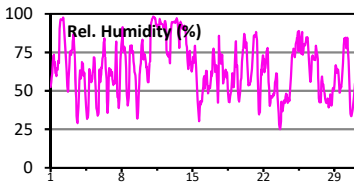
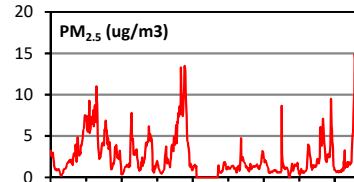
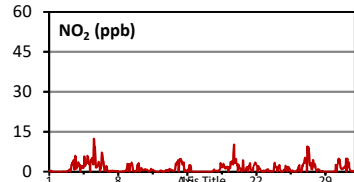
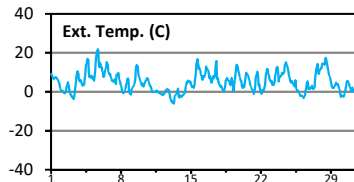
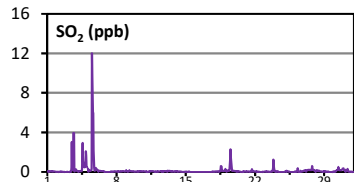
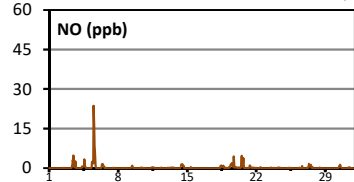
Sincerely,

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

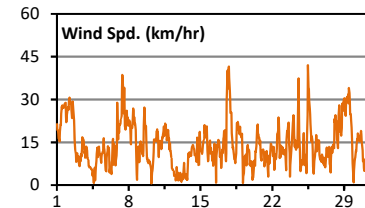
Patrick Andersen
Environmental Specialist

WCAS - October 2017 Power Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc Unit	Avg. Conc.	Uptime	Maximum		AAAQO Objective	Exceed No.	Maximum		AAAQO Objective	Exceed No.
				Conc	Time			Conc	Time		
SO ₂	ppb	0.2	92.7%	1.7	Oct-5	48	0	12	Oct-05 13:00	172	0
NO	ppb	0.3	92.7%	2.8	Oct-5	-	-	23.7	Oct-05 13:00	-	-
NO ₂	ppb	1.4	92.7%	4.3	Oct-5	-	-	12.4	Oct-05 13:00	159	0
NO _x	ppb	1.6	92.7%	7.1	Oct-5	-	-	36.1	Oct-05 13:00	-	-
PM _{2.5}	µg/m ³	3	93.1%	6	Oct-13	30	0	15	Oct-31 0:00	80	0



Wind Rose (km/hr)

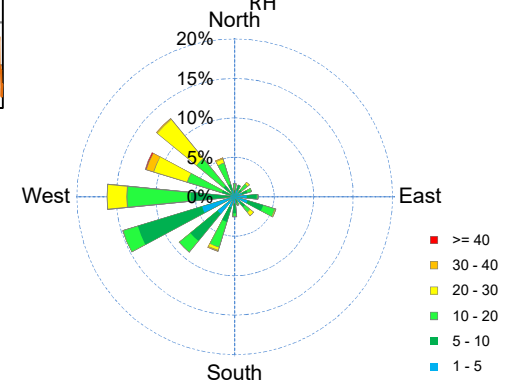
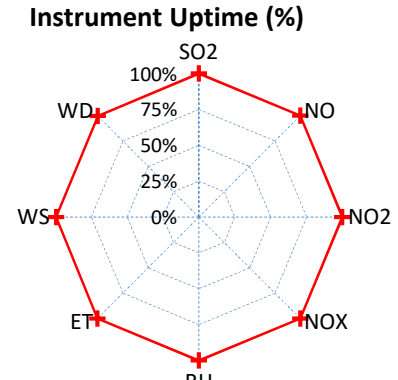
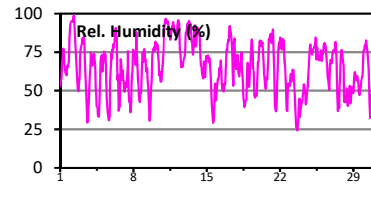
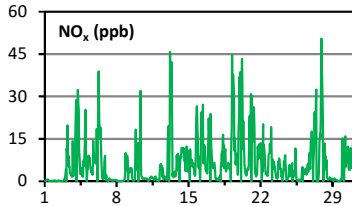
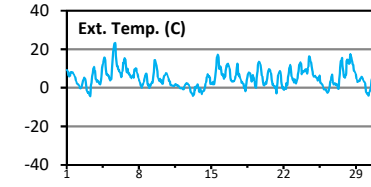
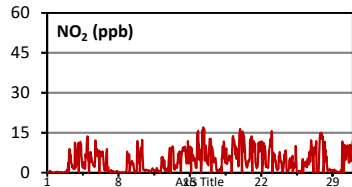
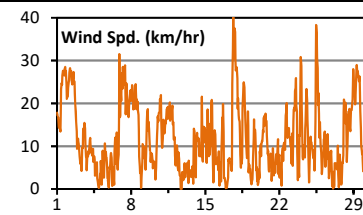
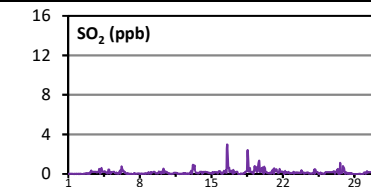
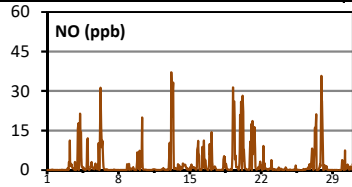


Monthly Summary

- * All data has been slope, intercept, and baseline corrected. Data may change after validation process.
- * The measured ambient concentrations of all parameters are within the AAAQO.
- * All compliance parameters are above 90% operational. Operational issues include station internal temperature >30C; affected data for all pollutant parameters has been invalidated.
- * Routine calibration was performed on October 26.

WCAS - October 2017 Meadows Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc Unit	Avg. Conc.	Uptime	Maximum		AAAQO Objective	Exceed No.	Maximum		AAAQO Objective	Exceed No.
				Conc	Time			Conc	Time		
SO ₂	ppb	0.2	100.0%	0.5	Oct-16	48	0	3.0	Oct-16 14:00	172	0
NO	ppb	2.3	100.0%	10.1	Oct-27	-	-	37.2	Oct-13 5:00	-	-
NO ₂	ppb	4.7	100.0%	9.9	Oct-27	-	-	17.0	Oct-16 8:00	159	0
NO _x	ppb	6.9	100.0%	19.9	Oct-27	-	-	50.5	Oct-27 22:00	-	-



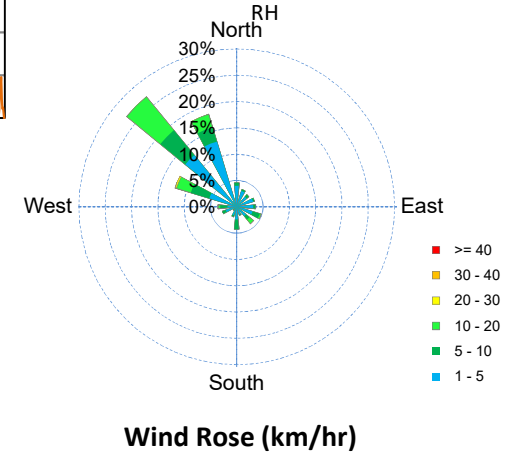
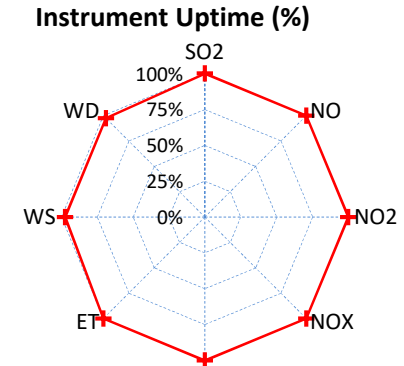
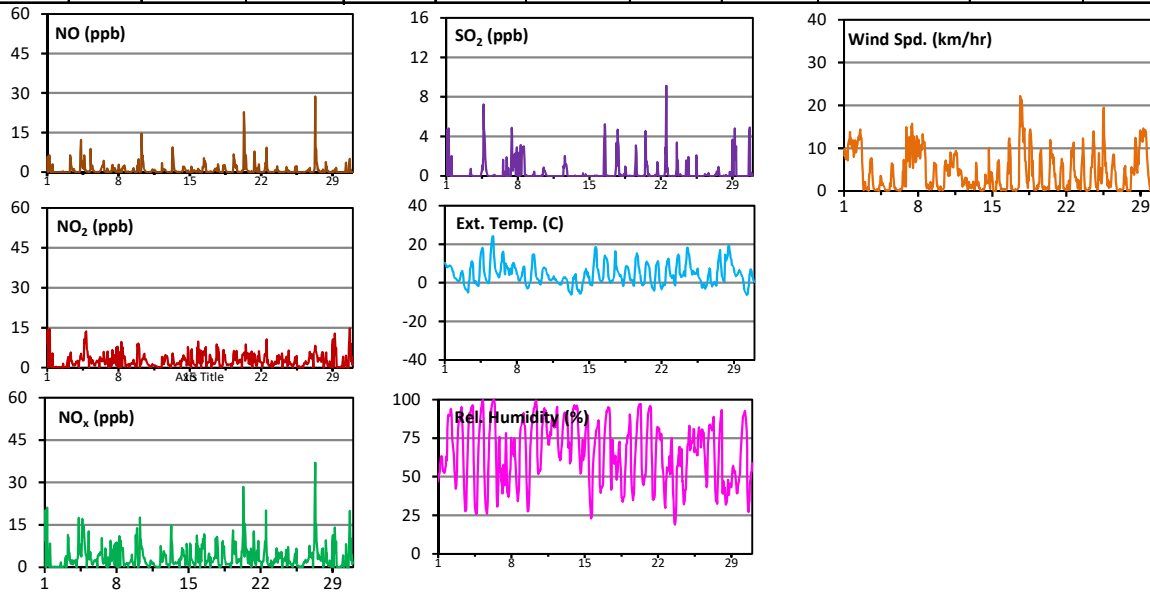
Wind Rose (km/hr)

Monthly Summary

- * All data has been slope, intercept, and baseline corrected. Data may change after validation process.
- * The measured ambient concentrations of all parameters are within the AAAQO.
- * All compliance parameters are above 90% operational.
- * Routine calibration was performed on October 27.

WCAS - October 2017 Wagner2 Summary Report

Pollutants		Month Records		24-Hour Records				1-Hour Records			
Name	Conc Unit	Avg. Conc.	Uptime	Maximum		AAAQO Objective	Exceed No.	Maximum		AAAQO Objective	Exceed No.
				Conc	Time			Conc	Time		
SO ₂	ppb	0.4	100.0%	1.2	Oct-4	48	0	9.1	Oct-22 13:00	172	0
NO	ppb	0.9	100.0%	3.3	Oct-27	-	-	28.7	Oct-27 8:00	-	-
NO ₂	ppb	2.8	100.0%	5.7	Oct-4	-	-	14.8	Oct-30 17:00	159	0
NO _x	ppb	3.7	100.0%	7.9	Oct-4	-	-	37.0	Oct-27 8:00	-	-



Monthly Summary

- * All data has been slope, intercept, and baseline corrected. Data may change after validation process.
- * The measured ambient concentrations of all parameters are within the AAAQO.
- * All compliance parameters are above 90% operational.
- * Routine calibration was performed on October 30.

WEST CENTRAL AIRSHED SOCIETY

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

**AMS 907
POWERS
OCTOBER 2017**

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

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

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

TransAlta / Powers Station 907												October 2017		
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	Percentile					Exceedences		24 Hour Average Max (ppm)
							P10	Q1	Median	Q3	P90	1-hour	24-hour	
SO ₂ (ppb)	34	656	92.7	0.2	0.0	12.0	0.0	0.0	0.0	0.1	0.2	0	0	0.002
NO (ppb)	35	655	92.7	0.3	0.0	23.7	0.0	0.0	0.0	0.1	0.6	-	-	-
NO ₂ (ppb)	35	655	92.7	1.4	0.0	12.4	0.0	0.1	0.7	2.2	3.4	0	0	0.004
NO _x (ppb)	35	655	92.7	1.6	0.0	36.1	0.0	0.1	0.7	2.3	4.1	-	-	-
Particulate Matter 2.5 microns (μ/m ³)	0	693	93.2	2.6	0.0	14.9	0.7	1.0	1.7	3.4	6.1	0	0	6.49 ug/m3
Wind Speed (kph)	0	744	100.0	14.3	0.5	42.1	5.5	8.9	12.6	18.7	25.4	-	-	-
Temperature (°C)	0	744	100.0	5.0	-6.1	21.9	-1.1	1.1	4.8	8.0	12.4	-	-	-
Relative Humidity (%)	0	744	100.0	65.3	25.0	98.3	42.3	52.1	64.4	77.9	91.8	-	-	-
Std Dev Wind Direction (deg)	0	744	100.0	15.1	3.8	100.5	8.4	10.3	12.5	15.6	22.2	-	-	-
Std Dev Wind Speed (kph)	0	744	100.0	3.2	0.6	13.0	1.3	1.9	2.8	4.3	5.8	-	-	-



WCAS - Power
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
October 2017

Maximum Value: 12.01 ppb on Oct 5 13:00																								Hours in Service: 744																								
Maximum Daily Average: 1.74 ppb on Oct 5																								Hours of Data: 656																								
Minimum Value: 0.0 ppb on Oct 1 23:00																								Hours of Missing Data: 88																								
Minimum Daily Average: 0.01 ppb on Oct 2																								Hours of Calibration: 34																								
Maximum Diurnal Average: 0.62 ppb at hour 13																								Percent Operational Time: 92.7																								
Minimum Diurnal Average: 0.06 ppb at hour 10																																																
Monthly Average: 0.169 ppb																																																
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.2 P ₉₉ = 3.0																																																
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-Oct	0.0	0.1	0.1	Z	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.08																						
2-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03																						
3-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.4	3.0	0.8	0.2	0.7	3.9	3.9	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.61	3.94																						
4-Oct	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	2.9	1.1	0.5	0.5	0.5	0.5	0.5	1.1	2.1	1.6	0.5	0.57	2.93																						
5-Oct	0.5	0.4	0.3	Z	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.3	12.0	9.8	6.1	5.9	2.1	0.4	0.1	0.1	0.2	0.4	0.2	0.2	1.74	12.01																						
6-Oct	0.2	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.22																						
7-Oct	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	0.1	0.0	0.0	0.0	0.02	0.07																						
8-Oct	0.0	0.1	0.0	Z	0.1	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.06	0.17																						
9-Oct	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.16																						
10-Oct	0.0	0.0	0.1	Z	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.05	0.06																						
11-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.06																						
12-Oct	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.06	0.08																						
13-Oct	0.1	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.07	0.11																						
14-Oct	0.1	0.1	0.1	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.06																						
15-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	0.05																						
16-Oct	T	T	T	T	T	T	T	T	T	T	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																						
17-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	0.04																						
18-Oct	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.6	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.59																						
19-Oct	0.3	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.3	1.3	2.3	1.5	1.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.38	2.28																						
20-Oct	0.1	0.1	0.1	Z	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.08																						
21-Oct	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	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.05	0.26																						
22-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.03																						
23-Oct	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	0.4	1.2	0.7	0.4	0.0	0.14	1.24																						
24-Oct	0.1	0.0	0.0	Z	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.07																						
25-Oct	0.0	0.0	0.0	Z	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.12																						
26-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.4	0.2	C	C	C	C	C	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.08	0.37																						
27-Oct	0.1	0.2	0.1	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	0.6	0.2	0.2	0.2	0.2	0.2	0.20	0.58																						
28-Oct	0.2	0.1	0.1	Z	0.1	0.2	0.1	0.1	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	0.1	0.1	0.07	0.18																						
29-Oct	0.1	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.06																						
30-Oct	0.0	0.1	0.0	Z	0.1	0.1	0.2	0.2	0.2	0.2	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.2	0.20	0.50																						
31-Oct	0.2	0.2	0.2	Z	0.2	0.2	0.1	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.28																						
																								0.08	0.07	0.06	--	0.07	0.07	0.06	0.08	0.08	0.06	0.09	0.22	0.62	0.59	0.38	0.41	0.27	0.08	0.07	0.08	0.14	0.16	0.13	0.08	Diurnal Average
																								0.49	0.38	0.30	--	0.24	0.19	0.18	0.37	0.28	0.19	0.50	3.01	12.01	9.79	6.07	5.93	3.93	0.54	0.58	0.50	1.24	2.07	1.60	0.53	Diurnal Maximum
Z - zerospan																								C - Calibration				AF - Analyzer Failure				T - Exceeds Temperature Limits																
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																



WCAS - Power
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
October 2017

Maximum Value: 23.71 ppb on Oct 5 13:00																								Hours in Service: 744																								
Maximum Daily Average: 2.80 ppb on Oct 5																								Hours of Data: 655																								
Minimum Value: 0.0 ppb on Oct 1 01:00																								Hours of Missing Data: 89																								
Minimum Daily Average: 0.00 ppb on Oct 1																								Hours of Calibration: 35																								
Maximum Diurnal Average: 1.43 ppb at hour 13																								Percent Operational Time: 92.7																								
Minimum Diurnal Average: 0.01 ppb at hour 3																																																
Monthly Average: 0.264 ppb																																																
Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 0.6 P ₉₉ = 4.4																																																
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																						
2-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.03																						
3-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.6	1.4	3.1	2.3	4.7	1.5	0.3	0.6	2.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.84	4.74																							
4-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.6	0.5	0.5	0.5	0.7	3.2	1.4	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.38	3.25																							
5-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.4	2.3	2.4	2.2	1.8	23.7	15.3	8.3	6.6	1.3	0.1	0.0	0.0	0.0	0.0	0.0	2.80	23.71																							
6-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.3	1.4	1.4	1.5	1.2	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.32	1.54																							
7-Oct	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	0.00	0.05																							
8-Oct	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	0.00	0.04																							
9-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.6	0.8	0.9	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.88																							
10-Oct	0.0	0.0	0.0	Z	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	0.0	0.0	0.03	0.13																							
11-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.27																							
12-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.09																							
13-Oct	0.2	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.20																							
14-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.7	1.4	1.3	1.2	1.4	0.8	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.36	1.42																							
15-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	0.34																							
16-Oct	T	T	T	T	T	T	T	T	T	T	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
17-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	0.00																							
18-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.9	1.0	0.6	0.6	0.6	0.5	0.9	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.28	0.95																							
19-Oct	0.0	0.0	0.0	Z	0.1	0.1	0.3	0.3	0.2	1.2	1.2	1.3	1.9	1.2	0.8	0.4	0.5	4.4	0.2	0.1	0.2	0.2	0.2	0.66	4.38																							
20-Oct	0.2	0.2	0.2	Z	0.2	0.1	0.0	0.0	0.1	0.4	0.2	0.2	4.7	0.7	1.1	2.0	3.8	1.5	0.0	0.0	0.0	0.0	0.0	0.67	4.70																							
21-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	1.0	0.8	0.4	0.2	0.0	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.14	1.02																							
22-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.29																							
23-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.01	0.09																							
24-Oct	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.17																							
25-Oct	0.0	0.0	0.0	Z	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	0.0	0.0	0.01	0.08																							
26-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	C	C	C	C	C	C	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	--	0.81																							
27-Oct	0.0	0.0	0.0	Z	0.2	0.0	0.1	0.3	1.6	1.1	1.0	0.9	1.2	0.5	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.33	1.63																							
28-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	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	0.02	0.18																							
29-Oct	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	0.00	0.00																							
30-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.4	0.9	1.2	1.1	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	1.22																							
31-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.28																							
																								0.02	0.01	0.01	--	0.02	0.01	0.03	0.09	0.41	0.58	0.54	0.56	1.43	0.89	0.52	0.52	0.32	0.25	0.01	0.01	0.01	0.01	0.01	Diurnal Average	
																								0.21	0.19	0.15	--	0.18	0.11	0.27	0.55	2.33	3.06	2.27	4.74	23.71	15.30	8.32	6.56	3.77	4.38	0.19	0.14	0.19	0.22	0.23	0.22	Diurnal Maximum
Z - zerospan																								C - Calibration						AF - Analyzer Failure						T - Exceeds Temperature Limits												
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																



WCAS - Power
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2017

Maximum Value: 12.38 ppb on Oct 5 13:00																								Maximum Daily Average: 4.33 ppb on Oct 5																								Hours in Service: 744	
Minimum Value: 0.0 ppb on Oct 1 11:00																								Minimum Daily Average: 0.01 ppb on Oct 29																								Hours of Data: 655	
Maximum Diurnal Average: 2.05 ppb at hour 9																								Minimum Diurnal Average: 0.99 ppb at hour 19																								Hours of Missing Data: 89	
Monthly Average: 1.381 ppb																								Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.7 Q ₃ = 2.2 P ₉₀ = 3.4 P ₉₉ = 8.5																								Hours of Calibration: 35	
Percent Operational Time: 92.7																																																	
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-Oct	0.1	0.2	0.2	Z	0.2	0.3	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.29																							
2-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.5	0.06	0.50																							
3-Oct	0.7	0.7	0.2	Z	0.5	1.5	2.7	3.3	2.7	3.4	2.8	4.3	1.6	0.7	1.5	5.9	5.7	1.1	1.1	1.5	1.6	2.2	3.5	2.2	2.24	5.90																							
4-Oct	2.2	2.2	2.5	Z	1.9	1.5	1.4	2.1	2.1	1.4	1.3	1.3	1.7	5.6	3.3	2.2	2.4	3.0	3.4	3.3	4.1	5.9	5.3	3.1	2.75	5.88																							
5-Oct	2.9	2.7	3.3	Z	3.3	4.4	3.6	4.3	5.0	3.7	3.2	2.7	12.4	11.4	8.5	9.1	4.9	1.6	1.5	1.7	1.9	2.5	2.7	4.33	12.38																								
6-Oct	3.6	3.0	2.3	Z	1.4	1.1	2.2	5.3	7.1	5.9	4.8	3.7	3.6	1.4	0.4	0.4	0.3	0.9	0.7	2.0	1.0	0.5	0.0	0.0	2.25	7.06																							
7-Oct	0.1	0.1	0.1	Z	0.1	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.15	0.30																							
8-Oct	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	0.2	0.1	0.1	0.2	0.2	0.5	0.4	1.7	2.9	2.8	0.41	2.93																								
9-Oct	2.3	2.1	2.6	Z	2.3	2.7	2.8	2.9	3.4	3.0	2.5	0.8	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6	2.6	2.4	1.48	3.39																							
10-Oct	2.6	3.1	1.8	Z	0.7	0.5	0.6	1.2	1.3	1.1	0.8	0.6	0.6	0.5	0.5	0.7	0.8	0.8	0.8	0.7	0.5	0.7	0.6	0.4	0.95	3.12																							
11-Oct	0.2	0.2	0.1	Z	0.0	0.2	0.7	1.0	0.9	0.7	0.6	0.6	0.6	0.4	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.31	0.98																							
12-Oct	0.0	0.0	0.0	Z	0.0	0.2	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.5	0.5	0.3	0.2	0.17	0.48																							
13-Oct	0.5	0.7	0.4	Z	1.0	0.7	0.7	0.6	0.6	0.6	0.4	0.4	0.3	0.3	0.2	0.3	0.4	0.7	2.1	3.1	2.5	2.8	3.5	1.01	3.48																								
14-Oct	3.5	4.2	3.7	Z	3.5	4.2	4.8	4.2	4.7	4.3	4.2	2.9	3.2	2.5	3.4	3.4	0.2	0.1	0.4	0.6	0.5	0.2	0.1	0.1	2.55	4.77																							
15-Oct	0.1	0.7	0.7	Z	2.4	2.4	2.2	2.3	2.1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	2.43																							
16-Oct	T	T	T	T	T	T	T	T	T	T	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
17-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	0.70																							
18-Oct	0.2	0.2	0.3	Z	0.4	0.4	0.6	0.8	1.4	3.2	2.0	1.7	1.7	1.6	1.9	2.2	2.9	2.1	1.9	1.3	1.1	1.3	1.4	1.6	1.41	3.17																							
19-Oct	1.8	1.6	1.4	Z	1.7	1.6	1.5	1.2	1.3	3.5	2.8	3.0	3.8	3.2	2.9	2.7	6.9	10.2	4.1	3.4	3.3	3.5	4.7	3.2	3.19	10.16																							
20-Oct	2.5	2.4	2.7	Z	2.5	1.9	1.5	1.5	1.2	1.1	0.6	0.7	0.0	0.3	1.7	4.3	2.6	0.5	0.4	0.5	0.5	0.5	0.5	1.4	1.39	4.25																							
21-Oct	1.6	1.6	1.7	Z	1.8	1.7	1.7	2.3	3.1	1.4	0.7	0.3	0.1	0.1	0.2	0.4	1.6	1.9	2.5	2.6	3.1	3.3	3.2	2.8	1.74	3.34																							
22-Oct	2.4	2.2	1.8	Z	2.1	1.9	1.5	1.0	1.1	0.8	0.6	0.3	0.1	0.1	0.0	0.0	0.1	0.3	0.3	0.2	0.1	0.0	0.3	0.5	0.78	2.44																							
23-Oct	0.6	0.7	0.6	Z	0.8	0.5	0.3	0.2	0.0	0.0	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.2	0.3	1.7	3.2	2.6	2.3	1.6	0.71	3.22																							
24-Oct	1.4	1.6	1.3	Z	1.5	1.8	2.2	2.1	2.4	1.1	0.6	0.1	0.0	0.0	0.0	0.0	0.1	0.4	0.7	0.6	0.4	0.3	1.0	2.2	0.94	2.39																							
25-Oct	1.8	1.4	1.2	Z	1.7	1.7	1.4	1.5	1.2	0.8	0.5	0.2	0.3	0.1	0.1	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.63	1.78																							
26-Oct	0.0	0.2	0.3	Z	0.5	1.1	1.1	1.9	2.4	C	C	C	C	C	C	C	1.9	2.4	2.1	3.1	3.1	3.1	4.3	5.2	3.9	--	5.19																						
27-Oct	3.5	3.3	2.8	Z	9.4	7.0	9.2	8.5	6.3	3.2	2.4	2.2	3.2	2.2	0.8	0.7	1.4	3.4	4.4	2.2	2.0	2.9	2.6	2.0	3.72	9.39																							
28-Oct	1.0	0.6	0.5	Z	0.3	0.9	0.8	0.7	0.8	0.6	0.3	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.33	1.03																							
29-Oct	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	0.1	0.1	0.0	0.01	0.06																							
30-Oct	0.4	2.6	2.4	Z	2.3	2.3	3.0	4.2	4.9	3.3	4.5	3.1	2.3	1.3	1.1	0.9	0.8	0.9	1.0	1.3	1.2	1.5	1.8	1.4	2.11	4.87																							
31-Oct	1.2	1.7	4.8	Z	4.3	4.8	1.7	1.6	2.9	3.4	1.8	1.0	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.3	0.4	1.37	4.84																							
																								1.29	1.38	1.37	--	1.61	1.64	1.69	1.91	2.05	1.75	1.40	1.14	1.35	1.20	1.03	1.27	1.21	1.08	0.99	1.05	1.12	1.30	1.55	1.35	Diurnal Average	
																								3.58	4.20	4.84	--	9.39	6.97	9.18	8.53	7.06	5.92	4.75	4.30	12.38	11.44	8.46	9.14	6.89	10.16	4.40	3.44	4.10	5.88	5.34	3.91	Diurnal Maximum	
Z - zerospan																								C - Calibration				AF - Analyzer Failure				T - Exceeds Temperature Limits																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																	



WCAS - Power
Summary of Hourly Averages

NOx (NO_x) - ppb
October 2017

Maximum Value: 36.11 ppb on Oct 5 13:00																								Maximum Daily Average: 7.11 ppb on Oct 5																								Hours in Service: 744	
Minimum Value: 0.0 ppb on Oct 1 11:00																								Minimum Daily Average: 0.00 ppb on Oct 29																								Hours of Data: 655	
Maximum Diurnal Average: 2.68 ppb at hour 13																								Minimum Diurnal Average: 0.96 ppb at hour 19																								Hours of Missing Data: 89	
Monthly Average: 1.621 ppb																								Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.7 Q ₃ = 2.3 P ₉₀ = 4.1 P ₉₉ = 9.3																								Hours of Calibration: 35	
Percent Operational Time: 92.7																																																	
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-Oct	0.1	0.2	0.2	Z	0.2	0.3	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.25																							
2-Oct	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	0.1	0.1	0.1	0.2	0.4	0.04	0.43																						
3-Oct	0.6	0.7	0.1	Z	0.4	1.5	2.7	3.8	4.1	6.5	5.1	9.1	3.1	1.0	2.1	8.5	8.1	1.1	1.1	1.4	1.6	2.2	3.5	2.1	3.05	9.05																							
4-Oct	2.2	2.2	2.5	Z	1.8	1.5	1.3	2.2	2.7	1.9	1.8	1.8	2.4	8.9	4.6	2.8	2.8	3.3	3.4	3.2	4.1	5.8	5.3	3.1	3.11	8.89																							
5-Oct	2.9	2.7	3.3	Z	3.2	4.3	3.6	4.7	7.4	6.1	5.5	4.5	36.1	26.8	16.8	15.7	6.2	1.7	1.5	1.7	1.8	1.9	2.5	2.7	7.11	36.11																							
6-Oct	3.6	2.9	2.3	Z	1.4	1.0	2.2	5.6	8.4	7.3	6.3	4.9	4.7	1.8	0.4	0.4	0.3	0.9	0.6	2.0	1.0	0.4	0.0	0.0	2.55	8.42																							
7-Oct	0.0	0.1	0.0	Z	0.0	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.12	0.30																							
8-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.5	0.4	1.6	2.9	2.8	0.39	2.88																							
9-Oct	2.3	2.1	2.6	Z	2.2	2.7	2.7	3.0	4.0	3.8	3.3	1.2	0.3	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.5	2.6	2.3	1.57	3.99																							
10-Oct	2.6	3.1	1.7	Z	0.6	0.5	0.5	1.4	1.4	1.2	0.9	0.7	0.6	0.5	0.5	0.8	0.8	0.8	0.8	0.6	0.5	0.6	0.6	0.4	0.96	3.10																							
11-Oct	0.2	0.1	0.0	Z	0.0	0.2	0.6	1.0	1.1	0.8	0.8	0.9	0.9	0.7	0.5	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.37	1.10																							
12-Oct	0.0	0.0	0.0	Z	0.0	0.2	0.4	0.4	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.4	0.4	0.4	0.2	0.2	0.16	0.44																							
13-Oct	0.7	0.6	0.3	Z	1.0	0.6	0.9	0.6	0.7	0.7	0.6	0.6	0.5	0.5	0.4	0.3	0.3	0.7	2.0	3.0	2.4	2.8	3.4	1.05	3.44																								
14-Oct	3.4	4.2	3.7	Z	3.5	4.1	4.8	4.2	5.4	5.7	5.5	4.0	4.7	3.4	4.1	4.1	0.1	0.0	0.2	0.5	0.4	0.1	0.1	0.0	2.88	5.73																							
15-Oct	0.0	0.6	0.7	Z	2.3	2.4	2.1	2.3	2.4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	2.43																							
16-Oct	T	T	T	T	T	T	T	T	T	T	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
17-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	0.60																							
18-Oct	0.1	0.2	0.2	Z	0.4	0.4	0.6	0.9	1.6	4.0	2.9	2.3	2.3	2.2	2.4	3.2	3.2	2.6	1.9	1.3	1.2	1.3	1.4	1.6	1.67	4.02																							
19-Oct	1.9	1.7	1.4	Z	1.8	1.7	1.8	1.5	1.5	4.7	4.1	4.4	5.7	4.4	3.8	3.1	7.4	14.1	4.3	3.6	3.5	3.7	5.0	3.4	3.85	14.13																							
20-Oct	2.7	2.6	2.9	Z	2.7	2.0	1.6	1.5	1.3	1.5	0.8	0.9	1.8	1.0	2.8	6.3	6.4	1.6	0.4	0.5	0.5	0.5	1.4	1.91	6.44																								
21-Oct	1.6	1.6	1.7	Z	1.8	1.7	1.7	2.4	4.2	2.2	1.1	0.5	0.2	0.2	0.3	0.6	1.8	2.0	2.6	2.7	3.2	3.4	3.2	2.8	1.88	4.17																							
22-Oct	2.5	2.2	1.8	Z	2.1	1.9	1.5	1.0	1.2	1.0	0.9	0.4	0.1	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.0	0.0	0.3	0.5	0.79	2.45																							
23-Oct	0.5	0.7	0.6	Z	0.8	0.5	0.2	0.2	0.0	0.0	0.1	0.4	0.3	0.0	0.0	0.0	0.0	0.3	0.3	1.7	3.3	2.6	2.3	1.6	0.71	3.28																							
24-Oct	1.4	1.6	1.3	Z	1.6	1.9	2.3	2.2	2.6	1.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.5	0.3	0.2	0.9	2.1	0.94	2.56																							
25-Oct	1.7	1.4	1.2	Z	1.7	1.6	1.4	1.4	1.3	0.8	0.5	0.2	0.3	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.61	1.71																							
26-Oct	0.0	0.1	0.3	Z	0.5	1.0	1.1	1.9	2.6	C	C	C	C	C	C	2.7	2.8	2.2	3.1	3.2	3.1	4.3	5.2	3.9	--	5.21																							
27-Oct	3.5	3.3	2.8	Z	9.6	7.0	9.3	8.8	7.9	4.4	3.5	3.2	4.4	2.7	0.9	0.8	1.5	3.7	4.4	2.2	2.0	2.9	2.6	2.0	4.06	9.57																							
28-Oct	1.0	0.6	0.5	Z	0.3	0.9	0.8	0.7	0.9	0.9	0.5	0.3	0.0	0.1	0.2	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.35	1.02																							
29-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.03																							
30-Oct	0.3	2.6	2.4	Z	2.3	2.3	3.0	4.2	5.2	3.8	5.5	4.4	3.4	1.8	1.3	0.9	0.8	0.9	0.9	1.2	1.2	1.4	1.8	1.4	2.30	5.48																							
31-Oct	1.1	1.7	4.8	Z	4.3	4.8	1.6	1.6	3.0	3.7	1.9	1.2	0.4	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.3	1.37	4.85																							
1.27 1.36 1.35 -- 1.61 1.63 1.69 1.99 2.46 2.34 1.95 1.71 2.68 2.10 1.54 1.79 1.52 1.27 0.96 1.03 1.10 1.27 1.53 1.33																								Diurnal Average																									
3.57 4.17 4.81 -- 9.57 7.00 9.32 8.82 8.42 7.34 6.30 9.05 36.11 26.78 16.79 15.72 8.08 14.13 4.42 3.60 4.05 5.84 5.30 3.91																								Diurnal Maximum																									
Z - zerospan C - Calibration AF - Analyzer Failure T - Exceeds Temperature Limits																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Power
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
October 2017

Maximum Value: 14.90 µg/m ³ on Oct 31 00:00		Maximum Daily Average: 6.49 µg/m ³ on Oct 13		Hours in Service: 744																																													
Minimum Value: 0.0 µg/m ³ on Oct 24 13:00		Minimum Daily Average: 0.87 µg/m ³ on Oct 24		Hours of Data: 693																																													
Maximum Diurnal Average: 2.86 µg/m ³ at hour 10		Minimum Diurnal Average: 2.39 µg/m ³ at hour 18		Hours of Missing Data: 51																																													
Monthly Average: 2.617 µg/m ³		Percentiles: P ₁ = 0.2 P ₁₀ = 0.7 Q ₁ = 1.0 Median = 1.7 Q ₃ = 3.4 P ₉₀ = 6.1 P ₉₉ = 10.2		Hours of Calibration: 0																																													
				Percent Operational Time: 93.2																																													
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-Oct	3.2	2.7	2.5	2.8	2.9	3.0	2.5	1.9	1.3	1.3	0.9	1.0	1.0	1.0	0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.7	0.5	0.2	1.49	3.21																							
2-Oct	0.2	0.2	0.2	0.3	0.4	0.5	0.9	1.0	1.0	1.0	1.0	1.1	1.1	1.3	1.6	1.7	1.8	1.8	1.9	1.9	2.1	2.0	1.8	1.8	1.20	2.09																							
3-Oct	2.1	1.8	1.7	1.7	1.5	2.3	2.8	2.9	2.6	2.8	2.7	4.0	2.5	1.9	2.2	4.8	4.8	3.2	2.9	2.6	2.6	3.1	2.8	3.8	2.75	4.84																							
4-Oct	3.8	4.0	4.2	4.7	5.3	5.7	5.9	6.4	7.2	7.5	7.4	7.1	6.8	7.4	5.8	5.6	5.5	6.0	6.5	9.3	5.3	5.6	6.0	7.0	6.09	9.27																							
5-Oct	7.3	6.5	6.5	6.8	7.1	8.1	6.2	8.5	8.7	8.7	8.7	7.8	6.7	11.0	9.7	7.2	6.3	4.1	3.0	2.8	2.2	2.6	2.4	2.6	3.1	6.08	11.02																						
6-Oct	3.5	3.9	4.2	4.2	4.0	3.8	4.1	5.8	5.8	6.3	6.9	5.6	5.7	5.1	4.0	4.7	4.5	3.4	3.8	4.3	3.9	2.4	1.4	1.0	4.27	6.88																							
7-Oct	1.0	1.3	1.2	1.5	1.7	1.6	2.1	2.7	3.6	3.5	3.8	3.9	3.0	2.6	2.3	2.6	2.4	2.2	2.5	3.2	2.7	2.0	1.3	0.4	2.30	3.93																							
8-Oct	0.4	0.4	0.5	0.5	0.6	0.7	1.0	1.2	1.2	1.3	1.3	1.3	1.5	1.4	1.5	1.2	1.2	1.7	1.4	1.3	3.6	5.1	6.9	7.8	1.88	7.81																							
9-Oct	5.0	4.5	4.7	4.0	2.8	2.8	2.7	2.7	3.1	3.3	3.3	3.4	2.4	2.2	1.8	1.1	1.0	0.8	0.9	1.1	0.9	1.2	1.9	2.0	2.48	4.99																							
10-Oct	2.4	1.9	1.4	1.6	1.7	2.0	2.2	2.9	3.4	4.2	3.8	3.9	4.2	4.3	4.2	5.1	6.1	5.3	5.0	5.2	4.4	4.8	4.7	4.6	3.72	6.15																							
11-Oct	3.0	0.8	1.0	0.6	0.6	0.7	1.3	1.1	1.2	1.5	1.8	1.8	2.0	1.7	1.5	1.2	1.0	0.8	0.7	0.5	0.5	0.5	0.5	0.6	1.12	2.99																							
12-Oct	0.6	0.7	0.7	0.8	1.0	1.5	2.4	3.0	3.4	3.7	2.0	1.7	2.3	2.1	1.8	1.7	1.6	1.5	1.2	1.9	2.3	3.4	3.8	4.0	2.06	3.98																							
13-Oct	3.6	3.1	3.2	4.9	4.9	3.9	4.9	4.7	6.3	5.5	4.1	6.7	6.6	7.2	7.8	7.4	8.0	8.6	7.6	7.8	13.3	9.1	8.3	8.1	6.49	13.29																							
14-Oct	7.4	7.9	9.4	10.7	13.3	13.5	12.8	10.3	9.1	7.4	5.3	4.4	4.2	3.7	3.6	2.9	1.4	1.3	1.5	1.6	1.5	1.2	0.9	0.9	5.68	13.50																							
15-Oct	0.9	1.3	1.4	1.4	1.5	1.5	1.5	1.2	1.4	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	--	1.53																							
16-Oct	T	T	T	T	T	T	T	T	T	T	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	--																							
17-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	--	1.43																							
18-Oct	1.4	1.6	1.8	1.8	1.8	1.7	1.5	1.3	0.9	1.2	1.0	1.0	1.3	1.2	1.1	1.0	1.1	1.0	1.2	1.3	1.4	1.4	1.4	1.4	1.33	1.84																							
19-Oct	1.4	1.0	1.0	1.1	1.1	1.0	0.8	0.6	0.6	1.2	1.2	1.1	1.4	1.0	0.8	0.9	1.5	3.2	4.7	2.4	2.1	2.3	2.5	2.2	1.54	4.72																							
20-Oct	1.9	1.9	1.7	1.7	1.6	1.3	1.2	1.3	1.2	1.1	0.9	0.9	1.1	0.7	0.8	1.3	1.6	1.1	1.0	1.1	1.1	1.2	1.3	1.3	1.27	1.95																							
21-Oct	1.3	1.3	1.4	1.3	1.4	1.4	1.4	1.4	1.6	1.4	1.1	1.1	1.0	1.0	1.2	1.5	1.5	1.6	1.8	2.7	2.6	3.2	3.1	2.6	1.65	3.18																							
22-Oct	2.3	2.1	1.8	2.1	2.0	1.9	1.8	1.4	1.4	1.3	1.1	0.7	0.5	0.5	0.5	0.6	0.6	0.7	0.7	0.6	0.6	0.7	0.8	0.8	1.15	2.32																							
23-Oct	0.8	0.9	0.8	0.9	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	8.6	2.8	1.9	1.7	1.5	1.2	1.26	8.64																							
24-Oct	1.3	1.1	1.0	1.0	1.1	1.2	1.2	1.1	1.1	0.8	0.6	0.1	0.0	0.0	0.3	0.6	0.6	0.9	1.6	1.6	0.9	0.8	0.9	1.1	0.87	1.65																							
25-Oct	1.4	1.6	1.5	1.4	1.4	1.4	1.4	1.8	1.5	0.9	0.8	0.4	0.4	0.3	0.4	0.7	1.0	0.7	0.6	0.5	0.6	0.7	0.6	0.6	0.95	1.77																							
26-Oct	0.6	0.7	0.8	0.8	0.8	1.0	1.4	2.2	3.3	4.0	3.8	3.7	3.0	2.7	2.3	2.1	1.3	1.0	0.9	1.0	1.5	1.2	1.3	1.4	1.78	3.96																							
27-Oct	1.5	1.3	1.3	1.3	1.4	1.9	2.2	2.1	2.2	1.7	1.7	1.9	2.5	5.9	6.1	4.9	4.1	3.8	4.3	6.3	7.1	5.7	4.8	4.2	3.34	7.11																							
28-Oct	3.5	2.8	2.1	1.9	2.2	1.9	2.7	2.6	2.5	2.8	2.8	2.4	2.8	3.9	6.1	9.5	6.2	5.7	4.4	3.8	2.1	1.3	1.2	0.8	3.25	9.51																							
29-Oct	0.9	0.8	0.7	0.6	0.6	0.7	0.7	0.8	0.7	0.6	0.7	0.7	0.7	0.8	0.7	0.8	0.7	1.0	1.1	0.8	0.8	2.0	1.2	3.3	0.92	3.26																							
30-Oct	1.1	1.2	1.2	1.7	1.7	1.8	1.2	1.8	1.6	1.8	1.7	1.5	1.7	1.6	1.8	1.8	3.2	4.9	5.3	5.4	7.4	9.7	10.0	14.9	3.59	14.90																							
31-Oct	14.1	11.0	9.3	8.0	7.9	7.0	5.9	5.7	3.5	2.6	3.0	3.3	2.7	2.7	1.8	1.6	1.7	1.7	1.7	1.5	1.2	0.9	0.6	0.8	4.18	14.10																							
																								2.69	2.42	2.39	2.48	2.59	2.65	2.67	2.79	2.83	2.86	2.62	2.57	2.60	2.62	2.46	2.61	2.43	2.39	2.70	2.64	2.71	2.66	2.59	2.84	Diurnal Average	
																								14.10	10.96	9.39	10.67	13.28	13.50	12.82	10.29	9.11	8.70	7.82	7.06	11.02	9.65	7.79	9.51	8.03	8.61	8.64	9.27	13.29	9.74	10.00	14.90	Diurnal Maximum	
AF - Analyzer Failure																								T - Exceeds Temperature Limits																									
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 µl/m ³ 24-hr 30 µl/m ³																																																	

Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 907, Powers

Calibration Date: October 26, 2017

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 1153630147

Previous Calibration Date: September 23, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN - 08600312

Barometric Pressure: 27.76" Hg

Calibration Method: Standard Gas Dilution/ GPT

Cylinder ID: CA04802

Temperature: 20.4° C

Cylinder Concentration: 25.2 ppm NO/NO_x

In Service: 10/02/2017 EXP 08/23/2020

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	3.1	3.6	NA	1.013	0.999	0.993	500 ppb
Current	3.6	3.9	NA	1.128	0.997	0.993	500 ppb

NO	Final Zero: -0.4 ppb	Final Span: 125.5 ppb	As Found Correction Factor: 1.095
NO ₂	Final Zero: 1.0 ppb	Final Span: 17.0 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.1 ppb	Final Span: 141.8 ppb	As Found Correction Factor: 1.091

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	60.097450	-17.702790	0.999995
		Current	60.074110	27.982200	0.999987
	C _i vs C _c	Current	1.000000	0.000000	0.999987
NO ₂	R _c vs C _c	Previous	60.854720	-108.450500	0.999995
		Current	60.313550	-37.441440	0.999974
	C _i vs C _c	Current	1.000000	0.000000	0.999974
NO _x	R _c vs C _c	Previous	59.986520	26.758680	0.999995
		Current	60.056780	34.998970	0.999985
	C _i vs C _c	Current	1.000000	0.000004	0.999985

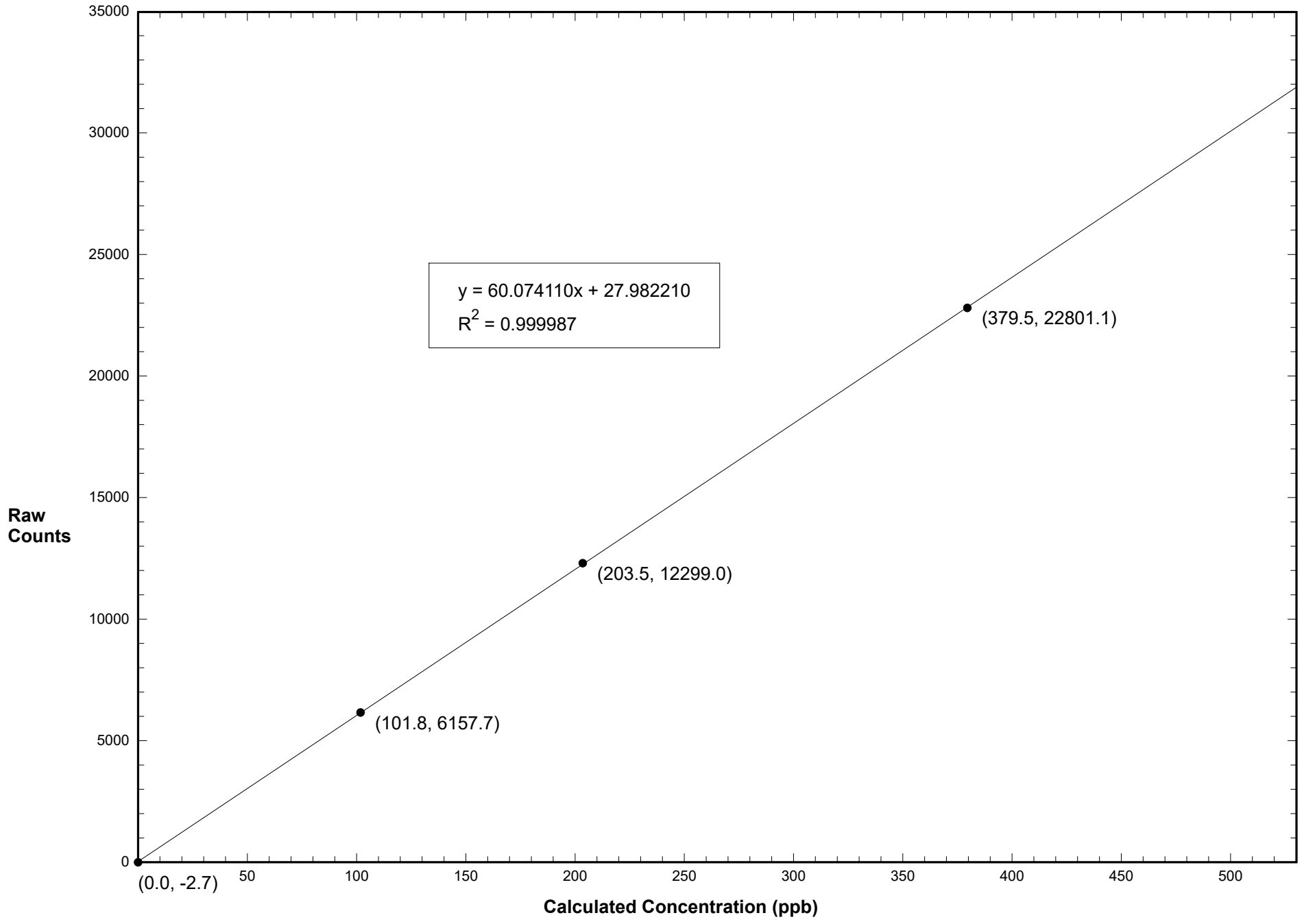
Comments: SAMPLE FLOW = 0.547 LPM

Calibration Data Summary (Page 2)

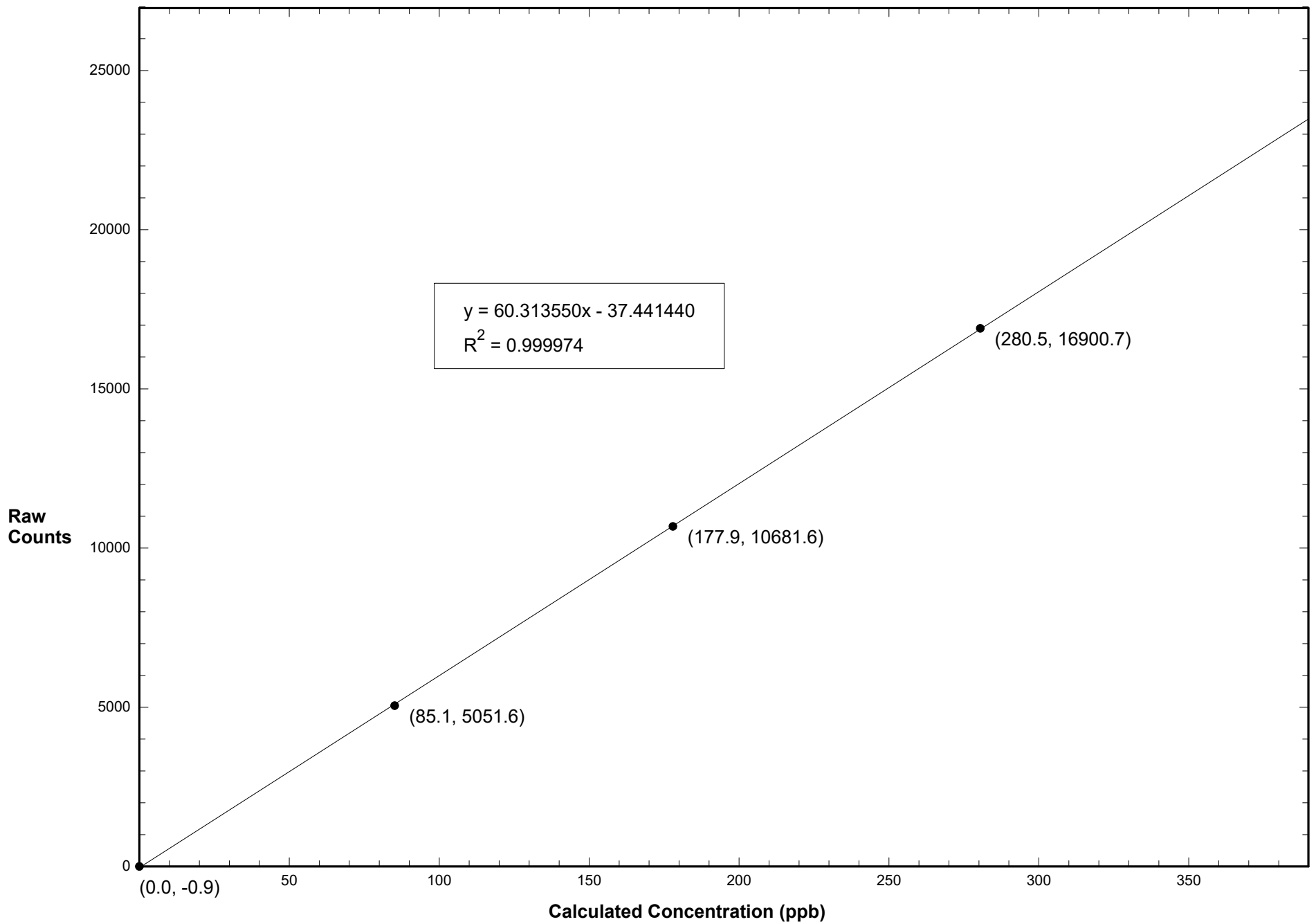
October 26, 2017 - Station 907

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		
0.07606	4.974	379.5	22801.1	379.1	1.001		
0.04080	5.011	203.5	12299.0	204.3	0.996		
0.02029	5.002	101.8	6157.7	102.0	0.998		
0.00000	5.000	0.0	-2.7	-0.5			
NO Calibration					Average Correction Factor:	0.998	
0.07606	4.974	379.5	22800.1	379.1	1.001		
0.04080	5.011	203.5	12301.6	204.3	0.996		
0.02029	5.002	101.8	6170.1	102.2	0.997		
0.00000	5.000	0.0	-0.5	-0.6			
NO _x Calibration					Average Correction Factor:	0.998	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i	Converter Efficiency C _i /C _c
376.2	5781.0	95.8	280.5	16900.7	280.8	0.999	1.001
376.2	11939.6	198.3	177.9	10681.6	177.7	1.001	0.999
376.2	17515.6	291.1	85.1	5051.6	84.4	1.009	0.991
			0.0	-0.9	0.6		
					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	1.000	1.001	0.1				
NO ₂	1.001	0.999	-0.2				
NO _x	1.000	1.001	0.1				

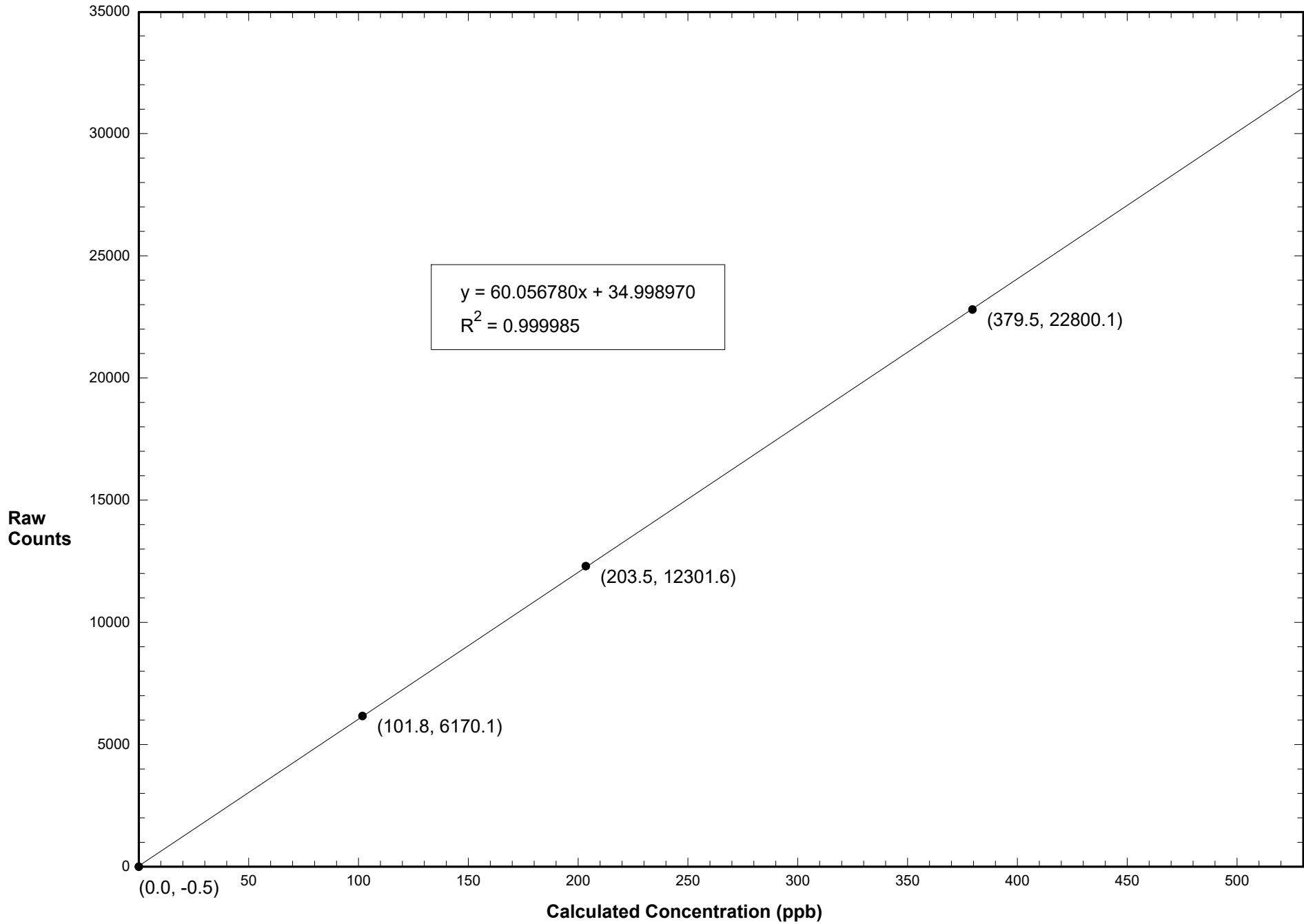
Station 907 NO October 26, 2017: Linear Regression



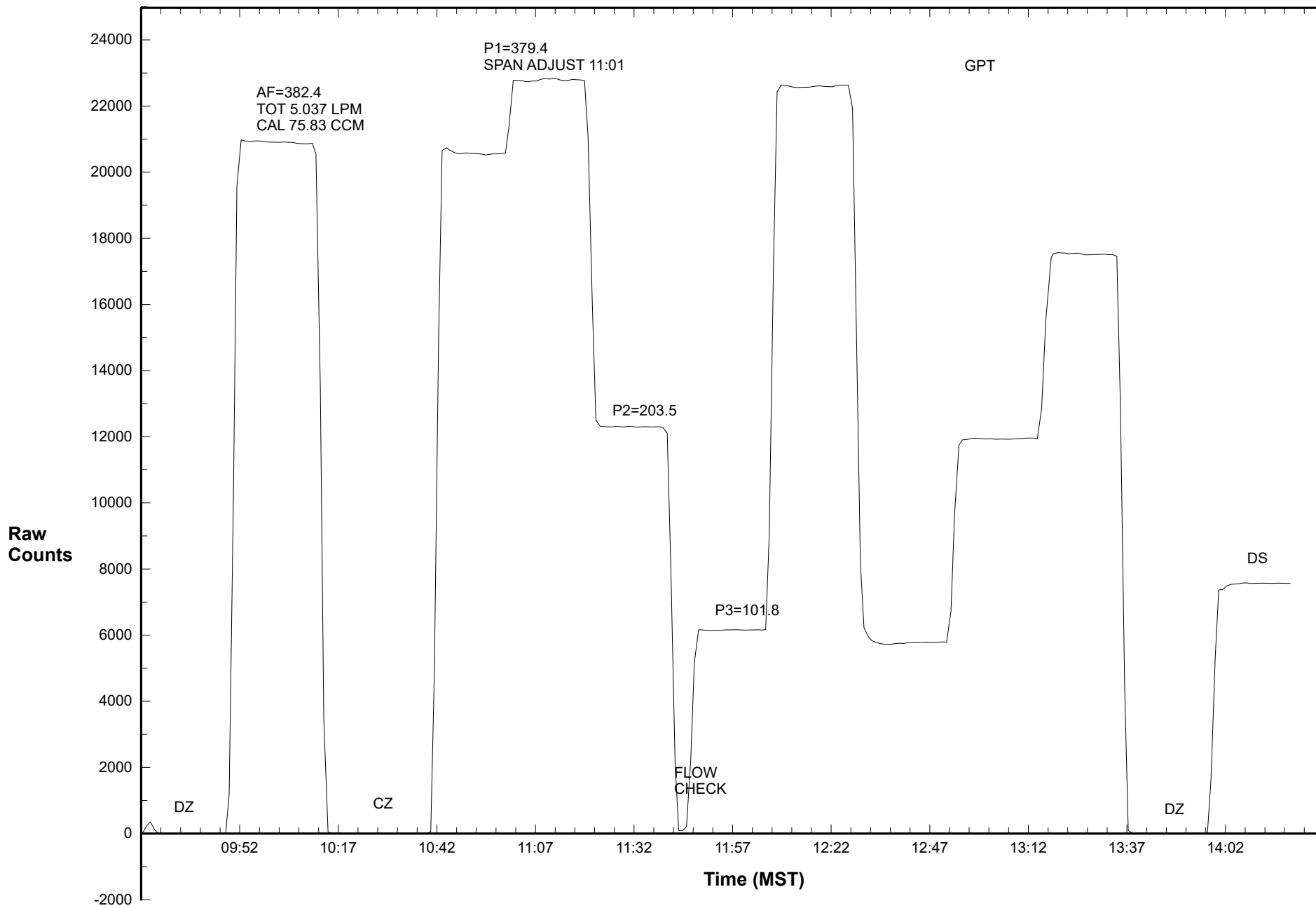
Station 907 NO2 October 26, 2017: Linear Regression



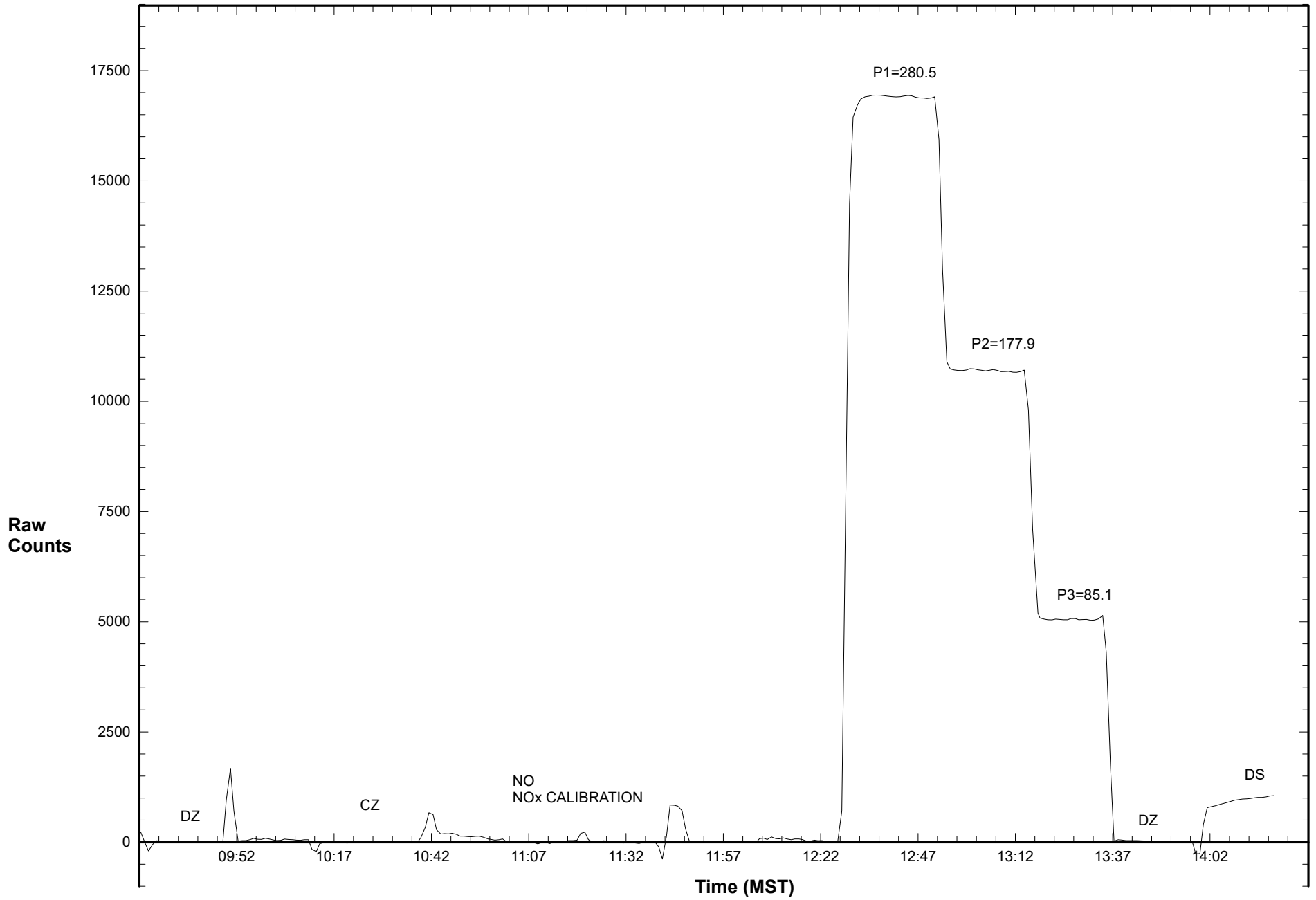
Station 907 NOX October 26, 2017: Linear Regression



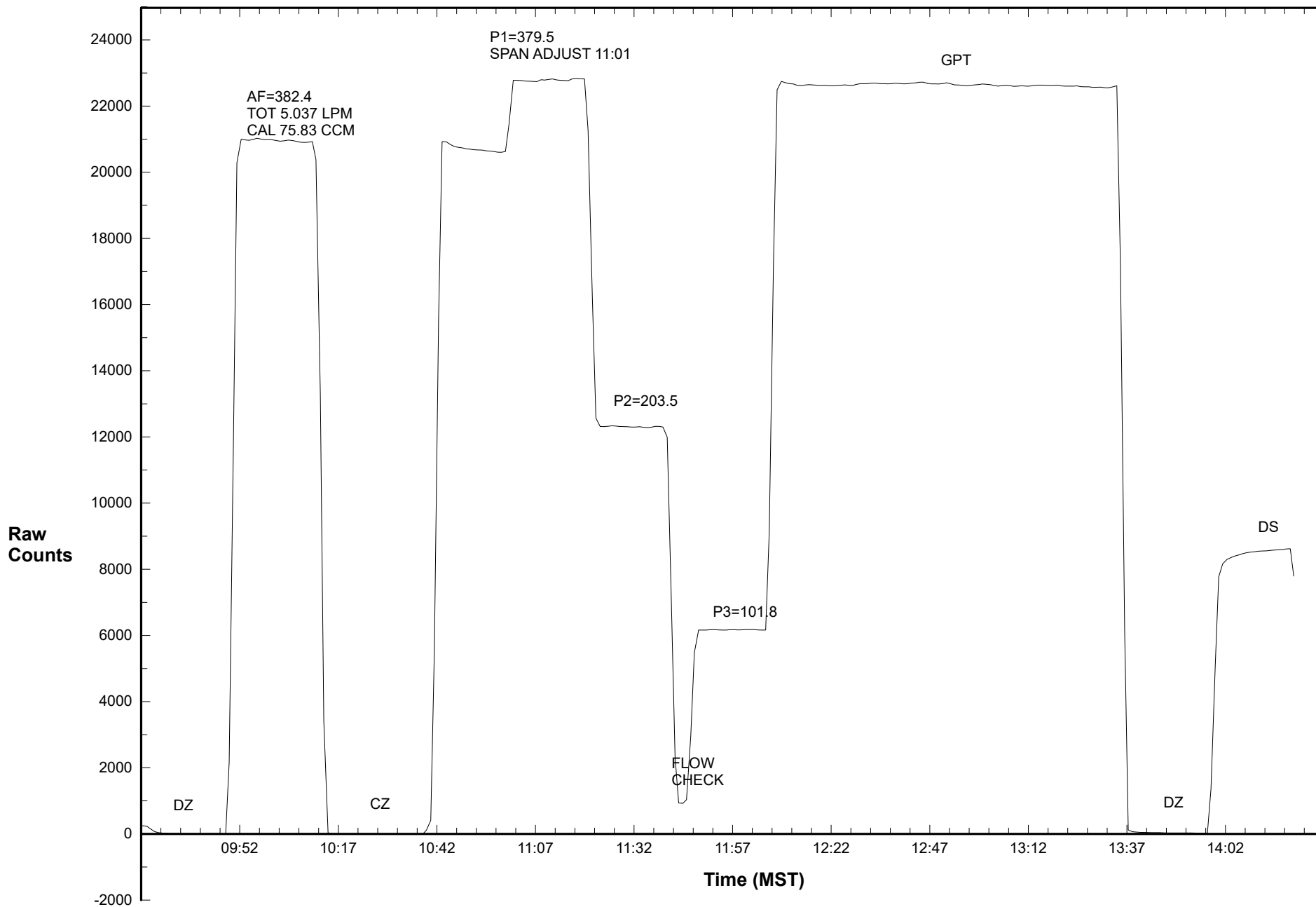
Station 907 NO October 26, 2017: Calibration Graph



Station 907 NO2 October 26, 2017: Calibration Graph



Station 907 NOX October 26, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 907, Powers

Calibration Date: October 26, 2017

Parameter: SO₂

Instrument: Teco 43CTL

Serial Number: 333803284

Previous Calibration Date: September 23, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 SN - 08600312

Barometric Pressure: 27.76" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: CA04802

Temperature: 20.4° C

Cylinder Concentration: 24.8 ppm SO₂

In Service: 04/01/2016 EXP 12/02/2017

Technician: L. Burns

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	4.23	0.806	500 ppb
Current	4.50	0.826	500 ppb

Final Zero: 0.1 ppb

Final Span: 60.3 ppb

As Found Correction Factor: 1.021

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
0.0761	4.974	373.5	22457.4	373.6	1.000
0.0408	5.011	200.3	12038.5	200.4	1.000
0.0203	5.002	100.2	5982.1	99.6	1.006
0.0000	5.000	0.0	14.3	0.4	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.065950	-19.104170	0.999988
Current	60.128280	-8.580888	0.999994
C _i vs C _c			
Current	1.000000	0.000038	0.999994

Average Correction Factor: 1.002

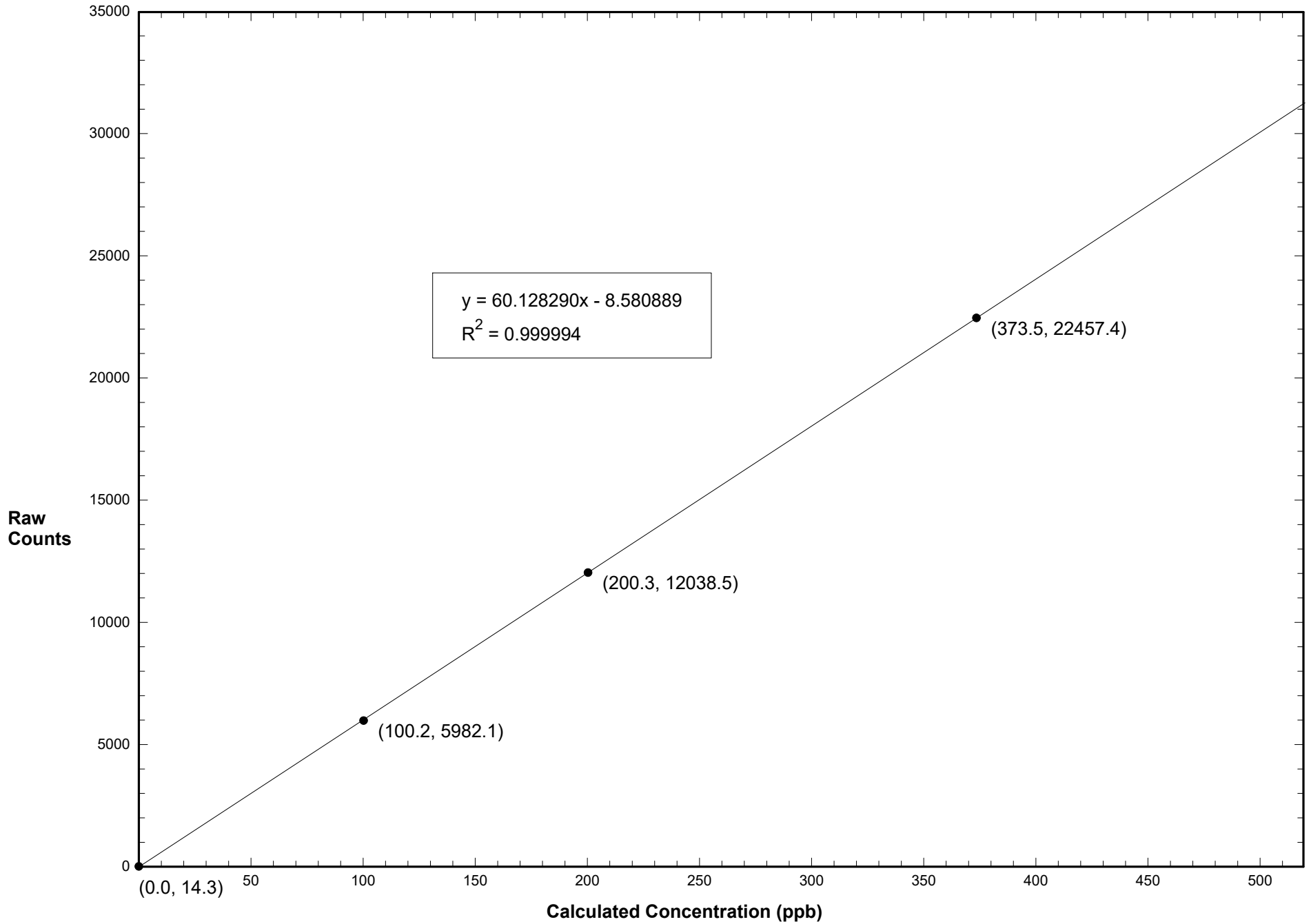
Previous Correction Factor: 0.999

Current Correction Factor: 1.000

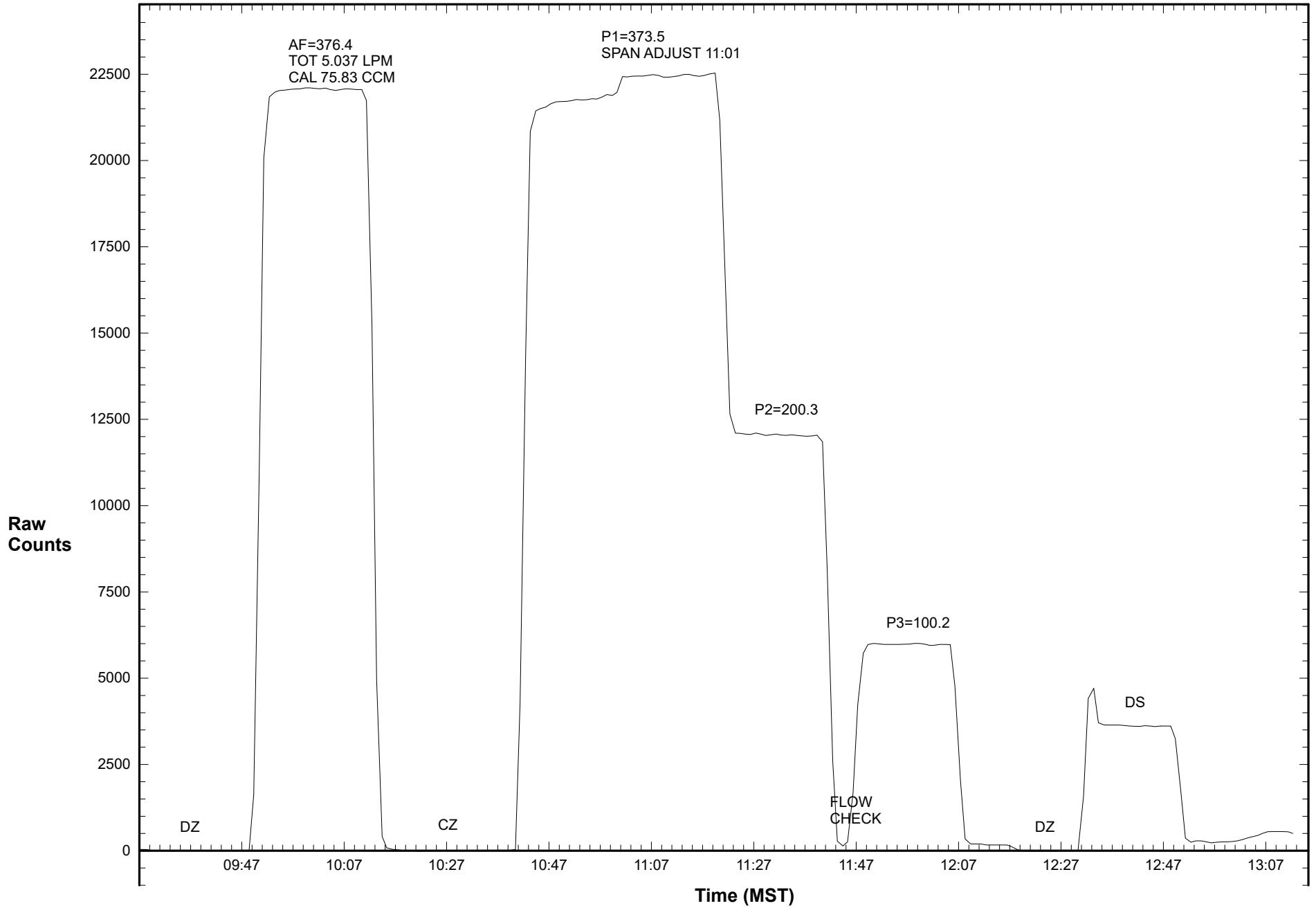
Percent Change of Correction Factor: 0.1

Comments: SAMPLE FLOW = 0.434 LPM

Station 907 SO2 October 26, 2017: Linear Regression



Station 907 SO2 October 26, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**AMS 907
POWERS
OCTOBER 2017**

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

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



WCAS - Power
Summary of Hourly Averages

External Temperature (ET) - C
October 2017

Maximum Value: 21.88 C on Oct 5 16:00		Maximum Daily Average: 12.94 C on Oct 5		Hours in Service: 744																							
Minimum Value: -6.1 C on Oct 13 07:00		Minimum Daily Average: -2.76 C on Oct 13		Hours of Data: 744																							
Maximum Diurnal Average: 8.94 C at hour 16		Minimum Diurnal Average: 2.24 C at hour 7		Hours of Missing Data: 0																							
Monthly Average: 5.045 C		Percentiles: P ₁ = -4.7 P ₁₀ = -1.1 Q ₁ = 1.1 Median = 4.8 Q ₃ = 8.0 P ₉₀ = 12.4 P ₉₉ = 16.6		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	9.1	8.5	8.2	7.8	7.2	6.5	6.4	6.7	7.1	7.3	7.4	7.5	7.4	7.2	6.5	6.4	6.1	5.5	4.8	4.6	3.4	2.1	1.1	0.7	6.06	9.12	
2-Oct	0.6	0.6	0.5	0.5	0.2	-0.1	-0.5	-0.7	-0.8	-0.7	-0.5	0.4	1.5	2.8	3.8	4.5	4.8	4.5	2.7	1.5	0.6	-0.5	-1.4	-1.5	0.95	4.84	
3-Oct	-1.8	-2.7	-2.6	-2.6	-3.1	-3.1	-3.7	-2.7	-0.8	1.5	3.5	4.8	6.5	8.4	9.7	10.5	9.7	9.3	6.8	5.7	5.6	5.1	6.0	6.1	3.17	10.53	
4-Oct	5.1	4.7	3.5	3.4	3.1	3.6	3.5	3.7	5.9	8.5	10.6	12.8	13.9	14.9	16.3	16.9	16.8	16.1	10.6	7.6	7.8	7.9	7.4	7.4	8.83	16.90	
5-Oct	8.1	7.9	7.9	6.8	6.6	6.3	5.7	5.8	7.5	10.1	13.1	15.9	18.3	19.5	21.0	21.9	21.9	21.3	15.9	12.6	13.7	14.9	14.3	13.7	12.94	21.88	
6-Oct	12.4	12.4	10.7	10.4	10.0	7.6	7.8	7.8	10.2	10.8	11.2	12.2	13.0	15.3	15.0	14.3	14.0	10.8	9.6	9.0	9.4	9.1	7.8	7.7	10.77	15.27	
7-Oct	7.0	5.9	5.6	5.5	5.3	5.3	5.2	5.0	6.3	5.0	4.3	3.9	6.7	8.9	8.8	9.1	9.5	9.7	8.3	7.0	5.9	5.3	4.3	3.4	6.30	9.70	
8-Oct	2.8	1.8	0.6	0.0	-0.8	-0.6	-0.6	-0.4	0.1	0.6	1.7	2.6	3.8	4.7	6.0	6.7	6.9	6.0	3.5	0.0	-1.0	-1.0	-0.9	-1.5	1.71	6.90	
9-Oct	0.2	1.2	1.7	2.3	2.5	2.8	3.0	3.5	4.3	5.8	7.4	11.5	13.5	13.8	13.5	13.2	11.7	9.6	8.0	7.5	6.9	6.5	5.4	4.9	6.70	13.84	
10-Oct	4.0	3.2	4.0	4.3	3.7	2.6	2.8	3.7	4.3	5.0	5.4	5.8	6.1	6.7	7.0	6.9	6.6	5.9	5.0	4.6	3.4	2.9	2.8	2.8	4.57	6.99	
11-Oct	2.2	0.6	0.3	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	0.1	0.2	0.6	0.4	0.4	0.1	-0.3	-0.5	-0.4	-0.7	-0.9	-1.0	-1.2	-0.02	2.16	
12-Oct	-1.3	-1.3	-1.5	-1.5	-1.3	-1.4	-1.3	-1.2	-0.8	-0.5	0.6	0.7	0.8	1.3	1.3	1.3	1.1	0.9	0.9	0.4	-1.2	-2.6	-3.5	-4.0	-0.59	1.34	
13-Oct	-5.0	-4.7	-5.3	-5.7	-5.6	-5.6	-6.1	-5.6	-3.1	-2.0	-1.8	-1.4	-1.0	-0.6	-0.2	0.6	1.7	-0.6	-2.6	-3.0	-2.8	-2.0	-2.0	-2.0	-2.76	1.67	
14-Oct	-2.5	-2.6	-2.4	-2.1	-1.8	-1.5	-1.3	-1.1	-0.7	0.3	1.0	2.5	3.5	4.8	4.4	5.4	5.8	5.3	5.4	5.5	4.8	5.0	5.2	4.3	1.97	5.78	
15-Oct	3.5	2.6	2.5	3.0	3.0	2.3	2.0	2.9	4.2	6.0	7.3	9.6	12.9	14.9	15.8	16.8	15.3	13.3	11.7	12.6	12.1	11.3	10.9	9.4	8.57	16.77	
16-Oct	8.2	7.9	6.7	6.0	8.2	7.9	7.8	7.6	7.7	8.2	9.8	11.1	13.0	12.0	11.7	11.7	11.3	10.9	9.6	8.2	7.0	8.0	7.8	5.6	8.91	12.97	
17-Oct	4.7	4.6	5.7	6.1	7.3	8.0	7.4	7.0	7.3	9.0	11.7	14.0	15.7	11.5	7.4	6.5	6.9	5.6	4.4	4.0	3.4	3.0	2.5	2.7	6.92	15.75	
18-Oct	3.1	2.5	1.9	1.2	0.9	0.5	0.0	0.0	1.2	2.3	3.7	5.7	5.9	6.6	7.1	6.8	6.4	5.9	5.6	5.4	5.1	3.9	3.3	3.8	3.69	7.11	
19-Oct	5.5	7.1	6.3	4.2	2.8	1.7	0.0	2.2	5.7	6.2	7.7	11.2	13.0	13.7	13.8	13.3	12.2	11.2	9.9	9.3	8.0	7.0	6.3	5.6	7.66	13.79	
20-Oct	5.6	3.9	2.7	2.0	2.0	3.3	2.8	2.5	3.4	4.9	7.2	8.4	9.9	9.4	9.1	8.9	8.7	7.8	7.1	6.7	5.6	4.4	3.4	2.8	5.53	9.86	
21-Oct	2.3	1.5	1.1	0.9	0.5	0.0	-1.2	-0.7	0.5	2.3	4.9	7.1	8.2	8.7	9.9	10.4	8.6	6.3	3.2	4.0	2.8	1.6	0.3	-0.4	3.45	10.37	
22-Oct	-0.1	-1.0	0.6	0.5	0.7	0.5	0.8	1.5	2.1	3.4	5.4	7.8	9.8	10.3	11.6	11.7	11.4	9.2	8.5	7.4	6.7	6.0	5.3	4.9	5.21	11.70	
23-Oct	5.5	5.6	5.1	3.5	3.5	3.7	3.6	3.6	4.8	7.5	8.4	9.6	11.3	12.2	12.7	12.6	11.6	9.7	5.3	7.4	7.8	7.5	7.8	8.0	7.44	12.74	
24-Oct	8.3	9.1	9.7	9.8	9.2	9.0	9.5	10.0	12.6	13.9	14.4	15.1	15.1	14.8	13.7	12.8	12.0	10.6	9.1	7.9	7.2	6.3	5.2	4.8	10.42	15.14	
25-Oct	5.4	5.3	5.6	4.9	4.1	3.8	3.3	2.8	3.1	4.5	5.9	4.9	1.8	0.9	0.7	0.8	0.4	0.1	-0.4	-0.8	-1.1	-1.4	-2.2	-2.0	2.10	5.88	
26-Oct	-2.1	-2.1	-2.0	-2.2	-2.7	-3.2	-3.3	-2.9	-2.5	-1.9	-0.4	0.8	2.2	3.7	4.8	5.4	5.0	3.0	1.4	1.7	1.4	1.4	2.0	1.9	0.39	5.36	
27-Oct	2.4	2.8	3.1	2.1	1.5	1.7	1.6	1.6	2.5	5.5	7.6	9.8	11.4	12.5	13.0	14.3	13.4	10.5	9.1	9.8	10.5	11.2	11.7	11.9	7.56	14.31	
28-Oct	11.8	12.9	13.7	14.4	14.5	14.3	14.3	14.3	13.8	14.8	17.2	17.4	16.8	15.9	14.3	13.0	12.1	10.9	9.4	8.5	7.8	7.3	6.7	5.6	12.58	17.41	
29-Oct	4.4	3.1	2.4	2.0	2.0	2.1	2.2	2.0	2.5	3.0	3.5	4.3	4.7	4.3	3.9	3.6	3.9	2.9	2.6	1.9	1.2	0.7	-0.9	-2.6	2.48	4.70	
30-Oct	-2.3	-1.8	-2.3	-2.3	-2.3	-2.1	-2.5	-2.1	-1.2	-0.4	0.4	1.9	3.2	4.8	5.4	5.6	5.6	5.3	4.8	4.0	2.8	2.4	1.9	1.1	1.24	5.60	
31-Oct	0.0	0.7	1.8	2.1	1.6	0.0	0.2	0.3	0.4	0.9	1.6	2.2	3.7	4.4	4.8	5.0	4.7	4.1	1.8	0.9	1.0	-0.5	-1.0	-1.1	1.65	4.95	
		3.46	3.24	3.09	2.82	2.68	2.44	2.24	2.49	3.46	4.58	5.80	7.10	8.16	8.68	8.81	8.94	8.58	7.46	5.85	5.21	4.68	4.26	3.75	3.31	Diurnal Average	
		12.43	12.95	13.68	14.38	14.52	14.26	14.35	14.32	13.78	14.81	17.22	17.41	18.30	19.47	20.95	21.88	21.88	21.31	15.91	12.62	13.66	14.95	14.26	13.66	Diurnal Maximum	



WCAS - Power
Summary of Hourly Averages

Wind Speed (WS) - kph
October 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	21.4	19.3	19.2	18.1	16.3	16.1	15.3	18.8	21.2	21.2	25.0	27.6	26.9	28.0	27.9	27.0	27.6	27.3	28.5	28.7	28.9	23.9	22.0	24.8	22.75	28.87	
Dir	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NNW	NW	NW	NW	NW	NNW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NNW	
2 Spd	25.6	27.0	27.4	26.4	29.1	30.6	30.1	28.6	28.4	28.9	26.2	23.4	27.4	29.3	26.2	24.6	23.1	17.1	13.2	11.9	10.9	8.1	10.1	11.1	22.42	30.64	
Dir	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	NNW	NNW	N	NNW	NW	WNW	WNW	NNW	NNW	
3 Spd	8.4	8.9	10.2	7.9	6.6	6.6	8.9	8.4	10.8	9.9	12.5	16.7	15.8	16.2	15.8	14.5	11.2	11.8	9.6	12.1	13.5	13.4	12.0	9.4	10.27	16.72	
Dir	WNW	W	W	W	WSW	WSW	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	W	SW	SSW	
4 Spd	9.4	8.8	6.6	6.2	6.5	6.2	6.3	6.0	5.4	5.6	5.2	3.3	4.2	2.5	0.7	4.1	6.1	1.6	3.8	7.2	8.3	10.9	13.1	11.3	2.45	13.15	
Dir	W	W	W	W	WSW	WSW	WSW	WSW	W	W	NW	NNE	NNE	SW	W	NNE	NNE	NE	SE	SE	SSE	SSE	S	S	SW	S	
5 Spd	9.8	12.5	13.5	11.9	10.6	10.4	10.0	7.7	9.9	11.0	11.2	11.9	12.0	16.5	13.1	12.3	9.5	6.7	5.1	4.7	9.6	10.7	12.0	13.6	10.40	16.47	
Dir	S	SSW	SSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	SW	SW	SSW	SSW	S	SSE	S	S	SSW	SW	SSW	SSW	
6 Spd	13.0	13.0	10.4	4.4	6.1	4.4	5.8	3.8	8.0	8.6	15.4	16.2	7.1	14.4	12.0	13.7	10.1	6.9	8.7	10.4	13.1	28.9	19.6	16.0	8.47	28.92	
Dir	SW	W	WNW	W	WSW	SW	SSW	SSW	SW	S	SSW	SSW	W	NNW	NNW	NW	NW	WNW	WSW	WSW	W	WNW	WNW	WNW	W	WNW	
7 Spd	20.7	18.4	21.4	21.1	21.4	22.9	23.2	24.3	33.9	38.7	35.1	28.6	25.1	34.2	28.3	20.7	19.5	21.6	21.0	26.1	23.1	23.9	23.1	20.8	24.11	38.65	
Dir	W	WNW	WNW	W	W	W	W	WNW	WNW	NW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	
8 Spd	21.8	22.6	22.6	22.2	16.7	14.3	20.4	20.0	20.0	21.5	26.9	26.1	23.6	23.7	21.3	21.6	19.3	12.9	3.7	1.8	6.9	12.4	13.5	12.6	13.96	26.87	
Dir	NW	NW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	SSW	SSE	SSE	SSE	SSE	NW	NW	
9 Spd	8.0	9.8	14.0	15.3	13.2	14.4	12.6	11.0	11.3	10.1	12.3	20.8	27.2	23.8	21.5	19.8	20.5	15.8	9.3	9.6	8.3	7.6	8.7	8.8	9.84	27.24	
Dir	SSW	SW	SSW	SSW	SSW	SSW	SW	SW	SSW	SSW	SW	W	W	WNW	NW	NW	NW	WNW	W	W	SW	SW	WSW	WSW	WSW	WSW	
10 Spd	7.7	8.2	7.3	6.3	5.5	0.5	4.4	5.0	6.0	9.2	11.5	16.0	16.0	16.0	15.7	16.2	15.3	18.9	19.5	18.3	18.7	12.4	9.8	13.8	9.30	19.51	
Dir	SW	WSW	WNW	NW	NW	NNW	N	NNE	NE	NE	NE	NE	NE	NE	ENE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NE	NE	
11 Spd	14.4	15.5	14.8	14.9	12.6	13.2	16.8	16.6	17.7	19.0	20.5	17.2	18.4	21.6	21.3	19.2	18.7	15.6	17.3	17.9	19.3	16.3	16.3	12.4	16.89	21.57	
Dir	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW
12 Spd	14.7	11.9	11.9	9.7	9.3	5.9	5.3	5.5	5.2	4.9	3.2	3.2	3.5	3.5	1.6	3.4	6.3	4.6	3.3	4.3	1.5	3.2	2.4	2.1	4.22	14.66	
Dir	NNW	NNW	NNW	NNW	NNW	NW	WNW	NW	WNW	W	NNW	NW	NW	N	WNW	NW	NW	N	N	NNE	SSE	SE	SE	SSE	NNW	NNW	
13 Spd	4.3	2.8	1.4	1.1	1.4	3.6	2.8	2.1	4.4	7.7	5.4	3.3	3.8	2.4	3.7	1.9	2.6	1.9	7.5	10.6	11.1	9.9	11.5	10.7	1.94	11.52	
Dir	S	S	SSW	S	SW	WSW	SW	W	NNW	NNE	NE	ENE	N	NE	WNW	W	N	ESE	SSE	SSE	S	S	S	S	S	S	
14 Spd	10.2	10.7	10.2	12.8	13.5	13.9	14.1	13.4	12.8	12.1	10.5	10.5	10.5	9.8	8.1	11.3	16.7	8.7	8.8	7.0	7.1	16.7	18.7	12.2	9.69	18.69	
Dir	S	S	SSW	SSW	SSW	SSW	SSW	SW	SSW	SW	SW	SW	SW	WSW	SSW	WSW	WNW	WSW	WSW	W	W	W	WNW	WNW	SW	WNW	
15 Spd	12.3	12.0	11.3	10.9	11.4	14.2	14.7	15.6	16.2	21.0	18.2	17.3	16.7	18.0	20.5	16.2	12.0	8.3	9.2	11.7	11.3	14.4	15.6	11.0	12.81	20.98	
Dir	W	WSW	WSW	WSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	WSW	W	W	W	WSW	SW	SSW
16 Spd	12.9	11.3	10.7	8.6	11.5	6.7	9.0	8.2	14.5	11.6	12.6	8.5	0.8	10.1	12.3	14.2	13.4	15.9	15.7	15.2	12.8	9.9	10.7	9.6	5.26	15.88	
Dir	SW	SW	SW	WNW	WNW	WNW	NW	NW	WNW	W	W	W	SSW	SE	SE	SE	ESE	SE	SSE	SSE	SSE	SSW	SW	S	SSW	SE	
17 Spd	6.0	7.6	12.3	11.3	11.2	16.3	16.9	18.9	19.2	15.0	11.6	8.3	11.1	29.2	37.2	40.2	33.8	40.6	41.5	37.5	33.2	30.5	25.3	25.4	12.46	41.52	
Dir	SSW	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	W	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW	
18 Spd	25.4	18.3	15.4	13.0	13.4	11.4	10.5	9.0	8.6	7.6	9.1	11.2	17.6	21.7	21.4	22.1	21.3	19.1	19.7	17.9	20.4	18.1	17.5	17.5	8.38	25.42	
Dir	WNW	WNW	WNW	W	W	W	W	W	SW	SSW	S	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	S	S	W	WNW
19 Spd	16.6	18.0	8.5	0.7	3.1	4.1	6.5	10.1	9.3	9.8	10.6	6.9	9.1	12.6	14.1	12.5	12.5	12.3	11.4	7.1	8.4	6.6	7.2	8.3	7.94	18.00	
Dir	SSW	SSW	WSW	NW	SW	SW	SW	SSW	SW	S	S	S	S	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	S	SSE	S	S	SSW
20 Spd	7.0	1.8	2.9	2.7	5.8	8.6	6.9	6.8	11.9	11.6	13.6	16.4	19.2	21.3	17.6	17.9	16.4	16.6	14.3	15.5	11.9	9.6	8.5	11.1	10.66	21.27	
Dir	SW	S	WSW	NW	WSW	WNW	WNW	NW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	NW	W	W	W	WNW	NW	
21 Spd	12.1	12.0	12.5	12.1	11.8	6.5	7.4	8.4	9.3	10.3	12.0	9.3	8.5	5.0	2.9	8.8	10.4	7.5	9.3	12.4	14.5	14.4	12.6	12.7	2.48	14.52	
Dir	WSW	WSW	W	W	W	WSW	SW	WSW	WSW	NW	N	NNE	NE	NE	ENE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSW	SE
22 Spd	13.4	10.1	12.5	13.3	5.4	6.2	10.8	9.0	9.1	9.8	12.9	18.0	18.3	19.1	23.7	23.3	15.3	9.5	11.0	9.8	13.8	12.5	12.2	11.1	8.16	23.70	
Dir	SE	SE	SE	SSE	SSE	W	W	NW	WNW	WNW	WNW	NW	NW	NW	WNW	NW	NW	WNW	NW	W	W	W	W	WSW	WNW	WNW	



WCAS - Power
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2017

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	13.3	12.5	10.9	11.8	11.2	10.8	12.4	7.6	5.1	15.7	18.9	17.9	19.3	21.8	22.0	15.0	11.2	2.9	7.1	9.7	12.1	13.0	17.4	20.6	10.68	21.95	
Dir	WSW	WSW	WSW	WSW	W	WNW	W	W	W	WNW	WNW	WNW	W	W	W	W	SW	SSW	S	S	S	SSW	SSW	WSW	WSW	W	
24 Spd	21.7	24.5	23.4	17.4	13.4	15.7	13.2	12.4	15.4	15.2	13.2	19.4	25.8	37.4	25.9	17.5	12.2	6.2	4.9	7.0	8.7	7.1	8.5	8.5	7.29	37.44	
Dir	SSW	SW	SSW	SSW	SSW	SSW	SW	SW	WSW	W	NW	NNW	NW	NW	NW	NW	NW	NW	NNE	ENE	E	E	SE	SE	W	NW	
25 Spd	13.8	18.2	14.0	7.0	8.3	7.5	10.6	4.2	4.2	16.2	24.3	42.1	33.9	33.8	29.6	26.8	24.7	21.4	17.5	15.3	17.1	15.7	12.4	6.5	12.06	42.06	
Dir	SE	SE	SE	E	NNE	N	N	N	N	WNW	W	WNW	NW	NNW	NNW	N	N	N	N	N	N	NNW	N	NNE	N	NNW	NW
26 Spd	3.9	5.9	8.5	10.1	11.6	12.7	17.5	15.6	11.8	15.5	12.6	14.8	15.8	15.5	10.5	9.1	9.4	8.5	8.1	10.0	10.7	9.8	8.3	7.4	9.78	17.51	
Dir	SE	SSE	S	SSE	SSE	S	S	S	S	S	S	SSW	SW	WSW	WSW	SW	SW	SSW	SW	SW	WSW	WSW	WSW	WSW	SSW	SSE	
27 Spd	9.6	6.9	7.6	6.2	7.0	8.6	12.2	13.1	11.6	9.9	11.7	12.7	13.4	11.2	7.5	6.6	4.4	9.3	13.3	13.4	11.2	13.8	14.1	13.4	9.16	14.13	
Dir	SW	WSW	WSW	SW	SSW	SW	SW	WSW	WSW	W	WSW	WSW	SW	WSW	W	SW	SSW	SSE	S	S	SSW	WSW	WSW	WSW	WSW	SW	WSW
28 Spd	12.9	23.2	21.9	24.5	20.9	22.7	19.0	15.8	15.7	13.0	20.7	24.6	28.0	25.8	20.2	18.3	18.0	17.4	20.0	28.5	26.8	26.1	29.1	29.6	18.80	29.63	
Dir	WSW	W	W	W	W	W	W	W	W	WNW	NW	NNW	NNW	NW	NNW	NNW	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW
29 Spd	30.4	27.3	26.0	24.2	27.9	30.3	30.9	29.9	30.1	31.8	28.6	34.1	32.2	29.4	24.8	24.8	22.7	20.3	16.5	11.2	6.7	2.8	0.9	5.1	21.06	34.08	
Dir	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	N	N	N	N	N	NNE	N	NNE	ENE	S	NNW	NNW	
30 Spd	8.3	9.3	9.7	12.0	11.8	14.1	16.2	16.0	18.1	17.0	15.7	16.8	15.2	15.7	17.1	19.0	17.9	15.4	13.3	12.2	8.3	9.0	6.0	5.0	9.41	19.05	
Dir	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	SSW	SW	WSW	W	WNW	NW	NW	NW	NW	NW	NW	NW	WNW	W	WSW	NW	
31 Spd	5.0	7.9	9.4	9.3	7.9	8.1	8.7	9.8	15.4	13.4	11.8	12.5	14.8	20.1	22.1	26.3	21.7	16.5	18.8	17.1	23.9	28.0	24.2	22.7	10.56	28.01	
Dir	SW	SW	SW	SW	SW	SSW	S	SSW	SSW	SW	W	WNW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW
Spd	7.51	7.84	7.46	6.89	7.16	7.38	7.59	7.26	8.26	8.61	8.80	9.57	9.81	11.45	10.22	9.58	8.71	6.45	4.82	4.59	4.22	5.85	5.91	5.90	Diurnal Average		
Dir	W	W	W	W	W	W	W	W	W	W	W	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	W	W	Diurnal Maximum	
Spd	30.41	27.28	27.38	26.42	29.10	30.64	30.92	29.91	33.87	38.65	35.13	42.06	33.92	37.44	37.24	40.19	33.76	40.56	41.52	37.53	33.24	30.48	29.08	29.63	Diurnal Maximum		
Dir	319.42	322.90	324.54	328.49	328.31	330.99	310.92	309.75	299.62	303.83	301.80	309.88	342.43	317.79	312.15	302.71	299.12	302.94	299.65	297.82	297.78	294.12	318.20	312.77	Diurnal Maximum		
Maximum Speed Value: 42.1 kph on Oct 25 12:00																				Minimum Speed Value: 0.5 kph on Oct 10 06:00				Hours in Service: 744			
Maximum Daily Speed Average: 24.11 kph on Oct 7																				Minimum Daily Speed Average: 1.94 kph on Oct 13				Hours of Data: 744			
Maximum Diurnal Speed Average: 11.45 kph at hour 14																				Minimum Diurnal Speed Average: 4.22 kph at hour 21				Hours of Missing Data: 0			
Monthly Average Velocity: 7.077 kph 285.63 deg																				Speed Percentiles: P ₁ = 1.4 P ₁₀ = 5.5 Q ₁ = 8.9 Median = 12.6 Q ₃ = 18.7 P ₉₀ = 25.4 P ₉₉ = 37.4				Percent Operational Time: 100.0			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
		Speed Range (kph)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	10	9	29	16	8	0	72																				
NorthEast	8	8	11	1	0	0	28																				
East	3	3	0	0	0	0	6																				
SouthEast	6	15	30	7	0	0	58																				
South	7	41	45	1	0	0	94																				
SouthWest	13	63	72	6	0	0	154																				
West	7	51	50	21	0	0	129																				
NorthWest	11	22	51	81	33	5	203																				
Total	65	212	288	133	41	5	744																				



WCAS - Power
Summary of Hourly Averages

Relative Humidity (RH) - %
October 2017

Maximum Value: 98.29 % on Oct 11 04:00		Maximum Daily Average: 94.59 % on Oct 11		Hours in Service: 744																							
Minimum Value: 25.0 % on Oct 23 16:00		Minimum Daily Average: 42.62 % on Oct 23		Hours of Data: 744																							
Maximum Diurnal Average: 75.31 % at hour 7		Minimum Diurnal Average: 51.33 % at hour 16		Hours of Missing Data: 0																							
Monthly Average: 65.319 %		Percentiles: P ₁ = 30.2 P ₁₀ = 42.3 Q ₁ = 52.1 Median = 64.4 Q ₃ = 77.9 P ₉₀ = 91.8 P ₉₉ = 97.7		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-Oct	52.6	55.9	58.4	61.1	65.2	69.0	72.8	73.5	68.4	68.8	65.0	61.5	60.8	59.6	64.7	63.8	63.8	68.0	69.8	68.1	78.5	90.4	95.0	96.3	68.79	96.30	
2-Oct	96.5	96.3	96.3	96.0	96.7	97.6	96.7	90.6	84.5	82.2	79.7	75.6	69.3	62.2	57.5	53.0	49.3	50.1	58.0	64.3	68.3	74.2	75.5	73.8	76.85	97.61	
3-Oct	73.4	76.1	76.5	76.8	82.2	84.6	86.9	80.8	75.0	71.6	57.5	48.1	45.3	33.8	29.5	28.9	33.7	39.5	45.2	51.2	57.4	63.4	61.0	57.8	59.85	86.92	
4-Oct	59.8	60.8	68.7	67.9	67.7	62.1	59.7	61.8	59.1	50.8	45.7	40.9	38.3	33.8	31.6	32.6	34.0	37.6	53.8	64.1	59.6	56.8	59.2	59.8	52.76	68.73	
5-Oct	55.6	57.4	57.5	61.5	63.5	66.8	71.7	71.4	67.6	58.7	50.4	43.7	38.7	37.1	35.3	33.7	34.5	36.1	52.6	63.8	59.8	55.6	58.2	60.6	53.84	71.73	
6-Oct	65.3	64.7	71.0	71.9	72.8	81.9	82.3	84.0	72.4	71.9	64.8	59.9	57.5	42.9	35.5	39.4	43.7	62.1	64.7	63.4	60.1	61.1	63.7	59.8	63.21	84.05	
7-Oct	61.9	62.3	57.8	54.9	53.8	54.4	55.0	56.3	54.7	69.3	78.5	82.0	64.4	49.2	45.5	44.4	41.8	38.6	44.7	54.7	62.2	66.6	77.8	79.4	58.76	82.03	
8-Oct	81.6	85.4	91.3	79.6	76.3	75.2	78.7	76.7	74.9	72.8	62.6	54.7	47.5	43.3	40.4	42.0	45.3	50.2	60.0	73.9	79.3	77.6	76.3	79.6	67.72	91.33	
9-Oct	75.3	74.6	75.9	73.6	69.1	65.9	62.1	61.8	60.0	56.6	51.1	39.0	32.7	31.8	35.4	40.3	46.4	54.4	60.6	62.3	65.4	68.1	75.0	79.6	59.04	79.63	
10-Oct	82.4	83.3	76.9	70.3	71.2	74.3	73.6	72.4	71.1	67.9	65.1	65.7	60.0	56.7	55.6	55.7	59.9	64.1	67.5	68.9	83.9	92.7	94.9	95.4	72.06	95.39	
11-Oct	96.7	97.7	98.2	98.3	98.1	97.7	97.0	97.0	95.4	93.2	92.4	92.9	93.0	90.7	89.8	89.4	89.7	94.9	96.9	96.3	94.3	93.7	93.4	93.5	94.59	98.29	
12-Oct	93.2	92.7	91.2	91.8	91.2	93.7	95.4	95.4	93.2	89.4	76.6	73.8	75.1	72.9	72.0	73.2	74.2	72.6	67.8	75.5	86.6	91.8	93.7	94.7	84.49	95.42	
13-Oct	94.3	94.4	94.7	94.9	94.6	94.8	94.1	94.3	95.4	96.8	97.2	96.6	94.3	91.6	89.6	83.7	78.0	87.8	93.9	94.9	94.5	93.3	92.8	90.6	92.80	97.20	
14-Oct	90.2	90.4	91.3	92.2	92.5	91.8	90.7	87.9	85.5	80.4	78.3	72.8	69.4	64.2	67.8	66.5	73.6	76.1	71.1	67.8	68.5	62.9	62.5	65.4	77.49	92.49	
15-Oct	68.5	72.0	71.5	68.3	74.0	79.3	75.7	69.2	64.4	58.2	53.6	49.0	40.4	35.9	32.9	30.3	34.0	38.7	43.3	41.1	41.6	42.6	42.8	46.8	53.08	79.34	
16-Oct	51.1	52.5	57.7	59.6	51.5	52.8	55.9	60.7	63.1	62.8	56.9	53.7	48.3	51.8	52.9	51.2	51.8	51.7	53.6	57.9	62.7	59.4	60.8	69.8	56.26	69.84	
17-Oct	75.1	77.5	74.8	72.9	66.5	62.2	65.0	66.6	66.5	60.5	52.5	46.9	42.3	57.7	85.8	77.4	72.2	74.4	70.1	67.6	70.0	70.7	73.4	64.5	67.22	85.78	
18-Oct	54.7	56.3	57.5	60.5	61.2	62.7	63.7	62.8	58.7	62.0	59.9	49.4	47.1	44.6	42.6	42.6	44.5	46.5	48.8	49.2	51.5	57.6	61.5	60.3	54.42	63.66	
19-Oct	55.1	52.3	54.9	64.3	69.9	75.0	82.2	73.5	65.6	66.4	60.2	51.0	45.3	43.5	42.9	44.9	48.8	51.8	56.4	58.4	63.9	69.1	73.6	76.7	60.25	82.17	
20-Oct	77.2	84.1	86.9	85.3	83.2	78.0	80.6	81.3	76.7	70.4	62.3	58.4	53.5	54.1	54.1	53.8	54.8	55.9	58.6	60.4	63.5	67.4	70.9	77.6	68.70	86.93	
21-Oct	81.8	85.7	86.2	85.2	85.9	86.7	88.3	85.9	82.8	74.3	60.3	47.4	37.8	34.8	34.5	35.7	44.0	52.1	63.8	60.2	66.2	70.1	72.8	73.1	66.49	88.29	
22-Oct	69.3	70.6	62.0	64.7	64.8	66.8	71.0	76.1	76.4	77.9	73.4	64.5	55.7	51.3	42.6	40.1	42.2	46.6	46.0	46.5	46.5	45.6	46.9	48.2	58.15	77.95	
23-Oct	46.9	47.8	50.6	55.4	57.0	58.9	61.4	61.1	56.2	45.3	41.3	37.0	32.3	28.0	25.5	25.0	26.3	30.2	42.8	38.7	37.2	36.6	39.0	41.8	42.62	61.37	
24-Oct	43.6	43.0	42.1	43.0	45.9	48.1	47.5	47.7	43.4	42.0	42.6	44.7	44.8	43.4	46.7	51.1	56.0	61.2	66.4	71.8	73.6	74.0	75.5	77.4	53.16	77.41	
25-Oct	77.2	75.1	71.8	76.0	80.3	81.3	82.8	84.8	85.4	88.4	85.6	75.5	89.0	83.3	81.4	78.8	75.7	74.2	84.3	88.3	79.1	73.5	76.2	78.9	80.27	88.95	
26-Oct	80.3	80.4	79.6	80.5	82.3	84.8	84.7	84.3	84.7	81.7	77.0	72.2	67.6	61.8	57.1	55.8	57.3	63.8	71.0	72.4	73.0	72.2	71.1	70.2	73.57	84.76	
27-Oct	70.6	71.2	69.9	76.0	79.3	76.1	73.7	73.9	70.7	58.6	54.3	45.2	42.4	43.0	44.3	42.5	46.7	55.8	59.3	56.9	55.4	54.3	52.3	49.6	59.25	79.34	
28-Oct	48.7	46.7	44.8	42.9	42.0	42.3	41.9	42.8	45.0	43.6	39.3	40.6	42.3	42.2	47.8	47.3	40.5	40.4	41.8	49.7	51.7	51.8	50.3	51.7	44.91	51.76	
29-Oct	53.8	61.7	65.7	66.7	64.7	63.7	61.7	63.7	63.8	62.3	59.8	52.2	48.7	48.9	52.7	53.4	52.2	56.5	57.6	64.1	69.9	73.2	79.5	84.1	61.69	84.13	
30-Oct	82.9	81.8	84.5	81.9	77.7	79.1	84.5	79.7	73.9	69.2	65.6	55.2	49.9	38.9	35.0	33.5	33.6	34.6	36.1	38.1	41.3	43.9	45.4	48.8	58.14	84.50	
31-Oct	54.8	55.0	54.8	53.3	64.0	93.0	97.1	97.8	98.0	97.9	97.5	97.3	92.3	87.5	84.5	81.3	79.4	82.6	91.7	95.1	89.0	92.7	95.3	95.5	84.49	98.02	
		70.01	71.15	71.65	71.84	72.42	74.22	75.31	74.71	72.02	69.42	64.74	59.60	55.68	52.27	52.05	51.33	52.51	56.43	61.23	64.05	66.28	67.83	69.89	71.02	Diurnal Average	
		96.71	97.73	98.18	98.29	98.10	97.75	97.14	97.81	98.02	97.89	97.52	97.33	94.28	91.56	89.84	89.37	89.73	94.91	96.85	96.26	94.53	93.68	95.32	96.30	Diurnal Maximum	



WCAS - Power
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2017

Maximum Value: 12.98 kph on Oct 17 16:00		Maximum Daily Average: 6.04 kph on Oct 7		Hours in Service: 744																							
Minimum Value: 0.6 kph on Oct 13 06:00		Minimum Daily Average: 1.59 kph on Oct 4		Hours of Data: 744																							
Maximum Diurnal Average: 4.62 kph at hour 14		Minimum Diurnal Average: 2.50 kph at hour 5		Hours of Missing Data: 0																							
Monthly Average: 3.225 kph		Percentiles: $P_1 = 0.8$ $P_{10} = 1.3$ $Q_1 = 1.9$ Median = 2.8 $Q_3 = 4.3$ $P_{90} = 5.8$ $P_{99} = 8.7$		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-Oct	5.1	4.7	4.3	4.1	3.7	3.8	3.2	4.9	4.5	4.9	5.1	5.9	5.6	7.2	6.7	6.5	6.9	5.6	7.2	6.7	7.0	5.9	4.3	4.2	5.34	7.25	
2-Oct	4.7	5.1	5.3	5.0	6.0	6.0	5.6	5.7	5.4	5.9	5.3	4.6	6.6	5.9	5.9	4.9	5.1	4.3	2.3	2.3	1.7	1.0	1.2	1.1	4.45	6.56	
3-Oct	2.0	0.9	1.3	1.1	1.3	1.1	1.3	2.2	1.8	2.2	3.8	5.1	4.4	4.4	4.5	4.6	3.0	2.9	2.2	2.4	1.9	1.5	2.2	1.8	2.49	5.11	
4-Oct	1.5	1.8	1.7	1.6	0.9	1.0	1.0	1.4	0.8	1.3	2.0	1.9	2.8	2.3	2.3	2.1	1.8	1.6	2.4	0.9	1.2	1.1	1.0	1.8	1.59	2.80	
5-Oct	2.2	2.2	2.4	1.6	1.6	1.6	2.0	1.3	2.2	2.3	2.6	3.0	4.0	3.8	3.7	3.4	3.0	1.8	1.1	1.9	2.0	2.2	2.3	1.9	2.33	4.02	
6-Oct	1.4	2.2	2.1	1.8	1.4	1.0	0.8	1.4	2.2	2.8	3.6	3.2	3.7	3.2	3.7	7.6	6.9	4.9	1.5	2.1	2.4	11.3	5.9	4.0	3.38	11.26	
7-Oct	4.1	3.6	4.0	3.9	4.4	4.9	5.1	5.1	9.9	8.8	8.4	7.9	8.7	7.8	7.0	5.0	4.5	7.0	6.6	5.5	6.1	6.1	6.3	4.3	6.04	9.95	
8-Oct	4.0	4.6	5.8	4.7	3.1	3.6	4.5	3.9	4.3	6.0	5.8	5.6	5.7	6.0	4.8	4.6	4.4	3.7	2.0	2.1	3.3	1.3	1.4	2.4	4.07	6.00	
9-Oct	1.9	1.8	2.8	2.9	2.8	2.6	2.3	1.9	3.0	2.5	2.7	6.2	6.4	6.3	4.1	4.6	4.5	4.4	1.7	1.8	2.0	1.2	1.2	1.1	3.03	6.45	
10-Oct	2.0	1.4	1.1	2.2	0.9	0.8	3.4	1.6	1.4	3.0	3.0	3.9	4.3	4.3	4.6	4.2	4.3	4.4	4.2	4.9	4.7	3.6	2.8	2.7	3.07	4.91	
11-Oct	2.6	2.8	2.9	2.6	2.3	3.1	3.2	3.0	3.2	3.9	4.1	3.6	3.9	4.4	4.5	4.3	3.7	3.9	4.9	4.9	4.1	3.9	3.4	2.3	3.55	4.90	
12-Oct	2.8	2.4	2.3	2.3	1.8	1.1	0.9	1.2	1.2	1.6	2.1	1.9	1.6	2.6	2.2	2.8	1.7	1.1	2.1	1.5	1.6	1.2	0.6	1.7	1.77	2.84	
13-Oct	2.0	2.1	1.3	1.1	2.0	0.6	1.5	1.8	1.4	2.2	2.0	1.7	2.9	2.4	3.0	2.3	1.2	1.3	1.8	0.8	1.2	1.9	1.9	2.5	1.78	2.96	
14-Oct	2.0	2.1	2.0	2.5	2.2	2.4	2.4	2.6	2.5	2.1	1.9	2.8	2.3	2.2	2.0	6.1	5.3	1.9	2.2	2.1	3.0	3.5	3.4	2.3	2.66	6.07	
15-Oct	2.1	1.8	2.3	1.0	2.1	2.7	4.3	3.5	3.7	4.1	3.6	4.2	5.1	4.0	4.7	4.3	3.3	1.4	1.2	2.0	1.9	3.6	3.3	1.6	2.98	5.11	
16-Oct	1.6	1.8	2.0	4.8	2.7	1.1	2.8	3.0	3.1	2.5	3.2	4.0	3.2	4.2	3.6	2.9	5.3	4.4	3.4	1.8	2.4	1.9	1.3	1.9	2.86	5.26	
17-Oct	1.1	1.8	2.3	1.7	2.2	2.0	2.1	2.1	1.6	3.2	2.7	2.8	3.3	7.5	7.8	13.0	7.6	9.1	10.8	9.7	7.5	6.8	5.1	5.6	4.98	12.98	
18-Oct	5.4	4.5	3.7	2.6	2.1	3.6	1.7	1.4	1.6	2.1	2.6	2.5	3.1	4.0	4.0	4.3	3.6	3.2	4.1	3.0	3.0	2.5	2.8	3.9	3.14	5.40	
19-Oct	4.9	5.3	1.5	1.8	1.7	1.4	1.4	1.6	2.0	3.7	2.8	2.4	2.9	3.3	3.1	2.4	1.5	1.2	1.2	2.8	1.9	1.4	1.9	1.6	2.32	5.25	
20-Oct	1.6	2.5	1.3	2.3	3.6	2.2	2.5	1.8	1.7	2.1	3.2	3.5	4.2	4.4	3.1	3.6	3.6	3.7	2.9	2.8	1.9	1.1	1.7	1.5	2.62	4.38	
21-Oct	1.8	1.6	1.8	1.7	2.2	1.7	2.1	2.0	1.6	2.0	2.3	2.4	2.6	2.9	2.5	3.5	2.3	0.8	1.2	1.3	1.4	2.0	1.2	1.6	1.94	3.49	
22-Oct	2.2	1.0	1.8	3.1	2.7	2.7	2.8	2.3	2.5	2.2	2.9	4.5	3.5	4.2	5.5	5.4	4.4	1.8	1.9	1.9	2.3	2.1	2.3	1.9	2.83	5.55	
23-Oct	2.2	2.3	1.8	1.7	2.2	2.1	2.3	2.7	1.8	4.6	4.1	3.9	4.8	4.7	5.3	4.2	3.9	1.1	1.0	2.4	2.4	2.6	3.8	3.1	2.96	5.33	
24-Oct	3.6	4.2	4.2	3.5	3.0	2.8	2.8	2.9	2.4	3.5	2.9	4.7	6.6	7.4	6.0	4.3	3.3	3.0	1.7	1.9	2.5	1.8	2.2	2.4	3.49	7.40	
25-Oct	2.3	4.1	5.2	2.4	3.3	1.8	1.6	4.4	4.4	4.5	5.9	9.6	7.3	6.5	6.4	5.6	6.3	5.8	3.8	3.1	3.6	3.1	2.8	2.4	4.42	9.60	
26-Oct	2.1	1.6	2.1	1.5	1.9	3.1	3.4	4.1	3.7	3.9	3.7	4.5	4.5	4.8	2.3	1.9	1.7	1.2	1.6	1.5	1.4	1.1	1.1	1.6	2.50	4.77	
27-Oct	1.0	1.7	1.1	0.9	1.1	3.4	1.4	1.6	1.6	2.0	2.5	2.9	2.7	3.0	2.9	1.8	1.4	1.7	2.3	3.6	2.5	1.6	1.5	1.5	1.99	3.60	
28-Oct	1.7	5.5	4.0	4.6	4.1	4.1	3.9	3.3	2.7	2.4	6.0	6.1	5.9	5.4	5.8	3.5	3.8	3.8	4.6	5.9	5.2	5.1	5.4	6.0	4.54	6.10	
29-Oct	6.3	4.8	5.2	5.2	6.0	6.0	6.3	6.6	6.6	6.4	5.9	6.8	7.0	6.2	5.1	4.5	5.3	3.8	3.3	3.4	1.4	1.8	1.4	1.8	4.88	6.97	
30-Oct	2.4	1.3	1.7	1.2	1.1	2.3	2.7	2.2	3.1	2.9	3.3	3.0	3.0	3.3	4.1	4.6	3.4	3.6	3.5	2.8	1.1	2.0	0.9	1.2	2.54	4.56	
31-Oct	1.0	1.1	1.8	3.1	1.3	2.4	2.4	2.9	2.9	2.3	2.1	2.6	2.8	4.9	4.4	5.5	4.5	5.3	6.1	2.7	5.7	6.0	4.6	4.3	3.44	6.09	
		2.63	2.72	2.68	2.60	2.50	2.56	2.70	2.79	2.93	3.34	3.61	4.12	4.37	4.62	4.37	4.45	3.91	3.34	3.12	2.99	2.92	2.97	2.62	2.52	Diurnal Average	
		6.28	5.50	5.84	5.16	6.01	6.00	6.30	6.61	9.95	8.76	8.39	9.60	8.67	7.83	7.78	12.98	7.60	9.12	10.79	9.67	7.54	11.26	6.35	6.00	Diurnal Maximum	



WCAS - Power
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2017

Maximum Value: 100.47 deg on Oct 16 13:00 Maximum Daily Average: 28.04 deg on Oct 12 Minimum Value: 3.8 deg on Oct 13 20:00 Minimum Daily Average: 11.03 deg on Oct 2 Maximum Diurnal Average: 22.99 deg at hour 15 Minimum Diurnal Average: 11.60 deg at hour 7 Monthly Average: 15.137 deg Percentiles: P ₁ = 6.0 P ₁₀ = 8.4 Q ₁ = 10.3 Median = 12.5 Q ₃ = 15.6 P ₉₀ = 22.2 P ₉₉ = 67.4																								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-Oct	12.7	12.5	12.4	12.9	11.6	12.0	11.3	11.8	12.5	13.1	13.0	12.0	12.6	15.3	12.9	13.5	11.9	11.3	11.2	12.4	14.7	12.9	11.9	9.8	12.43	15.34																							
2-Oct	10.3	10.3	10.7	11.2	11.1	10.9	11.2	11.3	11.1	11.2	11.7	12.1	11.5	13.2	12.8	13.2	12.2	12.7	9.1	11.8	11.3	12.1	5.0	6.6	11.03	13.22																							
3-Oct	12.5	8.7	8.0	8.9	8.3	7.8	8.7	12.6	8.7	14.5	16.4	17.3	18.3	17.1	17.7	20.0	14.4	12.0	15.5	10.2	8.5	7.4	9.5	10.9	12.23	19.96																							
4-Oct	8.1	9.3	9.2	10.7	8.2	7.6	8.2	10.7	10.4	22.2	32.6	48.3	53.9	70.5	89.7	30.6	19.5	22.9	13.5	10.3	8.0	5.1	5.2	10.3	21.86	89.69																							
5-Oct	13.4	9.9	9.7	8.3	8.7	9.1	8.9	7.9	9.7	12.9	14.2	17.5	18.6	13.9	19.7	16.9	17.5	12.5	11.1	21.9	17.4	12.7	13.2	8.6	13.09	21.89																							
6-Oct	10.5	21.2	8.3	14.9	9.6	14.6	9.4	29.5	16.5	17.8	12.8	11.4	44.7	16.0	15.6	22.3	21.1	43.3	8.1	9.9	14.0	14.5	16.5	12.1	17.26	44.70																							
7-Oct	10.5	10.6	11.7	10.3	10.6	11.8	11.9	11.4	13.5	12.7	12.9	12.3	14.0	14.2	12.6	13.2	12.3	14.6	12.1	10.6	12.8	11.6	11.2	10.4	12.07	14.59																							
8-Oct	10.8	13.4	12.2	11.5	10.2	13.4	11.8	10.4	10.9	13.1	12.5	15.0	17.8	16.6	15.5	13.4	16.4	12.7	20.1	53.6	15.8	9.0	6.4	8.3	14.61	53.59																							
9-Oct	13.8	8.7	9.2	10.5	11.6	9.4	11.9	13.3	14.1	13.4	15.8	17.1	14.4	21.9	14.0	16.8	14.1	10.0	18.4	10.8	11.9	13.4	6.2	9.6	12.94	21.88																							
10-Oct	9.0	13.2	10.6	9.2	12.1	11.7	18.5	6.3	12.1	9.4	12.1	11.7	13.0	13.4	14.2	13.5	12.0	12.1	11.0	12.1	13.4	15.9	17.5	14.4	12.44	18.50																							
11-Oct	15.6	11.3	10.8	11.4	11.0	10.3	11.1	9.6	9.8	11.6	12.8	12.8	14.5	13.8	16.4	14.3	15.4	14.1	11.8	14.8	12.3	13.4	16.2	13.2	12.83	16.35																							
12-Oct	10.1	11.7	11.1	11.4	11.8	12.5	11.2	16.5	25.2	18.0	33.3	39.5	41.0	48.1	70.6	37.4	14.8	24.0	49.0	38.6	52.1	22.2	26.3	36.5	28.04	70.59																							
13-Oct	17.6	7.8	10.0	14.3	64.7	21.3	9.2	52.8	22.1	16.9	29.5	39.0	45.4	62.1	64.5	68.9	31.4	31.7	10.8	3.8	6.0	9.6	9.3	13.1	27.57	68.89																							
14-Oct	12.0	12.1	10.5	10.5	10.3	9.9	10.2	12.5	12.6	10.1	10.8	13.7	14.4	13.7	13.1	30.1	14.2	17.3	15.4	30.8	23.2	10.4	11.0	9.6	14.10	30.76																							
15-Oct	16.2	7.6	8.0	7.7	13.2	10.2	12.9	12.3	12.7	11.3	12.2	14.2	15.7	14.2	13.1	15.9	11.2	7.9	10.1	9.4	13.8	13.3	14.0	9.7	11.95	16.19																							
16-Oct	11.1	14.8	28.4	34.1	10.4	15.5	16.0	20.2	14.0	16.7	17.4	31.1	100.5	33.4	13.5	10.7	12.0	19.8	11.0	7.0	7.8	14.9	8.3	11.8	20.01	100.47																							
17-Oct	14.3	6.3	9.0	7.0	10.7	9.3	6.3	6.5	5.1	10.3	13.5	25.1	17.3	11.5	12.9	14.8	12.9	12.7	12.3	12.0	12.1	12.4	11.8	11.7	11.58	25.08																							
18-Oct	12.0	12.7	14.6	9.9	9.4	12.7	9.3	13.6	13.4	18.8	14.8	12.4	12.9	11.4	11.3	10.5	10.4	9.8	11.0	8.4	7.7	8.6	9.5	12.8	11.56	18.78																							
19-Oct	16.9	26.5	18.4	89.8	46.4	38.5	7.8	9.2	13.0	20.4	14.0	25.2	22.1	24.5	19.5	9.7	6.1	7.6	9.3	15.3	15.6	17.9	16.5	17.3	21.14	89.78																							
20-Oct	16.3	29.4	55.4	30.0	17.8	10.3	23.3	20.2	11.4	11.0	11.3	12.8	13.7	13.0	11.3	11.0	11.4	10.9	10.0	10.0	10.2	9.7	6.5	8.2	15.63	55.36																							
21-Oct	7.1	6.8	7.8	8.4	7.4	22.5	9.2	13.2	19.9	13.9	18.6	19.6	21.1	49.0	60.7	22.3	11.7	7.9	7.0	6.2	8.2	9.9	7.0	7.5	15.53	60.65																							
22-Oct	7.6	8.3	6.3	11.4	17.5	24.5	27.8	18.2	14.0	17.6	14.7	18.1	13.4	14.3	16.4	13.9	11.9	13.3	14.0	21.0	11.1	9.4	10.3	10.3	14.38	27.78																							
23-Oct	9.2	10.9	12.2	7.1	9.9	12.0	10.3	19.4	21.5	13.9	12.3	14.1	14.6	14.1	16.2	13.0	12.9	47.5	21.1	13.3	10.7	17.1	10.7	9.7	14.74	47.53																							
24-Oct	10.0	9.3	10.1	10.3	12.5	10.1	9.9	9.8	10.3	14.9	14.3	14.0	14.6	12.6	11.3	13.0	12.2	16.8	24.9	14.5	12.9	17.2	10.6	10.3	12.76	24.87																							
25-Oct	9.1	8.9	17.2	31.6	17.9	13.3	11.7	22.2	46.8	14.6	16.3	12.6	13.5	16.6	19.3	21.6	17.2	16.6	17.5	13.7	10.8	16.3	13.7	18.7	17.41	46.77																							
26-Oct	49.9	14.9	10.3	7.2	7.6	12.1	10.2	13.1	14.5	14.5	15.7	17.1	17.2	19.6	16.4	19.8	11.6	6.9	9.3	6.3	10.3	6.0	8.4	7.1	13.57	49.87																							
27-Oct	6.4	10.9	14.3	7.3	13.3	12.4	6.3	5.9	9.7	9.6	11.6	16.7	13.6	24.2	24.8	18.1	34.8	10.0	6.2	13.6	18.5	11.6	7.5	7.7	13.12	34.81																							
28-Oct	8.6	10.7	10.4	10.4	10.7	10.3	11.1	10.8	11.5	12.8	12.5	13.6	12.2	14.0	28.7	17.3	15.0	11.9	11.0	12.3	11.3	10.8	10.6	11.3	12.49	28.70																							
29-Oct	10.9	10.3	10.1	10.7	10.9	11.0	11.1	11.3	10.4	11.3	12.1	15.3	13.9	15.3	21.9	21.0	20.9	22.7	17.4	13.5	16.2	10.0	77.6	21.4	16.96	77.60																							
30-Oct	9.9	8.8	10.3	6.1	7.0	9.1	10.3	9.6	9.7	10.3	13.0	12.5	12.5	13.4	15.6	11.0	10.6	11.5	12.5	13.2	12.5	11.0	15.1	20.5	11.49	20.54																							
31-Oct	13.1	6.7	9.3	12.4	14.3	11.0	12.7	14.3	12.9	13.0	14.6	12.0	9.9	10.3	10.6	12.0	12.2	18.2	20.6	10.1	13.6	13.2	11.1	10.2	12.43	20.61																							
																								12.76	11.76	12.79	14.75	14.08	13.12	11.60	14.39	14.20	13.93	15.46	18.26	21.70	21.33	22.99	18.69	14.90	16.23	14.26	14.56	13.70	12.24	13.37	12.25	Diurnal Average	
																								49.87	29.44	55.36	89.78	64.74	38.49	27.78	52.76	46.77	22.20	33.30	48.35	100.47	70.50	89.69	68.89	34.81	47.53	49.00	53.59	52.07	22.18	77.60	36.51	Diurnal Maximum	

WEST CENTRAL AIRSHED SOCIETY

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

**AMS 908
MEADOWS
OCTOBER 2017**

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

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

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

TransAlta / Meadows Station 908													October 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	0.2	0.0	3.0	0.0	0.0	0.1	0.2	0.3	0	0	0.001	
NO (ppb)	36	708	100.0	2.3	0.0	37.2	0.0	0.1	0.3	1.3	7.2	-	-	-	
NO ₂ (ppb)	36	708	100.0	4.7	0.0	17.0	0.2	0.9	3.8	7.7	11.1	0	0	0.010	
NO _x (ppb)	36	708	100.0	6.9	0.0	50.5	0.2	1.0	4.3	9.3	17.8	-	-	-	
Wind Speed (kph)	0	740	99.5	12.1	0.1	40.2	3.1	6.0	10.0	17.7	24.3	-	-	-	
Temperature (°C)	0	744	100.0	5.1	-4.4	23.3	-0.4	1.7	4.6	7.9	12.0	-	-	-	
Relative Humidity (%)	0	744	100.0	65.8	24.2	99.0	42.6	53.3	67.1	78.2	88.3	-	-	-	
Std Dev Wind Direction (deg)	0	740	99.5	20.9	3.7	93.9	7.6	10.6	13.9	22.7	47.4	-	-	-	
Std Dev Wind Speed (kph)	0	740	99.5	3.2	0.4	9.4	1.3	1.9	2.7	4.3	5.8	-	-	-	



WCAS - Meadows
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
October 2017

Maximum Value: 2.98 ppb on Oct 16 14:00		Maximum Daily Average: 0.54 ppb on Oct 16		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Oct 1 15:00		Minimum Daily Average: 0.00 ppb on Oct 1		Hours of Data: 709																													
Maximum Diurnal Average: 0.28 ppb at hour 14		Minimum Diurnal Average: 0.10 ppb at hour 20		Hours of Missing Data: 35																													
Monthly Average: 0.162 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.2 P ₉₀ = 0.3 P ₉₉ = 1.2		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-Oct	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	0.02							
2-Oct	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	0.1	0.1	0.0	0.0	0.0	0.0	0.02	0.06							
3-Oct	0.0	0.1	Z	0.2	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.18	0.34							
4-Oct	0.5	0.5	Z	0.1	0.4	0.6	0.4	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.2	0.4	0.4	0.26	0.58							
5-Oct	0.2	0.2	Z	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.13	0.20							
6-Oct	0.1	0.3	Z	0.2	0.3	0.7	0.6	0.4	0.2	0.3	0.3	0.2	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.19	0.74							
7-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.07							
8-Oct	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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.04	0.17							
9-Oct	0.2	0.2	Z	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.2	0.1	0.13	0.23							
10-Oct	0.2	0.2	Z	0.2	0.2	0.1	0.1	0.5	0.1	0.1	0.1	0.3	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.14	0.51							
11-Oct	0.0	0.0	Z	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	0.0	0.0	0.04	0.10							
12-Oct	0.0	0.0	Z	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	0.0	0.1	0.2	0.03	0.23								
13-Oct	0.3	0.2	Z	0.2	0.9	0.7	0.6	0.7	0.8	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.28	0.93							
14-Oct	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	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.14	0.19							
15-Oct	0.1	0.1	Z	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.3	0.3	0.3	0.2	0.2	0.0	0.0	0.15	0.31							
16-Oct	0.1	0.1	Z	0.1	0.1	0.3	0.2	0.2	0.3	0.3	0.1	0.1	2.6	3.0	1.5	0.7	0.6	0.6	0.2	0.2	0.2	0.2	0.3	0.3	0.54	2.98							
17-Oct	0.3	0.2	Z	0.4	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.40							
18-Oct	0.0	0.0	Z	0.0	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.3	1.8	2.4	1.2	0.2	0.4	0.4	0.6	0.2	0.2	0.2	0.1	0.2	0.40	2.41							
19-Oct	0.2	0.2	Z	0.2	0.2	0.8	0.6	0.7	0.7	0.5	0.2	0.2	0.5	0.6	1.1	1.3	1.3	0.2	0.2	0.2	0.2	0.3	0.6	0.4	0.49	1.33							
20-Oct	0.7	0.6	Z	0.7	0.7	0.6	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.2	0.3	0.2	0.24	0.73							
21-Oct	0.3	0.5	Z	0.5	0.2	0.3	0.3	0.3	0.5	0.3	0.2	0.2	0.1	0.1	0.1	0.3	0.5	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.26	0.54							
22-Oct	0.2	0.1	Z	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.12	0.29							
23-Oct	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.2	0.2	0.1	0.1	0.13	0.37							
24-Oct	0.1	0.1	Z	0.1	0.1	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	0.1	0.0	0.0	0.1	0.1	0.08	0.14							
25-Oct	0.2	0.4	Z	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.12	0.45							
26-Oct	0.0	0.0	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.17	0.26							
27-Oct	0.2	0.2	Z	0.2	0.2	0.2	0.4	0.2	0.3	0.5	C	C	C	C	1.1	0.3	0.1	0.1	0.1	0.1	0.2	0.8	0.6	0.6	0.34	1.11							
28-Oct	0.4	0.2	Z	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.37							
29-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.02	0.14							
30-Oct	0.1	0.1	Z	0.1	0.1	0.3	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.15	0.25							
31-Oct	0.2	0.2	Z	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.25							
		0.16	0.16	--	0.16	0.18	0.23	0.16	0.19	0.19	0.17	0.13	0.12	0.25	0.28	0.22	0.14	0.15	0.11	0.10	0.10	0.10	0.12	0.14	0.14	Diurnal Average							
		0.67	0.60	--	0.66	0.93	0.80	0.60	0.73	0.85	0.52	0.31	0.27	2.56	2.98	1.52	1.25	1.33	0.63	0.60	0.37	0.25	0.80	0.64	0.60	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb				24-hr 48 ppb																											



WCAS - Meadows
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
October 2017

Maximum Value: 37.17 ppb on Oct 13 05:00		Maximum Daily Average: 10.09 ppb on Oct 27		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Oct 25 20:00		Minimum Daily Average: 0.05 ppb on Oct 2		Hours of Data: 708																							
Maximum Diurnal Average: 6.49 ppb at hour 6		Minimum Diurnal Average: 0.19 ppb at hour 16		Hours of Missing Data: 36																							
Monthly Average: 2.291 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.3 P ₉₀ = 7.2 P ₉₉ = 27.9		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-Oct	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.10	
2-Oct	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.05	0.09	
3-Oct	0.6	0.6	Z	3.0	2.8	11.2	1.6	2.5	1.6	2.2	1.0	0.8	0.6	0.7	0.5	0.2	0.5	3.1	0.1	0.1	0.1	0.1	0.6	6.4	1.77	11.23	
4-Oct	15.7	17.8	Z	1.3	13.8	21.4	15.2	14.4	4.8	1.9	0.9	0.6	0.5	1.0	0.3	0.2	0.1	0.1	0.4	0.1	0.4	3.1	11.2	12.1	5.96	21.36	
5-Oct	0.5	0.4	Z	0.2	0.1	0.3	1.5	1.2	3.0	2.0	1.6	0.9	0.4	0.3	0.5	0.2	1.1	2.4	0.8	1.3	1.0	0.2	0.3	2.4	0.98	3.01	
6-Oct	2.0	10.3	Z	3.8	12.6	31.3	23.3	16.0	8.6	10.0	11.1	3.6	1.3	0.7	0.1	0.3	0.1	0.2	0.2	0.3	0.2	0.1	0.0	0.1	5.93	31.26	
7-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.05	0.13	
8-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.4	2.2	0.2	0.1	1.4	0.22	2.22	
9-Oct	2.4	1.2	Z	0.4	0.5	0.4	0.1	0.5	0.7	0.8	1.1	0.9	0.2	0.1	0.1	0.0	0.0	0.0	0.0	2.9	6.7	2.2	2.7	1.6	1.11	6.65	
10-Oct	0.4	7.3	Z	4.6	4.3	1.9	1.2	19.9	3.0	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.92	19.93	
11-Oct	0.0	0.0	Z	0.0	0.0	0.1	0.0	0.1	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.11	0.32	
12-Oct	0.0	0.0	Z	0.0	0.1	0.1	0.1	0.4	0.4	0.7	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.9	6.7	0.46	6.67	
13-Oct	10.4	4.1	Z	7.0	37.2	28.9	20.5	28.2	33.3	11.2	0.5	1.0	0.4	0.6	0.7	0.6	0.3	0.1	0.4	0.2	2.2	0.6	0.2	1.8	8.27	37.17	
14-Oct	0.7	0.5	Z	0.8	1.0	1.2	0.5	2.4	2.4	1.8	2.0	2.1	2.0	2.0	1.3	0.9	0.3	0.5	0.2	0.5	0.2	0.1	0.2	0.3	1.03	2.43	
15-Oct	1.1	0.6	Z	2.1	1.3	1.0	1.0	1.1	0.8	0.8	1.0	0.8	0.7	0.3	0.2	0.2	1.3	7.7	8.9	11.1	6.6	5.4	0.2	0.3	2.36	11.11	
16-Oct	0.1	0.1	Z	0.0	0.6	8.7	2.8	6.2	7.1	11.3	0.7	1.9	3.9	1.7	0.6	0.2	0.2	0.1	0.1	0.1	0.9	2.0	9.8	5.8	2.82	11.25	
17-Oct	8.2	3.1	Z	14.3	3.0	1.8	0.9	0.3	0.8	0.9	1.3	1.1	1.1	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.63	14.33	
18-Oct	0.0	0.0	Z	0.1	0.2	0.4	0.1	3.9	5.2	3.4	5.0	0.9	2.3	2.3	0.9	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	1.13	5.22	
19-Oct	0.2	0.4	Z	1.9	5.7	31.4	21.6	25.8	26.1	19.6	4.1	5.5	2.8	1.0	1.2	1.0	1.0	0.5	0.0	0.1	2.4	7.6	21.0	15.0	8.51	31.43	
20-Oct	25.9	22.8	Z	25.4	28.3	22.0	3.6	7.7	2.8	1.1	0.5	0.3	0.4	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	8.2	10.9	3.8	7.16	28.27	
21-Oct	7.9	17.5	Z	18.6	6.0	11.1	10.5	8.0	16.3	8.1	1.3	0.6	0.1	0.1	0.1	0.2	0.5	1.2	0.9	0.4	1.6	3.1	0.8	1.2	5.04	18.57	
22-Oct	1.9	0.5	Z	0.2	0.4	9.2	0.4	2.7	1.6	0.9	0.5	0.5	0.4	0.4	0.2	0.1	0.1	0.3	0.5	0.2	0.3	0.7	0.5	0.4	1.00	9.17	
23-Oct	3.8	0.7	Z	0.2	0.3	0.3	0.1	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.0	1.0	0.1	0.5	0.1	0.3	0.6	0.3	0.41	3.82	
24-Oct	0.2	0.2	Z	0.1	0.0	0.1	0.2	0.2	0.6	1.0	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.19	0.98	
25-Oct	0.1	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	1.7	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	1.75	
26-Oct	0.1	0.1	Z	0.4	0.3	0.1	0.1	0.2	0.3	0.4	0.3	0.4	0.5	0.7	0.9	0.4	0.8	2.2	1.6	0.4	0.9	2.2	3.8	8.1	1.10	8.13	
27-Oct	3.3	2.9	Z	0.8	4.3	8.5	16.1	6.8	14.8	21.1	C	C	C	C	C	0.2	0.8	0.9	2.1	1.3	8.9	35.7	26.9	26.2	10.09	35.74	
28-Oct	13.6	7.4	Z	0.1	0.5	1.9	0.4	0.4	0.2	1.5	0.4	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.17	13.58	
29-Oct	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	3.8	3.6	0.33	3.76	
30-Oct	1.2	0.3	Z	0.2	2.4	7.4	0.2	0.4	0.7	1.0	1.3	2.1	0.7	0.2	0.2	0.1	0.1	1.4	0.3	0.7	0.5	0.3	1.1	2.2	1.10	7.41	
31-Oct	6.8	2.9	Z	0.6	1.6	0.3	0.1	0.1	0.5	0.7	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.63	6.83	
		3.46	3.29	--	2.78	4.11	6.49	3.94	4.83	4.40	3.39	1.23	0.87	0.66	0.45	0.30	0.19	0.26	0.72	0.56	0.69	1.15	2.35	3.09	3.23	Diurnal Average	
		25.93	22.81	--	25.40	37.17	31.43	23.33	28.20	33.27	21.14	11.13	5.45	3.86	2.28	1.25	0.98	1.28	7.67	8.87	11.11	8.91	35.74	26.89	26.21	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																					



WCAS - Meadows
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2017

Maximum Value: 16.97 ppb on Oct 16 08:00		Maximum Daily Average: 9.86 ppb on Oct 27		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Oct 1 15:00		Minimum Daily Average: 0.18 ppb on Oct 2		Hours of Data: 708																													
Maximum Diurnal Average: 6.68 ppb at hour 6		Minimum Diurnal Average: 1.91 ppb at hour 16		Hours of Missing Data: 36																													
Monthly Average: 4.699 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.9 Median = 3.8 Q ₃ = 7.7 P ₉₀ = 11.1 P ₉₉ = 15.6		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-Oct	0.2	0.2	Z	0.2	0.4	0.5	0.6	0.6	0.4	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.19	0.58							
2-Oct	0.3	0.3	Z	0.0	0.0	0.0	0.1	0.0	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.2	0.4	1.0	0.5	0.18	1.04							
3-Oct	1.5	3.6	Z	8.7	6.2	8.7	4.1	6.5	3.5	3.2	2.0	2.1	1.6	2.0	2.2	1.3	3.7	11.2	1.8	2.5	2.5	3.0	6.2	9.1	4.22	11.22							
4-Oct	10.7	11.2	Z	6.4	11.1	11.2	11.6	10.9	6.3	5.3	2.8	1.9	1.9	3.9	2.4	1.5	1.5	6.9	5.5	6.5	10.8	13.7	13.4	6.90	13.68								
5-Oct	5.0	3.8	Z	3.5	3.9	5.5	7.8	5.7	5.6	3.9	3.9	3.5	2.6	2.5	2.8	2.0	4.7	12.1	6.8	7.3	8.9	6.4	6.0	6.5	5.26	12.11							
6-Oct	7.5	8.3	Z	6.7	7.7	7.9	6.8	6.0	6.5	6.7	7.9	6.1	4.5	2.8	0.9	2.7	0.6	2.1	3.0	6.6	8.8	1.4	0.6	2.0	4.96	8.80							
7-Oct	0.4	0.4	Z	0.1	0.3	0.2	1.0	0.8	0.6	0.3	0.4	0.5	0.4	0.1	0.1	0.3	0.2	0.2	0.3	0.5	0.5	0.5	0.4	0.3	0.38	0.97							
8-Oct	0.1	0.2	Z	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.5	2.8	7.8	4.4	3.8	4.0	1.07	7.84							
9-Oct	6.9	6.3	Z	3.0	3.6	3.1	3.0	4.3	3.8	3.1	3.5	2.6	1.0	0.3	0.3	0.1	0.2	0.2	0.5	7.1	11.8	5.6	7.9	5.4	3.64	11.77							
10-Oct	3.4	6.4	Z	8.4	9.4	6.2	6.0	12.3	7.0	2.0	1.0	1.1	1.0	0.7	0.7	0.7	1.0	1.1	0.9	0.9	0.7	0.8	0.8	0.9	3.20	12.31							
11-Oct	0.5	0.4	Z	0.4	0.4	0.6	1.2	1.5	1.4	1.3	0.9	0.6	0.8	1.0	0.8	0.4	0.4	1.6	1.7	1.2	1.0	0.3	0.5	0.3	0.84	1.69							
12-Oct	0.5	0.7	Z	0.2	3.1	5.7	5.1	5.8	5.5	3.7	1.4	4.6	2.2	0.5	0.7	1.5	1.3	0.8	1.1	1.6	0.3	1.6	4.5	7.5	2.60	7.54							
13-Oct	9.2	9.2	Z	7.7	9.0	8.9	9.2	9.8	9.3	5.7	1.3	2.0	1.0	1.3	2.1	2.9	2.0	1.7	3.0	4.2	7.1	5.6	3.7	7.9	5.38	9.85							
14-Oct	5.6	5.6	Z	4.8	6.3	8.2	8.0	9.4	9.6	8.9	8.3	9.7	9.7	8.3	5.7	8.3	3.4	7.1	6.6	11.8	7.0	3.3	5.9	7.1	7.34	11.83							
15-Oct	9.7	8.2	Z	9.3	6.8	4.6	5.1	6.6	4.9	4.3	5.5	4.7	3.9	2.4	1.7	1.9	5.6	14.4	15.4	15.6	11.5	9.9	4.9	8.6	7.20	15.63							
16-Oct	4.8	5.2	Z	3.9	7.9	15.9	11.8	17.0	12.4	16.1	5.7	4.4	8.9	10.1	7.6	4.0	3.5	4.0	3.0	2.7	6.5	9.9	12.7	12.3	8.27	16.97							
17-Oct	12.7	10.8	Z	9.7	9.2	8.6	6.8	5.5	4.3	3.8	4.9	5.4	5.5	3.1	0.9	0.6	1.0	0.9	0.5	0.4	0.5	0.8	1.4	1.1	4.28	12.68							
18-Oct	1.4	2.0	Z	5.4	6.9	9.9	5.2	11.7	11.3	8.4	7.7	3.7	7.9	9.0	6.0	3.2	4.3	4.6	4.9	4.8	6.4	6.1	6.2	4.3	6.14	11.74							
19-Oct	5.3	5.0	Z	7.8	13.4	13.7	13.0	12.3	11.0	11.0	6.8	9.9	8.6	5.1	6.0	8.2	8.9	6.4	2.3	5.0	15.1	15.3	16.4	14.7	9.61	16.39							
20-Oct	13.0	12.1	Z	12.4	15.4	14.7	7.9	13.9	10.5	8.8	5.5	3.8	2.5	2.1	1.9	2.1	3.5	4.4	4.5	4.1	5.1	11.4	12.5	11.6	7.99	15.41							
21-Oct	11.7	13.7	Z	12.0	7.9	11.9	11.6	10.3	10.1	10.8	3.7	2.8	1.8	1.6	2.0	2.1	5.4	11.3	9.9	7.8	11.4	10.3	8.7	10.4	8.22	13.65							
22-Oct	11.6	7.2	Z	5.0	2.9	11.3	5.1	10.2	9.4	8.6	5.2	2.0	2.5	2.4	2.3	1.7	1.9	4.6	8.8	9.2	10.0	12.6	12.0	9.7	6.80	12.61							
23-Oct	15.6	12.1	Z	4.8	7.4	6.4	4.2	6.7	4.8	4.7	3.6	1.9	1.1	1.1	0.8	1.3	1.4	6.1	5.2	7.7	6.4	4.0	4.0	4.2	5.03	15.59							
24-Oct	1.5	1.6	Z	1.0	2.1	3.9	6.8	5.6	7.9	8.3	5.6	1.9	0.2	0.2	0.7	0.7	1.0	1.5	4.8	5.5	3.6	1.8	3.2	3.3	3.15	8.28							
25-Oct	4.8	6.3	Z	3.6	1.5	2.6	2.6	2.2	3.1	10.0	3.2	0.6	0.2	0.2	0.1	0.2	0.6	0.2	0.5	0.2	0.5	0.2	0.4	0.5	1.93	10.01							
26-Oct	2.9	5.0	Z	2.9	2.9	2.4	3.6	4.1	4.1	3.3	2.1	2.0	3.4	5.2	5.3	3.0	5.4	7.9	5.6	4.0	9.1	12.1	10.5	9.6	5.06	12.13							
27-Oct	8.8	6.9	Z	5.9	6.7	9.5	8.6	7.4	9.0	11.8	C	C	C	C	C	2.0	6.5	12.5	14.6	14.0	12.7	14.9	12.7	12.9	9.86	14.94							
28-Oct	13.8	12.4	Z	2.4	5.3	11.6	7.7	8.4	4.1	6.0	3.6	1.0	0.5	0.7	0.4	0.9	1.0	1.3	0.9	0.8	0.6	0.9	0.9	0.6	3.74	13.79							
29-Oct	0.7	0.7	Z	0.9	1.1	0.7	0.6	0.6	0.6	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.9	0.4	1.1	11.3	1.45	11.72							
30-Oct	9.4	7.0	Z	5.8	10.3	8.6	4.9	5.6	8.4	9.0	9.7	10.2	8.2	4.6	3.8	3.8	4.6	10.5	7.5	9.3	9.0	4.3	8.1	11.9	7.58	11.85							
31-Oct	16.3	10.1	Z	7.7	7.4	4.0	2.3	3.5	9.4	9.4	8.4	4.7	2.6	2.4	1.4	1.4	1.6	1.6	1.8	1.3	0.8	0.3	0.5	0.7	4.32	16.35							
		6.31	5.90	--	4.86	5.70	6.68	5.56	6.62	5.96	5.78	3.84	3.13	2.82	2.46	1.99	1.91	2.43	4.27	4.00	4.70	5.58	5.18	5.85	6.24	Diurnal Average							
		16.35	13.65	--	12.45	15.41	15.86	12.98	16.97	12.38	16.11	9.73	10.22	9.72	10.13	7.65	8.29	8.85	14.42	15.45	15.63	15.10	15.32	16.39	14.66	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb				24-hr 106 ppb																											



WCAS - Meadows
Summary of Hourly Averages

NOx (NO_x) - ppb
October 2017

Maximum Value: 50.49 ppb on Oct 27 22:00		Maximum Daily Average: 19.85 ppb on Oct 27		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Oct 2 04:00		Minimum Daily Average: 0.21 ppb on Oct 2		Hours of Data: 708																							
Maximum Diurnal Average: 13.06 ppb at hour 6		Minimum Diurnal Average: 2.09 ppb at hour 16		Hours of Missing Data: 36																							
Monthly Average: 6.929 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 1.0 Median = 4.3 Q ₃ = 9.3 P ₉₀ = 17.8 P ₉₉ = 38.6		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-Oct	0.3	0.2	Z	0.2	0.4	0.5	0.6	0.6	0.4	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.23	0.65	
2-Oct	0.3	0.3	Z	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.5	1.1	0.6	0.21	1.12	
3-Oct	2.1	4.2	Z	11.5	8.9	19.8	5.7	8.9	5.1	5.4	3.0	2.9	2.2	2.7	2.7	1.5	4.1	14.1	1.9	2.6	2.6	3.1	6.7	15.4	5.95	19.79	
4-Oct	26.1	28.7	Z	7.6	24.6	32.3	26.5	25.1	11.0	7.2	3.7	2.6	2.4	4.8	2.7	1.7	1.6	1.6	7.3	5.5	6.8	13.8	24.6	25.3	12.76	32.29	
5-Oct	5.5	4.1	Z	3.6	4.0	5.7	9.1	6.8	8.6	5.8	5.5	4.4	3.0	2.8	3.3	2.3	5.8	14.3	7.6	8.6	9.8	6.5	6.2	8.8	6.18	14.35	
6-Oct	9.4	18.5	Z	10.4	20.1	38.9	29.9	21.8	15.0	16.6	18.9	9.7	5.8	3.5	1.0	3.0	0.7	2.3	3.2	6.8	8.9	1.5	0.6	2.1	10.80	38.85	
7-Oct	0.4	0.4	Z	0.1	0.3	0.2	1.0	0.8	0.6	0.4	0.4	0.5	0.5	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.4	0.3	0.42	1.01	
8-Oct	0.1	0.2	Z	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.2	0.2	0.1	0.2	0.3	0.5	3.1	10.0	4.6	3.9	5.4	1.27	9.98	
9-Oct	9.1	7.4	Z	3.3	4.1	3.5	3.1	4.8	4.5	3.8	4.6	3.5	1.2	0.4	0.3	0.2	0.2	0.3	0.5	10.0	18.2	7.7	10.5	6.9	4.71	18.25	
10-Oct	3.8	13.5	Z	12.9	13.5	8.1	7.2	31.9	10.0	2.3	1.2	1.3	1.2	0.9	0.8	0.8	1.1	1.1	1.0	0.9	0.8	0.8	0.9	0.9	5.08	31.94	
11-Oct	0.5	0.5	Z	0.4	0.5	0.6	1.3	1.6	1.7	1.6	1.1	1.0	1.1	1.2	1.0	0.5	0.5	1.6	1.7	1.3	1.0	0.3	0.5	0.3	0.94	1.74	
12-Oct	0.5	0.7	Z	0.2	3.1	5.8	5.1	6.1	5.8	4.4	1.6	4.8	2.4	0.6	0.8	1.6	1.4	0.8	1.2	1.6	0.3	1.7	5.3	14.1	3.04	14.10	
13-Oct	19.4	13.3	Z	14.6	45.8	37.5	29.4	37.8	42.2	16.7	1.8	3.0	1.4	1.8	2.8	3.4	2.3	1.8	3.4	4.4	9.2	6.2	3.9	9.6	13.54	45.83	
14-Oct	6.2	6.0	Z	5.6	7.2	9.2	8.4	11.8	11.9	10.6	10.2	11.7	11.6	10.2	6.9	9.1	3.7	7.6	6.8	12.2	7.1	3.4	6.0	7.4	8.29	12.21	
15-Oct	10.7	8.7	Z	11.3	8.1	5.6	6.0	7.7	5.6	5.0	6.5	5.5	4.5	2.7	1.9	2.1	6.8	21.9	24.1	26.5	17.9	15.2	5.0	8.8	9.48	26.50	
16-Oct	4.8	5.3	Z	3.9	8.4	24.4	14.4	23.0	19.3	27.1	6.3	6.3	12.7	11.8	8.1	4.2	3.6	4.0	3.0	2.7	7.4	11.8	22.3	17.9	10.99	27.07	
17-Oct	20.7	13.7	Z	23.8	12.1	10.3	7.6	5.7	5.1	4.6	6.2	6.5	6.5	3.5	1.0	0.6	1.0	1.0	0.5	0.4	0.5	0.9	1.4	1.0	5.85	23.78	
18-Oct	1.4	2.0	Z	5.5	7.0	10.2	5.2	15.5	16.4	11.7	12.6	4.6	10.1	11.2	6.9	3.4	4.5	4.8	4.9	4.8	6.5	6.1	6.2	4.4	7.21	16.41	
19-Oct	5.5	5.4	Z	9.6	18.9	44.8	34.3	37.8	36.7	30.4	10.8	15.2	11.3	6.0	7.1	9.1	9.7	6.9	2.3	5.1	17.3	22.7	37.0	29.4	17.96	44.80	
20-Oct	38.6	34.6	Z	37.5	43.3	36.4	11.5	21.4	13.3	9.7	5.9	4.2	2.8	2.3	2.0	2.2	3.5	4.5	4.5	4.1	5.4	19.4	23.2	15.3	15.02	43.31	
21-Oct	19.4	30.8	Z	30.3	13.8	22.7	21.8	18.2	26.1	18.7	5.0	3.3	1.9	1.6	2.1	2.3	5.8	12.3	10.7	8.1	12.9	13.3	9.4	11.4	13.13	30.82	
22-Oct	13.4	7.6	Z	5.1	3.3	20.2	5.4	12.8	10.9	9.4	5.7	2.5	2.9	2.8	2.5	1.8	2.0	4.9	9.2	9.3	10.2	13.1	12.4	10.1	7.71	20.21	
23-Oct	19.2	12.6	Z	5.0	7.6	6.7	4.3	6.8	4.9	5.0	3.7	2.0	1.2	1.2	0.9	1.3	1.4	7.0	5.2	8.1	6.4	4.3	4.5	4.5	5.38	19.21	
24-Oct	1.7	1.8	Z	1.1	2.1	3.9	6.9	5.7	8.4	9.2	6.3	2.2	0.2	0.3	0.7	0.7	1.0	1.5	4.9	5.8	3.6	1.8	3.2	3.3	3.32	9.17	
25-Oct	4.8	6.3	Z	3.7	1.6	2.7	2.6	2.2	3.2	11.6	3.4	0.6	0.3	0.2	0.1	0.2	0.6	0.2	0.6	0.2	0.5	0.2	0.4	0.5	2.04	11.64	
26-Oct	2.9	5.1	Z	3.3	3.2	2.6	3.6	4.2	4.4	3.6	2.3	2.4	3.9	5.8	6.2	3.4	6.1	9.9	7.1	4.4	9.9	14.2	14.1	17.6	6.10	17.56	
27-Oct	12.0	9.8	Z	6.6	10.9	17.8	24.4	13.9	23.4	32.5	C	C	C	C	C	2.4	7.5	13.6	16.8	15.4	21.6	50.5	39.4	38.9	19.85	50.49	
28-Oct	27.2	19.7	Z	2.5	5.8	13.4	8.0	8.8	4.3	7.5	4.1	1.2	0.6	0.7	0.4	0.9	1.1	1.3	0.9	0.8	0.6	0.9	0.9	0.6	4.87	27.20	
29-Oct	0.7	0.7	Z	0.9	1.1	0.7	0.6	0.6	0.6	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.9	0.4	1.3	15.0	15.3	1.76	15.25
30-Oct	10.5	7.2	Z	6.0	12.7	15.9	5.0	5.9	9.0	10.0	11.0	12.3	8.9	4.8	4.0	3.9	4.7	11.7	7.8	10.0	9.4	4.6	9.1	14.0	8.62	15.89	
31-Oct	23.0	13.0	Z	8.2	8.9	4.3	2.3	3.6	9.8	10.0	8.6	4.8	2.7	2.4	1.4	1.4	1.6	1.6	1.8	1.3	0.8	0.3	0.5	0.7	4.91	23.02	
		9.68	9.11	--	7.57	9.73	13.06	9.40	11.35	10.27	9.08	5.03	3.98	3.45	2.89	2.27	2.09	2.68	4.95	4.52	5.34	6.67	7.47	8.86	9.38	Diurnal Average	
		38.64	34.63	--	37.52	45.83	44.80	34.26	37.76	42.21	32.47	18.91	15.20	12.67	11.76	8.14	9.13	9.73	21.88	24.08	26.50	21.64	50.49	39.41	38.89	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb 24-hr --- ppb																									

Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 908, Meadows

Calibration Date: October 27, 2017

Parameter: NO/NO₂/NO_x

Instrument: Thermo 42i

Serial Number: 1170050137

Previous Calibration Date: September 25, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 S/N 08600312

Barometric Pressure: 27.80" Hg

Calibration Method: Standard Gas Dilution/ GPT

Cylinder ID: CA04802

Temperature: 20.3° C

Cylinder Concentration: 25.2 ppm NO/NO_x

In Service: 10/02/2017 EXP 08/23/2020

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	2.0	2.0	NA	0.926	0.998	0.995	500 ppb
Current	2.0	2.4	NA	0.990	1.001	0.995	500 ppb

NO	Final Zero: -1.2 ppb	Final Span: 151.2 ppb	As Found Correction Factor: 1.060
NO ₂	Final Zero: 0.7 ppb	Final Span: 0.6 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -0.8 ppb	Final Span: 151.4 ppb	As Found Correction Factor: 1.061

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	59.868580	167.940200	0.999973
		Current	59.945280	67.900150	0.999918
	C _i vs C _c	Current	1.000000	-0.000068	0.999918
NO ₂	R _c vs C _c	Previous	60.013770	39.180100	0.999973
		Current	60.147060	-8.055756	0.999997
	C _i vs C _c	Current	1.000000	-0.000041	0.999997
NO _x	R _c vs C _c	Previous	59.739400	145.334800	0.999973
		Current	60.001120	82.483600	0.999924
	C _i vs C _c	Current	1.000000	-0.000068	0.999925

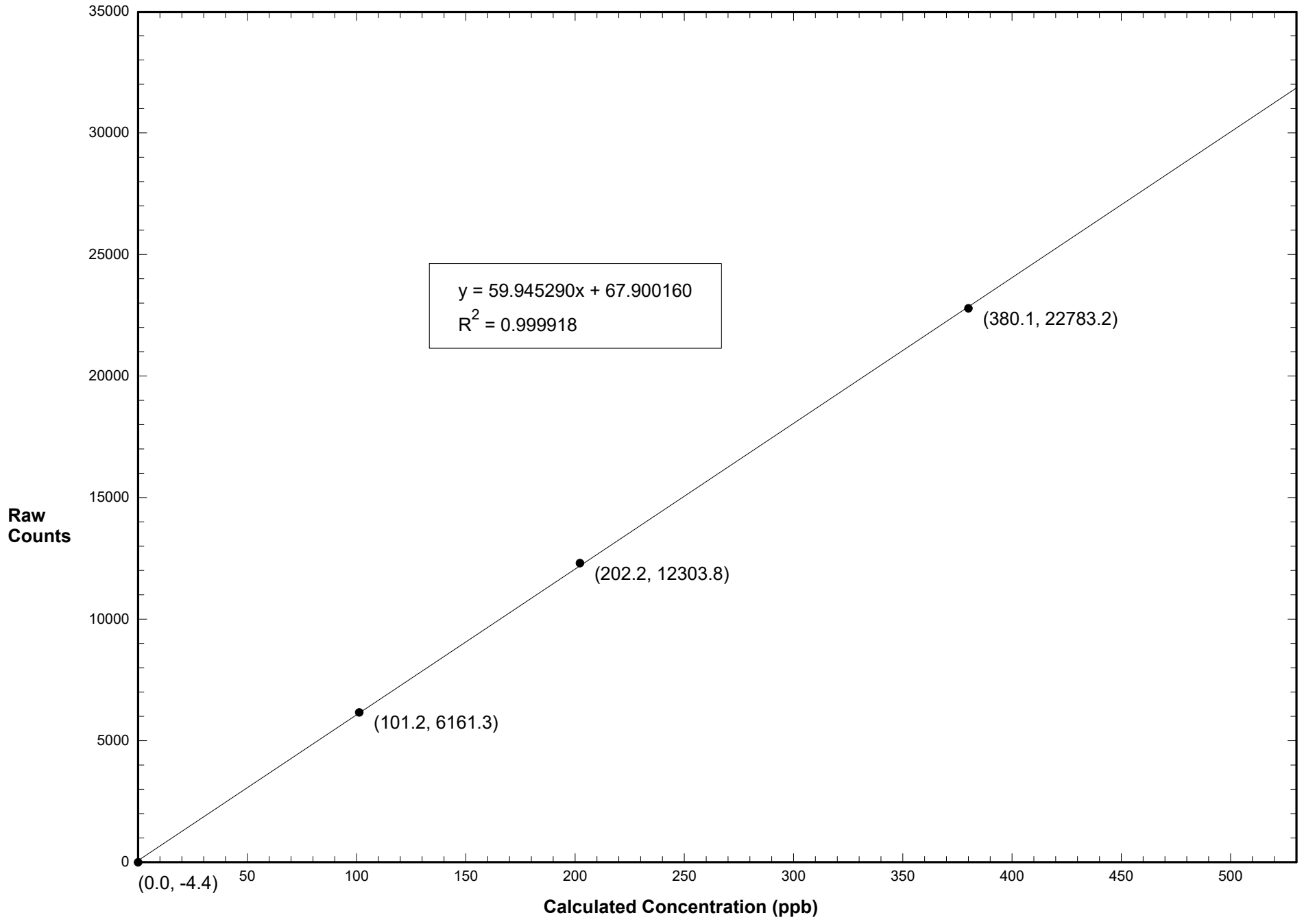
Comments: SAMPLE FLOW = 0.660 LPM

Calibration Data Summary (Page 2)

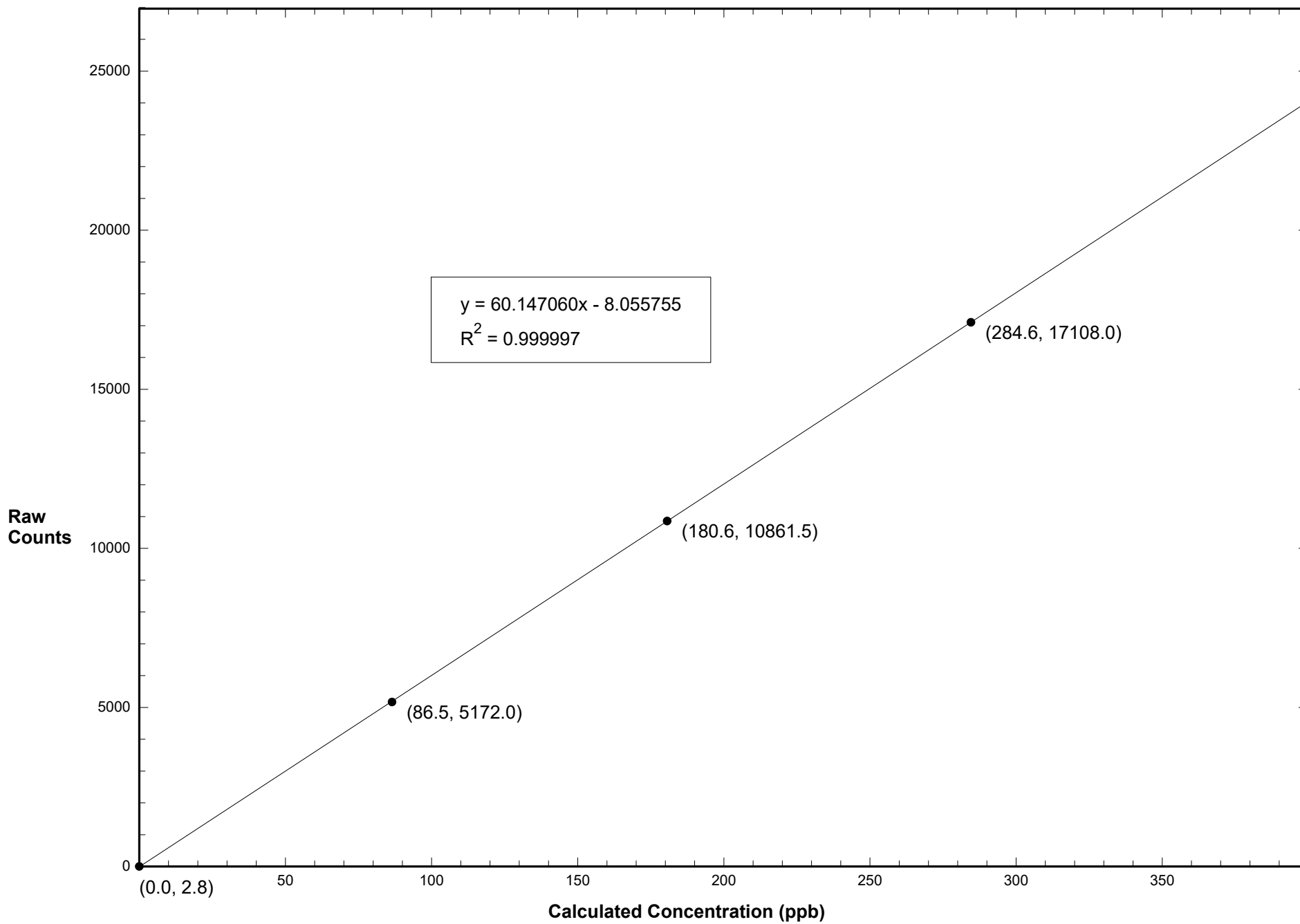
October 27, 2017 - Station 908

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		
0.07621	4.977	380.1	22783.2	378.9	1.003		
0.04058	5.016	202.2	12303.8	204.1	0.991		
0.02021	5.012	101.2	6161.3	101.6	0.996		
0.00000	5.000	0.0	-4.4	-1.2			
NO Calibration					Average Correction Factor:	0.996	
0.07621	4.977	380.1	22821.9	379.0	1.003		
0.04058	5.016	202.2	12322.2	204.0	0.991		
0.02021	5.012	101.2	6185.6	101.7	0.995		
0.00000	5.000	0.0	10.7	-1.2			
NO _x Calibration					Average Correction Factor:	0.996	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i	Converter Efficiency C _i /C _c
378.6	5707.2	94.1	284.6	17108.0	284.6	1.000	1.000
378.6	11939.7	198.0	180.6	10861.5	180.7	0.999	1.001
378.6	17582.5	292.2	86.5	5172.0	86.1	1.004	0.996
			0.0	2.8	0.2		
					Average Correction Factor:	1.001	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 0.999		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.002	1.003	0.1				
NO ₂	1.000	1.000	0.0				
NO _x	1.002	1.003	0.1				

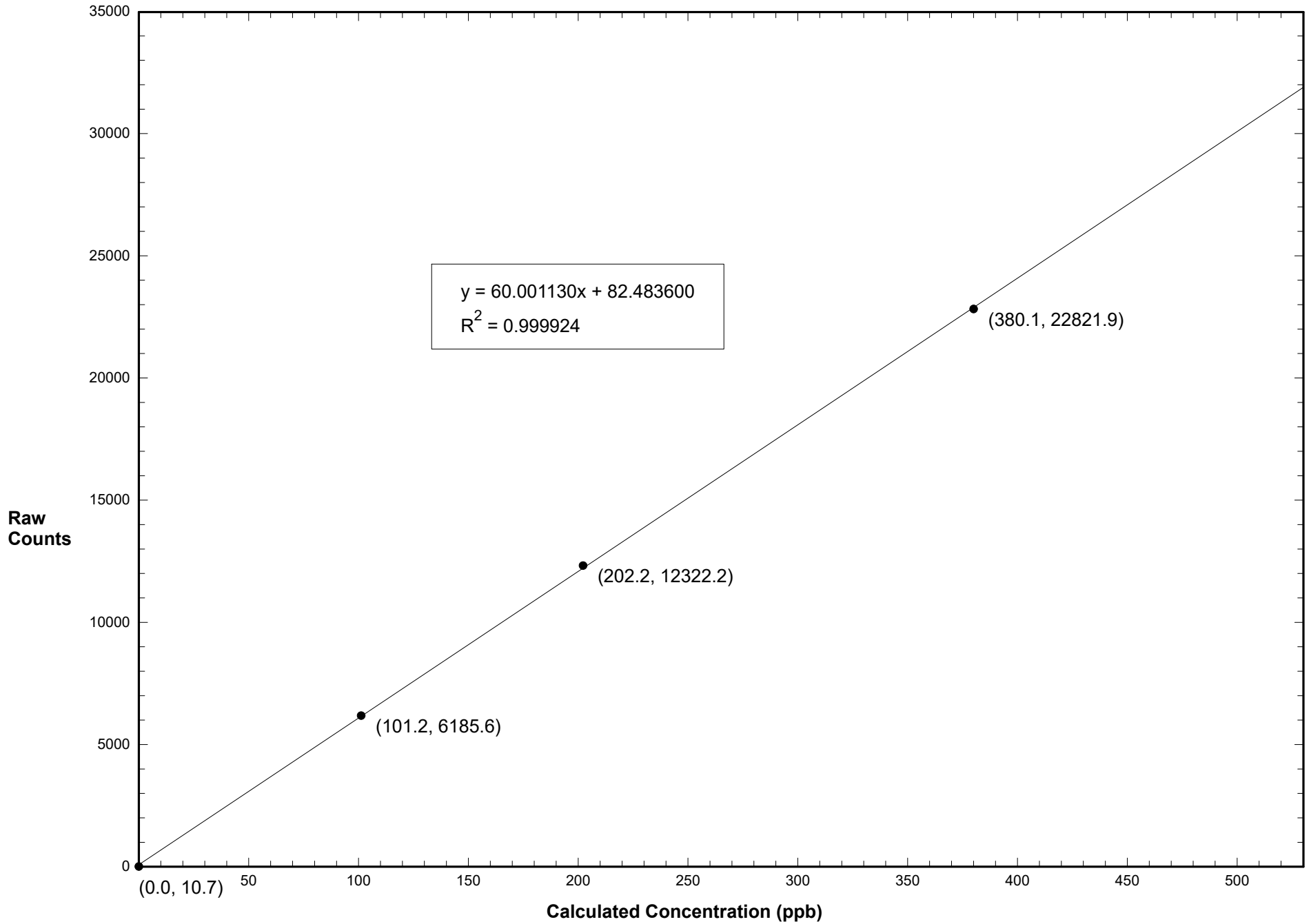
Station 908 NO October 27, 2017: Linear Regression



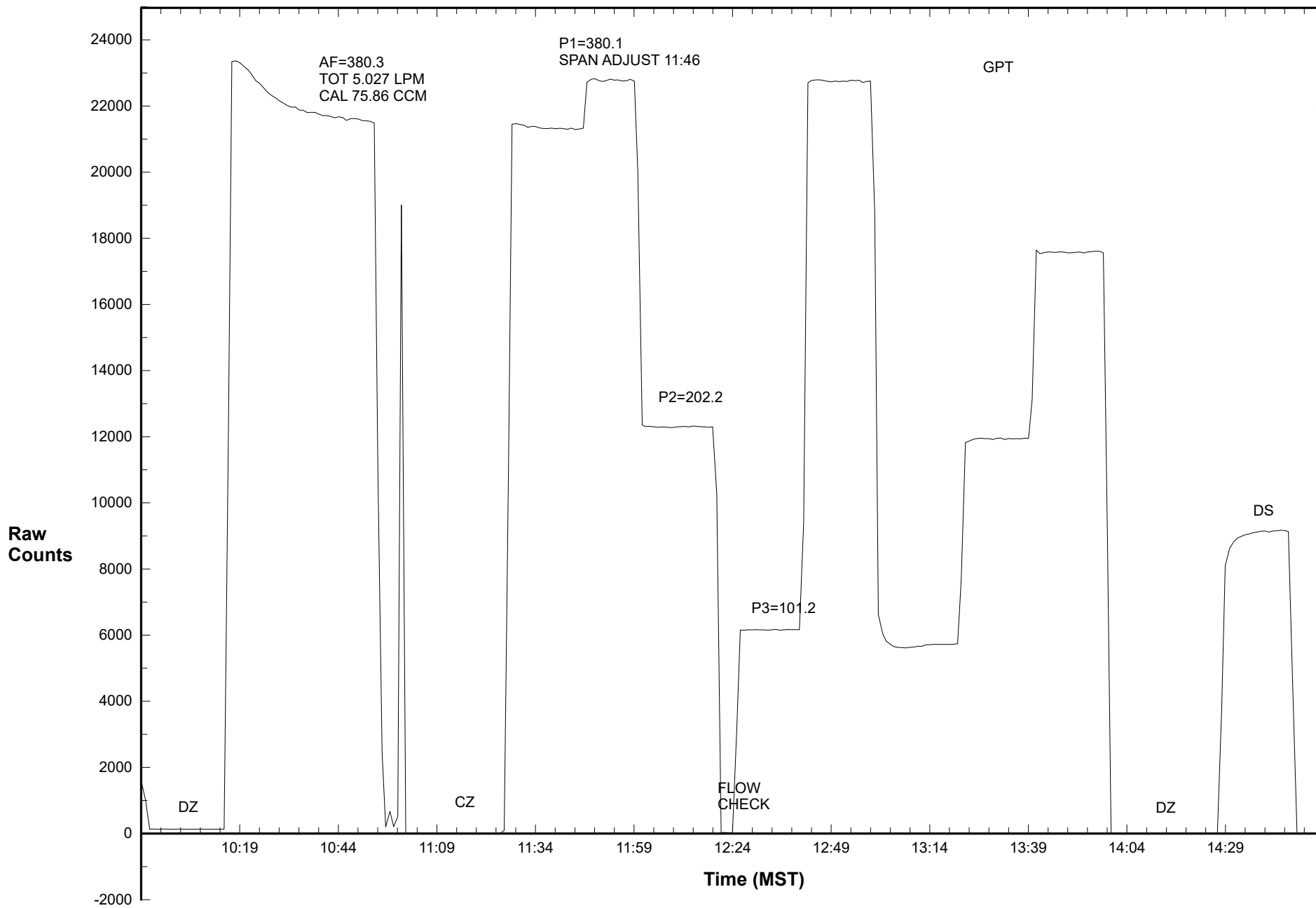
Station 908 NO2 October 27, 2017: Linear Regression



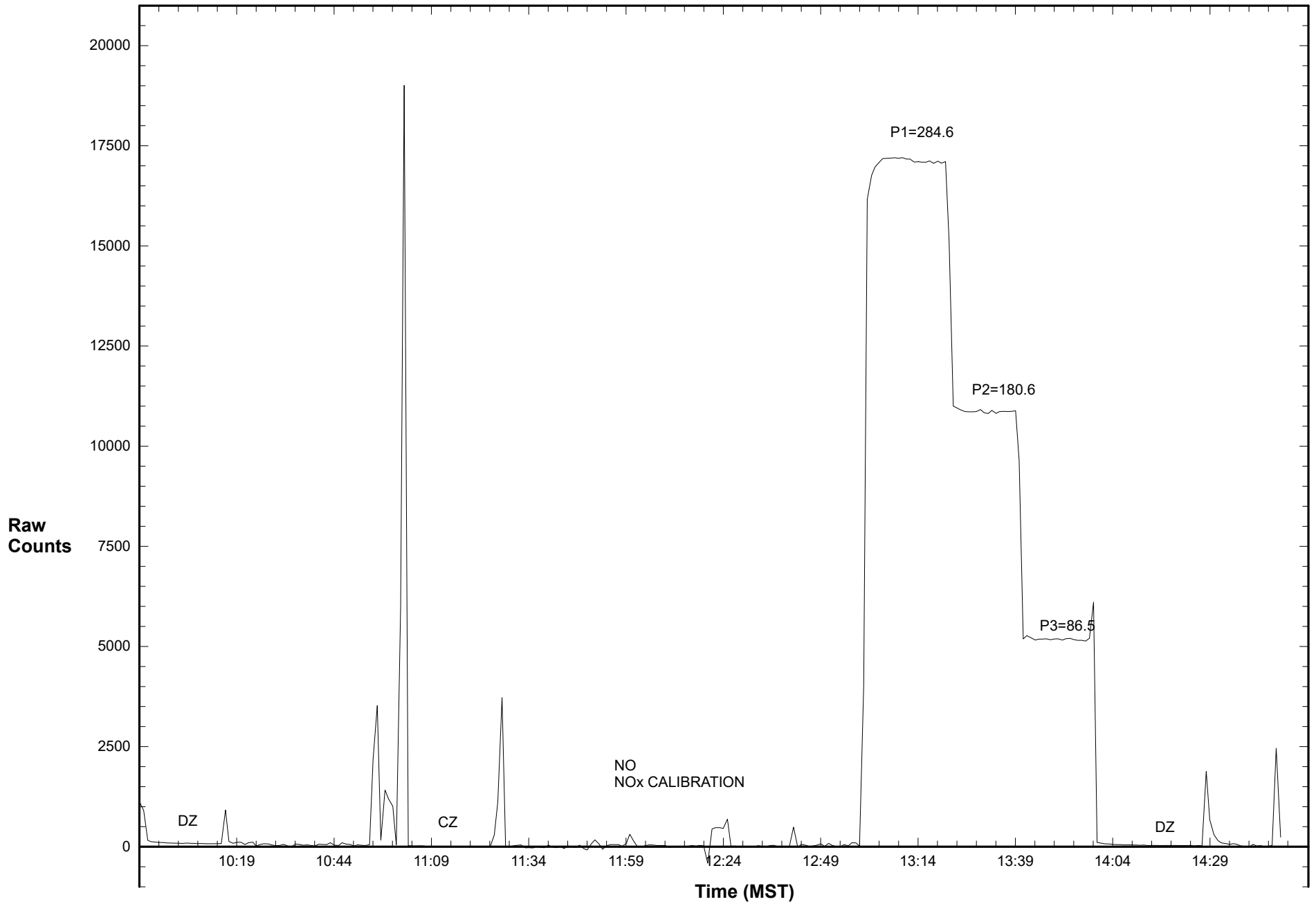
Station 908 NOX October 27, 2017: Linear Regression



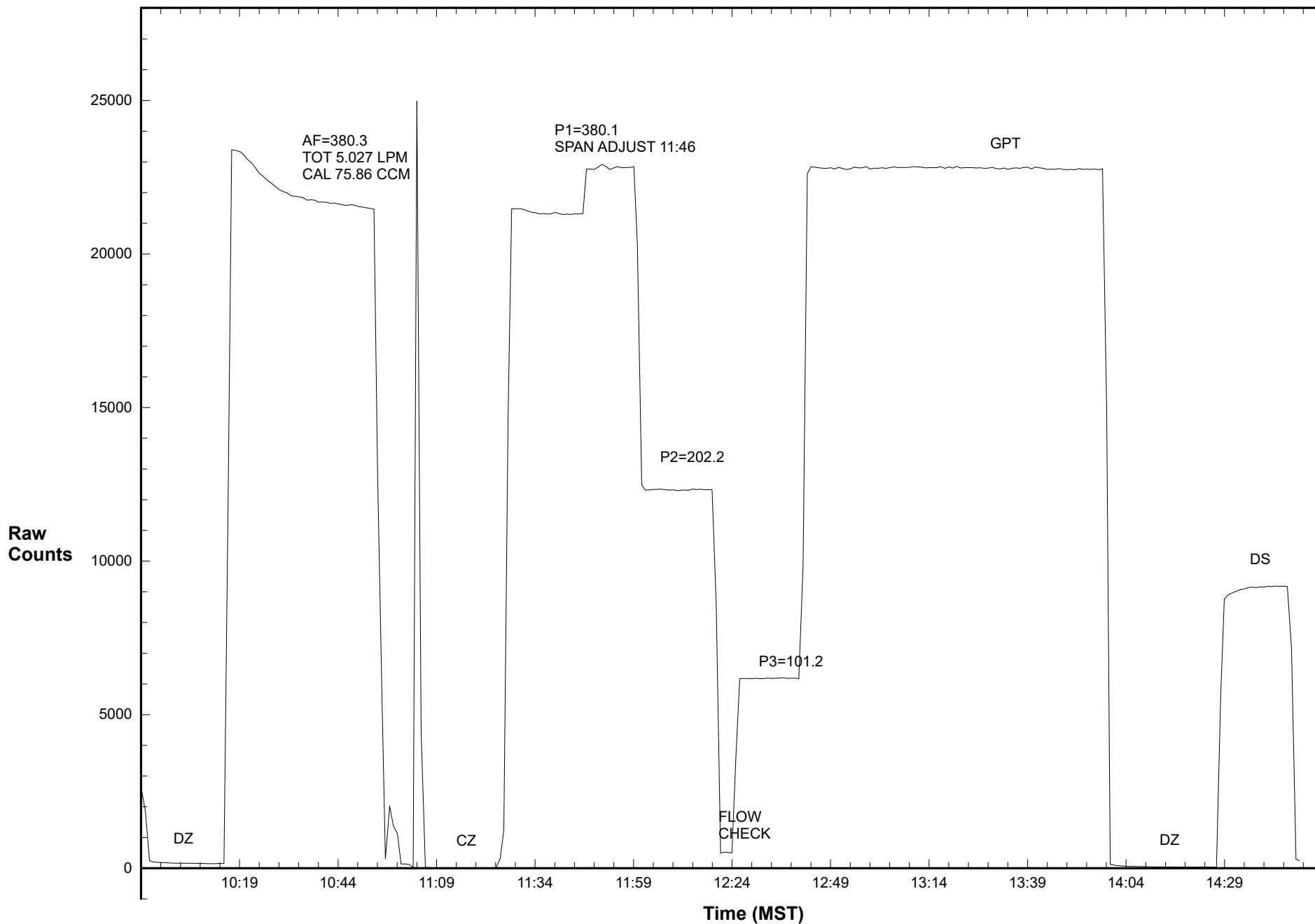
Station 908 NO October 27, 2017: Calibration Graph



Station 908 NO2 October 27, 2017: Calibration Graph



Station 908 NOX October 27, 2017: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 908, Meadows

Calibration Date: October 27, 2017

Parameter: SO₂

Instrument: TECO 43CTL

Serial Number: 0333803285

Previous Calibration Date: September 25, 2017

Calibration: Routine

Calibration Equipment: Sabio 2010 S/N 08600312

Barometric Pressure: 27.80" Hg

Calibration Method: Standard Gas Dilution

Cylinder ID: CA04802

Temperature: 20.3° C

Cylinder Concentration: 24.8 ppm SO₂

In Service: 10/02/2017 EXP 08/23/2020

Technician: L. Burns

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	3.24	1.522	500 ppb
Current	3.36	1.581	500 ppb

Final Zero: -0.8 ppb

Final Span: 64.1 ppb

As Found Correction Factor: 1.043

SO ₂ Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i
0.0762	4.977	374.0	22462.0	373.3	1.002
0.0406	5.016	199.0	12083.8	200.5	0.993
0.0202	5.012	99.6	6006.1	99.3	1.003
0.0000	5.000	0.0	16.0	-0.5	

Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	60.209530	15.315850	0.999988
Current	60.051150	43.688230	0.999961
C _i vs C _c			
Current	1.000000	-0.000072	0.999961

Average Correction Factor: 0.999

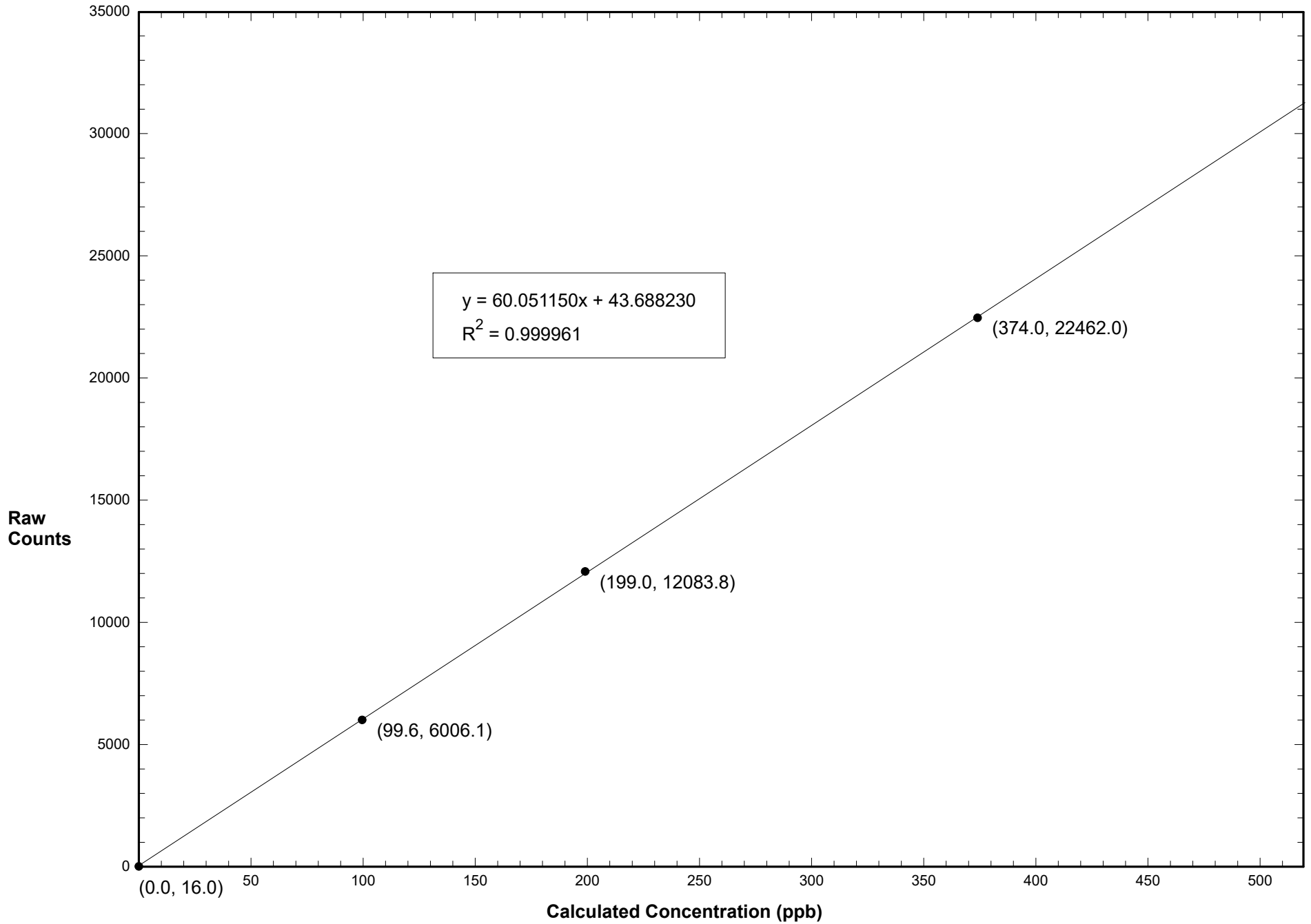
Previous Correction Factor: 1.001

Current Correction Factor: 1.002

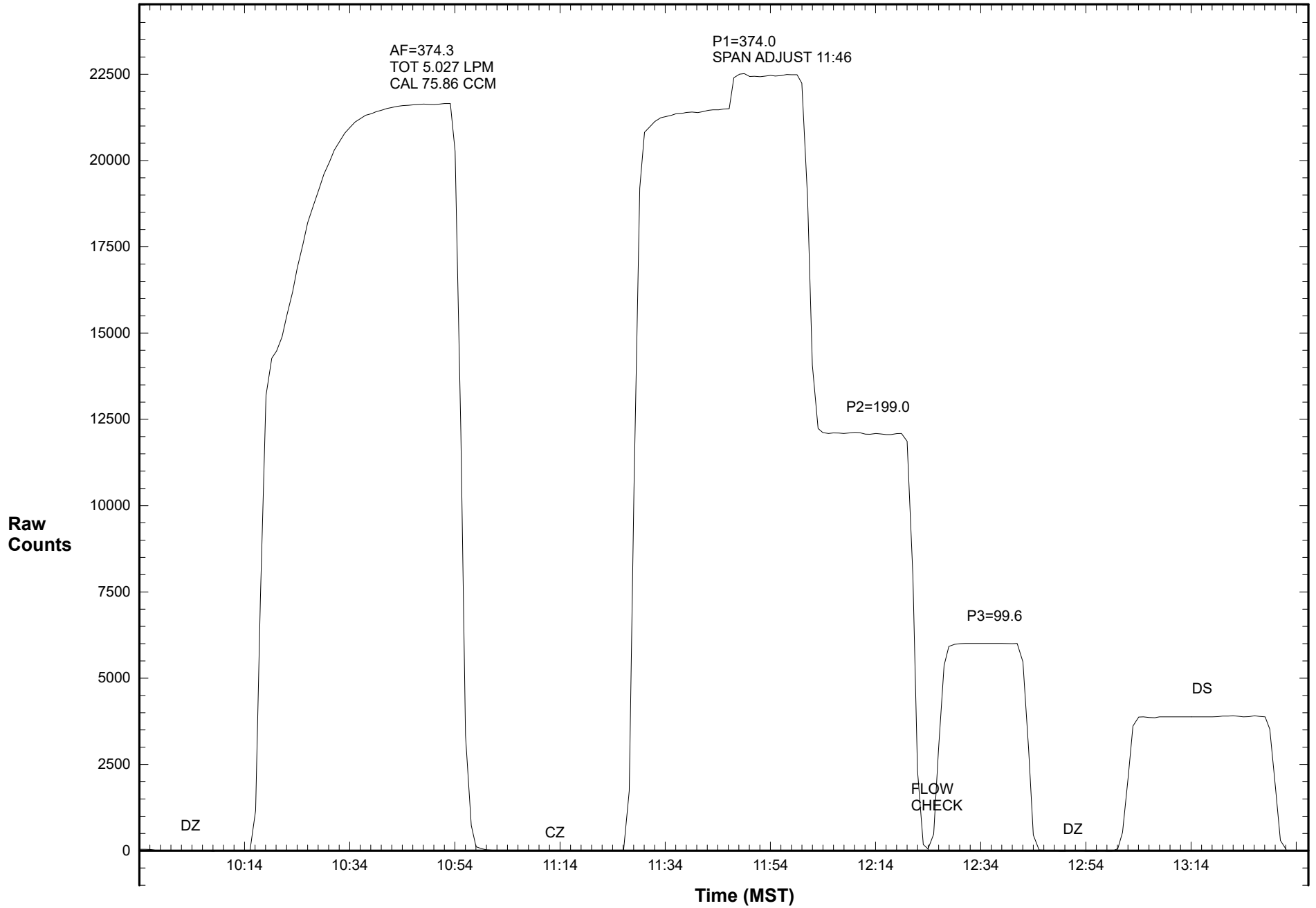
Percent Change of Correction Factor: 0.1

Comments: SAMPLE FLOW= 0.349 LPM SLOW RESPONSE ON AF DUE TO REGULATOR PURGE

Station 908 SO2 October 27, 2017: Linear Regression



Station 908 SO2 October 27, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**AMS 908
MEADOWS
OCTOBER 2017**

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

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



WCAS - Meadows
Summary of Hourly Averages

External Temperature (ET) - C
October 2017

Maximum Value: 23.34 C on Oct 5 17:00		Maximum Daily Average: 12.32 C on Oct 5		Hours in Service: 744																							
Minimum Value: -4.4 C on Oct 3 07:00		Minimum Daily Average: -1.19 C on Oct 13		Hours of Data: 744																							
Maximum Diurnal Average: 9.46 C at hour 16		Minimum Diurnal Average: 1.98 C at hour 7		Hours of Missing Data: 0																							
Monthly Average: 5.118 C		Percentiles: P ₁ = -3.5 P ₁₀ = -0.4 Q ₁ = 1.7 Median = 4.6 Q ₃ = 7.9 P ₉₀ = 12.0 P ₉₉ = 15.4		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	9.2	9.0	8.6	7.2	6.4	5.9	6.2	6.2	8.0	8.0	8.0	8.2	8.0	7.8	7.8	7.4	6.9	6.5	6.0	5.6	4.9	3.9	3.0	2.4	6.71	9.15	
2-Oct	2.0	1.9	1.8	1.6	1.3	0.8	0.1	-0.3	-0.3	-0.1	0.4	1.3	2.6	3.4	4.1	4.6	5.2	5.2	4.7	4.0	3.1	0.3	-1.4	-1.9	1.85	5.22	
3-Oct	-2.4	-2.1	-2.7	-2.6	-2.7	-3.9	-4.4	-2.8	1.3	2.5	4.4	6.1	7.6	9.0	10.2	10.8	9.6	8.9	6.8	4.6	4.2	4.1	3.0	3.8	3.05	10.81	
4-Oct	3.5	3.5	2.9	2.2	2.2	1.8	2.5	3.2	5.5	8.1	10.5	12.0	12.4	13.4	15.0	15.6	15.7	14.3	11.1	9.3	7.0	7.0	6.7	6.3	7.99	15.66	
5-Oct	6.8	6.2	5.3	4.7	3.9	3.9	4.7	4.5	7.1	10.9	14.2	17.2	19.6	21.1	22.4	23.2	23.3	22.2	16.6	13.6	12.1	11.2	11.1	9.8	12.32	23.34	
6-Oct	9.9	8.7	9.0	7.9	7.6	7.2	5.6	6.3	7.8	8.8	10.5	13.0	12.8	14.8	15.3	14.9	14.6	12.4	9.2	8.1	8.1	9.9	8.4	7.6	9.94	15.33	
7-Oct	7.6	6.7	6.9	6.5	5.5	5.6	5.1	5.5	6.3	6.4	5.9	5.1	7.9	9.5	9.5	9.8	10.3	10.1	8.4	7.9	7.2	6.4	5.4	4.5	7.09	10.27	
8-Oct	3.7	3.1	2.5	1.7	1.1	0.5	0.1	0.7	1.4	2.0	2.7	3.3	4.4	5.5	6.6	7.0	7.4	7.1	5.9	2.3	1.6	1.1	1.8	0.0	3.08	7.43	
9-Oct	-0.2	0.6	1.6	1.6	2.4	2.7	2.5	2.7	4.2	5.9	8.4	11.7	14.4	14.4	13.9	12.7	11.6	10.3	8.5	5.5	5.0	4.1	3.8	4.1	6.35	14.40	
10-Oct	4.8	3.3	3.5	3.9	3.5	2.4	2.1	2.3	4.1	5.6	6.2	6.4	6.6	7.0	7.5	7.5	7.4	7.0	6.1	5.6	4.7	3.6	3.5	3.4	4.90	7.49	
11-Oct	2.0	1.3	1.2	1.2	1.2	1.1	1.0	1.0	1.1	0.9	1.0	1.5	1.9	1.9	1.5	1.4	1.2	1.4	1.0	1.1	0.9	0.6	0.3	-0.1	1.15	2.02	
12-Oct	-0.3	-0.1	-0.2	-0.3	-0.4	-0.7	-0.7	-0.8	-0.6	0.8	1.4	1.6	1.8	2.2	2.0	2.2	2.2	2.0	1.7	1.6	1.1	0.5	0.1	-1.6	0.64	2.24	
13-Oct	-2.2	-2.6	-3.0	-3.0	-3.5	-4.2	-3.8	-3.7	-2.5	0.4	-1.0	-0.4	0.3	0.9	1.0	1.7	1.8	0.6	0.0	-1.9	-2.3	-0.4	-0.2	-0.6	-1.19	1.79	
14-Oct	-1.7	-2.4	-3.2	-2.2	-1.9	-1.5	-1.6	-1.4	-0.6	0.7	2.0	2.8	3.8	5.6	6.1	7.1	6.6	5.9	5.6	6.1	5.3	2.6	1.9	2.2	2.00	7.10	
15-Oct	2.5	2.4	1.9	2.3	3.1	1.8	1.7	2.5	4.3	6.9	7.9	10.7	14.4	16.0	17.0	17.1	15.8	12.5	9.9	9.7	11.1	11.0	9.5	8.1	8.34	17.14	
16-Oct	6.9	6.6	6.5	7.1	5.4	4.7	5.3	6.4	5.9	8.7	10.5	11.8	12.0	11.2	12.5	12.4	11.6	11.0	9.8	7.7	5.2	3.7	3.8	3.4	7.92	12.50	
17-Oct	3.4	3.1	3.4	3.4	3.6	3.6	4.4	5.0	6.0	6.9	8.4	10.3	12.5	11.4	7.9	6.4	7.3	6.5	5.2	4.9	4.4	3.5	2.6	2.8	5.70	12.49	
18-Oct	2.7	2.2	2.0	0.8	-0.2	-0.4	-0.8	-1.7	1.2	2.2	3.8	5.3	6.4	7.2	7.8	7.8	7.8	7.8	7.3	6.0	4.9	3.3	3.2	6.0	3.86	7.85	
19-Oct	6.6	6.5	5.3	4.0	3.1	1.5	0.3	-0.2	2.3	5.1	7.7	8.5	11.8	13.2	13.5	13.4	13.1	12.6	11.9	9.5	8.1	6.4	5.9	4.2	7.26	13.50	
20-Oct	2.9	1.4	1.9	1.3	2.0	2.0	2.8	2.1	3.2	4.7	6.2	7.6	9.1	9.5	9.7	9.5	9.1	8.4	7.5	6.2	4.2	2.5	1.3	1.9	4.87	9.71	
21-Oct	1.2	0.8	0.6	0.2	0.7	-0.5	-1.7	-2.9	-0.5	2.4	4.6	6.5	7.5	8.0	8.6	8.7	8.4	6.1	3.2	2.1	0.8	-0.3	0.4	-0.1	2.70	8.69	
22-Oct	-1.0	-0.9	-0.4	-0.3	0.0	-0.7	2.5	1.4	1.4	2.9	5.5	7.1	8.2	10.4	11.3	11.9	11.4	7.9	6.0	5.3	4.6	4.0	4.2	3.1	4.41	11.87	
23-Oct	2.8	4.4	3.5	3.8	2.2	2.7	2.9	4.0	5.1	7.0	8.5	10.4	12.0	12.7	12.9	13.2	12.6	10.7	7.0	8.2	7.9	8.8	8.3	8.5	7.51	13.24	
24-Oct	9.1	9.3	9.5	9.6	8.5	8.6	7.4	8.3	9.9	11.1	14.8	16.4	16.0	14.8	13.8	13.3	12.4	11.1	9.1	8.4	6.6	5.9	5.9	5.9	10.23	16.42	
25-Oct	5.9	6.2	5.6	5.4	5.1	5.1	4.4	3.8	3.8	4.3	5.8	6.3	4.0	2.7	2.5	2.3	2.1	1.5	1.5	1.1	-0.1	-0.8	-0.8	-0.8	3.21	6.34	
26-Oct	-0.9	-1.0	-1.0	-1.8	-2.1	-2.7	-2.5	-2.1	-1.7	-0.8	0.4	1.8	3.2	4.3	5.0	5.8	6.9	4.8	2.7	1.8	1.7	2.0	2.5	2.1	1.19	6.95	
27-Oct	1.7	2.1	1.4	1.8	1.3	1.6	-0.4	-0.6	0.8	4.2	7.3	10.7	13.9	13.7	14.0	15.6	11.9	10.4	8.3	6.6	5.8	6.3	5.2	6.4	6.25	15.58	
28-Oct	6.6	7.8	14.0	14.6	13.1	13.1	14.2	14.5	12.4	12.9	16.2	17.4	16.5	15.7	14.7	13.3	12.1	11.9	10.1	8.9	8.6	8.2	7.8	7.0	12.16	17.43	
29-Oct	5.8	4.7	3.8	3.1	3.0	3.5	3.8	3.4	3.6	4.3	4.8	5.1	5.6	5.7	5.4	5.1	4.5	3.8	3.4	3.0	2.8	2.3	-0.7	-2.3	3.65	5.83	
30-Oct	-2.6	-3.1	-3.2	-3.0	-3.9	-4.1	-2.5	-2.0	-1.7	-1.0	-0.1	2.0	3.9	5.0	6.3	6.0	5.6	3.9	3.5	2.3	2.7	4.0	2.7	1.8	0.93	6.29	
31-Oct	1.7	1.1	2.3	2.4	2.9	1.2	0.5	0.4	0.9	1.3	2.5	3.7	4.7	5.5	6.1	5.6	5.3	5.0	3.9	1.5	2.1	1.4	0.2	0.0	2.60	6.08	
		3.15	2.92	2.95	2.74	2.40	2.03	1.98	2.12	3.21	4.64	6.11	7.47	8.57	9.15	9.42	9.46	9.08	8.06	6.52	5.38	4.66	4.10	3.53	3.16	Diurnal Average	
		9.86	9.28	13.96	14.64	13.14	13.15	14.21	14.49	12.40	12.90	16.17	17.43	19.57	21.11	22.43	23.24	23.34	22.22	16.60	13.56	12.10	11.19	11.14	9.83	Diurnal Maximum	



WCAS - Meadows

Summary of Hourly Averages

Wind Speed (WS) - kph

October 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	17.8	17.1	16.8	15.7	14.4	14.2	14.3	13.4	17.7	23.4	24.8	24.3	26.5	27.6	27.3	26.7	26.5	28.0	28.5	27.3	27.6	24.5	21.0	21.4	21.02	28.50	
Dir	W	WNW	WNW	W	W	W	W	W	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	NW	
2 Spd	21.6	23.6	25.0	25.5	27.3	28.2	26.5	27.6	27.1	25.4	24.4	24.8	26.2	27.3	25.7	25.2	22.4	19.8	18.1	15.6	13.5	9.3	10.4	11.8	21.80	28.22	
Dir	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	W	W	W	NW	NW	
3 Spd	10.9	10.6	8.7	7.5	6.1	5.8	7.2	4.2	6.3	9.6	9.5	14.1	14.1	12.5	15.4	14.1	10.4	7.5	7.1	4.4	7.8	7.7	7.6	8.9	8.06	15.40	
Dir	W	W	WSW	WSW	W	WSW	SW	WSW	SW	SW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SSW	W	WSW	WSW	WSW	W	SW	SSW	
4 Spd	8.2	10.3	11.5	11.9	8.6	8.5	9.6	7.8	9.3	9.4	6.3	7.3	7.6	6.8	3.1	3.8	3.7	5.1	6.2	2.5	1.6	0.8	0.2	0.6	3.10	11.90	
Dir	W	W	W	W	WSW	WSW	WSW	W	W	WSW	WNW	NNW	NE	NE	NNE	NNE	NE	ESE	SE	ESE	E	NNW	ESE	SSW	W	W	
5 Spd	1.1	3.5	2.0	6.5	4.2	1.0	4.5	8.9	6.5	7.1	2.6	5.2	10.6	8.5	8.6	7.6	7.4	5.0	2.4	2.2	0.9	0.3	2.8	5.2	4.10	10.63	
Dir	SSW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SSW	SSW	SW	SSW	SSW	SSW	S	ENE	SE	S	NW	WSW	WSW	SW	SSW	
6 Spd	4.7	7.8	8.4	7.3	5.0	0.7	2.2	5.0	2.9	1.0	8.7	12.0	6.8	6.0	8.2	13.2	6.8	4.5	6.5	8.1	15.6	31.5	16.8	17.2	7.25	31.51	
Dir	WSW	W	WSW	WSW	WSW	SSW	ESE	SW	WSW	E	SSW	SSW	W	NW	NNW	W	W	WNW	SW	WSW	W	WNW	W	W	W	W	WNW
7 Spd	23.2	20.6	24.8	27.1	23.4	28.5	24.3	25.4	27.7	28.6	28.9	17.5	19.5	24.7	22.5	17.7	20.3	19.7	16.8	20.5	21.0	21.7	23.1	20.6	22.33	28.89	
Dir	W	W	W	W	W	W	W	W	WNW	WNW	WNW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	WNW	WNW	NW	NW	WNW	WNW	
8 Spd	20.6	22.7	24.3	23.0	21.1	18.6	19.7	20.0	18.7	23.4	24.5	20.5	21.0	18.5	20.4	18.4	17.3	13.9	7.6	5.4	3.7	4.1	0.3	2.0	15.30	24.51	
Dir	WNW	WNW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	SW	SW	SSE	ESE	SE	WNW	WNW	
9 Spd	5.0	6.3	10.5	10.1	7.2	7.7	9.7	9.7	4.5	6.4	8.7	15.8	17.6	18.6	13.6	15.7	14.0	12.0	8.9	8.7	6.3	8.4	7.2	8.0	7.87	18.64	
Dir	WSW	SW	SSW	WSW	WSW	SW	WSW	WSW	SSW	SW	SW	W	W	WNW	NW	NW	NW	NW	NW	WSW	SW	SW	SW	SW	W	WNW	
10 Spd	6.6	4.8	6.5	6.0	5.7	6.1	5.8	2.2	5.0	8.1	12.7	14.2	16.9	15.8	17.5	17.9	18.2	21.0	20.0	21.9	16.4	10.6	9.6	11.8	7.90	21.90	
Dir	WSW	W	WSW	WSW	WSW	WSW	WSW	SW	ENE	NE	ENE	NE	NE	ENE	NE	ENE	NE	NE	NE	NE	NE	NE	NNE	N	NE	NE	
11 Spd	14.4	16.2	14.4	13.0	13.6	15.8	15.3	17.1	18.7	18.7	19.2	16.4	17.8	18.0	18.5	20.3	16.0	16.2	18.4	18.3	18.4	19.4	15.1	15.6	16.51	20.25	
Dir	NNW	NNW	NNW	NW	NNW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NW	NW	NNW	NNW	NW	WNW	WNW	NW	NNW	NNW	NNW	NW	NNW	
12 Spd	11.6	11.5	12.2	7.8	5.5	9.5	9.4	10.2	9.3	5.4	4.3	8.5	7.0	3.8	3.1	2.7	AF	AF	AF	3.9	4.0	2.9	2.0	3.1	4.42	12.16	
Dir	NNW	NNW	NNW	NNW	W	W	W	W	W	W	WNW	W	WNW	NW	NNW	WNW	AF	AF	AF	ENE	E	E	SSW	SW	WNW	NNW	
13 Spd	2.8	6.0	2.7	3.6	5.2	5.6	6.0	5.8	5.1	1.3	6.6	2.7	3.6	4.3	4.3	3.1	2.8	3.7	5.3	4.5	1.2	8.8	14.1	13.4	1.81	14.11	
Dir	SSW	ESE	SE	SW	WSW	SW	SW	SW	WSW	NNW	NNE	NNW	NE	NNE	N	NE	ENE	ESE	SE	SE	WSW	S	S	SSW	S	S	
14 Spd	8.4	4.4	2.7	8.8	12.3	13.1	11.7	11.3	11.9	11.0	7.6	9.1	9.5	7.7	7.6	15.5	21.6	7.2	6.4	13.9	14.6	10.9	14.3	13.4	9.80	21.59	
Dir	SSW	SSW	WSW	SSW	SW	SW	WSW	WSW	SW	SW	SW	SW	SW	SW	SSW	WSW	W	WSW	WSW	WSW	W	W	W	W	WSW	W	
15 Spd	13.7	11.9	6.8	6.1	15.0	18.6	12.3	15.3	7.7	14.6	8.0	10.2	10.2	19.9	20.8	19.7	11.8	4.3	1.5	8.1	8.7	13.7	12.8	9.0	10.51	20.80	
Dir	SW	SW	WSW	SW	SSW	SSW	SSW	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	WSW	W	WNW	W	WSW	SW	SSW	
16 Spd	5.8	6.1	7.0	7.3	6.5	4.5	8.8	1.3	0.8	6.2	5.5	1.7	8.7	10.9	16.7	13.9	19.8	13.3	2.6	2.6	2.2	1.7	0.2	1.0	2.05	19.83	
Dir	WSW	WSW	W	NW	WSW	WSW	SSW	S	SW	WSW	NW	E	E	ENE	SE	ESE	ESE	E	ESE	SE	SSW	WSW	WSW	E	SE	ESE	
17 Spd	0.3	0.8	1.5	2.7	6.9	6.5	7.2	6.1	6.1	6.2	5.1	4.2	5.8	24.6	32.8	40.2	30.5	33.0	37.6	36.7	29.8	27.7	28.2	28.5	12.66	40.18	
Dir	S	SE	E	ESE	ESE	E	E	ENE	ENE	E	E	NE	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	WNW	WNW	
18 Spd	25.8	18.7	21.2	17.2	16.3	15.7	13.0	8.0	4.9	8.3	5.8	7.3	18.8	22.1	24.5	24.9	23.7	20.9	17.2	13.8	11.5	8.3	7.2	7.6	5.73	25.84	
Dir	W	W	W	W	W	W	W	WSW	SW	SSW	S	SE	SE	ESE	SE	SE	SE	SE	SE	ESE	ESE	E	ESE	S	S	W	
19 Spd	18.2	14.8	3.8	5.7	4.6	4.6	3.1	2.2	1.0	1.6	2.3	4.5	7.4	11.6	16.3	11.9	13.9	13.1	7.9	4.4	5.1	1.8	1.9	0.9	3.96	18.16	
Dir	SSW	SW	NW	SW	WSW	SW	WSW	SW	SW	ESE	N	NNE	ESE	ESE	ESE	ESE	SE	SE	S	ESE	SE	SW	SW	ESE	SSE	SSW	
20 Spd	1.6	4.5	2.5	8.7	8.0	10.4	7.7	10.4	11.2	11.1	13.7	13.2	16.6	17.1	14.7	16.2	17.6	15.9	15.9	12.5	11.0	8.1	8.9	4.5	10.44	17.58	
Dir	SW	WSW	WSW	WSW	WSW	W	W	W	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	W	W	WSW	WSW	W	W	W	
21 Spd	4.1	6.7	7.6	6.7	8.3	7.3	1.9	4.9	5.9	9.5	5.6	3.1	5.6	5.4	3.8	6.7	8.1	6.0	7.0	8.7	11.6	3.5	7.4	8.0	0.43	11.58	
Dir	WSW	WSW	W	W	W	W	WSW	WSW	WSW	W	WNW	N	NNE	ENE	ENE	ENE	ESE	ESE	ESE	E	ESE	E	E	ESE	SE	ESE	
22 Spd	2.7	4.5	6.0	4.8	0.7	7.9	8.4	9.6	6.6	10.1	10.8	10.4	9.2	14.0	17.1	18.3	20.0	13.9	12.0	12.2	12.2	14.2	12.6	12.2	8.47	20.05	
Dir	E	E	ESE	ESE	WSW	W	NW	W	W	W	WNW	NW	NW	WNW	WNW	WNW	W	W	WSW	W	W	WSW	W	W	W	W	



WCAS - Meadows
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2017

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	11.3	10.0	10.0	6.0	13.0	10.3	5.4	15.9	18.5	19.0	18.2	22.9	23.6	25.9	19.4	18.1	8.5	2.0	6.7	5.3	2.8	12.6	12.4	25.0	11.14	25.87	
Dir	WSW	WSW	SW	WNW	W	W	W	W	W	W	W	W	WNW	WNW	WNW	WNW	WNW	SW	S	S	SSE	S	SSW	SSW	W	WNW	
24 Spd	30.8	28.7	19.3	15.5	7.6	6.9	10.2	9.7	9.4	7.4	14.1	15.6	21.8	23.3	20.6	16.1	13.9	7.6	4.5	1.5	6.7	9.4	12.2	10.8	7.50	30.83	
Dir	SSW	SSW	SSW	SW	W	WSW	WSW	SW	WSW	WSW	W	WNW	NW	NW	WNW	WNW	WNW	WNW	WSW	NNE	E	ESE	ESE	ESE	WSW	SSW	
25 Spd	11.0	9.8	9.4	8.8	7.3	7.0	9.1	4.3	5.5	16.2	29.3	38.3	36.3	30.7	28.2	19.7	22.5	17.6	12.0	15.5	12.5	10.5	8.5	6.0	11.35	38.34	
Dir	ESE	ESE	ESE	ENE	NNE	N	NNW	NNW	NW	WSW	W	WNW	NW	NNW	NNW	NNW	NNW	N	NNW	N	N	N	N	N	NNW	WNW	
26 Spd	3.5	5.7	7.6	8.4	11.6	11.6	13.4	7.3	5.2	9.7	6.9	9.7	12.5	12.8	8.1	5.8	2.5	4.3	4.2	8.7	8.0	8.9	4.0	0.6	5.74	13.40	
Dir	ESE	SE	S	S	SSE	SSE	SE	SSE	SSE	SSE	SSE	S	SSW	SW	WSW	W	SW	S	SW	SW	W	WSW	WSW	SW	S	SE	
27 Spd	3.2	0.1	3.9	0.4	1.0	6.0	6.0	6.0	5.4	5.4	4.6	5.4	10.1	3.6	0.4	1.4	8.0	5.7	4.2	1.1	1.0	1.5	6.2	6.0	2.30	10.14	
Dir	SW	SE	WSW	WSW	S	WSW	WSW	SW	WSW	W	WSW	WSW	SW	NW	NNE	ENE	ESE	ESE	E	ENE	NE	SW	WSW	WSW	SW	SW	
28 Spd	7.9	17.9	20.9	19.7	17.8	20.1	15.2	17.5	6.3	8.7	10.3	16.5	18.1	18.0	18.7	14.5	13.5	16.4	18.5	18.4	19.2	20.9	24.3	28.0	15.77	28.00	
Dir	WSW	W	W	W	W	W	W	W	NW	W	WNW	NW	NW	NW	NW	NNW	NW	WNW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	
29 Spd	24.2	22.8	24.8	19.8	21.3	25.5	27.6	28.9	26.7	27.5	26.2	25.9	25.1	26.3	22.5	18.2	14.0	10.0	8.8	7.8	7.7	4.1	5.9	6.6	17.33	28.94	
Dir	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NNW	N	N	N	N	NNW	NNW	NW	SW	SW	NW	WNW	
30 Spd	7.5	3.2	3.9	6.6	7.2	10.6	19.6	19.9	18.8	11.3	10.4	13.1	15.2	16.3	13.7	16.6	9.9	9.8	9.8	8.3	8.8	2.6	4.6	5.4	9.31	19.85	
Dir	SW	WSW	SW	WSW	WSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	W	W	WNW	W	WNW	W	W	W	W	WNW	SSW	WSW	WSW	SSW	
31 Spd	AF	5.6	6.5	9.3	8.4	8.8	7.2	4.0	13.3	8.5	13.0	21.8	17.4	18.8	21.1	22.0	21.3	21.0	18.9	15.7	21.4	25.3	22.7	20.7	12.08	25.27	
Dir	AF	SW	SW	SW	SSW	SSW	S	SSW	SW	WSW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NNW	NNW	NNW	NNW	NNW	
Spd	7.60	7.30	7.43	7.67	7.54	8.20	7.63	8.40	7.85	8.39	8.81	9.15	8.87	9.60	8.52	8.73	6.85	5.65	5.76	5.64	5.96	6.42	5.84	6.45	Diurnal Average		
Dir	W	W	W	W	W	W	W	W	W	W	W	W	WNW	WNW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	W	W			
Spd	30.83	28.73	25.00	27.12	27.28	28.50	27.63	28.94	27.69	28.62	29.28	38.34	36.27	30.73	32.80	40.18	30.48	33.03	37.57	36.69	29.77	31.51	28.20	28.49	Diurnal Maximum		
Dir	205.93	205.60	306.10	274.88	310.88	275.42	298.27	294.14	282.71	291.43	273.30	302.23	319.31	338.01	297.37	291.06	286.05	288.77	288.97	290.53	293.10	288.73	268.25	273.59			
Maximum Speed Value: 40.2 kph on Oct 17 16:00																				Minimum Speed Value: 0.1 kph on Oct 27 02:00				Hours in Service: 744			
Maximum Daily Speed Average: 22.33 kph on Oct 7																				Minimum Daily Speed Average: 0.43 kph on Oct 27				Hours of Data: 740			
Maximum Diurnal Speed Average: 9.60 kph at hour 14																				Minimum Diurnal Speed Average: 5.64 kph at hour 20				Hours of Missing Data: 4			
Monthly Average Velocity: 7.241 kph 283.18 deg																				Speed Percentiles: P ₁ = 0.4 P ₁₀ = 3.1 Q ₁ = 6.0 Median = 10.0 Q ₃ = 17.7 P ₉₀ = 24.3 P ₉₉ = 32.6				Percent Operational Time: 99.5			
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	11	12	13	2	2	0	40																				
NorthEast	10	8	8	3	0	0	29																				
East	20	26	5	1	0	0	52																				
SouthEast	13	11	10	5	0	0	39																				
South	14	22	14	1	0	0	51																				
SouthWest	39	75	21	6	2	0	143																				
West	24	88	67	27	11	1	218																				
NorthWest	8	19	53	80	7	1	168																				
Total	139	261	191	125	22	2	740																				



WCAS - Meadows
Summary of Hourly Averages

Relative Humidity (RH) - %
October 2017

Maximum Value: 99.03 % on Oct 2 08:00 Maximum Daily Average: 91.10 % on Oct 11																						Hours in Service: 744				
Minimum Value: 24.2 % on Oct 23 16:00 Minimum Daily Average: 43.87 % on Oct 23																						Hours of Data: 744				
Maximum Diurnal Average: 77.54 % at hour 7 Minimum Diurnal Average: 50.19 % at hour 15																						Hours of Missing Data: 0				
Monthly Average: 65.828 % Percentiles: P₁ = 29.6 P₁₀ = 42.6 Q₁ = 53.3 Median = 67.1 Q₃ = 78.2 P₉₀ = 88.3 P₉₉ = 96.6																						Hours of Calibration: 0				
																						Percent Operational Time: 100.0				
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	53.3	55.9	57.4	62.7	67.2	72.2	75.1	77.2	71.8	68.0	64.3	62.5	61.2	60.8	60.1	63.9	66.4	65.4	66.5	68.8	74.4	83.7	91.0	93.4	68.48	93.43
2-Oct	94.7	95.0	94.9	94.8	94.8	96.0	98.4	99.0	95.8	87.9	82.8	76.0	70.2	64.7	58.9	54.4	51.3	49.6	51.2	55.7	58.9	70.3	77.3	77.5	77.08	99.03
3-Oct	78.9	80.3	84.0	83.9	80.7	84.1	85.0	80.6	67.0	63.0	56.3	47.9	40.9	34.7	29.3	31.0	37.9	42.2	48.5	58.9	63.2	67.4	74.8	73.1	62.23	84.98
4-Oct	73.2	66.2	66.7	70.2	70.0	74.0	71.3	67.5	62.3	52.6	46.0	39.8	39.4	38.6	34.3	33.2	33.0	37.9	49.8	56.4	68.6	71.9	70.5	73.2	56.94	74.00
5-Oct	62.4	64.8	67.4	71.0	75.5	74.4	71.0	73.5	67.1	55.1	47.9	42.2	36.7	34.2	32.1	30.8	30.9	34.0	55.1	64.1	67.1	74.4	70.9	76.4	57.45	76.42
6-Oct	76.0	80.1	77.6	80.3	81.7	84.1	89.4	90.8	85.8	85.0	69.6	57.0	60.3	49.2	37.1	40.3	39.8	56.1	70.5	69.7	63.1	57.2	62.3	63.2	67.75	90.78
7-Oct	57.8	57.2	51.1	49.3	52.2	51.9	55.2	54.5	52.5	58.1	64.9	75.5	55.3	42.6	42.4	38.3	36.0	41.4	52.9	58.9	62.9	71.4	76.7	67.7	54.35	76.72
8-Oct	75.9	75.2	73.5	72.6	66.9	75.1	88.0	75.6	66.0	64.9	57.5	53.4	46.4	44.0	42.7	48.2	48.2	49.8	54.9	68.2	71.2	74.4	68.6	75.6	64.03	88.00
9-Oct	77.1	75.6	71.3	70.7	65.6	62.6	64.4	64.5	58.0	52.7	48.0	38.9	31.8	30.7	36.4	45.3	51.5	56.3	63.9	73.5	74.6	77.4	77.9	78.2	60.29	78.16
10-Oct	75.8	81.0	81.8	79.8	77.1	80.0	80.4	79.6	73.4	68.7	61.4	59.9	62.1	57.0	55.9	55.8	56.9	61.9	66.0	68.2	74.8	85.6	91.6	93.7	72.02	93.67
11-Oct	95.1	96.5	96.6	94.6	93.7	94.5	95.2	93.2	91.0	91.1	89.3	87.1	83.0	84.9	89.0	89.0	91.9	89.5	94.5	90.6	92.5	88.6	87.8	87.3	91.10	96.64
12-Oct	89.4	89.6	86.7	85.3	91.6	94.9	95.7	95.0	93.3	84.9	77.0	73.9	70.0	65.2	65.7	66.4	65.5	67.3	69.2	70.2	71.7	71.9	76.8	85.5	79.29	95.69
13-Oct	88.1	88.7	90.3	93.0	93.1	94.4	95.2	95.2	93.9	87.4	93.4	90.4	86.1	81.7	82.2	75.5	73.3	78.2	80.5	89.5	92.5	83.8	78.7	79.1	86.85	95.25
14-Oct	82.9	85.2	89.3	90.8	89.7	89.4	87.6	85.5	81.3	73.3	65.9	65.1	64.7	60.7	59.5	57.9	65.3	69.1	68.2	61.3	58.7	67.8	72.6	72.0	73.49	90.82
15-Oct	72.1	71.5	73.0	71.9	68.6	71.3	70.5	68.2	62.3	53.4	51.3	44.3	35.9	31.7	29.1	29.6	33.0	42.5	51.7	54.7	47.3	43.7	48.4	52.6	53.28	73.01
16-Oct	55.7	57.7	57.2	59.3	64.7	64.4	65.0	64.8	69.7	61.6	54.3	50.7	50.8	54.0	49.4	50.3	54.6	53.8	55.3	61.1	71.1	76.7	75.7	80.7	60.77	80.66
17-Oct	81.0	83.1	82.5	88.7	92.1	90.5	89.2	87.0	83.7	79.1	74.0	63.2	53.2	58.9	81.6	84.0	71.1	70.5	66.4	63.9	66.0	68.7	73.3	66.2	75.75	92.05
18-Oct	61.7	60.4	59.3	64.9	68.2	68.8	69.4	74.8	62.6	60.9	55.9	48.5	45.1	41.9	39.3	39.9	43.1	43.7	43.8	51.8	62.1	68.1	66.9	53.9	56.45	74.78
19-Oct	52.3	52.9	58.6	65.8	69.7	77.8	81.3	83.3	77.5	73.2	63.8	62.6	53.1	46.9	45.5	46.4	47.9	47.5	46.7	57.2	62.4	68.7	69.0	74.1	61.84	83.27
20-Oct	77.8	82.5	80.4	82.5	78.8	80.7	80.3	81.3	78.0	71.7	66.5	62.9	57.6	55.0	51.0	51.3	56.2	58.6	57.3	61.6	68.4	75.1	83.2	83.1	70.08	83.16
21-Oct	84.9	85.4	86.8	84.7	80.8	83.7	86.3	89.6	83.5	75.7	62.9	52.0	40.6	37.4	36.5	37.4	45.0	54.1	64.8	72.2	77.3	80.9	77.4	81.9	69.25	89.65
22-Oct	84.6	80.3	78.3	78.6	76.6	83.4	79.2	83.2	81.6	74.7	68.7	66.5	62.0	49.8	42.5	37.2	36.7	48.3	54.6	54.6	52.6	54.2	53.3	56.9	64.11	84.64
23-Oct	60.9	55.9	57.0	56.8	63.5	63.6	63.4	59.8	55.8	49.3	41.5	33.7	28.4	26.0	25.5	24.2	25.6	30.2	38.2	39.4	44.9	32.9	37.7	38.8	43.87	63.56
24-Oct	39.9	41.4	42.9	43.8	48.3	48.7	54.0	54.0	50.9	49.3	42.7	41.2	44.3	47.8	50.6	52.5	56.4	62.4	70.1	73.7	79.2	79.9	76.8	75.6	55.26	79.89
25-Oct	76.9	73.3	74.6	76.2	76.9	77.4	78.7	79.9	80.8	84.6	83.5	70.2	78.1	77.8	73.0	72.5	72.8	69.6	70.1	71.1	72.7	76.2	72.9	69.2	75.38	84.64
26-Oct	71.5	75.2	74.0	77.0	80.3	80.9	80.4	80.3	78.3	75.1	71.6	67.4	63.1	58.5	56.7	54.1	50.6	57.6	65.3	70.1	69.8	68.8	67.8	70.4	69.36	80.95
27-Oct	74.3	74.3	76.5	75.1	76.0	75.4	81.6	81.5	78.1	67.6	57.0	47.1	36.7	41.0	41.6	39.0	51.6	59.6	66.8	72.5	76.5	74.0	76.0	70.6	65.44	81.56
28-Oct	68.9	66.1	46.6	42.6	46.6	46.0	42.8	43.0	51.5	51.1	41.6	40.2	44.4	45.3	46.7	53.2	49.0	41.8	44.7	50.2	52.5	51.8	49.3	48.5	48.51	68.88
29-Oct	49.2	56.0	61.7	62.1	61.3	58.8	56.8	58.7	59.5	59.5	56.9	54.9	50.0	47.2	47.6	49.4	51.7	53.9	56.3	57.8	59.0	60.1	70.9	76.0	57.29	76.04
30-Oct	76.2	77.3	79.3	77.9	80.6	82.7	78.8	75.6	74.3	72.0	69.1	58.9	47.2	40.8	32.3	33.2	38.6	47.8	48.4	56.6	51.4	46.7	48.4	54.3	60.35	82.71
31-Oct	51.5	57.7	48.3	50.7	61.5	85.2	94.0	96.9	97.7	97.1	96.4	93.5	91.1	87.9	81.4	82.3	79.1	74.0	78.4	98.0	93.1	88.4	96.7	95.3	82.35	98.01
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Meadows
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2017

Maximum Value: 9.43 kph on Oct 25 13:00 Maximum Daily Average: 5.43 kph on Oct 7																							Hours in Service: 744 Hours of Data: 740																									
Minimum Value: 0.4 kph on Oct 27 02:00 Minimum Daily Average: 1.25 kph on Oct 4 Maximum Diurnal Average: 4.38 kph at hour 16 Minimum Diurnal Average: 2.55 kph at hour 5 Monthly Average: 3.202 kph Percentiles: P ₁ = 0.8 P ₁₀ = 1.3 Q ₁ = 1.9 Median = 2.7 Q ₃ = 4.3 P ₉₀ = 5.8 P ₉₉ = 8.3																							Hours of Missing Data: 4 Hours of Calibration: 0 Percent Operational Time: 99.5																									
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-Oct	3.4	3.5	3.4	2.2	2.1	1.6	2.1	1.8	4.6	5.8	6.6	5.8	6.3	6.6	6.6	6.5	6.8	7.4	7.0	6.6	6.9	5.7	4.9	5.2	4.97	7.38																						
2-Oct	5.2	5.6	5.8	6.0	6.2	6.7	6.2	6.2	5.8	5.5	5.7	5.6	6.1	6.4	6.2	5.8	4.9	5.2	4.3	4.0	3.6	1.8	0.9	1.0	5.02	6.71																						
3-Oct	1.2	1.9	1.9	1.4	1.0	0.7	2.2	0.9	2.2	1.9	3.1	3.0	3.6	3.3	3.8	3.0	2.7	2.2	2.4	2.8	3.5	2.1	1.0	0.9	2.20	3.83																						
4-Oct	0.9	1.0	0.8	0.8	1.0	0.6	0.7	1.1	1.2	1.3	1.6	1.7	1.7	1.7	1.8	1.6	1.0	1.2	0.9	2.0	1.8	1.6	0.8	1.3	1.25	1.96																						
5-Oct	1.8	2.2	2.0	3.8	3.3	1.4	1.5	2.1	2.6	2.2	2.2	3.1	3.0	3.1	2.8	2.4	2.0	1.6	2.0	1.7	2.1	0.8	1.3	3.8	2.28	3.80																						
6-Oct	2.4	1.0	0.9	2.0	2.6	1.3	1.6	1.6	1.7	2.3	4.4	3.8	2.2	2.2	3.7	8.2	1.8	1.9	2.3	1.7	2.4	8.3	5.6	4.3	2.91	8.25																						
7-Oct	4.6	4.0	4.8	5.2	3.8	4.8	3.9	4.2	5.4	7.6	7.0	9.1	7.4	6.0	5.8	5.1	5.9	5.0	4.1	5.4	5.1	5.3	6.1	4.8	5.43	9.09																						
8-Oct	4.8	5.8	6.1	5.6	6.2	5.0	5.0	4.8	4.7	5.9	5.7	5.0	4.5	4.5	5.6	4.6	4.4	3.4	3.4	1.5	1.6	2.3	1.4	1.0	4.28	6.20																						
9-Oct	1.9	3.5	4.6	3.6	3.0	3.9	1.9	2.4	4.5	4.1	2.4	6.2	3.9	4.2	4.6	3.6	3.1	3.4	2.7	1.4	2.1	2.2	2.9	2.7	3.28	6.23																						
10-Oct	1.4	0.5	1.3	1.2	1.4	0.9	0.8	1.7	1.1	2.3	3.0	2.6	2.9	3.6	3.2	3.5	3.8	4.9	4.3	4.4	4.4	3.1	2.7	2.7	2.57	4.92																						
11-Oct	3.3	4.1	4.2	3.2	3.4	4.0	3.7	4.2	4.5	4.2	4.7	4.3	4.7	4.2	4.4	4.8	4.3	4.4	4.2	4.1	4.8	4.9	4.0	3.6	4.18	4.90																						
12-Oct	3.5	3.2	3.5	2.2	2.5	1.5	1.7	1.3	1.2	1.9	3.0	2.3	2.2	2.7	2.4	1.8	AF	AF	AF	1.5	1.6	1.0	0.8	1.8	2.08	3.51																						
13-Oct	1.8	1.2	1.2	2.4	1.1	1.1	1.3	1.4	0.8	2.3	3.2	2.2	2.6	2.5	2.2	2.1	1.5	0.8	0.9	2.4	1.3	3.7	3.9	2.2	1.93	3.90																						
14-Oct	3.0	4.3	2.1	6.3	3.9	4.4	1.9	2.4	2.5	2.2	2.2	2.5	2.3	1.7	1.5	7.3	6.3	3.1	3.1	1.9	2.4	1.3	2.1	1.3	3.00	7.27																						
15-Oct	1.9	2.9	3.4	3.4	2.1	2.6	4.5	3.6	3.7	5.6	4.6	2.5	3.0	3.6	3.7	4.6	3.1	2.6	1.8	2.7	2.1	2.7	2.4	2.8	3.16	5.64																						
16-Oct	2.0	2.3	2.6	2.2	1.6	1.4	2.8	2.7	2.1	1.5	2.7	2.3	2.8	2.2	3.7	3.9	5.6	3.6	2.4	3.0	3.0	2.2	0.6	1.9	2.54	5.64																						
17-Oct	0.8	1.8	2.1	2.5	1.8	1.5	2.3	2.0	2.9	2.0	1.7	1.5	2.3	8.1	7.1	9.1	6.7	8.7	8.4	8.4	7.5	5.3	3.7	3.9	4.25	9.09																						
18-Oct	3.5	2.8	2.8	2.8	1.4	1.7	2.0	3.9	3.9	3.9	4.5	4.2	3.4	3.8	4.0	4.5	4.3	4.3	3.0	1.7	1.7	2.0	1.9	4.4	3.19	4.47																						
19-Oct	7.7	4.8	2.7	2.7	1.6	1.7	3.0	2.2	2.0	2.4	2.9	2.0	3.1	2.9	3.5	3.1	1.8	2.6	2.0	2.7	1.3	1.7	2.1	1.9	2.69	7.75																						
20-Oct	2.0	2.0	1.7	1.6	2.1	2.2	2.7	1.5	2.9	2.6	3.7	3.1	3.3	3.8	3.5	3.5	3.1	2.9	2.1	1.6	1.3	1.4	1.5	1.1	2.39	3.85																						
21-Oct	2.0	0.9	1.2	1.9	1.7	1.6	2.4	3.8	1.2	2.4	3.0	2.5	2.6	2.3	2.6	2.1	2.2	1.6	0.8	1.9	0.8	4.2	3.6	2.2	2.14	4.22																						
22-Oct	2.2	2.6	2.1	1.9	1.8	2.3	3.2	2.6	2.2	3.2	2.5	2.7	2.5	3.4	4.5	5.0	4.8	2.7	1.0	1.2	1.2	3.4	2.2	2.0	2.64	4.96																						
23-Oct	1.5	1.7	1.2	2.2	1.8	3.2	2.4	2.7	3.3	3.1	3.0	5.0	5.7	5.2	6.0	6.2	2.8	2.4	1.2	2.6	4.0	2.6	3.6	4.5	3.25	6.16																						
24-Oct	4.1	4.1	4.3	5.1	2.6	1.9	2.2	2.9	2.1	3.8	5.5	4.3	5.2	5.7	5.6	3.8	3.1	1.9	1.4	1.9	2.3	1.4	3.5	2.4	3.38	5.71																						
25-Oct	3.2	2.2	1.9	2.0	1.5	2.0	2.2	3.6	4.8	4.8	5.5	9.2	9.4	7.3	6.6	6.0	6.1	5.1	3.3	4.4	3.3	2.5	2.6	2.4	4.24	9.43																						
26-Oct	1.4	1.0	2.5	1.8	2.7	3.7	3.6	2.7	3.0	3.3	3.0	3.6	3.2	2.8	2.4	2.6	2.5	2.4	1.5	3.7	2.2	1.1	2.3	1.3	2.52	3.71																						
27-Oct	2.8	0.4	1.3	1.2	1.7	1.3	0.9	1.9	1.4	2.0	3.4	4.5	3.0	2.9	1.2	2.5	1.3	2.0	1.9	1.7	1.5	2.2	1.6	2.1	1.94	4.48																						
28-Oct	3.7	1.6	3.9	3.9	4.0	2.3	2.4	2.4	3.5	3.7	2.5	6.2	5.3	5.0	5.8	5.1	3.7	3.7	4.4	4.9	5.3	4.8	5.8	6.5	4.18	6.54																						
29-Oct	5.5	5.5	5.7	4.3	5.2	6.2	7.1	6.7	6.2	6.2	6.3	6.2	6.4	6.6	6.5	4.9	4.2	3.1	2.6	2.2	1.8	2.2	1.8	1.3	4.79	7.14																						
30-Oct	1.6	2.0	1.8	1.4	1.1	4.6	3.8	4.1	3.0	3.1	2.6	2.9	4.1	2.7	3.5	4.1	1.9	1.3	2.3	1.4	1.6	2.4	2.1	1.1	2.52	4.63																						
31-Oct	AF	2.7	2.7	3.6	3.0	2.7	2.2	3.0	3.1	2.0	3.7	4.3	3.0	4.1	4.6	4.6	4.7	4.7	4.4	4.0	6.3	7.3	6.1	5.0	3.99	7.30																						
																							2.84	2.68	2.79	2.92	2.55	2.60	2.72	2.84	3.04	3.39	3.74	4.00	3.92	4.03	4.17	4.38	3.68	3.33	2.87	2.94	2.93	3.01	2.77	2.69	Diurnal Average	
																							7.75	5.80	6.06	6.28	6.20	6.71	7.14	6.74	6.23	7.61	7.02	9.22	9.43	8.09	7.11	9.09	6.76	8.65	8.35	8.43	7.46	8.25	6.06	6.54	Diurnal Maximum	
AF - Analyzer Failure																																																



WCAS - Meadows
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2017

Maximum Value: 93.86 deg on Oct 27 22:00		Maximum Daily Average: 41.25 deg on Oct 19		Hours in Service: 744																							
Minimum Value: 3.7 deg on Oct 14 23:00		Minimum Daily Average: 11.93 deg on Oct 7		Hours of Data: 740																							
Maximum Diurnal Average: 26.93 deg at hour 22		Minimum Diurnal Average: 15.13 deg at hour 17		Hours of Missing Data: 4																							
Monthly Average: 20.920 deg		Percentiles: P ₁ = 4.8 P ₁₀ = 7.6 Q ₁ = 10.6 Median = 13.9 Q ₃ = 22.7 P ₉₀ = 47.4 P ₉₉ = 91.4		Hours of Calibration: 0																							
				Percent Operational Time: 99.5																							
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-Oct	9.1	10.3	10.7	8.2	6.6	5.8	10.9	11.3	15.3	14.0	14.7	13.7	13.1	13.7	14.0	13.8	13.9	13.2	13.5	12.7	13.5	12.6	12.6	12.9	12.08	15.25	
2-Oct	12.6	12.6	12.3	12.7	12.3	12.3	12.6	12.5	12.5	11.7	12.6	13.2	12.6	12.8	12.4	12.6	12.9	13.2	12.2	13.1	12.9	22.1	5.1	4.2	12.34	22.05	
3-Oct	8.3	7.9	7.6	12.9	11.9	9.1	18.4	13.2	8.3	10.5	14.3	15.1	16.5	18.8	16.8	13.3	11.5	11.5	17.0	24.4	21.5	13.2	10.2	5.3	13.22	24.37	
4-Oct	5.7	7.1	5.6	5.0	4.9	5.2	4.2	6.7	7.7	9.7	32.3	16.6	25.6	17.4	48.2	33.0	20.4	16.4	10.6	25.6	91.9	69.1	71.9	55.7	24.84	91.88	
5-Oct	80.9	28.7	31.4	39.3	36.5	79.7	16.1	10.0	9.1	15.5	66.8	48.4	15.0	19.9	20.9	21.2	16.5	12.1	82.3	34.2	84.2	54.5	31.8	45.5	37.51	84.23	
6-Oct	30.8	10.7	7.6	10.5	53.9	76.1	55.2	13.8	55.4	88.7	23.3	20.4	39.7	22.3	32.1	24.2	25.0	47.7	24.9	16.4	6.9	14.0	17.0	9.4	30.25	88.67	
7-Oct	8.6	9.4	10.3	7.6	7.4	7.7	7.4	8.1	10.1	12.2	12.3	19.1	13.5	13.6	12.5	15.4	14.6	11.8	12.6	13.6	12.7	11.9	20.7	13.5	11.93	20.75	
8-Oct	12.7	13.0	12.1	13.4	13.6	13.6	13.3	13.3	14.4	12.8	13.1	13.8	14.3	14.7	13.4	13.3	14.0	14.7	35.1	15.7	24.9	36.5	92.8	45.1	20.57	92.76	
9-Oct	16.0	15.6	30.6	24.4	24.7	41.5	14.0	9.3	75.3	50.0	12.8	20.7	17.5	13.4	18.2	13.4	12.9	13.7	21.0	10.9	16.9	8.9	12.8	18.5	21.38	75.32	
10-Oct	19.1	13.0	6.1	8.3	19.3	8.8	9.9	58.8	14.3	12.8	9.4	9.7	9.0	11.0	9.5	9.7	10.3	12.4	10.7	9.1	12.5	11.1	18.7	21.2	13.95	58.79	
11-Oct	13.2	14.9	20.6	15.8	13.9	14.1	14.4	12.9	12.6	12.7	13.2	14.1	14.3	15.3	14.9	14.3	19.4	20.4	12.2	12.3	13.3	14.1	14.9	15.8	14.73	20.55	
12-Oct	16.7	14.4	18.6	24.7	34.4	8.6	8.8	4.9	7.4	32.0	49.4	26.1	29.2	64.2	40.5	45.7	AF	AF	AF	30.1	23.2	34.9	47.7	22.2	27.79	64.23	
13-Oct	40.5	11.1	55.0	54.8	15.9	11.8	7.9	14.8	18.4	76.6	30.0	54.3	68.5	46.5	24.7	49.7	29.8	13.0	10.5	37.9	51.4	15.5	11.7	9.2	31.66	76.60	
14-Oct	11.0	87.2	56.6	27.4	23.7	20.1	11.7	11.9	7.6	9.3	13.8	11.9	13.7	12.3	11.7	30.9	16.1	15.1	20.6	7.0	6.5	7.4	3.7	7.3	18.52	87.25	
15-Oct	13.4	14.6	21.3	20.6	6.1	6.3	14.0	10.2	26.8	16.8	40.7	17.1	17.1	10.6	10.3	10.3	9.0	40.1	39.1	10.6	13.8	8.9	15.8	18.0	17.14	40.69	
16-Oct	18.3	20.2	17.1	25.1	26.0	27.1	14.0	62.7	74.4	23.1	28.4	83.5	30.9	12.1	9.8	9.2	8.1	9.5	56.1	41.5	91.6	29.2	50.6	56.8	34.38	91.63	
17-Oct	41.4	63.4	78.6	42.3	6.8	13.3	14.7	13.5	22.8	26.3	25.8	23.5	36.6	13.3	12.6	11.9	10.0	10.8	10.6	11.9	11.3	10.3	5.9	6.7	21.84	78.56	
18-Oct	6.5	7.5	8.9	5.4	5.4	4.6	7.6	40.4	25.1	17.5	45.8	28.8	9.1	8.8	8.7	8.2	7.7	7.4	7.9	5.1	6.2	9.6	19.1	42.0	14.31	45.76	
19-Oct	24.9	10.4	31.0	50.5	31.1	32.3	65.9	76.1	72.7	71.7	74.2	27.9	35.0	21.5	9.6	8.8	6.0	10.2	14.3	57.9	25.9	76.1	80.2	75.7	41.25	80.15	
20-Oct	84.9	24.3	51.1	15.2	16.2	8.8	20.5	9.6	9.5	12.5	13.7	15.6	10.8	11.3	11.6	12.3	8.2	6.9	5.9	5.1	8.7	5.2	4.8	12.6	16.06	84.86	
21-Oct	17.8	7.7	4.7	8.5	7.1	10.2	66.1	18.1	9.6	14.1	21.5	44.5	28.6	30.0	59.9	25.3	29.0	16.3	13.6	11.6	6.3	93.6	21.4	19.6	24.38	93.64	
22-Oct	27.8	24.3	11.6	13.2	81.9	15.7	34.4	15.8	18.3	9.7	18.0	13.5	13.9	14.9	13.9	13.2	9.9	6.7	5.0	7.2	7.9	6.5	9.1	8.4	16.71	81.88	
23-Oct	4.4	9.7	9.7	49.3	7.0	8.4	17.9	7.4	7.6	7.0	9.4	10.7	12.5	12.5	14.4	15.1	11.8	48.7	8.5	48.9	93.7	14.4	9.7	7.0	18.56	93.71	
24-Oct	6.4	6.7	8.7	13.2	21.0	23.4	9.8	16.3	15.9	35.9	17.0	12.5	13.0	13.7	11.1	12.3	10.7	10.5	23.6	71.0	12.8	5.1	7.1	7.3	16.05	70.95	
25-Oct	14.4	14.6	14.5	15.0	20.1	21.8	13.4	43.0	61.9	10.9	9.8	13.6	19.8	15.0	16.3	17.4	16.7	20.7	18.7	20.4	21.4	17.0	17.1	23.3	19.87	61.90	
26-Oct	35.7	24.7	15.4	11.3	10.3	16.8	13.7	21.0	30.3	16.6	24.0	24.0	15.5	14.0	22.3	29.6	34.1	11.9	29.0	33.6	13.6	8.6	22.0	27.0	21.05	35.72	
27-Oct	24.2	62.9	12.4	92.0	75.7	16.6	7.2	13.0	7.8	14.9	22.4	80.4	17.2	20.4	60.5	70.3	18.1	11.7	24.2	81.3	59.8	93.9	8.2	14.7	37.90	93.86	
28-Oct	10.9	6.2	7.3	6.7	10.0	8.4	7.3	6.7	33.8	18.9	19.1	13.7	14.4	13.6	14.1	21.3	15.0	10.9	12.5	12.6	12.5	12.0	11.2	12.1	12.97	33.79	
29-Oct	11.6	11.2	12.0	10.9	11.7	12.2	12.9	11.3	11.1	12.3	13.0	13.9	15.0	14.7	16.4	21.0	23.7	21.6	16.0	15.9	14.8	38.7	12.7	12.8	15.31	38.68	
30-Oct	8.7	14.8	33.4	12.2	8.4	25.9	7.2	7.5	6.8	14.4	16.0	11.1	14.7	7.9	11.9	9.3	8.4	5.7	9.9	8.0	14.5	59.6	20.8	12.1	14.55	59.58	
31-Oct	AF	16.8	21.1	17.2	22.8	19.3	17.3	39.9	12.7	15.9	7.9	8.2	8.5	10.5	10.9	10.5	10.4	9.5	31.1	19.4	12.7	20.5	14.2	13.1	16.10	39.88	
		21.22	19.23	20.76	21.72	20.86	18.88	17.70	19.80	23.08	22.81	23.37	23.85	19.84	17.44	19.49	19.89	15.13	15.82	20.30	23.38	26.44	26.93	22.63	21.14	Diurnal Average	
		84.86	87.25	78.56	92.03	81.88	79.66	66.09	76.06	75.32	88.67	74.23	83.46	68.53	64.23	60.51	70.30	34.14	48.70	82.32	81.30	93.71	93.86	92.76	75.71	Diurnal Maximum	
AF - Analyzer Failure																											

WEST CENTRAL AIRSHED SOCIETY

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

**AMS 959
WAGNER2
OCTOBER 2017**

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

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

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

TransAlta / Wagner2 Station 959												October 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	9.1	0.0	0.0	0.0	0.1	1.4	0	0	0.001
NO (ppb)	36	708	100.0	0.9	0.0	28.7	0.0	0.0	0.1	0.8	2.5	-	-	-
NO ₂ (ppb)	36	708	100.0	2.8	0.1	14.8	0.3	1.0	2.1	3.9	6.1	0	0	0.006
NO _x (ppb)	36	708	100.0	3.7	0.0	37.0	0.3	1.1	2.4	5.2	8.9	-	-	-
Wind Speed (kph)	0	715	96.1	4.5	0.0	22.2	0.2	0.6	2.8	7.6	11.4	-	-	-
Temperature (°C)	0	744	100.0	4.5	-6.4	24.2	-1.7	0.5	3.6	7.7	12.6	-	-	-
Relative Humidity (%)	0	744	100.0	66.1	18.9	100.2	37.4	49.9	67.6	83.3	92.6	-	-	-
Std Dev Wind Direction (deg)	0	715	96.1	51.3	7.8	100.2	22.6	28.9	42.7	77.2	89.2	-	-	-
Std Dev Wind Speed (kph)	0	715	96.1	2.7	0.1	10.9	0.7	1.0	1.9	3.9	6.0	-	-	-



WCAS - Wagner2
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
October 2017

Maximum Value: 9.14 ppb on Oct 22 13:00		Maximum Daily Average: 1.23 ppb on Oct 4		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Oct 1 09:00		Minimum Daily Average: 0.00 ppb on Oct 2		Hours of Data: 709																													
Maximum Diurnal Average: 1.05 ppb at hour 13		Minimum Diurnal Average: 0.07 ppb at hour 8		Hours of Missing Data: 35																													
Monthly Average: 0.392 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.1 P ₉₀ = 1.4 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-Oct	2.0	4.7	Z	3.1	1.1	4.8	1.8	0.1	0.0	0.0	0.0	2.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.86	4.81							
2-Oct	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							
3-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.72							
4-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.6	1.0	0.6	1.9	7.2	4.8	4.1	3.1	2.2	1.0	0.6	0.4	0.2	1.23	7.24							
5-Oct	0.1	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.11							
6-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.1	0.4	0.2	0.0	0.0	0.0	0.0	1.9	1.4	0.0	0.25	1.88								
7-Oct	0.3	0.8	Z	0.0	0.0	0.0	0.0	0.0	1.6	4.9	4.1	1.0	0.5	1.2	1.0	2.2	1.3	0.9	2.3	0.1	1.9	2.9	1.3	0.1	1.22	4.86							
8-Oct	2.3	1.2	Z	0.0	0.0	1.1	3.1	0.1	0.1	2.9	2.7	2.5	2.4	2.9	3.0	1.5	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.13	3.11							
9-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.42							
10-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.8	0.6	0.5	0.5	0.4	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.17	0.85							
11-Oct	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							
12-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.8	1.2	2.0	1.3	1.1	1.2	1.0	0.5	0.1	0.0	0.0	0.0	0.44	2.01							
13-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.03							
14-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.26							
15-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.05							
16-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	4.0	5.2	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.76	5.21							
17-Oct	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	0.2	0.9	3.3	1.0	1.4	4.7	3.5	3.0	0.9	0.1	0.0	0.83	4.69							
18-Oct	0.0	0.2	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.3	0.9	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.94							
19-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	1.6	3.1	2.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.35	3.08							
20-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	3.2	1.2	1.5	1.0	1.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.55	4.56							
21-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	1.4	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.14	1.40							
22-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.9	2.2	9.1	4.1	0.4	0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.88	9.14							
23-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	3.4	0.8	1.5	0.2	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.32	3.39							
24-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.5	1.3	0.0	0.0	0.0	1.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.23	1.92							
25-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	2.09							
26-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.31							
27-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.4	0.1	0.2	0.6	0.9	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.92							
28-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.4	2.4	0.16	2.41							
29-Oct	3.7	0.0	Z	2.1	2.0	4.8	2.6	1.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.86	4.80							
30-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	2.5	4.4	4.9	0.4	0.0	0.0	0.3	0.1	0.0	0.0	0.67	4.89							
31-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.6	1.2	3.4	2.7	2.3	1.8	0.3	0.0	0.0	0.0	0.0	0.0	0.60	3.45							
		0.27	0.22	--	0.17	0.10	0.35	0.25	0.07	0.18	0.32	0.49	0.74	1.05	0.87	0.71	0.97	0.68	0.37	0.39	0.21	0.21	0.12	0.09	Diurnal Average								
		3.65	4.69	--	3.13	2.03	4.81	3.11	1.66	2.99	4.86	4.14	4.56	9.14	4.43	3.45	7.24	4.89	4.13	4.69	3.54	2.97	2.90	1.41	2.41	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb				24-hr 48 ppb																											



WCAS - Wagner2
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
October 2017

Maximum Value: 28.69 ppb on Oct 27 08:00		Maximum Daily Average: 3.28 ppb on Oct 27		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Oct 1 16:00		Minimum Daily Average: 0.02 ppb on Oct 2		Hours of Data: 708																							
Maximum Diurnal Average: 3.67 ppb at hour 8		Minimum Diurnal Average: 0.11 ppb at hour 23		Hours of Missing Data: 36																							
Monthly Average: 0.908 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.8 P ₉₀ = 2.5 P ₉₉ = 7.9		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-Oct	0.4	5.8	Z	1.4	0.4	6.4	0.9	0.0	0.0	0.0	0.0	0.0	3.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.81	6.38	
2-Oct	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	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.28	
3-Oct	0.0	0.0	Z	0.0	0.0	0.0	6.3	4.8	2.0	2.2	1.5	0.8	0.3	0.6	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.88	6.32	
4-Oct	0.0	0.0	Z	0.1	0.1	0.2	7.3	12.2	5.0	4.6	2.8	1.6	1.5	1.1	1.6	6.4	2.3	0.9	0.4	0.7	0.5	0.1	0.1	0.1	2.15	12.18	
5-Oct	0.1	0.1	Z	0.4	0.2	0.1	8.8	2.6	1.3	1.8	2.5	1.0	0.8	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.89	8.80	
6-Oct	0.0	0.0	Z	0.1	0.3	0.5	0.6	1.3	1.8	2.3	2.4	2.5	1.9	4.3	0.3	0.2	0.1	0.0	0.1	0.1	0.1	1.3	0.2	0.0	0.90	4.32	
7-Oct	0.1	0.2	Z	0.1	0.1	0.1	0.0	0.1	0.9	2.7	2.7	0.6	0.5	1.3	0.8	1.4	0.6	0.2	0.2	0.0	0.4	0.6	0.1	0.0	0.60	2.74	
8-Oct	2.8	0.9	Z	0.0	0.0	0.3	1.2	0.0	0.0	1.7	1.7	2.1	2.3	2.5	2.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.84	2.77	
9-Oct	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.1	0.4	0.6	0.6	1.5	0.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	2.5	0.5	2.5	4.9	0.64	4.90	
10-Oct	0.7	0.0	Z	0.1	0.1	0.2	14.6	5.5	6.4	4.8	3.4	1.5	1.1	0.5	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.73	14.60	
11-Oct	0.0	0.0	Z	0.1	0.1	0.1	0.3	1.1	0.3	0.7	0.5	0.5	0.9	0.5	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.26	1.06	
12-Oct	0.0	0.0	Z	0.1	0.0	0.0	3.4	2.0	1.2	1.2	0.6	0.9	0.8	0.9	0.9	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.56	3.44	
13-Oct	0.0	0.0	Z	0.1	0.0	0.1	7.7	9.4	5.8	4.7	2.3	0.7	0.5	0.3	0.3	0.2	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.0	1.43	9.41	
14-Oct	0.0	0.0	Z	0.1	0.1	0.2	0.0	0.3	2.1	1.5	1.8	2.0	1.4	1.1	0.5	0.4	0.0	0.0	0.0	0.5	0.6	0.0	0.0	0.0	0.54	2.06	
15-Oct	0.1	0.0	Z	2.1	1.1	0.0	0.0	0.1	0.7	0.7	0.3	0.4	0.4	0.2	0.1	0.0	0.1	0.5	0.5	1.3	0.2	0.7	0.0	0.0	0.42	2.07	
16-Oct	0.2	0.1	Z	0.1	0.0	0.0	1.9	1.7	1.7	5.2	3.3	3.3	4.0	3.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.09	5.19	
17-Oct	0.2	0.0	Z	0.1	0.1	0.0	0.0	0.1	0.5	0.7	1.2	1.3	0.9	0.5	0.9	1.4	0.3	0.9	2.9	1.6	0.7	0.1	0.0	0.0	0.63	2.94	
18-Oct	0.0	0.0	Z	0.0	0.0	0.0	2.1	2.6	1.3	1.3	2.6	1.2	0.7	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.55	2.64	
19-Oct	0.0	0.0	Z	0.1	0.0	0.0	3.1	6.7	4.9	4.7	2.8	1.7	1.5	2.7	2.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.34	6.68	
20-Oct	0.0	0.0	Z	0.8	0.5	0.8	6.8	22.8	16.0	4.4	1.1	6.4	4.4	1.6	1.3	0.7	0.4	0.2	0.0	0.0	0.2	0.2	0.0	0.0	2.98	22.80	
21-Oct	0.1	0.4	Z	0.1	0.1	0.1	0.0	6.3	7.8	3.3	1.4	0.3	0.1	0.1	0.7	1.6	0.7	0.1	3.0	0.7	0.0	0.0	0.0	0.0	1.17	7.82	
22-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.9	2.5	3.6	2.7	9.3	4.0	0.5	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.08	9.26	
23-Oct	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.3	0.6	0.8	0.4	0.6	0.7	2.2	0.6	0.7	0.1	0.4	0.1	0.0	0.0	0.0	0.1	0.0	0.32	2.21	
24-Oct	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.3	0.2	0.4	2.0	1.6	0.0	0.0	0.1	0.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.24	1.97	
25-Oct	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.1	2.1	0.4	0.1	2.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.24	2.20	
26-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.4	0.5	0.6	0.8	0.7	0.4	0.5	1.6	0.0	0.0	0.0	0.0	0.0	0.27	1.59	
27-Oct	0.0	0.0	Z	0.1	0.4	1.5	13.9	28.7	9.5	8.5	3.9	3.6	1.7	0.6	1.3	0.8	0.2	0.0	0.1	0.1	0.0	0.0	0.2	0.4	3.28	28.69	
28-Oct	0.3	1.0	Z	0.1	0.1	0.0	0.0	1.0	3.8	1.8	2.0	0.6	0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.52	3.83	
29-Oct	0.6	0.0	Z	0.1	0.2	1.0	0.2	0.3	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.18	1.55	
30-Oct	0.0	0.0	Z	0.1	0.0	0.0	0.2	3.6	0.7	C	C	C	C	C	2.6	3.1	5.0	0.1	1.0	0.0	0.0	0.0	0.0	0.0	0.91	5.02	
31-Oct	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.2	0.6	0.6	0.7	2.7	1.9	4.0	2.3	1.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.66	3.95	
		0.18	0.28	--	0.22	0.13	0.38	2.57	3.67	2.58	2.14	1.56	1.44	1.50	1.09	0.78	0.79	0.44	0.16	0.34	0.17	0.17	0.12	0.11	0.19	Diurnal Average	
		2.77	5.83	--	2.07	1.06	6.38	14.60	28.69	15.98	8.55	3.87	6.43	9.26	4.32	3.95	6.38	5.02	0.91	3.00	1.62	2.47	1.31	2.51	4.90	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																					



WCAS - Wagner2
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2017

Maximum Value: 14.76 ppb on Oct 30 17:00		Maximum Daily Average: 5.65 ppb on Oct 4		Hours in Service: 744																													
Minimum Value: 0.1 ppb on Oct 8 04:00		Minimum Daily Average: 0.31 ppb on Oct 2		Hours of Data: 708																													
Maximum Diurnal Average: 3.54 ppb at hour 7		Minimum Diurnal Average: 2.14 ppb at hour 24		Hours of Missing Data: 36																													
Monthly Average: 2.772 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 1.0 Median = 2.1 Q ₃ = 3.9 P ₉₀ = 6.1 P ₉₉ = 10.9		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-Oct	9.0	14.2	Z	11.2	5.6	14.5	7.1	1.0	0.5	0.2	0.1	0.2	5.3	0.6	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	3.10	14.46							
2-Oct	0.1	0.2	Z	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	1.4	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	2.0	0.31	2.05							
3-Oct	3.2	4.0	Z	2.6	2.4	2.5	5.0	5.7	3.1	2.7	1.9	1.3	0.8	0.9	0.8	1.4	0.9	0.9	1.0	1.3	2.3	1.9	1.7	2.0	2.19	5.71							
4-Oct	2.6	1.9	Z	2.4	2.7	3.1	4.5	5.2	3.8	3.5	3.1	2.6	2.9	2.6	4.1	10.6	9.1	10.0	13.2	13.6	10.6	6.9	6.3	4.8	5.65	13.59							
5-Oct	3.8	3.7	Z	3.8	4.2	2.8	3.8	2.3	1.4	1.8	2.8	1.8	1.8	1.4	0.9	0.8	0.7	1.2	1.8	2.3	2.5	2.6	2.0	2.1	2.28	4.18							
6-Oct	2.4	2.7	Z	3.5	3.8	3.9	3.5	3.3	2.3	2.9	2.4	2.6	3.3	5.9	2.5	1.8	1.1	1.2	2.1	2.3	3.6	5.3	6.0	0.3	2.99	6.05							
7-Oct	1.4	3.3	Z	0.3	0.5	3.4	0.7	0.5	2.6	6.7	6.3	3.1	1.6	3.0	2.5	4.7	3.5	2.8	7.5	0.7	6.0	7.8	4.2	0.3	3.19	7.79							
8-Oct	5.9	2.9	Z	0.1	0.1	3.5	9.6	0.3	0.4	7.6	5.6	4.0	3.6	4.1	4.2	2.4	0.3	0.3	0.6	0.7	1.0	1.2	1.3	1.1	2.64	9.63							
9-Oct	1.2	1.2	Z	1.3	1.4	1.4	1.5	1.7	1.5	1.9	2.1	2.9	1.4	1.2	1.4	0.4	0.4	0.3	0.5	3.4	8.8	7.7	9.0	8.8	2.68	9.02							
10-Oct	7.1	2.3	Z	1.6	1.2	1.3	2.9	3.2	3.2	3.0	3.6	4.9	5.2	3.3	3.0	2.8	3.2	2.8	2.2	1.4	1.5	1.1	0.9	0.8	2.72	7.11							
11-Oct	0.7	0.5	Z	0.3	0.3	0.3	0.7	1.3	1.1	1.0	0.8	0.8	0.7	0.5	0.7	0.5	0.5	0.4	0.2	0.2	0.2	0.2	0.1	0.2	0.53	1.32							
12-Oct	0.1	0.2	Z	0.2	0.2	0.3	4.0	4.0	3.5	2.2	1.2	2.3	2.1	3.5	4.7	4.1	3.7	4.3	4.3	2.8	1.1	0.9	1.0	1.0	2.24	4.69							
13-Oct	1.1	1.0	Z	0.9	1.1	1.4	4.1	5.3	3.9	2.8	2.1	0.8	0.7	0.6	0.7	1.0	1.2	1.7	1.4	1.3	1.2	1.4	1.8	1.5	1.70	5.29							
14-Oct	1.4	2.6	Z	1.7	2.3	3.2	2.6	3.3	4.6	3.6	3.9	3.9	2.8	3.0	2.8	2.8	0.7	1.6	2.6	7.7	5.7	1.0	1.1	1.1	2.88	7.69							
15-Oct	1.4	0.6	Z	6.2	6.9	2.8	2.6	2.5	1.6	1.3	1.2	1.0	0.9	0.6	0.3	0.3	1.1	7.5	6.0	9.8	6.7	6.6	1.6	1.6	3.10	9.82							
16-Oct	5.5	6.4	Z	4.0	3.3	1.9	6.1	6.0	4.7	4.6	6.1	6.1	7.5	7.7	0.4	0.6	0.9	1.3	2.0	2.0	1.9	2.0	4.5	4.8	3.94	7.71							
17-Oct	3.9	3.5	Z	3.2	1.9	1.7	1.7	1.6	1.2	1.3	1.4	1.9	1.9	3.2	3.8	8.7	2.9	3.1	7.7	6.0	5.5	1.9	0.3	0.2	2.98	8.67							
18-Oct	0.3	0.7	Z	0.3	0.6	0.9	6.4	6.6	4.8	4.2	4.7	2.6	2.0	1.6	1.3	0.8	1.0	1.0	1.2	1.2	1.0	1.1	1.1	1.1	2.02	6.64							
19-Oct	1.4	1.2	Z	1.5	1.9	1.4	4.9	6.2	4.7	4.4	3.4	2.7	3.5	6.3	4.8	1.7	1.3	2.3	1.7	1.9	2.9	2.1	2.4	2.4	2.92	6.32							
20-Oct	2.2	3.1	Z	4.8	4.8	4.7	4.7	5.6	5.5	5.0	2.6	8.7	5.8	3.5	5.3	5.4	5.5	3.3	1.4	2.0	5.2	3.4	1.1	1.5	4.14	8.71							
21-Oct	3.4	6.0	Z	2.6	2.2	2.0	2.7	5.3	4.8	3.1	2.2	0.8	0.4	0.6	1.8	4.2	4.2	2.5	6.2	4.8	2.2	2.2	2.1	2.0	2.97	6.22							
22-Oct	1.9	1.6	Z	1.7	1.8	1.9	2.0	3.6	4.9	4.5	5.3	4.5	10.7	5.7	1.8	2.8	1.1	0.7	0.8	0.8	0.6	0.7	1.1	0.6	2.66	10.67							
23-Oct	2.4	2.2	Z	1.2	1.0	0.8	1.1	1.8	2.2	2.2	1.3	1.5	1.6	4.4	1.7	3.2	1.4	4.8	3.8	3.0	3.2	3.4	3.7	3.8	2.42	4.76							
24-Oct	5.3	4.1	Z	2.9	2.1	1.8	2.1	2.6	3.1	2.8	1.9	4.1	2.7	0.4	0.3	0.8	6.4	2.1	1.5	2.0	1.3	1.1	0.9	0.8	2.32	6.44							
25-Oct	1.2	0.9	Z	1.1	1.1	1.8	1.9	3.8	2.7	3.9	1.4	4.3	0.6	0.2	0.2	0.3	0.6	0.3	0.1	0.2	0.3	0.2	0.1	0.3	1.21	4.32							
26-Oct	0.5	0.2	Z	0.7	1.5	1.7	1.6	2.2	2.4	2.2	1.3	1.5	1.4	1.2	1.7	1.8	2.9	4.3	5.9	3.8	3.6	5.0	4.5	3.6	2.41	5.93							
27-Oct	3.2	4.8	Z	5.2	5.6	6.3	7.1	8.2	6.3	5.9	5.0	4.5	3.2	2.2	3.4	3.5	3.2	2.8	3.4	2.9	2.2	2.2	4.9	5.8	4.43	8.17							
28-Oct	5.9	5.6	Z	0.6	1.2	1.6	1.9	3.1	5.6	3.1	2.8	0.9	0.6	0.9	0.4	0.5	0.6	2.4	1.9	0.3	0.2	0.1	2.0	8.1	2.18	8.10							
29-Oct	10.7	0.2	Z	6.6	6.2	12.8	7.0	4.8	7.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.5	0.3	0.5	1.5	2.60	12.81							
30-Oct	4.1	2.1	Z	1.8	1.1	0.8	1.5	4.5	3.1	C	C	C	C	C	7.4	11.6	14.8	7.9	8.9	2.3	4.2	3.2	1.0	1.6	4.55	14.76							
31-Oct	3.0	4.1	Z	7.5	6.3	4.4	4.2	3.2	4.1	5.3	4.2	4.4	7.0	6.3	11.2	8.8	7.2	6.1	1.4	0.2	0.3	0.3	0.5	0.4	4.37	11.23							
		3.10	2.84	--	2.64	2.44	2.93	3.54	3.52	3.27	3.13	2.70	2.71	2.75	2.58	2.41	2.86	2.61	2.59	2.97	2.63	2.80	2.40	2.21	2.14	Diurnal Average							
		10.66	14.16	--	11.24	6.94	14.46	9.63	8.17	7.35	7.61	6.31	8.71	10.67	7.71	11.23	11.57	14.76	9.98	13.24	13.59	10.61	7.79	9.02	8.83	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb				24-hr 106 ppb																											

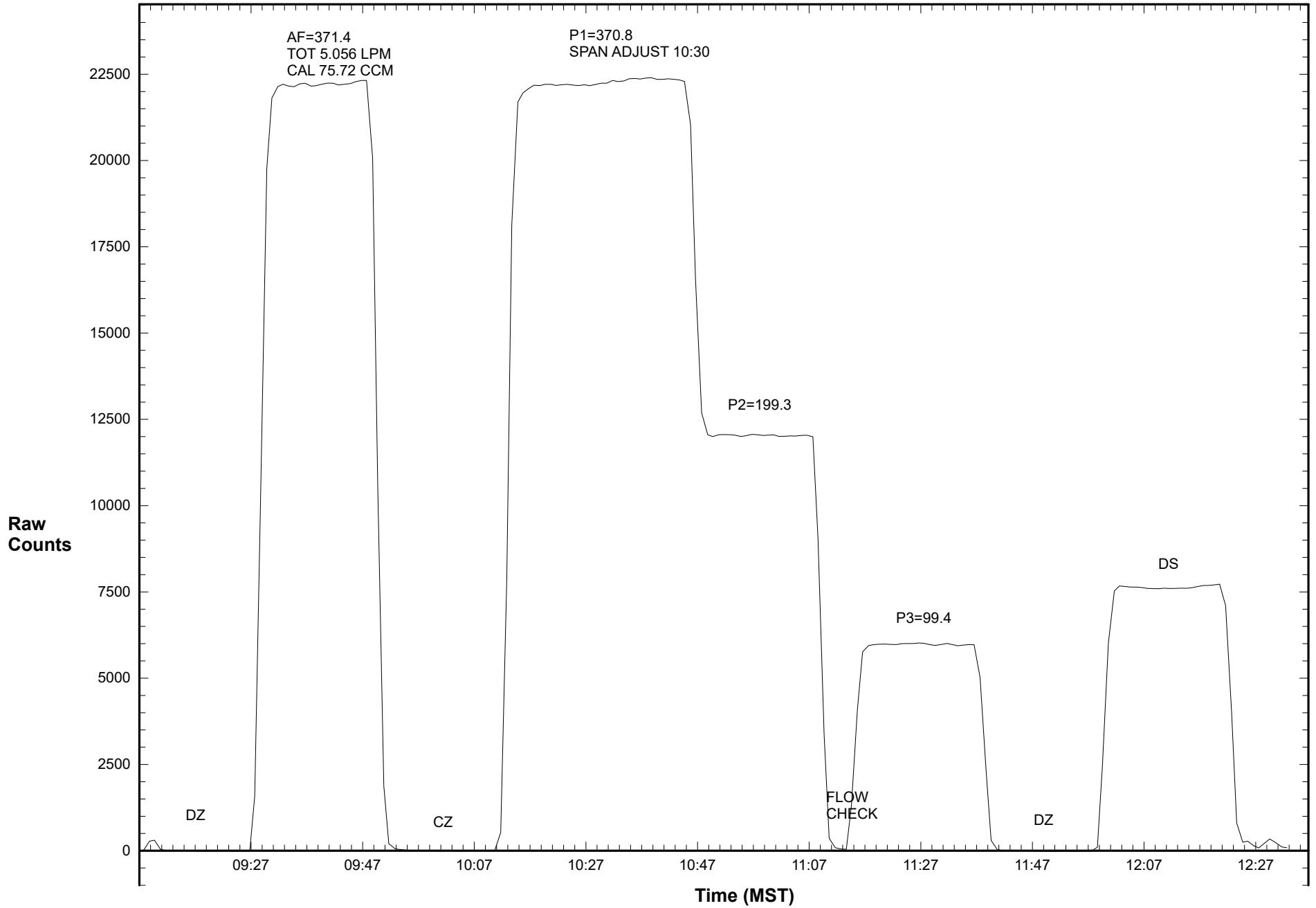


WCAS - Wagner2
Summary of Hourly Averages

NOx (NO_x) - ppb
October 2017

Maximum Value: 37.02 ppb on Oct 27 08:00		Maximum Daily Average: 7.92 ppb on Oct 4		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Oct 29 14:00		Minimum Daily Average: 0.32 ppb on Oct 2		Hours of Data: 708																							
Maximum Diurnal Average: 7.27 ppb at hour 8		Minimum Diurnal Average: 2.36 ppb at hour 24		Hours of Missing Data: 36																							
Monthly Average: 3.743 ppb		Percentiles: P ₁ = 0.1 P ₁₀ = 0.3 Q ₁ = 1.1 Median = 2.4 Q ₃ = 5.2 P ₉₀ = 8.9 P ₉₉ = 20.1		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	9.6	20.2	Z	12.9	6.1	21.1	8.1	1.1	0.5	0.3	0.1	0.2	8.4	0.8	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	3.95	21.07	
2-Oct	0.1	0.2	Z	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	1.7	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	2.1	0.32	2.10	
3-Oct	3.3	4.0	Z	2.8	2.5	2.6	11.5	10.7	5.3	5.0	3.6	2.2	1.2	1.3	1.5	2.6	1.0	1.0	1.1	1.4	2.4	2.0	1.8	2.1	3.16	11.47	
4-Oct	2.7	1.9	Z	2.6	2.8	3.4	11.9	17.5	8.9	8.2	6.0	4.4	4.5	3.8	5.8	17.1	11.5	11.0	13.9	14.5	11.3	7.1	6.5	5.0	7.92	17.46	
5-Oct	4.0	3.9	Z	4.3	4.5	3.0	12.7	5.0	2.8	3.7	5.4	3.0	2.7	1.9	1.0	0.9	0.8	1.3	1.9	2.3	2.5	2.7	2.1	2.1	3.24	12.70	
6-Oct	2.4	2.8	Z	3.7	4.2	4.5	4.2	4.7	4.2	5.3	4.9	5.3	5.3	10.4	2.9	2.1	1.3	1.2	2.2	2.4	3.7	6.7	6.4	0.3	3.96	10.37	
7-Oct	1.5	3.5	Z	0.3	0.6	3.5	0.8	0.5	3.5	9.4	9.2	3.8	2.2	4.5	3.3	6.2	4.2	3.1	7.8	0.7	6.4	8.5	4.4	0.3	3.84	9.44	
8-Oct	8.8	3.9	Z	0.1	0.1	3.9	11.0	0.3	0.4	9.5	7.5	6.3	6.0	6.7	6.8	3.6	0.3	0.3	0.7	0.7	1.0	1.2	1.5	1.1	3.55	10.97	
9-Oct	1.2	1.3	Z	1.4	1.5	1.5	1.5	1.8	1.9	2.6	2.7	4.5	2.1	1.5	1.7	0.5	0.4	0.3	0.5	3.5	11.4	8.3	11.7	13.9	3.38	13.89	
10-Oct	8.0	2.4	Z	1.7	1.3	1.6	17.6	8.8	9.7	7.9	7.0	6.5	6.4	3.9	3.6	3.2	3.4	2.9	2.3	1.4	1.5	1.2	0.9	0.8	4.53	17.63	
11-Oct	0.7	0.5	Z	0.3	0.4	0.3	1.0	2.4	1.4	1.8	1.3	1.4	1.6	1.0	1.4	0.7	0.5	0.3	0.2	0.2	0.1	0.2	0.1	0.1	0.79	2.42	
12-Oct	0.1	0.1	Z	0.2	0.2	0.3	7.5	6.1	4.8	3.5	1.8	3.3	3.0	4.6	5.7	4.7	4.0	4.5	4.3	2.8	1.1	0.9	1.0	1.0	2.84	7.51	
13-Oct	1.1	1.0	Z	1.0	1.2	1.5	11.9	14.8	9.8	7.6	4.5	1.6	1.2	1.0	1.1	1.3	1.6	1.9	1.5	1.3	1.3	1.6	1.9	1.5	3.18	14.80	
14-Oct	1.5	2.7	Z	1.9	2.5	3.5	2.7	3.8	6.8	5.2	5.8	6.1	4.3	4.2	3.4	3.3	0.7	1.6	2.7	8.3	6.4	1.0	1.1	1.1	3.50	8.27	
15-Oct	1.6	0.6	Z	8.4	8.1	2.9	2.7	2.7	2.3	2.0	1.5	1.5	1.3	0.8	0.4	0.4	1.2	8.1	6.6	11.2	7.0	7.4	1.7	1.6	3.57	11.25	
16-Oct	5.8	6.6	Z	4.2	3.4	2.0	8.1	7.9	6.5	9.9	9.5	9.6	11.7	11.1	0.5	0.7	1.0	1.4	2.3	2.1	2.0	2.1	4.7	5.0	5.12	11.70	
17-Oct	4.3	3.7	Z	3.4	2.0	1.8	1.8	1.8	1.8	2.0	2.7	3.3	2.9	3.8	4.7	10.3	3.3	4.1	10.7	7.8	6.3	2.1	0.2	0.2	3.70	10.75	
18-Oct	0.2	0.7	Z	0.3	0.7	0.9	8.6	9.3	6.2	5.7	7.4	3.9	2.8	2.2	1.6	0.9	1.1	1.0	1.2	1.2	1.0	1.1	1.1	1.0	2.61	9.35	
19-Oct	1.3	1.2	Z	1.6	2.0	1.4	8.2	13.0	9.8	9.2	6.3	4.5	5.2	9.1	7.1	1.9	1.4	2.5	1.7	1.9	2.9	2.2	2.4	2.5	4.32	13.03	
20-Oct	2.2	3.2	Z	5.7	5.4	5.5	11.6	28.4	21.6	9.4	3.8	15.3	10.3	5.2	6.7	6.2	6.0	3.6	1.4	2.0	5.5	3.7	1.1	1.5	7.18	28.44	
21-Oct	3.6	6.6	Z	2.7	2.3	2.1	2.8	11.7	12.8	6.5	3.7	1.2	0.5	0.8	2.6	5.9	5.0	2.7	9.3	5.6	2.2	2.2	2.1	2.0	4.21	12.76	
22-Oct	2.0	1.6	Z	1.8	1.9	2.0	2.1	3.8	6.0	7.1	9.0	7.3	20.1	9.9	2.3	3.8	1.3	0.8	0.9	0.8	0.6	0.7	1.2	0.5	3.81	20.14	
23-Oct	2.4	2.2	Z	1.4	1.1	0.9	1.2	2.1	2.9	3.0	1.7	2.2	2.4	6.7	2.4	4.0	1.6	5.2	4.0	3.1	3.3	3.4	3.8	3.9	2.83	6.73	
24-Oct	5.5	4.2	Z	3.1	2.2	1.9	2.2	2.7	3.4	3.1	2.4	6.2	4.4	0.4	0.4	0.8	7.2	2.1	1.6	2.2	1.4	1.1	1.0	0.8	2.63	7.18	
25-Oct	1.2	0.9	Z	1.2	1.2	1.9	2.0	4.1	4.9	4.5	1.6	6.6	1.0	0.3	0.3	0.3	0.5	0.3	0.1	0.1	0.2	0.2	0.1	0.3	1.47	6.62	
26-Oct	0.4	0.2	Z	0.8	1.6	1.8	1.6	2.2	2.6	2.5	1.6	1.9	1.9	1.8	2.6	2.5	3.4	5.0	7.6	3.9	3.7	5.1	4.6	3.7	2.75	7.64	
27-Oct	3.3	5.0	Z	5.4	6.1	7.9	21.1	37.0	15.9	14.6	9.0	8.3	5.1	2.9	4.8	4.4	3.5	3.0	3.6	3.1	2.4	2.3	5.2	6.4	7.83	37.02	
28-Oct	6.3	6.8	Z	0.7	1.3	1.7	2.0	4.3	9.6	4.9	4.9	1.5	1.0	1.5	0.5	0.5	0.6	2.4	1.9	0.3	0.2	0.1	2.1	8.6	2.76	9.58	
29-Oct	11.4	0.2	Z	6.9	6.6	14.0	7.4	5.2	9.1	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.3	0.5	1.5	2.81	14.05	
30-Oct	4.2	2.2	Z	1.9	1.2	0.9	1.8	8.1	3.9	C	C	C	C	C	10.2	14.9	20.0	8.2	10.1	2.4	4.3	3.2	1.0	1.6	5.55	20.00	
31-Oct	3.0	4.2	Z	7.7	6.5	4.5	4.3	3.2	4.3	6.0	4.9	5.3	9.9	8.3	15.4	11.3	8.9	6.8	1.5	0.1	0.3	0.2	0.4	0.4	5.11	15.37	
		3.34	3.17	--	2.92	2.63	3.39	6.20	7.27	5.93	5.37	4.35	4.23	4.33	3.74	3.26	3.72	3.10	2.80	3.36	2.83	3.01	2.56	2.36	2.36	Diurnal Average	
		11.40	20.18	--	12.86	8.10	21.07	21.12	37.02	21.57	14.56	9.47	15.27	20.14	11.07	15.37	17.13	20.00	10.99	13.88	14.50	11.39	8.55	11.69	13.89	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																					

Station 959 SO2 October 30, 2017: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**AMS 959
WAGNER2
OCTOBER 2017**

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

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



WCAS - Wagner2
Summary of Hourly Averages

External Temperature (ET) - C
October 2017

Maximum Value: 24.24 C on Oct 5 17:00		Maximum Daily Average: 11.74 C on Oct 28		Hours in Service: 744																						
Minimum Value: -6.4 C on Oct 30 06:00		Minimum Daily Average: -1.73 C on Oct 13		Hours of Data: 744																						
Maximum Diurnal Average: 10.53 C at hour 15		Minimum Diurnal Average: 0.19 C at hour 7		Hours of Missing Data: 0																						
Monthly Average: 4.459 C		Percentiles: P ₁ = -5.6 P ₁₀ = -1.7 Q ₁ = 0.5 Median = 3.6 Q ₃ = 7.7 P ₉₀ = 12.6 P ₉₉ = 19.0		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-Oct	10.4	9.9	9.5	9.1	8.2	8.2	8.1	8.4	8.5	8.8	8.8	9.1	8.9	8.7	8.5	8.1	7.5	6.9	6.1	5.9	5.0	3.5	2.7	2.5	7.56	10.41
2-Oct	2.4	2.3	2.1	1.8	1.3	1.1	1.0	0.9	0.9	0.8	1.2	2.0	3.3	4.5	5.5	5.9	6.2	5.4	4.1	2.4	-0.3	-1.4	-2.4	-2.9	2.01	6.21
3-Oct	-3.2	-3.4	-3.6	-3.9	-4.2	-4.5	-5.1	-2.6	0.2	1.7	4.4	7.0	8.3	9.6	10.8	11.2	10.9	9.0	4.2	1.4	0.1	0.0	-0.1	0.9	2.04	11.19
4-Oct	0.3	-0.7	-0.9	-1.1	-1.3	-1.6	-1.7	-0.4	3.0	7.7	12.1	14.2	15.5	16.6	17.6	18.2	18.0	15.7	9.5	6.5	4.8	3.6	2.8	2.0	6.68	18.17
5-Oct	1.4	0.8	0.5	0.1	0.1	0.0	-0.2	1.8	5.1	9.4	14.0	16.9	19.5	21.9	23.1	24.2	24.2	21.3	14.9	12.0	9.7	7.8	6.7	5.8	10.05	24.24
6-Oct	5.2	5.0	4.4	4.1	3.2	2.9	3.0	4.0	4.7	6.0	7.6	9.9	11.3	14.6	15.7	16.1	15.6	13.0	8.6	5.5	4.5	10.0	9.3	8.3	8.02	16.15
7-Oct	8.6	7.9	7.5	7.6	6.5	4.1	4.2	5.6	7.3	7.2	5.5	4.5	6.7	9.5	10.2	10.3	10.4	9.7	8.3	7.6	7.7	7.2	6.4	4.5	7.29	10.38
8-Oct	4.4	4.1	3.0	2.0	1.2	1.3	1.0	1.3	2.0	2.6	3.2	4.3	5.4	6.5	7.7	8.4	8.4	7.0	2.7	-0.2	-0.9	-1.3	-2.5	-3.0	2.86	8.45
9-Oct	-2.9	-2.6	-2.5	-1.9	-1.0	-0.2	0.2	0.8	2.4	5.2	8.0	10.5	14.3	14.8	14.9	14.7	12.9	11.2	7.3	4.8	3.4	2.6	2.1	1.9	5.03	14.87
10-Oct	2.0	1.6	1.0	1.1	0.1	-0.7	-0.9	-0.3	0.8	2.5	4.2	6.2	7.3	7.6	7.9	7.8	7.7	7.6	7.3	6.4	5.5	4.6	4.2	4.1	3.99	7.85
11-Oct	4.1	2.8	1.6	1.5	1.6	1.6	1.3	1.4	1.7	1.8	1.9	2.0	3.0	3.4	2.7	2.4	1.8	1.4	1.8	1.2	0.7	0.3	0.2	0.1	1.77	4.10
12-Oct	-0.2	-0.1	-0.2	-1.0	-0.7	-0.1	-1.0	-0.6	-0.1	1.0	2.0	2.2	2.6	2.8	2.8	2.8	2.8	2.5	2.1	1.8	1.2	0.5	-1.8	-3.2	0.76	2.82
13-Oct	-4.2	-4.7	-4.9	-4.7	-5.7	-6.1	-6.1	-5.1	-2.9	-0.2	2.7	2.2	2.0	2.9	4.1	3.2	4.6	1.6	-1.6	-3.1	-3.3	-3.4	-4.4	-4.2	-1.73	4.56
14-Oct	-3.9	-4.9	-5.6	-5.6	-5.4	-4.8	-4.0	-2.4	-0.5	0.5	1.4	2.5	4.4	5.6	6.2	6.6	7.1	6.2	4.9	4.0	5.4	2.9	3.2	3.3	1.13	7.15
15-Oct	1.0	-0.4	-1.1	-1.0	-0.5	-0.9	-1.5	0.0	4.1	8.2	9.2	12.0	14.9	17.3	18.5	18.5	17.1	11.4	8.3	7.0	6.9	5.4	3.9	2.3	6.69	18.54
16-Oct	1.6	1.0	0.6	0.5	0.9	0.7	0.9	1.8	2.9	5.6	12.2	13.1	14.2	13.7	13.3	12.9	12.6	11.9	9.5	5.7	3.4	2.0	1.5	0.6	5.96	14.20
17-Oct	0.0	0.1	1.0	1.1	0.4	0.6	1.4	1.6	2.0	3.7	6.8	11.6	16.3	14.9	9.7	7.1	7.4	7.1	5.8	5.4	5.0	4.1	3.6	3.7	5.02	16.30
18-Oct	4.0	3.7	2.6	2.1	1.0	-1.0	-1.6	-1.7	1.3	2.1	4.0	6.5	7.8	8.5	8.6	8.7	8.4	8.1	7.7	6.5	5.4	3.7	2.5	1.3	4.18	8.66
19-Oct	1.8	1.5	1.3	1.2	1.3	0.6	-1.2	-1.6	1.0	4.4	8.3	13.0	13.4	14.2	15.3	14.8	14.0	11.6	8.9	7.5	6.6	4.8	3.8	2.2	6.20	15.31
20-Oct	0.9	-0.2	-0.5	-1.2	-1.4	-0.6	-0.1	-0.6	0.5	4.9	8.0	9.5	10.8	11.1	10.6	10.3	9.9	9.2	8.3	8.1	6.1	2.8	1.1	-0.2	4.47	11.08
21-Oct	-0.9	-1.9	-2.6	-2.8	-3.4	-3.6	-4.0	-3.8	0.1	4.2	6.3	9.2	10.0	10.4	11.2	11.2	10.2	6.4	2.5	0.5	-0.5	-1.3	-2.4	-3.4	2.14	11.21
22-Oct	-3.1	-2.9	-2.2	-1.3	-0.6	-0.6	-0.5	-1.3	0.7	3.8	7.1	9.2	9.5	11.4	11.7	12.6	12.3	9.2	6.7	5.0	3.5	3.6	2.8	2.4	4.13	12.57
23-Oct	2.6	3.7	2.6	3.9	1.0	-0.3	-0.9	-1.4	2.6	6.5	8.7	10.3	12.6	14.2	14.6	14.6	13.8	9.5	4.4	4.2	4.4	3.1	3.0	3.2	5.87	14.63
24-Oct	3.3	3.7	4.0	5.9	5.3	4.1	3.5	9.0	9.7	12.4	15.9	18.2	18.1	17.1	15.5	15.0	13.5	11.7	9.6	7.5	7.0	6.6	5.2	4.1	9.41	18.16
25-Oct	4.6	6.2	5.8	5.1	4.8	4.8	5.0	4.6	4.7	4.9	5.9	7.4	5.1	3.5	2.7	2.4	2.2	1.8	1.4	0.7	-0.4	-2.4	-2.6	-2.1	3.17	7.38
26-Oct	-1.4	-0.9	-0.6	-1.2	-2.7	-3.1	-2.8	-2.0	-1.7	0.0	1.1	2.6	3.8	5.3	6.3	7.5	6.9	3.1	-0.1	-1.1	-1.7	-2.0	-1.1	-1.1	0.55	7.50
27-Oct	-0.6	0.2	0.3	0.2	-0.6	-0.3	-1.4	-1.5	1.7	5.3	7.6	10.7	13.1	14.4	14.9	17.0	13.6	10.4	7.3	4.9	3.3	2.3	1.5	1.2	5.22	16.96
28-Oct	1.2	0.5	3.1	14.8	14.4	11.6	11.9	13.1	12.8	14.1	17.4	19.1	19.3	17.7	16.6	14.8	12.8	12.4	10.9	9.3	9.1	8.7	8.4	7.7	11.74	19.27
29-Oct	6.5	5.2	4.2	3.8	3.4	3.8	4.0	3.9	4.4	5.3	5.4	6.3	6.6	6.2	5.9	5.2	4.7	4.2	3.6	3.3	2.6	1.4	-0.6	-2.9	4.01	6.63
30-Oct	-3.7	-4.6	-4.9	-5.4	-5.9	-6.4	-6.2	-6.0	-4.7	-3.0	-1.5	1.3	4.2	5.5	6.9	7.1	6.4	5.3	3.3	3.2	2.4	1.5	1.1	0.4	-0.16	7.08
31-Oct	-0.5	-1.0	-0.3	0.3	0.7	0.2	-0.2	0.1	0.6	1.0	1.6	3.6	5.1	5.8	6.5	6.4	5.9	5.4	4.8	1.8	2.4	1.3	0.2	0.1	2.16	6.48
	1.35	1.04	0.82	1.13	0.71	0.35	0.19	0.88	2.45	4.46	6.48	8.29	9.59	10.33	10.53	10.52	10.00	8.30	5.90	4.38	3.51	2.66	1.89	1.28		Diurnal Average
	10.41	9.90	9.50	14.75	14.43	11.61	11.88	13.11	12.78	14.12	17.42	19.14	19.53	21.91	23.11	24.15	24.24	21.26	14.94	11.99	9.73	10.04	9.33	8.34		Diurnal Maximum



WCAS - Wagner2 Summary of Hourly Averages

Wind Speed (WS) - kph
October 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	9.8	8.9	8.7	7.5	9.3	7.7	9.4	7.1	10.8	11.5	11.8	11.0	13.8	12.4	12.3	10.8	11.1	9.9	11.2	11.8	9.1	7.9	9.2	9.93	13.81
Dir	WNW	NW	NW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NW	NW	NW	NW
2 Spd	11.3	11.8	11.1	9.0	9.8	10.4	10.8	12.0	12.2	12.7	11.9	13.2	14.4	13.2	12.8	12.3	10.2	6.9	4.2	1.5	0.2	0.8	1.4	2.1	8.94	14.35
Dir	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NW	NW	NNW	NNW	NNW	N	N	NW	NW	NW	NW	NNW	
3 Spd	1.3	0.6	0.3	0.3	0.5	0.6	0.9	0.0	2.4	4.0	4.2	6.9	7.5	7.2	7.6	6.3	3.9	1.6	1.1	0.5	0.4	0.2	0.1	0.1	1.91	7.64
Dir	NW	NW	NNW	NNW	N	NW	NW	N	SSW	SW	SSW	S	S	S	S	S	S	SSW	NW	NNW	NW	NE	NW	ENE	SSW	S
4 Spd	0.2	0.3	0.2	0.4	0.1	0.3	0.4	0.0	1.4	1.3	2.7	3.6	2.9	1.4	1.6	1.9	1.6	1.2	1.1	0.9	0.6	0.2	0.2	0.1	0.47	3.55
Dir	N	N	NW	NNW	NNW	NNW	N	E	SSE	ESE	ESE	S	S	SW	SSW	SSW	S	E	NW	NNW	NW	NW	NW	NW	S	S
5 Spd	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.5	1.7	1.0	2.7	4.5	6.5	3.6	6.1	4.2	3.2	1.4	0.7	0.6	0.7	0.3	0.2	0.3	1.15	6.46
Dir	NW	NW	N	NNW	NNE	NNW	NNW	ENE	SE	SE	SSE	SSW	S	S	S	SSW	SW	WNW	NNW	NNW	NNW	NNW	NW	NW	S	S
6 Spd	0.3	0.2	0.2	0.1	0.1	0.3	0.3	0.0	0.5	0.4	0.5	0.4	1.4	4.5	4.3	7.3	4.6	1.2	2.3	1.0	1.1	14.9	6.9	6.9	2.15	14.92
Dir	ENE	ENE	NNW	N	NNW	NNW	NNW	NW	ESE	E	E	E	E	NW	NW	NW	WNW	NNW	NW	NW	NW	WNW	WNW	WNW	NW	WNW
7 Spd	12.0	9.8	10.7	12.6	7.2	5.5	7.6	10.0	15.1	14.6	15.7	12.5	5.4	12.6	12.7	11.4	8.2	7.8	6.7	7.0	11.6	12.8	12.0	8.1	10.20	15.74
Dir	WNW	WNW	WNW	WNW	W	W	W	W	WNW	WNW	WNW	NW	W	NW	NW	NW	NW	WNW	WNW	NW	NW	NW	NW	NW	WNW	WNW
8 Spd	9.3	11.9	9.3	9.5	7.6	8.1	10.7	10.4	9.6	11.2	13.3	11.6	11.4	11.2	11.4	9.9	7.5	3.4	1.3	0.7	0.6	1.5	0.7	0.7	7.56	13.27
Dir	NW	NW	NW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NW	NNW	NNW	NNW	NNW	NW	NW	NW
9 Spd	0.2	0.4	0.8	0.8	2.1	0.6	0.4	0.4	1.8	1.0	2.0	5.1	6.6	6.2	6.4	6.4	6.1	3.5	1.2	1.4	1.0	0.4	0.4	0.4	1.36	6.57
Dir	NNW	NNW	N	ENE	E	ENE	ENE	ENE	ENE	ESE	SSW	WSW	WSW	WNW	NW	NNW	NNW	NNW	NW	NW	NW	NNE	NW	NW	NW	WSW
10 Spd	0.1	0.4	1.0	0.4	0.4	0.4	0.3	0.1	0.3	0.3	0.8	3.6	6.0	6.4	7.1	5.7	4.8	6.1	5.5	6.1	3.5	4.3	3.5	3.7	2.27	7.10
Dir	NNW	NNE	WNW	N	NW	NW	NNW	NNE	WNW	S	SSE	E	E	E	E	ENE	ENE	NE	NE	NE	NNE	NNW	N	NNW	NE	E
11 Spd	6.7	9.0	7.8	5.8	6.1	5.7	6.0	5.5	7.1	8.5	8.3	8.4	8.7	9.4	8.4	8.9	7.7	5.1	4.1	3.5	4.4	5.1	3.9	4.2	6.47	9.38
Dir	NNW	NW	NW	NW	NNW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	NNW	NW	NNW	NNW	NNW
12 Spd	4.3	4.7	3.6	2.9	1.0	1.7	1.3	1.4	1.9	2.5	3.1	3.1	1.9	3.0	1.1	2.2	0.3	1.5	1.6	2.1	0.7	1.3	1.3	1.4	1.38	4.74
Dir	NW	NW	NNW	WNW	WNW	NW	WNW	W	WSW	SSE	NNE	NE	NNE	NNW	NE	WNW	N	ENE	NNE	N	NNW	NNW	NNW	NNW	NNW	NW
13 Spd	1.1	0.6	1.4	1.2	2.2	1.5	1.4	0.4	1.0	2.0	2.1	6.6	5.2	2.4	1.2	2.1	2.1	1.5	0.6	0.8	0.2	0.2	0.2	0.1	1.08	6.58
Dir	NNW	NNW	NW	NNW	NNW	NNW	NW	N	SSE	SSE	ENE	N	N	NE	NNW	NNE	E	NNE	NNW	NNW	NW	N	NW	WSW	N	N
14 Spd	0.1	0.2	0.5	0.1	0.1	0.4	0.5	1.7	3.9	1.8	1.7	1.9	2.1	2.2	1.8	3.8	10.0	2.0	1.0	0.4	4.5	3.1	4.3	3.6	1.72	10.01
Dir	NE	NNW	NW	NW	NE	ESE	ESE	WSW	WSW	WSW	S	WSW	S	SSW	WSW	WSW	WNW	W	WNW	NNE	WNW	WNW	W	W	W	WNW
15 Spd	2.9	1.5	0.3	AF	AF	AF	AF	AF	AF	2.3	2.0	4.0	6.7	6.0	7.2	6.0	2.3	1.4	1.6	0.1	0.5	0.6	0.2	0.4	1.47	7.20
Dir	NW	NW	NW	AF	AF	AF	AF	AF	AF	SE	S	S	S	SSW	SW	WSW	W	NW	NW	W	NE	ENE	N	NNW	SW	SW
16 Spd	0.5	0.3	0.3	0.5	0.3	0.4	0.1	0.3	0.1	0.6	4.2	6.5	4.1	11.4	12.3	9.6	10.8	7.6	0.5	1.3	0.9	0.3	0.1	0.1	2.08	12.28
Dir	NNW	N	NNE	NE	NNW	NW	ENE	S	E	WSW	WNW	S	S	SE	SE	ESE	ESE	ESE	SE	NNW	NW	NW	ENE	NNW	SE	SE
17 Spd	0.2	0.2	0.2	0.3	0.5	0.1	0.1	0.3	0.4	0.5	0.5	0.7	1.5	11.3	16.9	22.2	15.1	19.9	21.4	19.6	16.5	15.1	11.4	13.4	7.45	22.20
Dir	NNW	NNW	W	NW	NNW	NW	NW	SE	NW	SE	SE	SE	ENE	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	W	WNW	WNW	WNW	NNW
18 Spd	14.6	10.7	7.1	6.9	5.4	3.2	2.0	2.6	0.7	3.2	2.4	6.1	13.1	14.4	14.0	13.5	10.8	10.5	3.5	7.0	3.5	1.9	0.3	0.4	2.46	14.62
Dir	WNW	WNW	WNW	WNW	W	WNW	W	W	ESE	S	SE	ESE	SE	SE	SE	SE	SE	SE	ESE	SE	ESE	E	ENE	SSE	SSE	WNW
19 Spd	0.3	0.2	0.5	0.4	0.3	1.3	0.7	0.4	0.8	1.9	1.8	6.4	8.6	9.2	9.8	7.6	3.0	0.8	0.6	0.3	0.7	1.1	0.2	0.8	1.75	9.83
Dir	N	NE	E	NNW	E	NNW	NNW	NNE	S	SE	SE	ESE	SE	ESE	SE	SE	ESE	NW	NNW	NNW	NNW	NW	WNW	NW	ESE	SE
20 Spd	0.7	0.2	0.2	0.7	0.8	1.0	0.8	0.8	0.3	2.8	6.8	11.9	10.5	10.1	7.8	7.7	8.5	7.9	6.2	7.8	5.0	3.3	4.0	1.5	4.32	11.91
Dir	NW	N	NW	NNW	NW	NE	NW	NNW	S	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW	NW	NW	NW
21 Spd	0.6	0.6	0.6	0.3	0.3	0.3	1.1	0.5	0.4	1.1	4.4	5.6	5.6	7.5	6.2	6.5	6.0	0.6	0.6	0.4	0.3	0.4	0.4	0.5	1.03	7.48
Dir	NW	NW	NNW	NNW	N	NW	NNW	NNW	E	SE	NNW	NE	ENE	ESE	SE	SE	SSE	E	NNW	NW	NNW	E	NNW	NNW	E	ESE
22 Spd	0.3	1.3	0.2	1.2	1.5	2.4	1.3	0.2	1.7	4.2	7.2	9.4	8.0	10.1	8.4	8.0	11.3	4.9	4.8	3.2	3.3	3.2	2.3	2.6	4.01	11.34
Dir	NNW	NW	E	NW	NW	NNW	WSW	NNW	W	WSW	WNW	NW	NW	NW	WNW	WNW	WNW	WNW	NW	NW	NW	NW	WNW	WNW	WNW	WNW



WCAS - Wagner2
Summary of Hourly Averages

Wind Speed (WS) - kph
October 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	0.7	0.4	2.6	2.1	1.8	1.1	0.3	0.8	4.3	5.9	6.8	8.9	12.3	11.2	7.2	3.5	0.5	0.8	0.4	0.0	0.0	0.0	0.0	2.71	12.27	
Dir	WNW	WNW	WNW	WNW	NW	NW	NW	NW	E	WSW	WSW	WSW	WNW	NW	NW	NNW	NW	NW	NNW	NW	NE	WNW	ESE	NE	WNW	NW	
24 Spd	0.2	0.4	0.2	0.8	0.4	0.6	0.9	5.4	5.5	5.5	8.1	8.7	13.1	13.9	11.1	10.4	5.3	2.4	1.8	0.9	0.6	0.9	0.1	0.3	3.59	13.91	
Dir	E	ENE	ENE	S	ESE	NE	NNW	NW	W	WNW	W	NW	NNW	NW	NW	NW	NW	NW	NW	NNW	ESE	SE	SSE	SSE	NW	NW	
25 Spd	4.5	8.8	5.1	2.6	4.1	5.3	3.1	1.7	2.4	5.1	10.4	17.5	19.5	13.1	10.6	8.9	5.8	6.6	4.2	4.2	2.4	1.2	2.5	2.3	4.25	19.50	
Dir	ESE	ESE	ESE	ENE	NNW	NNW	NW	WNW	NW	W	W	WNW	NW	NNW	NNW	NNW	N	N	N	NNE	N	NNW	NW	NW	NNW	NW	
26 Spd	0.7	1.4	1.9	1.1	0.9	1.8	4.8	5.7	6.2	8.1	8.6	8.4	6.8	5.1	4.7	4.5	2.0	1.0	0.5	0.1	0.1	0.0	0.1	0.1	2.08	8.57	
Dir	NNW	SSE	SSE	SE	SSW	SW	ESE	SE	ESE	S	S	S	S	SW	WSW	WNW	WSW	WNW	NW	N	NNE	NE	ENE	NE	S	S	
27 Spd	0.4	0.0	0.4	0.0	0.3	0.2	0.0	0.1	0.5	1.4	3.2	5.4	4.9	5.8	1.5	3.2	1.1	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.55	5.85	
Dir	NE	N	NE	N	NNW	NE	NNE	S	ESE	ESE	SSW	SSW	SSW	W	WNW	ESE	ESE	NNE	W	NNE	E	SSE	E	E	SSW	W	
28 Spd	0.0	0.4	2.3	5.6	4.2	4.6	4.6	4.9	5.1	3.8	5.1	11.4	12.5	10.8	10.5	4.8	4.2	6.6	7.5	6.2	9.8	10.4	12.8	14.1	6.42	14.12	
Dir	SE	E	WNW	WNW	WNW	NNW	NW	WNW	NW	W	WNW	NW	NNW	NNW	NNW	NNE	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	
29 Spd	13.5	11.8	13.1	12.5	11.5	14.3	14.6	14.4	12.8	14.2	14.2	13.8	13.8	10.5	8.8	6.5	5.4	4.0	2.6	2.3	1.5	0.2	1.6	AF	8.83	14.60	
Dir	NW	NW	NW	NW	WNW	NW	NW	WNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNE	NNE	NNE	N	NNE	N	NNW	NW	AF	NW	NW	
30 Spd	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	0.7	0.9	1.9	4.8	6.4	7.0	9.5	7.3	4.4	2.1	2.3	2.4	0.9	AF	--	9.54	
Dir	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	ESE	ENE	ESE	WSW	W	WNW	WNW	NW	WNW	WNW	WNW	WNW	WNW	AF	--	WNW	
31 Spd	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	5.3	7.1	8.4	11.3	11.0	11.7	11.4	6.9	6.1	7.8	7.4	9.3	9.8	--	11.73
Dir	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	WNW	WNW	WNW	NW	NW	WNW	WNW	NW	NW	NW	NNW	NNW	--	WNW	
Spd	2.93	2.58	2.44	2.69	2.37	2.60	2.44	2.52	2.33	2.41	3.18	3.38	3.01	3.97	3.71	3.72	3.24	2.73	2.78	2.37	2.58	2.88	2.72	2.80	Diurnal Average		
Dir	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW			
Spd	14.62	11.91	13.14	12.60	11.48	14.26	14.60	14.37	15.11	14.58	15.74	17.45	19.50	14.41	16.87	22.20	15.05	19.94	21.38	19.57	16.50	15.06	12.85	14.12	Diurnal Maximum		
Dir	291.24	311.82	311.80	292.48	300.00	306.87	304.99	303.06	295.17	299.31	299.67	302.81	323.56	126.95	316.21	302.64	292.95	295.86	294.60	297.07	299.87	291.97	310.30	309.68			
Maximum Speed Value: 22.2 kph on Oct 17 16:00																				Minimum Speed Value: 0.0 kph on Oct 27 22:00				Hours in Service: 744			
Maximum Daily Speed Average: 10.20 kph on Oct 7																				Minimum Daily Speed Average: 0.47 kph on Oct 4				Hours of Data: 715			
Maximum Diurnal Speed Average: 3.97 kph at hour 14																				Minimum Diurnal Speed Average: 2.33 kph at hour 9				Hours of Missing Data: 29			
Monthly Average Velocity: 2.842 kph 310.38 deg										Speed Percentiles: P ₁ = 0.0 P ₁₀ = 0.2 Q ₁ = 0.6 Median = 2.8 Q ₃ = 7.6 P ₉₀ = 11.4 P ₉₉ = 16.5										Percent Operational Time: 96.1							
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	75	14	0	0	0	0	89																				
NorthEast	37	5	0	0	0	0	42																				
East	49	10	0	0	0	0	59																				
SouthEast	31	14	6	0	0	0	51																				
South	29	15	0	0	0	0	44																				
SouthWest	13	3	0	0	0	0	16																				
West	40	29	5	0	0	0	74																				
NorthWest	165	96	74	5	0	0	340																				
Total	439	186	85	5	0	0	715																				



WCAS - Wagner2
Summary of Hourly Averages

Relative Humidity (RH) - %
October 2017

Maximum Value: 100.18 % on Oct 6 07:00 Maximum Daily Average: 82.86 % on Oct 11 Minimum Value: 18.9 % on Oct 23 15:00 Minimum Daily Average: 46.77 % on Oct 28 Maximum Diurnal Average: 82.98 % at hour 7 Minimum Diurnal Average: 42.85 % at hour 15 Monthly Average: 66.069 % Percentiles: P ₁ = 25.9 P ₁₀ = 37.4 Q ₁ = 49.9 Median = 67.6 Q ₃ = 83.3 P ₉₀ = 92.6 P ₉₉ = 99.0																								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-Oct	47.0	50.5	52.1	52.8	57.7	60.6	63.2	62.9	63.2	59.3	55.3	53.4	54.1	52.6	52.3	53.0	56.3	57.2	63.1	60.4	66.8	82.3	89.0	90.4	60.65	90.36
2-Oct	89.7	89.3	89.8	90.9	93.7	94.0	90.2	81.9	74.3	70.7	68.2	64.6	59.0	53.9	48.4	44.8	42.3	44.5	48.9	57.3	73.5	80.5	85.7	86.6	71.77	94.04
3-Oct	86.3	85.8	89.3	91.8	94.8	95.4	93.0	86.1	69.9	62.0	53.2	42.3	34.3	29.7	27.4	28.1	29.5	39.1	57.8	68.8	75.1	80.1	88.4	91.5	66.64	95.38
4-Oct	89.0	89.9	92.6	94.7	95.4	95.5	96.4	96.1	78.0	60.4	45.5	34.8	30.3	27.0	26.6	25.6	26.3	33.9	53.5	64.0	70.9	76.5	79.7	83.8	65.27	96.39
5-Oct	87.2	90.7	94.1	95.9	97.7	99.2	99.8	96.7	72.8	59.1	46.0	37.7	32.5	29.2	27.6	25.9	26.2	33.8	52.1	62.2	69.4	77.1	82.2	86.5	65.90	99.83
6-Oct	90.1	94.2	95.4	96.7	98.1	99.3	100.2	100.2	99.6	97.1	90.4	77.0	69.9	50.7	37.8	30.6	33.0	45.2	60.6	72.5	75.8	53.0	56.2	55.0	74.11	100.18
7-Oct	47.0	46.7	43.9	39.1	43.5	57.8	56.3	49.9	44.5	51.7	69.5	78.3	70.1	47.1	39.6	38.7	37.4	36.8	40.1	47.2	51.9	55.1	62.8	75.2	51.26	78.26
8-Oct	71.6	68.2	67.0	64.6	65.3	63.2	74.7	67.2	60.1	58.8	51.4	46.7	40.2	36.8	34.0	36.5	39.7	45.0	62.1	74.1	79.7	81.8	83.1	84.2	60.67	84.23
9-Oct	86.0	87.5	88.9	91.3	88.3	83.9	83.1	80.1	74.7	62.3	46.9	39.7	30.3	27.5	27.9	30.9	39.1	44.9	58.8	69.4	75.6	80.8	83.8	85.5	65.31	91.34
10-Oct	87.2	90.5	92.2	94.3	94.7	96.6	98.0	99.1	99.5	95.7	84.2	63.6	53.5	51.8	51.7	53.1	54.3	53.6	54.3	60.5	68.8	77.1	81.7	85.8	76.74	99.52
11-Oct	85.6	89.2	94.2	94.5	90.6	90.5	93.0	89.8	81.6	79.1	75.5	76.0	70.9	70.6	71.6	74.6	77.7	79.3	77.2	84.4	86.7	88.3	84.7	83.3	82.86	94.49
12-Oct	83.2	83.3	81.8	85.0	85.5	82.4	86.5	93.4	95.3	87.0	73.2	68.0	64.9	62.8	63.8	60.4	61.1	65.6	68.4	70.7	75.1	79.9	85.2	88.5	77.13	95.30
13-Oct	89.6	91.6	91.3	91.5	90.9	91.2	92.0	91.5	86.7	77.3	68.8	71.3	72.3	68.2	58.7	62.7	60.4	70.7	85.0	89.7	93.2	94.4	94.8	96.1	82.49	96.13
14-Oct	96.3	95.4	93.7	93.9	94.8	96.1	95.9	93.9	83.1	78.1	74.1	67.6	60.9	55.1	52.0	53.1	57.7	63.3	69.0	73.9	60.7	64.1	63.7	63.6	75.00	96.30
15-Oct	72.0	77.8	82.8	85.8	85.9	87.3	90.0	88.5	70.8	52.0	46.5	39.2	31.3	26.0	22.9	23.3	26.6	41.4	52.3	60.8	64.4	66.6	69.9	73.6	59.91	90.01
16-Oct	75.1	79.2	80.1	81.5	81.9	82.1	85.2	86.6	83.8	74.0	44.6	41.9	39.5	41.6	42.5	43.5	43.3	44.9	51.2	62.9	70.9	76.3	81.6	86.6	65.86	86.64
17-Oct	89.5	91.9	92.9	92.1	93.3	95.1	94.9	94.3	94.7	89.2	75.4	55.2	41.5	43.3	67.2	74.0	66.5	65.7	61.1	58.5	60.3	62.4	63.6	56.9	74.15	95.13
18-Oct	49.9	48.1	52.1	52.9	57.8	66.9	70.8	72.7	62.7	60.8	54.3	46.2	36.4	35.1	33.9	33.6	36.6	36.5	37.1	45.3	51.0	59.0	64.0	71.0	51.44	72.69
19-Oct	71.4	75.5	76.7	76.3	77.7	81.8	85.0	90.3	84.9	67.8	55.3	43.1	40.8	38.9	34.8	36.9	39.0	47.3	57.6	63.2	67.6	72.5	76.8	81.0	64.25	90.31
20-Oct	85.6	89.6	93.8	96.1	96.4	97.0	97.0	97.1	97.3	75.6	56.7	52.1	47.0	45.5	44.6	46.3	47.4	50.9	51.1	50.7	57.6	68.2	74.1	81.6	70.80	97.27
21-Oct	87.5	90.8	92.7	94.6	95.2	96.0	95.9	95.1	83.0	67.5	56.0	38.4	35.2	36.6	35.2	36.3	38.5	49.9	62.3	69.9	74.3	81.0	82.2	82.3	69.85	96.02
22-Oct	82.0	80.1	80.9	76.4	75.3	73.7	73.5	77.9	73.4	60.8	55.7	53.8	51.6	41.3	37.5	32.2	29.7	37.6	46.1	51.2	56.0	53.2	55.0	55.0	58.76	82.00
23-Oct	56.0	56.8	63.2	51.5	62.0	68.7	72.1	75.0	65.4	50.4	39.5	34.2	26.6	20.6	18.9	20.1	21.5	30.7	44.8	55.5	57.1	57.0	63.9	64.8	49.01	74.99
24-Oct	68.9	69.4	65.6	57.0	59.1	65.2	67.9	46.9	47.1	39.5	33.5	31.9	33.5	35.9	41.3	41.7	48.1	54.7	62.6	69.5	71.6	72.2	76.8	83.2	55.96	83.17
25-Oct	79.8	67.0	68.0	70.1	72.6	73.0	72.2	72.9	75.5	80.9	80.7	65.9	69.1	67.4	67.4	66.6	66.1	63.9	64.0	76.5	77.8	82.1	79.0	79.9	72.43	82.07
26-Oct	78.3	74.0	68.9	73.6	80.7	80.6	79.4	79.1	78.5	70.8	66.5	61.7	56.7	50.5	47.4	43.3	46.5	59.7	70.9	75.9	79.7	83.3	84.0	81.9	69.66	84.00
27-Oct	82.7	81.9	81.6	80.0	83.1	84.2	86.0	88.9	76.9	60.2	51.9	41.7	34.4	33.9	35.4	32.4	41.0	49.9	58.9	67.7	74.1	79.0	83.6	88.2	65.73	88.89
28-Oct	90.5	93.3	86.1	39.6	38.9	47.4	44.8	41.2	43.2	40.2	33.6	31.9	32.5	34.0	35.7	43.2	47.9	40.1	38.2	43.1	44.7	45.6	43.6	43.1	46.77	93.32
29-Oct	44.1	49.2	55.5	56.8	57.1	54.4	52.5	53.7	53.7	49.8	48.3	43.6	39.4	39.1	39.9	43.8	46.1	46.9	50.1	51.1	56.8	64.1	70.1	76.5	51.78	76.52
30-Oct	80.2	83.9	87.9	89.9	90.2	90.1	92.7	92.6	90.8	87.9	85.3	72.0	44.6	36.6	29.1	27.0	30.7	34.8	45.4	47.3	49.2	53.1	53.5	58.7	64.73	92.74
31-Oct	62.1	67.1	66.6	65.9	65.5	77.5	90.2	95.3	97.9	99.0	99.6	96.4	87.0	82.7	75.3	74.2	71.9	68.8	72.6	89.0	80.7	84.3	90.0	90.0	81.25	99.56
77.14 78.33 79.41 77.97 79.48 81.51 82.98 81.83 76.23 68.55 60.82 53.87 48.06 44.25 42.85 43.11 44.79 49.58 57.33 64.30 68.30 71.97 75.24 77.76																								Diurnal Average		
96.30 95.44 95.40 96.66 98.09 99.25 100.18 100.17 99.65 98.96 99.56 96.41 87.05 82.74 75.31 74.55 77.72 79.30 84.98 89.71 93.17 94.35 94.77 96.13																								Diurnal Maximum		



WCAS - Wagner2
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2017

Maximum Value: 10.91 kph on Oct 17 16:00		Maximum Daily Average: 5.77 kph on Oct 1		Hours in Service: 744																						
Minimum Value: 0.1 kph on Oct 27 22:00		Minimum Daily Average: 1.02 kph on Oct 4		Hours of Data: 715																						
Maximum Diurnal Average: 4.47 kph at hour 14		Minimum Diurnal Average: 1.89 kph at hour 6		Hours of Missing Data: 29																						
Monthly Average: 2.697 kph		Percentiles: $P_1 = 0.3$ $P_{10} = 0.7$ $Q_1 = 1.0$ Median = 1.9 $Q_3 = 3.9$ $P_{90} = 6.0$ $P_{99} = 8.1$		Hours of Calibration: 0																						
				Percent Operational Time: 96.1																						
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-Oct	4.4	4.7	4.7	4.7	4.0	4.7	4.4	5.5	5.2	5.9	6.4	6.0	5.8	7.4	6.6	6.8	6.5	6.6	7.0	7.3	7.2	5.7	5.2	5.9	5.77	7.35
2-Oct	6.4	6.6	6.1	5.9	5.7	6.3	6.5	7.2	7.2	7.2	6.8	7.7	8.0	7.2	7.4	6.6	5.4	4.8	3.2	1.9	0.5	0.8	1.1	1.1	5.32	8.00
3-Oct	1.0	0.8	0.7	0.7	0.7	0.7	0.8	0.4	1.8	2.1	2.3	3.8	3.5	3.8	3.9	2.9	3.0	1.7	1.0	0.9	0.7	0.7	0.6	0.4	1.62	3.92
4-Oct	0.6	0.7	0.5	0.6	0.4	0.5	0.7	0.2	1.2	1.0	0.8	1.8	1.6	2.3	2.2	2.1	1.6	1.3	1.0	1.1	0.8	0.5	0.4	0.4	1.02	2.34
5-Oct	0.3	0.3	0.4	0.5	0.4	0.4	0.4	0.9	1.0	1.0	1.5	2.6	2.4	2.0	2.7	2.3	2.0	1.2	1.0	0.9	0.9	0.6	0.5	0.7	1.12	2.71
6-Oct	1.3	0.9	0.6	0.6	0.5	0.8	0.8	1.3	0.9	0.9	0.8	0.9	1.4	3.2	3.5	4.2	2.9	1.0	1.6	1.1	1.1	8.9	5.9	5.1	2.09	8.91
7-Oct	5.5	4.7	5.4	5.4	3.8	2.6	3.8	5.2	7.0	7.2	7.5	8.1	4.9	6.2	6.4	5.9	4.8	4.0	3.3	4.6	6.3	5.8	6.7	4.2	5.39	8.12
8-Oct	5.1	5.7	5.4	5.9	5.2	4.6	5.7	5.4	6.1	5.7	6.4	6.0	6.0	5.6	4.9	4.2	3.3	0.8	1.0	1.6	1.6	1.1	0.9	4.34	6.41	
9-Oct	0.9	0.9	1.1	1.9	1.6	1.0	1.0	0.9	1.7	1.9	1.9	3.4	4.1	3.9	3.5	3.9	3.7	3.1	1.6	1.3	1.3	0.8	0.8	0.7	1.94	4.09
10-Oct	0.6	0.7	1.2	0.8	0.6	0.7	0.5	0.6	0.7	0.6	0.8	3.0	2.8	3.1	3.2	2.8	3.0	3.9	3.3	3.9	2.8	1.9	2.0	2.3	1.91	3.93
11-Oct	2.8	4.4	4.1	3.0	3.3	2.9	3.4	3.4	4.2	4.8	4.8	4.2	4.7	5.3	4.9	4.9	4.6	3.5	3.7	3.2	3.8	3.7	2.7	2.8	3.88	5.26
12-Oct	2.6	2.7	2.2	1.4	1.0	1.8	0.9	1.4	1.2	1.5	2.2	2.1	1.8	1.8	1.5	1.4	1.1	1.1	0.9	0.9	1.2	1.1	1.1	1.0	1.49	2.73
13-Oct	1.0	0.9	1.3	0.8	1.3	0.7	0.8	0.7	1.4	1.2	2.5	2.6	2.3	2.2	1.9	1.6	1.9	0.9	0.7	1.0	0.5	0.6	0.6	0.6	1.24	2.57
14-Oct	0.4	0.5	0.7	0.3	0.6	0.8	1.1	2.4	2.1	1.8	1.5	1.5	2.0	1.6	1.7	2.7	5.8	1.3	0.9	0.9	3.3	1.4	1.7	1.7	1.63	5.79
15-Oct	1.2	1.2	0.9	AF	AF	AF	AF	AF	AF	1.7	1.9	2.0	2.2	3.5	4.3	3.9	2.5	1.2	1.4	0.6	1.1	1.2	0.7	1.1	1.81	4.26
16-Oct	1.1	0.8	0.8	1.2	1.2	0.8	0.8	1.4	1.0	2.3	3.2	3.4	2.1	3.9	3.4	2.3	2.4	2.6	1.9	1.4	1.2	1.0	0.5	0.4	1.71	3.90
17-Oct	0.8	0.6	1.3	0.9	0.8	0.3	0.7	0.9	1.0	1.8	1.0	1.1	2.1	7.1	9.2	10.9	6.9	8.3	8.8	8.1	7.4	6.3	5.2	5.7	4.06	10.91
18-Oct	6.2	4.7	3.2	3.0	2.6	2.1	1.8	1.6	1.6	1.6	1.3	4.0	3.5	4.2	3.9	4.0	3.7	2.8	1.8	2.0	1.4	1.4	0.8	1.1	2.67	6.24
19-Oct	1.1	1.0	1.2	1.8	1.4	1.8	1.0	0.8	1.4	1.1	0.9	2.6	3.3	3.7	3.2	2.3	2.1	1.3	1.0	1.0	1.3	1.3	1.0	1.2	1.62	3.69
20-Oct	1.0	0.9	0.9	1.3	1.4	1.2	1.2	0.9	1.2	3.2	4.0	5.4	5.0	5.5	3.8	3.8	3.7	3.2	2.3	3.0	1.5	1.1	1.4	1.2	2.42	5.45
21-Oct	0.8	0.8	1.0	0.7	0.7	0.7	1.1	1.0	0.9	1.5	3.0	3.9	4.2	3.4	2.6	2.2	2.3	1.2	0.9	0.9	0.9	0.9	0.9	0.9	1.55	4.20
22-Oct	0.8	1.2	0.7	1.2	1.9	1.7	1.8	1.0	2.0	2.7	3.2	4.7	3.7	4.5	4.0	4.5	5.0	2.4	1.7	1.0	1.3	1.3	1.7	1.0	2.29	5.02
23-Oct	2.1	1.4	1.1	2.2	1.5	0.9	1.0	0.7	1.4	3.0	2.9	3.6	5.5	6.1	5.8	3.7	2.1	0.9	1.1	0.9	0.3	0.3	0.2	0.3	2.04	6.14
24-Oct	0.5	1.3	1.1	1.9	1.6	1.3	1.7	1.6	2.2	2.5	4.2	4.3	6.9	7.4	5.5	5.4	3.4	1.8	1.2	1.5	1.1	1.6	1.0	1.0	2.58	7.36
25-Oct	3.0	2.9	2.7	1.7	2.4	1.9	1.5	1.5	2.4	2.3	4.9	8.6	10.2	8.2	7.7	5.9	4.5	5.0	3.4	3.0	2.0	1.2	1.4	1.2	3.72	10.16
26-Oct	0.8	1.8	1.6	1.3	1.3	1.4	3.0	1.7	1.5	3.4	3.4	3.9	3.8	2.8	3.0	2.4	1.6	1.1	0.8	0.4	0.5	0.4	0.5	0.5	1.79	3.87
27-Oct	0.8	0.5	0.7	0.3	1.0	1.1	0.2	0.7	0.8	1.1	2.3	2.8	2.5	2.9	1.9	1.6	1.5	0.7	0.6	0.5	0.6	0.1	0.4	0.4	1.08	2.94
28-Oct	0.2	0.8	3.7	2.9	3.1	2.6	3.2	2.6	2.0	2.2	3.1	6.3	7.0	6.2	6.2	4.1	2.4	3.5	4.1	4.5	5.8	5.1	6.0	7.0	3.94	7.00
29-Oct	6.7	6.6	6.5	5.9	5.2	6.5	7.1	6.5	6.2	7.3	7.6	7.0	7.2	6.5	5.7	4.4	3.8	3.1	2.4	1.9	1.6	0.6	1.3	AF	5.11	7.56
30-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	1.1	1.1	1.8	3.2	2.8	4.7	5.0	3.5	1.8	1.2	1.7	2.1	1.4	AF	AF	2.41	4.97
31-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	2.8	3.5	3.9	5.6	4.9	5.7	5.1	4.6	3.6	4.9	5.0	5.8	5.5	4.69	5.82
																								Diurnal Average		
																								Diurnal Maximum		
																								2.07 2.12 2.12 2.10 1.97 1.89 2.04 2.08 2.40 2.73 3.14 3.93 4.10 4.47 4.37 4.00 3.47 2.70 2.24 2.13 2.15 2.07 1.97 1.94		
																								6.70 6.64 6.46 5.90 5.69 6.51 7.15 7.17 7.21 7.27 7.56 8.60 10.16 8.22 9.21 10.91 6.91 8.32 8.85 8.14 7.39 8.91 6.66 7.00		
AF - Analyzer Failure																										



WCAS - Wagner2
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2017

Maximum Value: 100.22 deg on Oct 21 21:00		Maximum Daily Average: 71.62 deg on Oct 4		Hours in Service: 744																							
Minimum Value: 7.8 deg on Oct 20 22:00		Minimum Daily Average: 27.09 deg on Oct 7		Hours of Data: 715																							
Maximum Diurnal Average: 65.34 deg at hour 3		Minimum Diurnal Average: 31.17 deg at hour 16		Hours of Missing Data: 29																							
Monthly Average: 51.254 deg		Percentiles: P ₁ = 14.4 P ₁₀ = 22.6 Q ₁ = 28.9 Median = 42.7 Q ₃ = 77.2 P ₉₀ = 89.2 P ₉₉ = 97.3		Hours of Calibration: 0																							
				Percent Operational Time: 96.1																							
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-Oct	27.7	26.8	30.1	29.8	28.8	27.9	30.9	31.0	41.2	33.2	32.6	29.9	30.5	31.0	32.8	32.7	36.0	35.8	41.5	37.2	35.6	36.8	39.0	36.4	33.13	41.46	
2-Oct	31.3	33.1	32.8	38.4	35.6	35.7	35.1	35.0	35.7	34.8	35.5	35.6	34.3	34.5	34.1	32.7	31.8	32.8	43.4	63.9	89.2	44.9	62.5	41.0	40.15	89.21	
3-Oct	44.1	83.9	91.1	95.0	77.3	89.7	77.6	71.3	52.0	32.5	41.7	25.2	28.1	28.6	27.2	25.3	32.6	57.2	64.3	93.2	95.6	72.5	93.4	54.6	60.59	95.65	
4-Oct	86.4	87.6	89.5	87.8	84.6	90.9	86.2	71.1	63.6	43.8	28.1	26.9	37.2	85.2	76.7	61.9	56.6	67.4	64.4	73.5	88.5	89.0	88.3	83.6	71.62	90.86	
5-Oct	79.7	71.1	73.7	89.7	71.7	77.6	73.2	82.7	22.7	59.4	45.3	42.6	16.9	33.9	22.4	28.4	41.7	37.8	65.4	84.3	79.9	88.3	80.9	84.5	60.58	89.70	
6-Oct	97.7	98.9	89.4	93.1	84.4	86.9	83.9	86.1	66.3	73.5	86.3	97.6	64.2	55.5	51.2	30.6	22.5	51.8	31.0	76.3	77.2	25.0	25.6	26.0	65.87	98.88	
7-Oct	22.9	22.6	24.3	22.1	26.5	24.5	24.3	24.4	23.3	26.2	25.0	38.0	40.2	26.8	26.8	27.9	29.4	23.7	24.5	31.5	29.2	24.9	31.1	30.2	27.09	40.22	
8-Oct	28.2	26.0	34.2	34.1	33.6	31.9	26.6	30.3	33.5	26.6	26.9	30.0	29.5	29.2	28.1	28.1	32.4	48.7	17.9	90.1	90.5	62.0	85.2	91.0	41.45	91.04	
9-Oct	89.5	88.4	71.7	76.8	45.6	59.8	84.1	84.0	55.8	79.4	53.2	34.0	40.1	41.1	27.6	34.4	34.0	49.1	73.3	58.7	84.0	92.5	82.8	91.7	63.82	92.53	
10-Oct	74.8	84.4	82.5	85.9	90.2	89.8	87.7	74.7	91.3	77.8	62.0	47.5	32.1	27.4	25.8	30.8	33.8	35.5	35.8	39.7	47.1	36.5	27.8	29.4	56.26	91.26	
11-Oct	22.5	25.9	29.0	30.8	31.1	26.5	32.5	32.6	30.6	32.1	32.6	30.6	33.7	34.9	37.7	33.4	32.9	38.8	53.8	53.4	49.5	42.4	38.1	33.2	34.94	53.82	
12-Oct	34.2	30.2	31.8	23.7	75.8	50.4	50.6	63.9	42.2	52.0	52.5	45.7	65.1	41.1	73.2	48.1	85.1	48.8	29.8	21.8	85.8	57.4	50.6	50.3	50.42	85.82	
13-Oct	76.0	89.1	51.3	47.4	16.5	46.5	20.8	81.6	77.4	44.3	66.2	28.2	29.2	67.4	84.4	39.1	58.1	30.6	81.0	80.3	74.5	77.0	79.1	83.7	59.56	89.10	
14-Oct	43.6	85.3	91.1	66.1	80.5	78.0	76.9	88.9	22.4	60.8	50.7	64.3	61.6	47.4	47.2	31.5	21.0	34.1	71.6	77.2	46.8	21.8	20.5	21.0	54.59	91.09	
15-Oct	18.3	57.9	90.9	AF	AF	AF	AF	AF	AF	44.7	48.7	25.9	17.6	31.5	33.9	35.4	69.5	71.9	68.0	59.8	89.1	69.4	87.5	98.9	56.60	98.92	
16-Oct	91.6	94.4	86.2	85.5	92.0	97.7	60.9	90.9	74.0	88.0	51.2	29.4	33.5	20.9	15.9	12.7	9.3	13.9	89.7	76.3	83.9	92.2	58.0	81.6	63.74	97.73	
17-Oct	92.3	86.4	82.8	93.7	92.6	62.8	78.2	90.4	92.7	83.3	95.3	88.7	64.2	27.8	31.5	24.6	21.2	21.5	21.5	21.8	24.0	21.0	22.4	22.9	56.83	95.26	
18-Oct	20.7	21.0	19.4	19.6	19.1	48.5	51.4	39.2	88.2	16.7	40.1	19.9	18.1	16.1	19.5	18.9	17.1	16.0	35.1	14.7	27.1	44.3	61.7	72.5	31.88	88.23	
19-Oct	94.0	93.4	71.5	100.0	86.5	86.7	83.8	80.4	89.3	43.7	29.4	23.3	26.9	22.7	25.4	19.1	44.9	97.4	88.7	85.1	82.3	86.0	85.3	85.3	67.97	100.03	
20-Oct	89.2	98.3	90.2	90.0	85.9	59.8	79.7	77.5	93.8	72.4	32.6	24.1	27.6	29.4	26.2	24.4	21.9	18.9	18.8	18.3	14.6	7.8	13.5	65.7	49.19	98.33	
21-Oct	92.3	80.7	78.6	96.3	89.3	87.5	67.5	92.5	73.3	68.6	47.1	45.6	50.5	24.7	27.7	22.6	28.3	71.9	88.9	91.9	100.2	77.9	99.7	86.9	70.45	100.22	
22-Oct	83.8	55.7	78.5	78.7	85.9	54.0	79.4	90.9	67.8	31.1	29.8	27.5	27.8	25.1	24.9	26.3	20.4	20.1	13.2	15.1	22.0	20.7	30.7	14.4	42.67	90.91	
23-Oct	29.5	90.3	92.3	67.7	45.1	18.3	74.1	93.6	92.8	42.7	33.5	31.5	41.3	26.8	27.1	27.8	28.8	88.0	84.8	90.0	65.9	55.7	79.9	86.1	58.89	93.56	
24-Oct	71.9	85.8	95.0	87.0	94.0	95.1	95.3	24.7	21.7	29.6	26.6	29.3	30.8	30.2	27.6	26.8	27.4	27.6	50.3	94.0	64.5	93.2	83.1	71.3	57.62	95.29	
25-Oct	35.3	14.6	34.5	38.9	26.3	20.9	25.0	68.2	71.7	22.2	22.9	26.5	32.3	38.9	42.9	44.4	46.6	43.4	47.1	41.5	42.0	62.5	41.4	18.3	37.85	71.72	
26-Oct	89.9	57.9	66.8	76.3	66.5	39.9	46.5	17.6	14.4	21.5	19.2	24.8	30.5	36.6	41.0	33.7	44.9	74.8	83.4	70.3	74.0	64.7	84.2	79.4	52.45	89.88	
27-Oct	64.4	65.0	67.3	47.3	94.0	86.6	52.8	71.6	80.7	50.8	41.8	36.2	34.5	30.9	86.1	27.2	61.7	77.8	70.7	50.5	43.9	47.4	52.5	59.4	58.39	93.99	
28-Oct	86.4	76.9	91.7	21.5	43.4	50.5	55.2	24.3	20.7	23.7	31.9	32.4	32.0	33.6	34.3	47.8	32.6	28.5	29.1	41.0	32.5	29.4	26.1	25.9	39.65	91.68	
29-Oct	25.6	31.8	26.6	25.0	25.0	25.7	25.6	24.0	27.4	30.3	32.9	32.4	32.6	37.4	41.5	38.5	37.7	40.0	47.1	36.5	66.4	74.9	72.5	AF	37.28	74.86	
30-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	87.9	79.6	62.7	40.0	21.8	34.0	24.4	23.6	18.1	26.9	39.9	50.8	83.5	AF	AF	45.63	87.90
31-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	27.0	26.6	23.8	26.7	26.4	23.7	22.1	35.4	35.4	36.8	41.5	37.2	31.1	30.29	41.54	
		60.14	64.26	65.34	62.44	61.70	58.94	59.50	62.26	55.95	47.78	43.38	37.53	35.79	34.27	37.46	31.17	35.73	43.36	51.50	56.88	61.08	56.23	58.02	57.12	Diurnal Average	
		97.73	98.88	95.03	100.03	94.04	97.73	95.29	93.56	93.80	88.03	95.26	97.65	65.05	85.19	86.12	61.91	85.11	97.42	89.71	94.00	100.22	93.24	99.69	98.92	Diurnal Maximum	
AF - Analyzer Failure																											

WEST CENTRAL AIRSHED SOCIETY

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

**END OF REPORT
OCTOBER 2017**