

Capital Power

AIR QUALITY MONITORING November 2015 Monthly Report

Prepared by:

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





December 8th, 2015

Capital Power
Mr. Kevin Parry
Box 20, Site 2, RR 1
Warburg, AB
T0C 2T0

Dear Mr. Parry:

Monthly Ambient Air Quality Monitoring Report for November 2015 for Capital Power

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

Network Station is AMS 910 Genesee
Identified as:

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

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

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

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

2. Operational times less than 90 percent:

There were no operational times less than 90 percent in November.

3. Monitoring Notes:

AMS 910 (Genesee)

All analyzers and meteorological equipment returned uptimes of 97.8% in November due to power outage.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Scotten'.

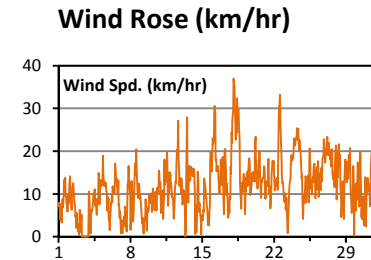
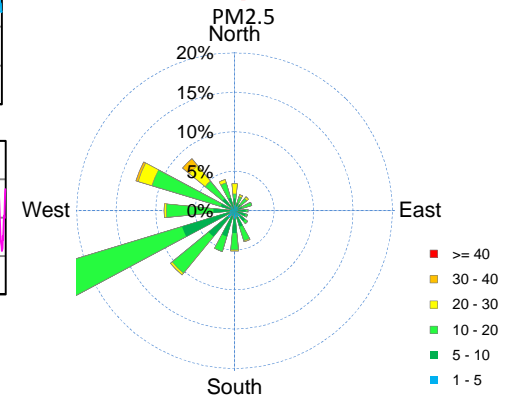
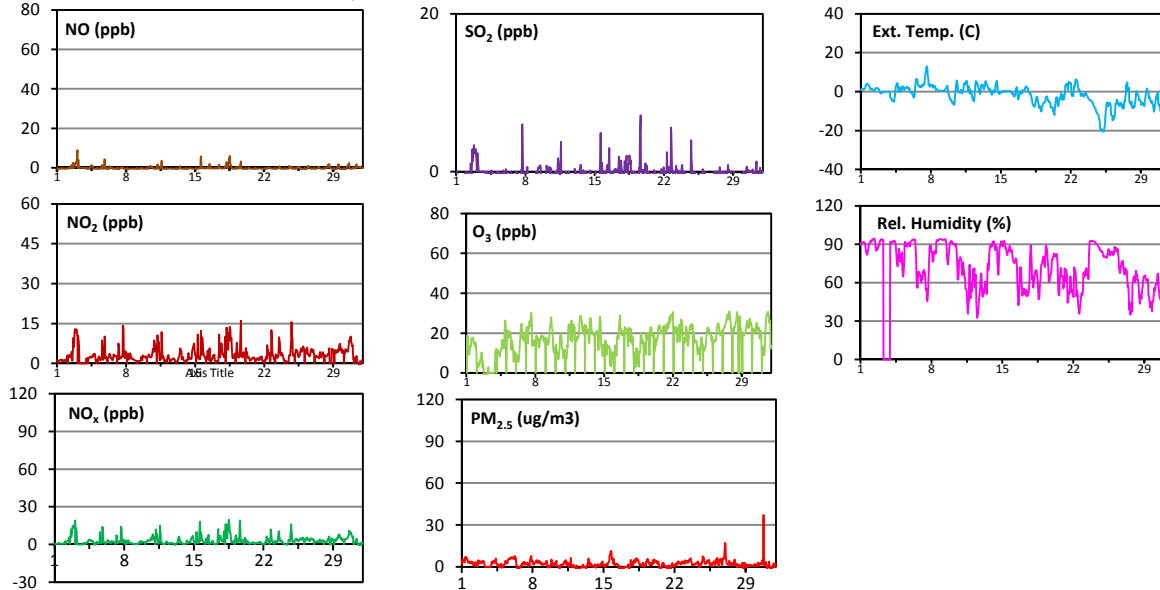
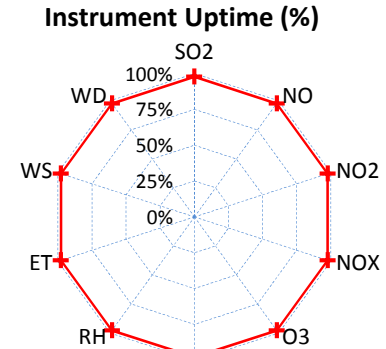
Robert Scotten
Executive Director

A handwritten signature in black ink, appearing to read 'Patrick Andersen'.

Patrick Andersen
Environmental Specialist

WCAS - November 2015 Genesee 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	< 0.1	97.8%	< 0.1	#N/A	48	0	7.1	Nov-19 16:00	172	0
NO	ppb	< 0.1	97.8%	< 0.1	#N/A	-	-	9	Nov-03 2:00	-	-
NO ₂	ppb	3.4	97.8%	7.8	Nov-18	-	-	16.1	Nov-19 16:00	159	0
NO _x	ppb	3.3	97.8%	8.9	Nov-18	-	-	19.6	Nov-18 13:00	-	-
O ₃	ppb	18	97.8%	25	Nov-27	-	-	31	Nov-27 18:00	82	0
PM _{2.5}	µg/m ³	2	97.8%	5	Nov-26	30	0	37	Nov-30 19:00	-	-



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 for the month of November 2015.
- * All compliance parameters are above 90% operational for the month of November 2015.
- * Routine calibration was performed on November 28, 2015.

WEST CENTRAL AIRSHED SOCIETY

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

**AMS 910
GENESEE
NOVEMBER 2015**

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

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

Summary Report

West Central Airshed Society

Continuous air quality/meteorological monitoring measurements

EPCOR / Genesee Station 910													November 2015		
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	670	97.8	0.2	0.0	7.1	0.0	0.0	0.0	0.0	0.6	0	0	0.001	
O ₃ (ppb)	34	670	97.8	17.6	0.0	30.8	9.1	13.5	18.4	22.1	25.0	0	-	0.025	
NO (ppb)	35	669	97.8	0.2	0.0	9.0	0.0	0.0	0.0	0.0	0.8	-	-	-	
NO ₂ (ppb)	35	669	97.8	3.5	0.3	16.1	1.0	1.7	2.7	4.4	7.1	0	0	0.008	
NO _x (ppb)	35	669	97.8	3.3	0.0	19.6	0.6	1.3	2.3	4.2	7.2	-	-	-	
Particulate Matter 2.5 microns (µ/m ³)	0	704	97.8	2.4	0.0	37.2	0.0	0.8	2.0	3.5	5.0	0	0	4.9 ug/m3	
Wind Speed (kph)	0	704	97.8	12.2	0.1	37.0	4.6	7.8	11.8	15.7	20.1	-	-	-	
Temperature - 2m (°C)	0	704	97.8	-1.7	-20.6	13.0	-7.8	-4.9	-0.5	1.7	3.5	-	-	-	
Temperature - 10m (°C)	0	704	97.8	-1.1	-18.6	12.4	-7.0	-3.7	-0.2	1.8	4.0	-	-	-	
Delta Temperature (°C)	0	704	97.8	0.6	-2.0	4.6	-0.7	-0.4	0.2	1.4	2.5	-	-	-	
Relative Humidity (%)	0	704	97.8	72.7	32.6	94.3	50.0	60.3	75.3	88.0	92.2	-	-	-	
Global Solar Radiation (W/m ²)	0	704	97.8	44.4	0.0	425.2	0.0	0.0	0.0	40.9	170.6	-	-	-	
Std Dev Wind Direction (deg)	0	704	97.8	15.2	2.5	98.1	5.4	7.8	10.4	15.6	30.9	-	-	-	
Std Dev Wind Speed (kph)	0	704	97.8	2.6	0.2	7.8	1.2	1.6	2.3	3.3	4.3	-	-	-	



WCAS - Genesee
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
November 2015

Maximum Value: 7.14 ppb on Nov 19 16:00 Maximum Daily Average: 1.10 ppb on Nov 2																								Hours in Service:	720	
Minimum Value: 0.0 ppb on Nov 1 01:00 Minimum Daily Average: 0.00 ppb on Nov 1																								Hours of Data:	670	
Maximum Diurnal Average: 0.63 ppb at hour 15 Minimum Diurnal Average: 0.07 ppb at hour 10																								Hours of Missing Data:	50	
Monthly Average: 0.236 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.6 P ₉₉ = 4.0																								Hours of Calibration:	34	
																								Percent Operational Time:	97.8	
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-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
2-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	1.1	2.9	1.4	2.3	2.7	3.4	2.7	2.6	2.3	2.9	1.10	3.36
3-Nov	2.0	1.5	Z	2.4	1.6	1.2	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.0	0.0	--	2.35
4-Nov	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.16
5-Nov	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	0.2	0.0	0.0	0.0	0.0	0.0	0.01	0.17
6-Nov	0.3	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.33
7-Nov	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	0.2	0.3	6.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.47	6.00
8-Nov	0.0	0.0	Z	0.0	0.6	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	0.0	0.0	0.0	0.0	0.03	0.61
9-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.5	0.4	0.4	0.6	0.7	0.8	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	0.83
10-Nov	0.0	0.0	Z	0.8	0.4	0.2	0.1	0.3	0.5	0.2	0.6	0.0	0.0	0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	0.79
11-Nov	0.0	0.0	Z	0.0	0.1	0.0	1.2	1.7	1.3	0.0	0.0	0.0	0.3	1.6	3.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.44	3.76
12-Nov	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	0.4	0.02	0.36	
13-Nov	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	0.8	0.9	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.09	0.90
14-Nov	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.18
15-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	4.9	0.0	0.0	1.2	0.5	0.1	0.0	0.0	0.0	0.0	0.38	4.92
16-Nov	0.0	0.0	Z	0.0	0.1	0.2	0.8	0.3	0.2	0.0	1.8	3.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.30	3.03
17-Nov	0.3	0.3	Z	0.3	0.3	0.0	0.2	0.1	0.3	0.1	1.9	0.4	0.0	0.0	1.0	1.4	1.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.36	1.91
18-Nov	1.3	1.1	Z	0.8	1.4	2.1	0.0	0.3	0.0	0.0	0.9	1.2	2.1	1.6	1.0	1.5	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.66	2.07
19-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.3	4.7	7.1	0.6	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.64	7.14
20-Nov	0.0	0.0	Z	1.0	0.1	0.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	1.05
21-Nov	0.2	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	0.3	0.2	0.0	0.0	0.0	0.6	0.06	0.57
22-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	2.5	0.9	0.3	0.1	0.6	0.5	0.0	0.0	0.0	1.1	5.6	4.7	0.4	0.2	0.0	0.0	0.0	0.73	5.60
23-Nov	0.0	0.0	Z	0.0	0.1	0.7	0.2	0.3	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.9	0.1	0.0	0.0	0.15	0.87
24-Nov	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	1.6	4.0	1.7	0.2	0.0	0.0	0.0	0.0	0.32	3.96
25-Nov	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	0.3	0.0	0.0	0.01	0.34
26-Nov	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
27-Nov	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	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.58
28-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.5	0.3	0.1	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.09	0.86
29-Nov	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
30-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.6	0.7	0.4	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.12	0.65
																								Diurnal Average		
																								Diurnal Maximum		
Z - zerospan C - Calibration PF - Power Failure Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																										



WCAS - Genesee
Summary of Hourly Averages

Ozone (O₃) - ppb
November 2015

Maximum Value: 30.79 ppb on Nov 27 18:00 Maximum Daily Average: 25.33 ppb on Nov 27																						Hours in Service: 720 Hours of Data: 670																										
Minimum Value: 0.0 ppb on Nov 2 19:00 Minimum Daily Average: 4.14 ppb on Nov 2 Maximum Diurnal Average: 20.45 ppb at hour 15 Minimum Diurnal Average: 14.86 ppb at hour 6 Monthly Average: 17.561 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 9.1 Q ₁ = 13.5 Median = 18.4 O ₃ = 22.1 P ₉₀ = 25.0 P ₉₉ = 29.4																						Hours of Missing Data: 50 Hours of Calibration: 34 Percent Operational Time: 97.8																										
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-Nov	18.4	Z	18.7	17.8	13.6	10.8	9.2	9.2	11.7	13.8	13.7	13.5	17.3	16.5	17.3	17.9	16.6	15.7	14.6	14.5	15.6	13.4	14.1	14.9	14.74	18.70																						
2-Nov	10.0	Z	4.7	4.8	2.9	3.1	4.8	4.0	4.6	6.2	7.0	6.2	8.6	10.2	6.5	2.8	5.7	2.8	0.0	0.0	0.0	0.0	0.0	0.0	4.14	10.24																						
3-Nov	0.0	Z	0.0	0.0	0.3	2.9	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	10.8	10.6	--	10.78																						
4-Nov	12.0	Z	9.8	11.7	9.5	9.9	11.0	9.9	9.2	8.2	9.3	10.5	11.6	12.5	13.8	16.5	16.6	14.6	12.0	12.3	13.8	19.7	26.4	25.7	13.34	26.42																						
5-Nov	21.5	Z	14.9	18.5	21.4	19.0	20.9	17.5	19.0	20.6	20.7	19.5	19.0	11.7	15.7	16.2	15.1	13.2	9.8	5.5	6.5	10.8	8.1	6.7	15.29	21.50																						
6-Nov	7.1	Z	9.3	8.9	7.3	7.5	5.8	5.6	7.0	9.6	13.5	17.9	20.7	23.4	24.7	22.8	18.2	17.1	18.5	16.7	16.0	16.4	18.3	19.8	14.44	24.67																						
7-Nov	19.3	Z	22.9	22.7	20.7	16.4	15.0	23.5	22.0	23.1	26.0	23.3	23.6	29.0	30.1	26.6	15.4	13.5	15.9	14.7	16.4	15.2	13.8	16.3	20.23	30.12																						
8-Nov	12.5	Z	18.7	18.1	18.2	16.7	17.7	16.1	13.1	12.6	13.7	17.0	16.9	16.6	17.7	18.8	18.1	18.4	18.6	18.2	16.7	15.8	15.5	15.5	16.57	18.78																						
9-Nov	17.8	Z	16.9	17.3	16.8	15.7	15.3	14.2	15.6	16.2	18.6	23.2	23.1	25.5	27.9	27.5	23.3	22.3	20.4	14.7	11.4	10.5	10.1	11.1	18.06	27.88																						
10-Nov	13.0	Z	14.5	12.2	10.3	10.5	9.0	8.5	6.8	8.0	9.6	13.0	17.1	19.2	19.6	18.8	16.5	12.7	11.8	11.2	7.5	9.0	11.8	10.9	12.24	19.59																						
11-Nov	11.6	Z	7.7	8.1	7.0	9.6	13.9	13.1	23.0	24.3	24.4	23.2	23.2	20.4	16.3	21.5	26.3	19.7	15.7	19.7	23.8	24.4	22.7	23.0	18.38	26.32																						
12-Nov	23.0	Z	17.8	17.0	17.6	16.2	18.4	17.5	17.1	18.3	20.0	22.1	25.9	26.8	28.7	27.1	26.8	25.8	24.1	21.8	20.5	19.7	19.6	22.4	21.49	28.68																						
13-Nov	24.1	Z	23.5	23.7	22.9	23.0	21.4	20.6	21.6	21.3	17.3	14.9	16.0	25.9	27.6	27.5	25.0	21.5	21.0	20.2	19.3	19.4	19.9	20.0	21.64	27.64																						
14-Nov	18.3	Z	18.8	19.9	20.1	20.7	21.1	19.3	19.5	14.4	11.5	17.7	22.7	27.0	28.3	25.2	18.5	12.9	12.4	11.2	8.5	9.9	14.3	13.4	17.63	28.28																						
15-Nov	13.7	Z	14.8	16.5	14.9	14.3	9.2	14.3	13.2	12.5	12.8	13.3	13.4	10.0	3.9	11.7	10.1	3.2	4.3	8.9	8.1	9.9	10.0	9.7	10.99	16.45																						
16-Nov	10.8	Z	13.7	13.1	9.1	9.8	8.7	17.1	18.2	19.0	17.1	17.4	22.2	26.5	28.7	27.2	22.1	21.3	21.3	18.8	19.4	20.0	20.8	20.6	18.40	28.67																						
17-Nov	20.7	Z	23.2	22.7	22.3	21.8	21.8	21.6	21.9	17.4	13.3	22.1	22.7	21.5	17.3	16.9	15.8	22.2	20.0	20.0	14.6	18.0	15.2	11.5	19.33	23.20																						
18-Nov	7.5	Z	9.9	5.9	3.1	5.7	12.4	6.9	12.0	6.3	4.6	4.7	3.1	5.1	11.1	10.5	12.4	18.6	20.3	18.1	14.8	16.4	16.0	15.2	10.46	20.26																						
19-Nov	14.5	Z	14.2	15.2	13.4	9.5	14.1	20.0	17.7	18.9	20.1	16.6	19.1	14.2	9.5	8.9	21.9	23.2	22.9	22.3	19.8	18.7	18.4	20.0	17.10	23.17																						
20-Nov	19.8	Z	18.9	11.2	11.1	14.6	13.9	17.5	15.8	16.2	17.8	20.0	22.7	23.5	23.8	23.9	23.1	21.7	20.0	21.1	20.8	20.2	19.8	20.8	19.06	23.94																						
21-Nov	23.4	Z	21.3	21.0	22.3	23.9	21.8	20.9	21.6	21.8	24.7	25.0	22.6	22.5	26.2	27.8	28.3	25.0	27.2	29.2	28.7	29.0	29.1	29.5	24.90	29.50																						
22-Nov	30.5	Z	21.5	22.9	20.6	20.3	23.1	20.8	22.7	22.6	16.8	15.5	18.0	19.7	23.6	24.3	23.7	15.9	17.9	25.2	26.8	24.4	25.5	19.7	21.82	30.49																						
23-Nov	16.1	Z	17.0	17.6	17.1	15.3	16.2	18.1	23.2	21.3	17.8	16.7	13.5	15.1	17.0	19.1	21.5	23.5	21.7	22.8	24.6	22.1	22.3	24.3	19.30	24.58																						
24-Nov	23.1	Z	20.4	17.5	16.9	15.0	15.9	16.6	15.7	15.9	14.4	11.5	9.3	9.4	10.3	12.8	12.7	9.0	6.3	13.1	13.1	17.9	17.1	15.1	14.30	23.09																						
25-Nov	14.7	Z	12.2	13.0	11.3	11.5	12.6	13.3	14.5	17.3	19.3	21.0	22.8	22.0	22.4	21.3	21.5	20.1	19.3	19.9	19.8	18.6	16.0	17.3	17.47	22.80																						
26-Nov	18.0	Z	15.0	15.1	15.7	15.9	16.7	16.1	16.1	18.7	20.7	22.1	23.7	24.3	24.5	25.1	23.0	20.8	19.6	19.0	19.2	19.7	20.9	20.7	19.59	25.07																						
27-Nov	21.1	Z	21.9	21.8	22.0	23.0	23.1	23.3	24.9	25.5	26.0	27.4	27.9	29.4	26.8	26.9	30.1	30.8	28.7	29.4	25.6	24.7	21.4	21.0	25.33	30.79																						
28-Nov	20.5	Z	22.2	21.6	20.8	22.9	22.9	23.2	24.6	25.6	26.4	28.1	30.5	29.9	28.5	C	C	C	C	28.4	24.6	22.0	19.6	18.7	24.26	30.49																						
29-Nov	18.8	Z	20.5	19.8	18.6	19.3	19.7	19.9	19.7	20.7	22.0	24.6	24.6	26.1	23.9	23.5	22.6	23.1	25.1	27.3	23.7	25.5	25.5	24.0	22.53	27.32																						
30-Nov	23.8	Z	22.5	21.4	21.5	20.9	20.2	21.8	21.8	20.7	22.9	24.1	25.2	24.7	21.3	22.5	22.1	21.4	22.7	17.1	20.8	18.6	21.1	20.2	21.70	25.21																						
16.85																								--	16.25	15.90	14.98	14.86	15.72	16.22	17.04	17.14	17.31	18.34	19.55	20.29	20.45	20.41	19.75	18.22	17.58	17.98	17.25	17.58	17.47	17.29	Diurnal Average	
30.49																								--	23.52	23.73	22.94	23.93	23.09	23.48	24.92	25.60	26.38	28.08	30.49	29.86	30.12	27.82	30.09	30.79	28.75	29.38	28.71	29.00	29.12	29.50	Diurnal Maximum	
Z - zerospan C - Calibration PF - Power Failure																																																
Alberta Ambient Air Quality Objectives (AAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																



WCAS - Genesee
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
November 2015

Maximum Value: 9.00 ppb on Nov 3 02:00 Maximum Daily Average: 1.38 ppb on Nov 18		Hours in Service: 720 Hours of Data: 669 Hours of Missing Data: 51 Hours of Calibration: 35 Percent Operational Time: 97.8																									
Minimum Value: 0.0 ppb on Nov 1 01:00 Minimum Daily Average: 0.00 ppb on Nov 1 Maximum Diurnal Average: 0.81 ppb at hour 15 Minimum Diurnal Average: 0.01 ppb at hour 18 Monthly Average: 0.246 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.8 P ₉₉ = 4.2																											
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-Nov	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	0.0	0.00	0.00
2-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.7	1.6	0.5	0.0	1.4	2.6	0.1	0.0	0.2	1.9	2.1	2.0	3.0	2.7	0.83	2.96	
3-Nov	3.9	9.0	Z	2.6	4.1	0.0	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.0	0.0	--	9.00	
4-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.2	1.2	1.3	1.3	0.8	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.31	1.35	
5-Nov	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	1.4	0.0	0.0	0.0	0.0	0.0	4.3	4.2	0.0	0.0	0.0	0.43	4.27	
6-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.8	0.4	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.77	
7-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.38	
8-Nov	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	
9-Nov	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	
10-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.0	1.0	0.7	0.7	0.6	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.23	1.02	
11-Nov	0.0	0.0	Z	0.0	1.7	0.8	0.0	0.1	0.0	0.0	0.0	0.0	0.3	1.2	3.6	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.37	3.57	
12-Nov	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	
13-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.84	
14-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00	
15-Nov	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	4.8	5.9	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.47	5.91	
16-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.2	0.0	0.0	0.0	1.3	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	0.15	2.03	
17-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.7	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	0.09	1.67	
18-Nov	0.9	1.0	Z	1.7	3.0	1.6	0.1	1.0	0.0	2.1	4.8	3.7	6.0	3.1	1.2	1.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.38	6.04	
19-Nov	0.0	0.0	Z	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.6	0.0	1.0	2.7	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.34	3.20	
20-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.22	
21-Nov	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	
22-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	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	0.02	0.22	
23-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.8	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.77	
24-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.1	0.2	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.08	0.93	
25-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.4	0.5	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.69	
26-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	1.0	1.1	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	1.07	
27-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.5	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.51	
28-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	1.6	1.2	1.6	1.9	C	C	C	C	C	0.0	0.0	0.0	0.0	0.42	1.93	
29-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9	1.8	1.0	1.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	1.82	
30-Nov	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	1.1	1.6	1.9	2.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.38	2.54	
	0.16	0.33	--	0.14	0.31	0.08	0.01	0.04	0.02	0.22	0.53	0.60	0.60	0.69	0.81	0.35	0.03	0.01	0.03	0.22	0.22	0.07	0.10	0.09		Diurnal Average	
	3.90	9.00	--	2.63	4.09	1.64	0.18	1.02	0.25	2.09	4.75	3.74	6.04	4.81	5.91	3.20	0.38	0.09	0.73	4.27	4.19	1.95	2.96	2.67		Diurnal Maximum	
Z - zerospan C - Calibration PF - Power Failure Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																											



WCAS - Genesee
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
November 2015

Maximum Value: 16.07 ppb on Nov 19 16:00		Maximum Daily Average: 7.79 ppb on Nov 18		Hours in Service:	720																					
Minimum Value: 0.3 ppb on Nov 24 10:00		Minimum Daily Average: 1.11 ppb on Nov 1		Hours of Data:	669																					
Maximum Diurnal Average: 4.77 ppb at hour 18		Minimum Diurnal Average: 2.71 ppb at hour 9		Hours of Missing Data:	51																					
Monthly Average: 3.482 ppb		Percentiles: P ₁ = 0.5 P ₁₀ = 1.0 Q ₁ = 1.7 Median = 2.7 Q ₃ = 4.4 P ₉₀ = 7.1 P ₉₉ = 13.0		Hours of Calibration:	35																					
				Percent Operational Time:	97.8																					
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-Nov	1.1	0.8	Z	0.8	0.9	1.1	1.2	1.3	1.2	1.3	1.2	1.5	0.9	1.0	1.0	0.9	1.1	1.2	1.2	0.9	0.8	1.0	1.5	1.7	1.11	1.71
2-Nov	2.2	3.0	Z	2.5	2.4	2.9	3.2	3.2	3.1	2.2	2.6	4.3	2.6	0.9	5.1	9.6	6.1	8.9	11.7	12.8	12.1	11.6	12.1	12.7	5.99	12.84
3-Nov	10.7	10.4	Z	10.5	8.2	6.5	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	1.8	1.8	--	10.69
4-Nov	1.9	2.0	Z	2.0	2.0	2.1	1.9	2.3	2.5	2.4	2.4	2.3	2.2	2.7	2.9	2.5	2.9	3.6	3.1	3.7	2.8	1.9	0.4	0.5	2.31	3.66
5-Nov	0.9	1.4	Z	1.7	1.3	2.6	1.5	2.1	2.0	1.1	1.2	1.7	2.2	8.6	2.0	1.4	1.4	2.4	5.0	10.1	9.0	1.9	2.5	2.5	2.89	10.10
6-Nov	2.1	1.8	Z	1.8	2.3	2.3	2.6	3.6	3.6	2.9	1.9	1.9	1.7	1.9	1.1	1.3	2.1	3.4	3.1	2.5	2.9	3.0	2.8	2.7	2.41	3.57
7-Nov	2.8	2.3	Z	2.0	1.9	7.5	6.0	1.6	2.2	2.0	2.1	2.5	2.2	2.3	2.7	3.7	14.2	13.1	3.5	2.5	1.9	2.1	4.6	2.5	3.83	14.17
8-Nov	3.1	3.7	Z	3.8	2.4	1.7	1.4	1.6	1.9	3.8	3.6	2.5	2.3	1.7	1.7	1.7	1.9	1.3	1.3	1.3	1.3	1.1	1.0	0.9	2.04	3.79
9-Nov	1.0	0.9	Z	0.7	0.8	0.8	0.7	0.8	0.9	0.9	1.0	1.2	2.5	1.9	1.2	1.1	3.1	2.5	2.6	2.6	2.6	2.3	2.2	2.4	1.60	3.09
10-Nov	2.7	2.2	Z	2.1	2.2	2.7	2.7	3.3	2.9	2.7	2.4	2.3	2.2	2.3	2.7	3.7	4.7	5.6	4.4	4.3	8.7	7.9	5.6	4.9	3.70	8.72
11-Nov	5.4	6.7	Z	5.7	10.6	7.7	6.0	8.1	4.9	1.1	1.2	1.3	2.0	4.8	11.8	7.5	1.8	2.0	2.7	1.8	0.7	0.8	0.8	0.9	4.18	11.79
12-Nov	1.2	1.2	Z	1.4	2.0	2.5	3.2	2.7	2.0	1.4	1.0	0.7	1.1	1.4	1.2	1.5	1.4	1.7	1.8	1.7	1.8	1.7	1.5	0.6	1.58	3.18
13-Nov	0.5	0.5	Z	0.7	0.5	0.9	1.6	2.0	2.3	2.5	4.5	5.7	5.4	5.2	4.1	1.5	1.6	2.3	2.5	1.3	1.1	1.0	1.0	1.0	2.16	5.73
14-Nov	0.9	0.8	Z	1.3	1.2	1.1	1.6	3.9	1.6	2.0	2.0	2.2	2.0	1.6	1.7	2.1	4.0	5.0	6.1	6.3	6.9	7.5	4.5	4.2	3.06	7.52
15-Nov	2.9	2.7	Z	2.2	2.0	5.6	10.8	3.3	1.9	1.7	1.6	1.6	1.5	5.6	12.3	3.2	3.7	9.8	7.1	4.4	4.1	3.0	2.7	2.3	4.18	12.34
16-Nov	1.8	1.6	Z	1.6	2.7	2.9	4.8	2.4	1.2	1.5	4.9	5.7	1.8	0.6	0.8	1.0	1.4	1.8	1.8	3.0	3.0	2.7	3.3	1.3	2.33	5.71
17-Nov	1.1	0.8	Z	0.7	0.5	0.8	0.7	0.6	0.7	4.6	10.8	4.0	2.1	3.6	6.4	7.6	7.2	4.2	3.8	3.1	3.4	2.9	2.4	4.2	3.31	10.80
18-Nov	9.6	10.0	Z	9.8	13.5	12.0	6.1	9.2	5.1	8.0	11.6	11.5	13.7	12.6	8.4	8.8	9.6	4.5	2.8	2.0	3.3	2.8	2.2	2.1	7.79	13.71
19-Nov	3.1	3.8	Z	3.3	5.5	7.7	5.6	2.3	2.1	2.4	2.1	3.8	2.4	5.6	13.1	16.1	4.9	2.6	2.4	2.1	2.7	4.3	4.1	2.8	4.56	16.07
20-Nov	2.4	2.1	Z	5.8	3.7	3.6	4.3	2.1	2.0	2.3	2.5	2.1	1.4	1.0	1.0	1.1	1.2	1.8	2.0	2.0	1.9	1.9	2.3	2.2	2.29	5.78
21-Nov	1.7	1.5	Z	1.7	1.5	1.2	1.6	1.9	1.9	1.7	1.2	1.2	2.1	2.3	2.0	1.7	1.5	2.7	1.7	0.9	0.7	0.8	0.7	0.8	1.53	2.72
22-Nov	0.5	1.2	Z	1.9	2.1	2.7	1.7	6.8	5.6	4.7	3.1	4.1	3.9	1.5	0.6	1.0	3.7	12.6	11.3	4.8	3.4	3.2	2.8	1.5	3.68	12.59
23-Nov	1.5	1.1	Z	2.0	3.4	3.3	2.5	2.2	2.0	2.4	2.6	5.6	9.8	8.3	6.7	4.1	3.1	2.9	3.9	3.7	3.3	2.9	2.0	1.3	3.51	9.83
24-Nov	1.5	1.0	Z	0.8	0.8	0.8	0.7	0.5	0.4	0.3	0.5	0.8	3.0	3.0	3.2	2.9	5.2	9.1	15.6	10.0	9.6	3.2	2.9	3.2	3.43	15.58
25-Nov	2.7	3.2	Z	4.1	4.6	5.2	5.0	4.9	4.4	4.0	2.7	2.3	2.3	2.8	2.9	4.2	4.6	5.6	5.7	5.2	4.4	4.6	6.4	6.0	4.25	6.45
26-Nov	5.4	5.4	Z	4.9	4.7	4.4	3.7	5.0	5.9	4.4	3.3	3.5	3.4	3.1	2.7	2.8	3.6	4.6	5.5	5.4	4.9	4.4	4.4	5.2	4.37	5.93
27-Nov	4.2	3.1	Z	2.8	2.7	2.4	2.7	2.8	2.2	2.4	2.4	2.3	2.6	1.8	2.7	4.3	4.2	2.4	2.5	2.2	3.1	3.5	4.2	3.4	2.91	4.25
28-Nov	3.0	3.1	Z	3.1	3.1	2.8	2.8	2.6	2.7	3.0	3.1	3.7	3.2	4.2	5.7	C	C	C	C	C	5.5	5.1	5.4	5.0	3.73	5.67
29-Nov	4.2	4.2	Z	4.0	4.6	5.0	3.9	4.1	4.4	4.5	5.0	4.2	5.4	4.7	6.8	7.0	7.3	6.0	5.4	4.8	5.6	3.9	3.9	5.0	4.95	7.33
30-Nov	3.8	3.8	Z	3.8	3.9	5.4	5.4	4.9	4.8	4.7	4.4	4.4	5.0	5.9	8.5	8.3	8.9	9.9	10.2	9.5	7.7	7.2	6.5	6.7	6.24	10.19
																								Diurnal Average		
																								Diurnal Maximum		
																								2.86 2.87 -- 2.98 3.26 3.61 3.30 3.18 2.71 2.72 3.07 3.14 3.20 3.55 4.24 4.01 4.15 4.77 4.66 4.11 4.11 3.45 3.28 3.08		
																								10.69 10.40 -- 10.48 13.52 12.04 10.80 9.22 5.93 7.98 11.58 11.48 13.71 12.59 13.05 16.07 14.17 13.12 15.58 12.84 12.15 11.60 12.13 12.74		
Z - zerospan C - Calibration PF - Power Failure																										
Alberta Ambient Air Quality Objectives (AAQO): 1-hr 159 ppb 24-hr 106 ppb																										



WCAS - Genesee
Summary of Hourly Averages

NOx (NO_x) - ppb
November 2015

Maximum Value: 19.61 ppb on Nov 18 13:00		Maximum Daily Average: 8.92 ppb on Nov 18		Hours in Service: 720																							
Minimum Value: 0.0 ppb on Nov 4 23:00		Minimum Daily Average: 0.72 ppb on Nov 1		Hours of Data: 669																							
Maximum Diurnal Average: 4.82 ppb at hour 15		Minimum Diurnal Average: 2.33 ppb at hour 9		Hours of Missing Data: 51																							
Monthly Average: 3.338 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.6 Q ₁ = 1.3 Median = 2.3 Q ₃ = 4.2 P ₉₀ = 7.2 P ₉₉ = 16.1		Hours of Calibration: 35																							
				Percent Operational Time: 97.8																							
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-Nov	0.6	0.3	Z	0.3	0.5	0.6	0.7	0.8	0.8	0.9	0.9	1.3	0.6	0.7	0.7	0.5	0.8	0.9	0.8	0.5	0.4	0.6	1.1	1.3	0.72	1.30	
2-Nov	1.8	2.6	Z	2.2	2.0	2.6	2.8	2.9	3.3	2.3	3.2	5.8	3.1	0.6	6.4	12.1	6.1	8.6	11.8	14.7	14.1	13.4	15.0	15.3	6.64	15.32	
3-Nov	14.5	19.3	Z	13.0	12.1	6.3	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	1.3	1.3	--	19.28	
4-Nov	1.4	1.5	Z	1.5	1.5	1.5	1.4	1.8	2.5	3.2	3.6	3.4	3.4	4.0	3.7	2.7	2.6	3.1	2.7	3.2	2.3	1.5	0.0	0.0	2.29	4.02	
5-Nov	0.4	0.9	Z	1.2	0.8	2.2	1.0	1.7	1.6	0.7	0.8	1.3	1.8	9.9	1.7	1.0	0.9	1.9	4.7	14.2	13.0	1.4	2.0	2.0	2.92	14.20	
6-Nov	1.6	1.3	Z	1.3	1.8	1.8	2.1	3.0	3.6	3.6	2.2	2.2	1.8	2.0	0.8	0.9	1.6	2.9	2.5	2.0	2.3	2.4	2.2	2.1	2.08	3.65	
7-Nov	2.2	1.8	Z	1.4	1.3	7.4	5.5	1.0	1.7	1.7	1.8	2.6	2.0	2.3	2.7	3.5	14.4	12.8	2.9	2.0	1.4	1.5	4.0	1.8	3.47	14.39	
8-Nov	2.4	3.0	Z	3.2	1.7	1.0	0.8	1.0	1.4	3.3	3.2	2.1	2.0	1.2	1.2	1.2	1.3	0.8	0.8	0.8	0.9	0.6	0.5	0.5	1.52	3.31	
9-Nov	0.5	0.4	Z	0.3	0.4	0.4	0.3	0.4	0.4	0.5	0.7	0.9	2.4	1.7	1.0	0.8	2.9	2.0	2.1	2.1	2.1	1.8	1.7	2.0	1.21	2.87	
10-Nov	2.2	1.7	Z	1.6	1.7	2.2	2.3	2.8	2.9	3.6	3.3	3.2	2.8	3.0	3.3	3.9	4.4	5.6	4.0	3.9	8.2	7.4	5.1	4.3	3.62	8.18	
11-Nov	4.9	6.2	Z	5.2	12.2	8.3	5.6	8.0	4.5	0.7	0.9	1.0	2.3	5.9	15.2	8.3	1.4	1.6	2.3	1.4	0.3	0.3	0.3	0.5	4.23	15.23	
12-Nov	0.7	0.7	Z	0.9	1.5	2.0	2.7	2.2	1.6	1.1	0.7	0.3	0.8	1.0	0.8	1.0	0.9	1.1	1.2	1.1	1.2	1.1	0.9	0.1	1.12	2.68	
13-Nov	0.0	0.0	Z	0.1	0.0	0.3	1.0	1.4	1.7	2.1	4.9	6.4	5.2	4.8	3.7	1.0	1.1	1.8	1.9	0.8	0.6	0.5	0.5	0.5	1.76	6.44	
14-Nov	0.4	0.3	Z	0.8	0.7	0.6	1.1	3.3	1.0	1.6	1.9	2.0	1.7	1.3	1.4	1.7	3.5	4.4	5.4	5.6	6.2	6.9	3.9	3.6	2.58	6.87	
15-Nov	2.3	2.1	Z	1.6	1.5	5.0	10.2	2.7	1.4	1.4	1.5	1.6	1.4	10.3	18.1	3.0	3.3	9.7	6.8	4.2	3.9	2.6	2.4	1.9	4.30	18.09	
16-Nov	1.4	1.2	Z	1.3	2.6	2.7	4.9	2.0	0.9	1.3	6.1	7.6	1.8	0.4	0.6	0.7	1.1	1.4	1.5	2.6	2.7	2.4	3.0	1.0	2.22	7.62	
17-Nov	0.7	0.5	Z	0.4	0.2	0.5	0.3	0.2	0.4	4.7	12.3	4.0	2.0	3.5	6.4	7.3	6.8	3.8	3.3	2.8	3.1	2.6	2.0	3.9	3.11	12.31	
18-Nov	10.4	10.9	Z	11.4	16.4	13.5	6.1	10.1	5.0	9.9	16.2	15.1	19.6	15.6	9.4	9.8	9.8	4.0	2.3	1.5	2.8	2.3	1.6	1.5	8.92	19.61	
19-Nov	2.5	3.2	Z	2.8	5.8	7.6	5.2	1.8	1.6	2.0	1.9	4.3	2.3	6.5	15.6	19.1	4.5	2.1	1.9	1.6	2.1	3.7	3.6	2.2	4.51	19.06	
20-Nov	1.8	1.5	Z	5.4	3.2	3.1	3.8	1.6	1.5	2.1	2.6	2.1	1.2	0.6	0.6	0.6	0.7	1.2	1.5	1.4	1.3	1.4	1.8	1.7	1.85	5.39	
21-Nov	1.2	1.0	Z	1.2	1.0	0.7	1.1	1.4	1.5	1.4	0.9	0.9	1.8	2.1	1.7	1.4	1.0	2.2	1.3	0.4	0.3	0.4	0.3	0.4	1.11	2.25	
22-Nov	0.1	0.7	Z	1.5	1.6	2.3	1.3	6.4	5.2	4.8	3.0	4.3	4.0	1.3	0.3	0.7	3.3	12.1	10.9	4.3	3.0	2.8	2.4	1.1	3.36	12.12	
23-Nov	1.1	0.7	Z	1.6	2.9	2.8	2.0	1.7	1.6	2.0	2.3	5.7	10.5	8.6	6.9	3.7	2.6	2.4	3.4	3.2	2.7	2.4	1.5	0.8	3.18	10.46	
24-Nov	0.9	0.4	Z	0.3	0.2	0.3	0.1	0.0	0.0	0.1	0.4	3.8	3.1	3.3	2.7	5.0	8.8	16.1	9.4	9.3	2.6	2.4	2.6	2.6	3.12	16.12	
25-Nov	2.2	2.7	Z	3.4	4.0	4.5	4.3	4.3	4.0	4.4	2.9	2.6	2.7	3.4	3.0	4.2	4.1	4.9	5.0	4.5	3.7	4.0	5.8	5.4	3.92	5.81	
26-Nov	4.8	4.7	Z	4.3	4.0	3.7	3.1	4.4	5.6	4.7	4.0	4.4	4.3	3.6	2.8	2.6	3.2	4.1	4.9	4.8	4.3	3.8	3.9	4.6	4.11	5.59	
27-Nov	3.6	2.6	Z	2.3	2.2	1.8	2.2	2.4	1.7	2.2	2.5	2.7	3.0	1.8	2.9	4.2	3.8	2.0	2.0	1.7	2.6	3.1	3.7	3.0	2.61	4.22	
28-Nov	2.5	2.7	Z	2.6	2.5	2.2	2.2	1.9	2.1	2.7	3.3	4.5	3.5	4.9	6.5	C	C	C	C	C	4.9	4.4	4.7	4.2	3.46	6.49	
29-Nov	3.4	3.3	Z	3.1	3.7	4.1	3.0	3.3	3.6	4.4	5.8	5.1	7.1	5.7	8.2	7.3	6.9	5.4	4.7	4.1	4.9	3.3	3.3	4.4	4.70	8.21	
30-Nov	3.2	3.2	Z	3.3	3.3	4.8	4.8	4.3	4.4	4.8	5.1	5.5	6.6	7.7	11.0	9.1	8.6	9.5	9.7	9.1	7.3	6.8	6.0	6.2	6.27	11.01	
		2.53	2.71	--	2.64	3.11	3.23	2.82	2.72	2.33	2.70	3.40	3.56	3.64	4.05	4.82	4.11	3.79	4.33	4.23	3.86	3.86	3.03	2.89	2.67	Diurnal Average	
		14.47	19.28	--	12.99	16.40	13.52	10.15	10.12	5.59	9.94	16.21	15.12	19.61	15.57	18.09	19.06	14.39	12.82	16.12	14.66	14.12	13.45	15.00	15.32	Diurnal Maximum	
Z - zerospan		C - Calibration		PF - Power Failure																							
Alberta Ambient Air Quality Objectives (AAQO):		1-hr --- ppb		24-hr --- ppb																							



WCAS - Genesee
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
November 2015

Maximum Value: 37.24 µg/m ³ on Nov 30 19:00 Maximum Daily Average: 4.90 µg/m ³ on Nov 26																							Hours in Service:	720																								
Minimum Value: 0.0 µg/m ³ on Nov 4 18:00 Minimum Daily Average: 0.30 µg/m ³ on Nov 12																							Hours of Data:	704																								
Maximum Diurnal Average: 3.99 µg/m ³ at hour 19 Minimum Diurnal Average: 1.78 µg/m ³ at hour 14																							Hours of Missing Data:	16																								
Monthly Average: 2.446 µg/m ³ Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.8 Median = 2.0 Q ₃ = 3.5 P ₉₀ = 5.0 P ₉₉ = 10.7																							Hours of Calibration:	0																								
																							Percent Operational Time:	97.8																								
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-Nov	2.2	4.7	5.6	5.6	4.5	4.6	3.1	4.9	7.1	6.1	6.8	7.0	5.4	5.3	4.3	2.7	3.4	3.4	3.8	3.0	2.9	2.4	3.1	3.9	4.41	7.06																						
2-Nov	2.9	2.3	3.0	2.8	0.8	1.6	0.9	2.6	3.4	2.1	1.9	1.3	0.5	0.3	2.3	4.8	2.3	3.4	4.1	3.6	3.1	2.9	3.4	3.6	2.50	4.76																						
3-Nov	2.9	4.3	4.1	3.8	4.0	3.7	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	3.1	3.6	--	4.30																						
4-Nov	4.0	3.8	2.5	3.8	3.8	4.1	3.1	3.6	6.1	4.1	2.0	1.8	1.5	1.7	0.6	1.0	0.4	0.0	1.0	1.8	1.8	2.4	0.0	0.0	2.29	6.05																						
5-Nov	0.1	0.4	1.3	1.5	0.8	2.1	2.7	4.3	3.9	2.5	2.9	2.5	2.9	4.8	5.8	5.6	5.9	5.8	5.6	6.6	7.0	6.8	6.8	6.0	3.95	7.05																						
6-Nov	6.7	6.3	7.0	5.5	6.3	7.7	7.7	5.0	6.1	0.5	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.5	0.6	2.1	1.7	2.72	7.73																						
7-Nov	2.8	2.2	1.9	3.7	1.6	3.4	2.7	1.6	2.6	3.2	2.3	2.7	2.5	0.2	1.2	1.6	0.4	4.5	5.8	7.0	7.9	6.2	4.5	3.4	3.17	7.88																						
8-Nov	4.1	2.2	1.8	2.3	2.3	3.0	3.2	3.5	4.8	4.7	4.8	2.5	3.3	3.3	3.5	4.4	3.0	3.1	2.2	3.6	2.6	2.1	1.5	1.5	3.06	4.79																						
9-Nov	2.6	1.8	1.6	2.1	2.1	1.8	3.1	3.0	3.9	4.1	1.5	0.0	0.0	0.6	1.1	0.3	0.0	0.3	1.2	2.0	5.3	3.7	1.3	0.8	1.84	5.33																						
10-Nov	1.8	2.4	1.8	0.9	2.5	3.2	2.7	3.8	4.4	1.5	0.4	0.6	0.0	0.4	0.0	0.0	0.0	1.1	0.3	1.0	1.6	1.3	1.2	2.2	1.47	4.35																						
11-Nov	1.8	2.3	3.3	3.9	3.3	2.7	4.8	3.3	1.5	3.5	2.4	2.8	0.7	0.0	1.3	1.7	1.0	4.1	6.5	1.2	0.8	0.0	0.7	0.4	2.25	6.52																						
12-Nov	1.7	1.1	0.1	0.3	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.0	1.7	0.30	1.74																						
13-Nov	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0	0.3	1.0	3.0	3.7	6.0	2.8	0.8	0.3	3.1	1.3	1.8	0.7	1.1	1.3	0.7	0.0	1.18	5.99																						
14-Nov	0.0	0.7	0.2	1.8	0.0	0.0	1.1	0.4	0.3	1.8	1.9	1.3	1.7	1.2	0.5	0.6	1.5	1.1	2.8	1.9	3.3	4.1	0.7	1.2	1.25	4.05																						
15-Nov	0.9	1.2	1.4	0.0	0.3	0.8	2.4	1.6	1.2	1.5	2.6	3.3	3.5	4.6	8.3	8.6	11.0	11.6	10.8	5.6	6.5	5.3	2.6	6.1	4.23	11.60																						
16-Nov	2.3	1.4	2.5	1.5	1.8	2.4	2.1	2.0	1.7	2.0	1.5	0.0	0.0	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.92	2.54																						
17-Nov	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.9	1.9	0.0	0.0	0.0	0.0	2.5	4.8	2.3	2.1	1.3	3.8	1.2	1.8	4.7	1.15	4.77																						
18-Nov	2.8	4.3	5.6	3.5	5.3	5.1	6.2	4.6	5.0	5.1	4.6	3.2	2.7	0.9	1.5	1.7	1.9	0.5	0.4	0.9	1.7	3.0	1.4	0.5	3.02	6.20																						
19-Nov	0.3	1.3	2.0	1.0	3.8	3.7	4.9	3.6	5.8	3.6	3.7	2.7	2.7	1.2	1.4	3.1	1.5	0.9	1.3	1.6	4.9	2.9	3.5	2.8	2.66	5.84																						
20-Nov	5.3	4.1	4.2	4.2	3.4	4.2	3.2	2.2	3.1	3.9	2.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	1.1	2.6	1.9	3.0	1.4	1.1	2.14	5.26																						
21-Nov	0.6	0.3	0.1	0.5	0.0	0.0	0.0	0.3	0.0	1.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	1.4	2.8	0.5	1.1	0.4	0.9	0.5	0.47	2.82																						
22-Nov	0.2	0.2	2.3	1.2	1.7	1.4	3.2	2.5	3.9	4.0	2.3	2.8	2.6	2.5	1.8	2.7	3.7	2.5	3.9	2.3	3.2	3.6	3.2	2.0	2.49	3.97																						
23-Nov	4.7	3.1	4.5	4.4	4.2	3.0	3.9	3.0	3.0	4.9	4.6	4.2	4.9	6.2	4.5	4.1	2.2	1.4	1.8	1.3	2.0	1.8	1.3	1.9	3.37	6.19																						
24-Nov	1.6	2.0	2.1	3.1	2.9	3.2	2.6	3.9	1.0	0.0	0.2	0.0	2.5	2.1	1.4	2.1	2.5	4.8	7.7	6.1	7.2	5.6	3.2	3.4	2.96	7.73																						
25-Nov	1.8	2.3	3.4	2.5	3.4	4.7	4.0	4.2	3.7	5.1	2.7	1.2	2.6	2.9	0.6	1.9	0.5	2.3	2.0	2.1	3.9	3.3	3.4	4.1	2.86	5.12																						
26-Nov	1.5	4.8	3.1	5.0	6.4	5.1	2.9	1.7	0.2	5.6	4.4	3.9	4.6	5.7	2.9	2.0	1.2	3.7	6.3	6.0	6.1	5.9	11.2	17.1	4.90	17.15																						
27-Nov	16.8	9.1	3.9	2.4	2.1	2.2	1.5	1.9	1.9	4.3	2.1	1.5	2.1	1.2	3.2	2.0	2.3	1.7	2.2	1.3	2.6	5.4	5.1	2.1	3.37	16.85																						
28-Nov	1.0	2.6	0.9	0.0	2.0	0.5	0.0	1.0	0.2	1.7	0.5	0.4	0.6	0.7	1.3	0.6	3.1	0.8	0.0	2.7	2.1	2.0	2.8	0.7	1.19	3.10																						
29-Nov	0.7	0.1	0.0	1.9	0.6	0.8	0.7	0.7	0.3	1.6	0.6	0.8	1.1	1.1	0.7	0.7	0.6	1.0	0.9	0.8	1.9	0.9	1.9	1.1	0.89	1.93																						
30-Nov	1.0	0.9	0.9	0.6	2.8	3.1	0.6	0.8	2.1	2.1	2.7	2.4	1.8	1.7	3.2	4.7	1.6	2.9	37.2	2.7	1.2	1.9	1.1	3.8	3.50	37.24																						
																							Diurnal Average																									
																							Diurnal Maximum																									
																							2.51	2.40	2.38	2.34	2.42	2.61	2.53	2.42	2.70	2.84	2.31	1.82	1.97	1.78	1.83	2.07	1.99	2.28	3.99	2.45	3.06	2.78	2.46	2.73		
																							16.85	9.13	6.99	5.57	6.43	7.72	7.73	5.00	7.06	6.13	6.77	6.99	5.99	6.19	8.25	8.62	10.97	11.60	37.24	7.03	7.88	6.82	11.20	17.15		
PF - Power Failure																																																
Alberta Ambient Air Quality Objectives (AAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																																																

Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 910, Genesee

Calibration Date: November 28, 2015

Parameter: NO/NO₂/NO_x

Instrument: Teco 42i

Serial Number: 1150790046

Previous Calibration Date: October 23, 2015

Calibration: Routine

Calibration Equipment: Sabio 2010 SN 08600312

Barometric Pressure: 27.60" Hg

Calibration Method: Standard Gas Dilution/GPT

Cylinder ID: FF14354

Temperature: 20.4° C

Cylinder Concentration: 12.6 ppm NO

In Service: January 14, 2015

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	1.8	1.9	NA	1.139	1.000	1.000	300 ppb
Current	1.9	2.1	NA	1.183	1.004	1.000	300 ppb

NO	Final Zero: -9.6 ppb	Final Span: 229.1 ppb	As Found Correction Factor: 1.027
NO ₂	Final Zero: -0.5 ppb	Final Span: 0.7 ppb	As Found Correction Factor: NA
NO _x	Final Zero: -7.8 ppb	Final Span: 229.0 ppb	As Found Correction Factor: 1.027

Results of Linear Regression			Slope	Intercept	R ²
NO	R _c vs C _c	Previous	99.738820	19.571240	0.999997
		Current	99.820430	18.046300	0.999996
	C _i vs C _c	Current	1.000000	0.000030	0.999996
NO ₂	R _c vs C _c	Previous	98.708260	-6.826327	0.999997
		Current	100.392400	52.483400	0.999959
	C _i vs C _c	Current	1.000000	0.000000	0.999959
NO _x	R _c vs C _c	Previous	99.792420	18.726050	0.999997
		Current	100.272300	19.924030	0.999996
	C _i vs C _c	Current	0.999999	0.000082	0.999996

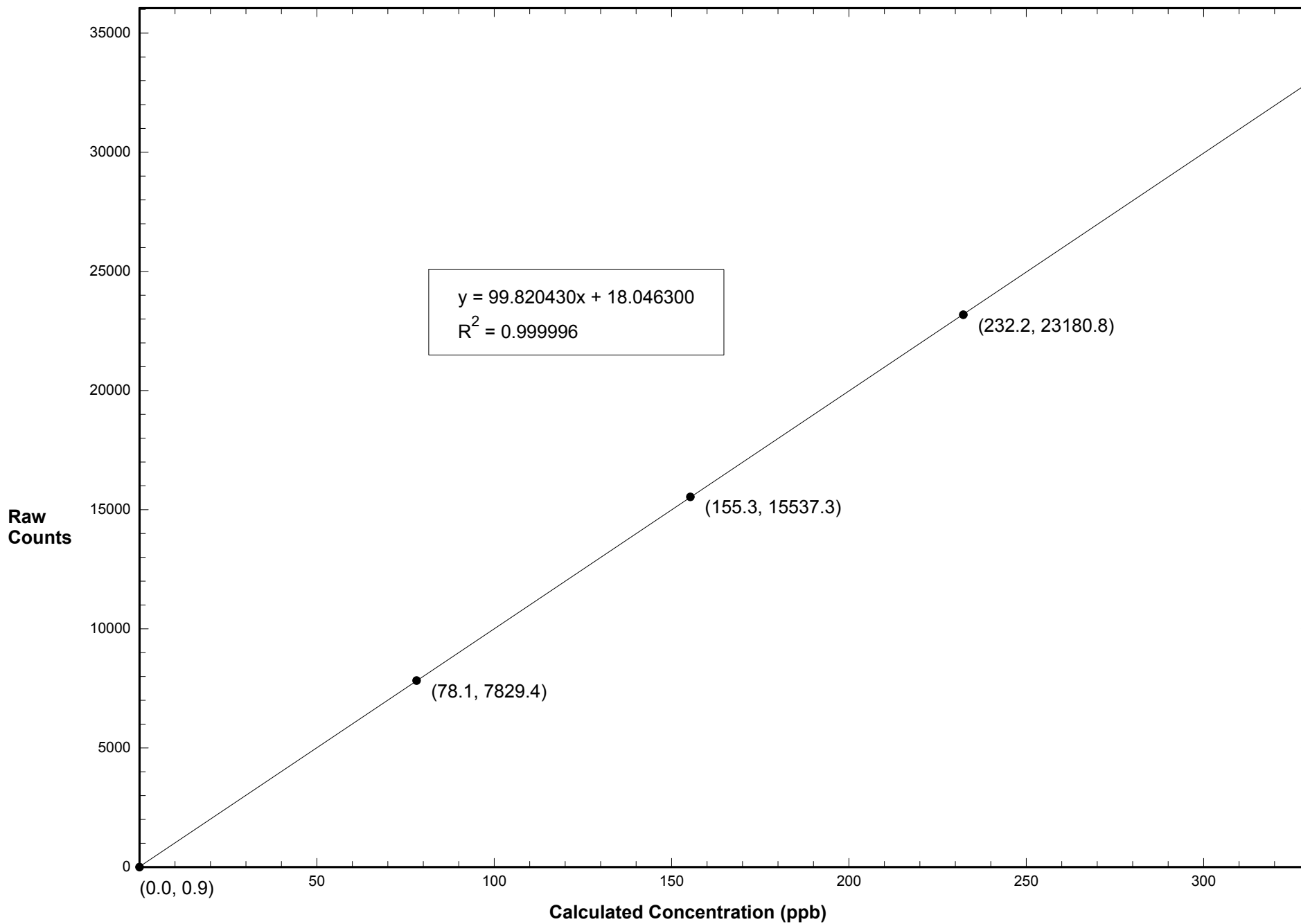
Comments:

Calibration Data Summary (Page 2)

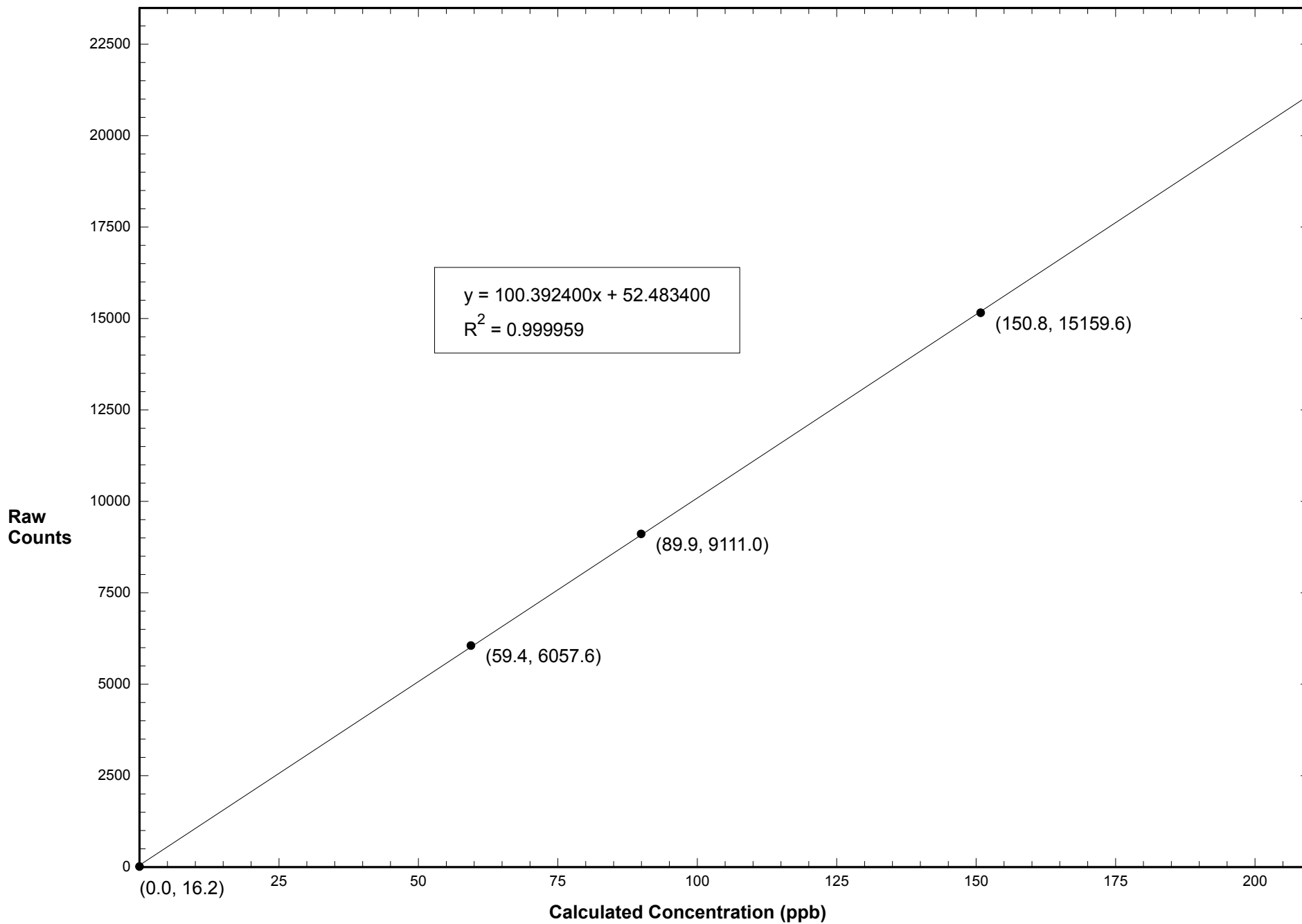
November 28, 2015 - Station 910

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		
0.07537	4.014	232.2	23180.8	232.0	1.001		
0.05021	4.024	155.3	15537.3	155.5	0.999		
0.02507	4.020	78.1	7829.4	78.3	0.998		
0.00000	4.000	0.0	0.9	-0.2			
NO Calibration					Average Correction Factor:	0.999	
0.07537	4.014	232.2	23286.6	232.0	1.001		
0.05021	4.024	155.3	15612.8	155.5	0.999		
0.02507	4.020	78.1	7862.7	78.2	0.998		
0.00000	4.000	0.0	4.2	-0.2			
NO _x Calibration					Average Correction Factor:	0.999	
Reference Concentration NO (ppb)	Raw Count Output NO	Calculated Concentration NO (ppb)	Calculated Concentration NO ₂ , C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i	Converter Efficiency C _i /C _c
230.7	7988.9	79.9	150.8	15159.6	150.5	1.002	0.998
230.7	14065.2	140.7	89.9	9111.0	90.2	0.997	1.003
230.7	17112.4	171.3	59.4	6057.6	59.8	0.993	1.007
			0.0	16.2	-0.4		
					Average Correction Factor:	0.997	
NO ₂ Gas Phase Titration					Average Converter Efficiency: 1.003		
Parameter	Correction Factor (Previous)	Correction Factor: (Current)	Percent Change of Correction Factor				
NO	1.001	1.001	0.0				
NO ₂	1.002	1.002	0.0				
NO _x	1.001	1.001	0.0				

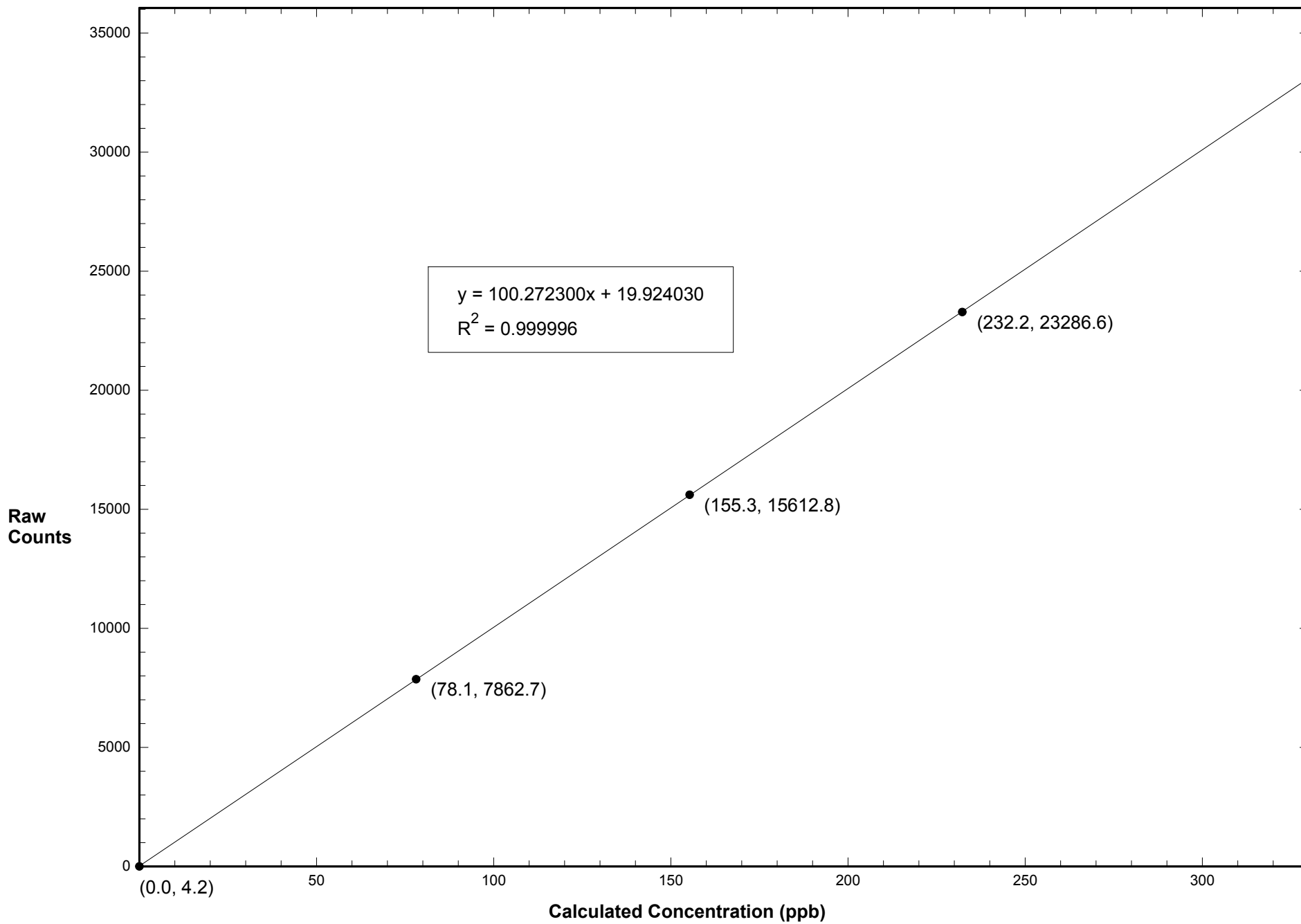
Station 910 NO November 28, 2015: Linear Regression



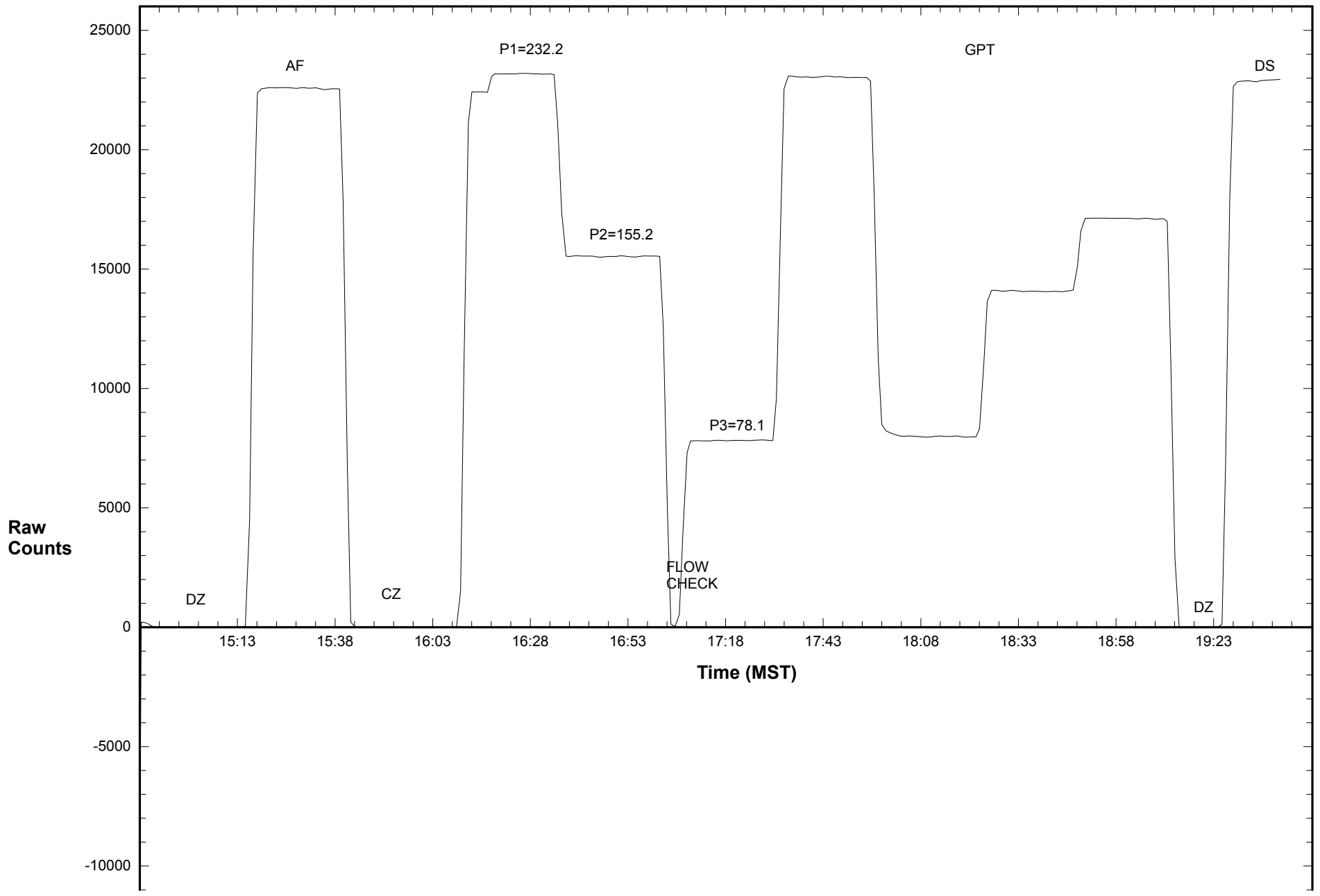
Station 910 NO2 November 28, 2015: Linear Regression



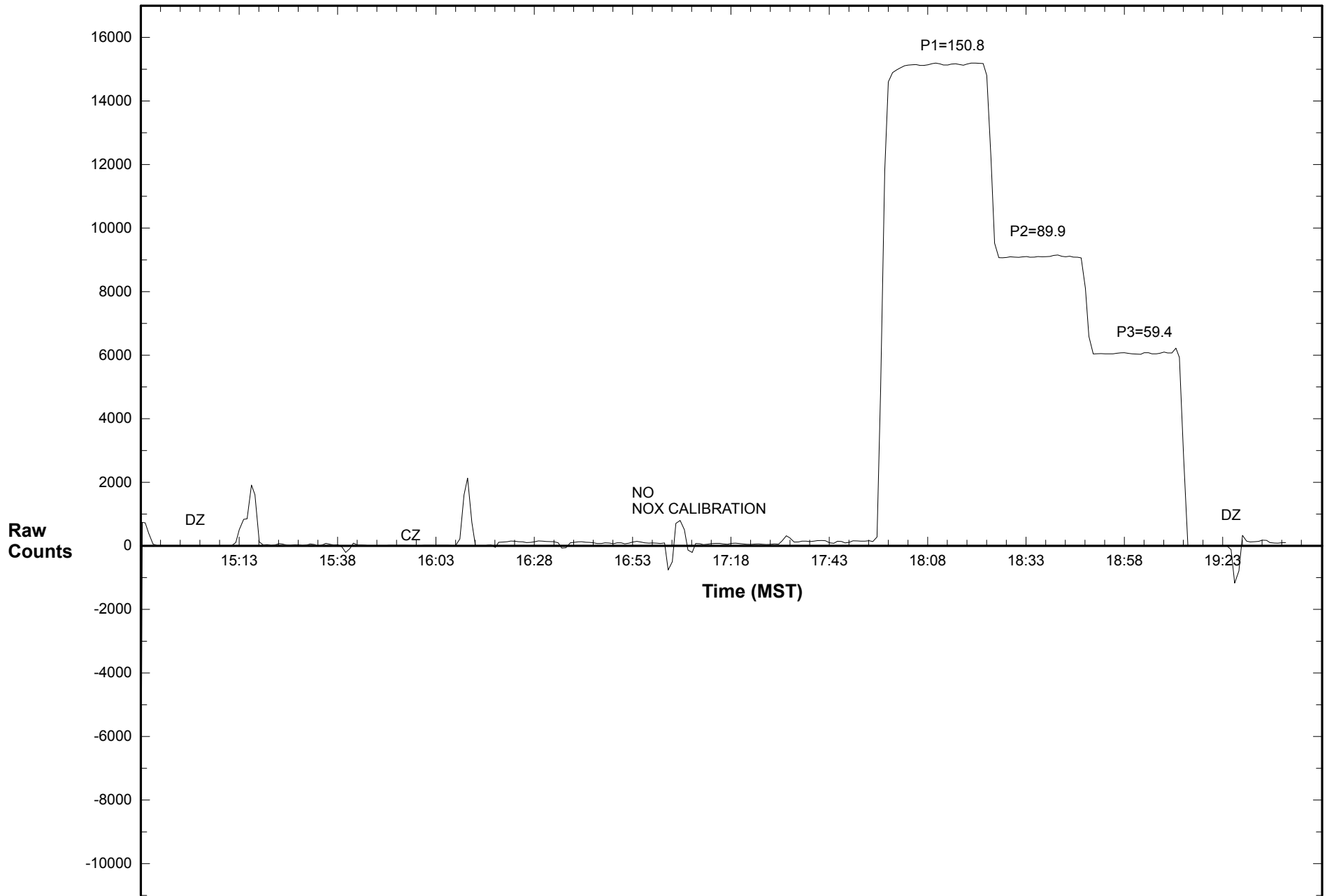
Station 910 NOX November 28, 2015: Linear Regression



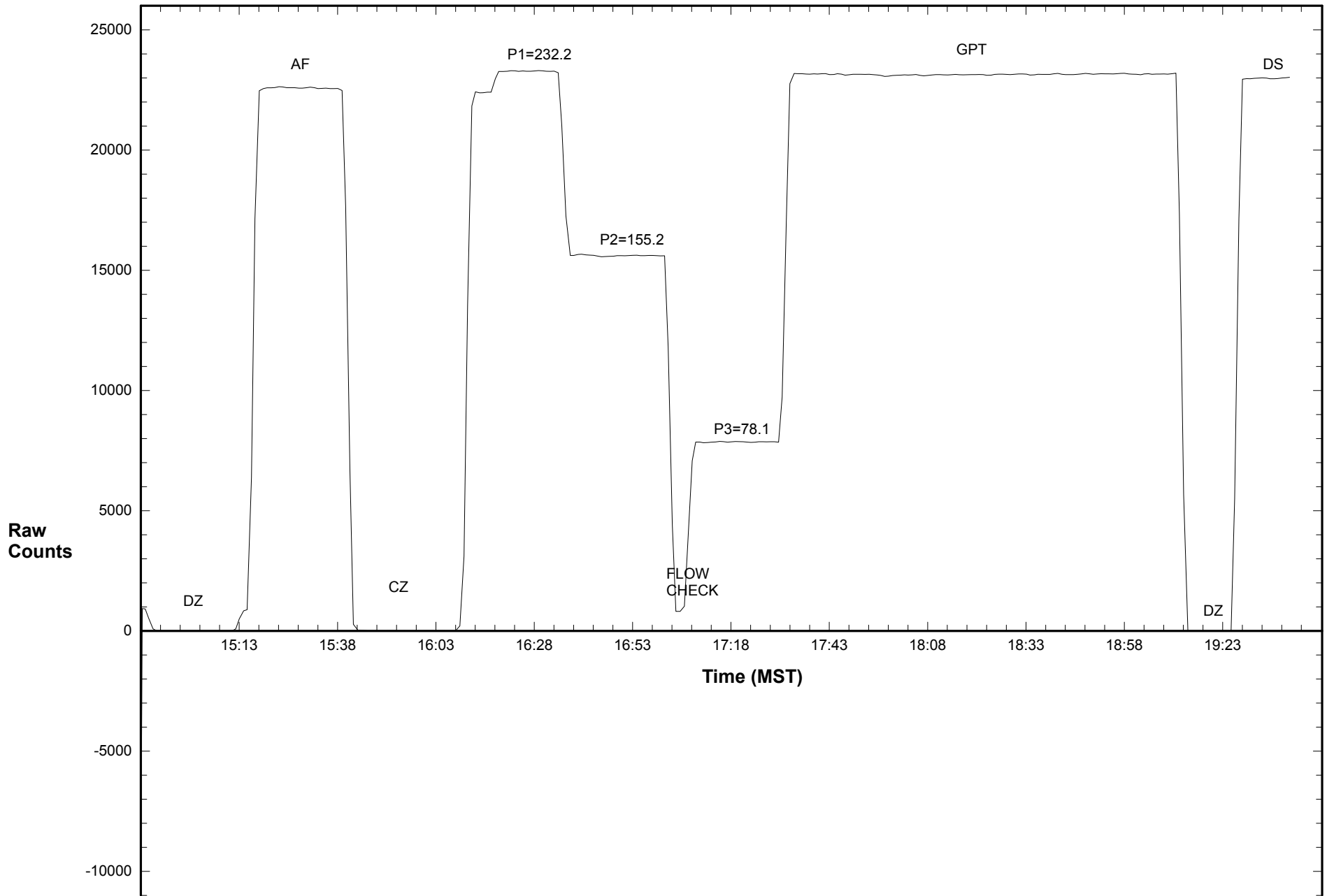
Station 910 NO November 28, 2015: Calibration Graph



Station 910 NO2 November 28, 2015: Calibration Graph



Station 910 NOX November 28, 2015: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 910, Genesee
 Calibration Date: November 28, 2015
 Parameter: O₃

Instrument: Teco 49i

Serial Number: 1150790051

Previous Calibration Date: October 23, 2015

Calibration: Routine

Calibration Equipment: 2B Tech Model 306 SN 142

Barometric Pressure: 27.60" Hg

Calibration Method: Certified Ozone Generator

Temperature: 20.4° C

Technician: L. Burns

Instrument Settings	Background	Coefficient	Monitoring Range
Previous	0.0	0.976	500 ppb
Current	-3.0	1.012	500 ppb

Final Zero: -0.7 ppb

Final Span: 414.1 ppb

As Found Correction Factor: 1.021

Calibration System Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i
3.000	399.0	23912.6	398.4	1.001
3.000	214.0	12922.6	214.9	0.996
3.000	105.0	6368.9	105.4	0.996
3.000	0.0	19.2	-0.7	

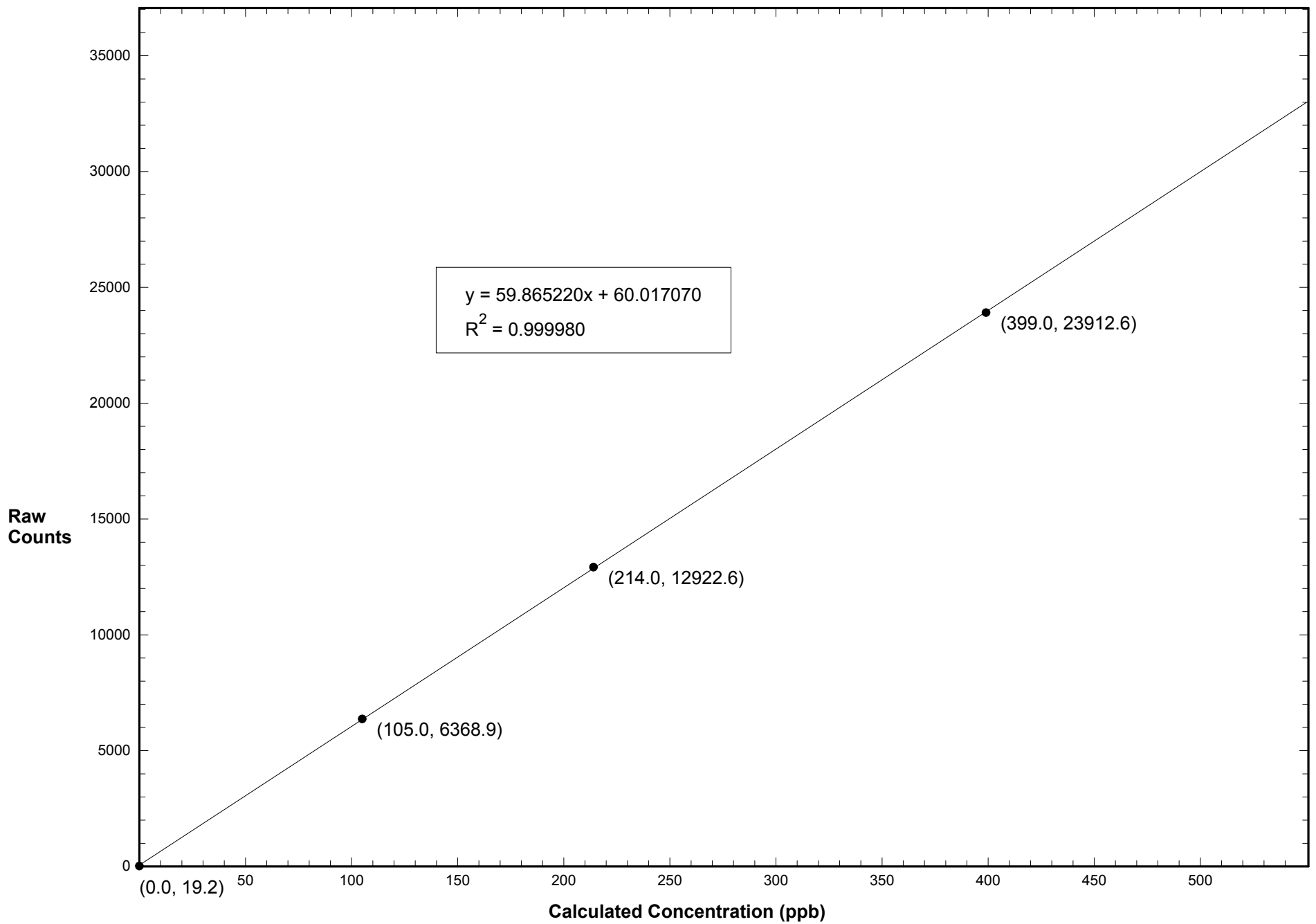
Results of Linear Regression

R _c vs C _c	Slope	Intercept	R ²
Previous	59.884620	16.200420	1.000000
Current	59.865220	60.017070	0.999980
C _i vs C _c			
Current	1.000000	-0.000027	0.999981

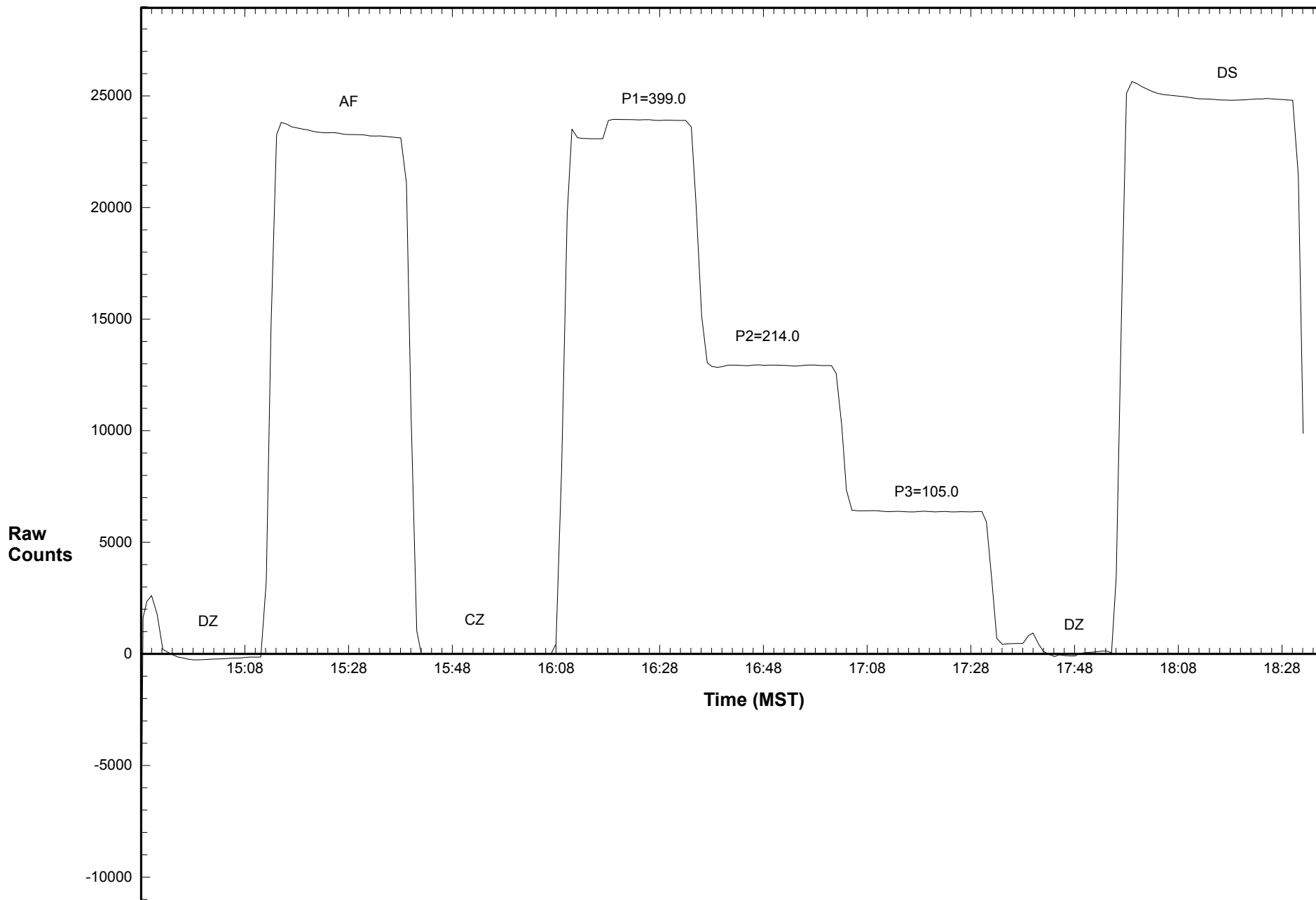
Average Correction Factor: 0.998
 Previous Correction Factor: 1.000
 Current Correction Factor: 1.001
 Percent Change of Correction Factor: 0.1

Comments:

Station 910 O3 November 28, 2015: Linear Regression



Station 910 O3 November 28, 2015: Calibration Graph



Calibration Data Summary

West Central Airshed Society

Operator: WCAS

Location: Station 910, Genesee
 Calibration Date: November 28, 2015
 Parameter: SO₂

Instrument: Teco 43i	Serial Number: JC1433001437	Previous Calibration Date: October 23, 2015
Calibration: Routine	Calibration Equipment: Sabio 2010 SN 08600312	Barometric Pressure: 27.60" Hg
Calibration Method: Standard Gas Dilution	Cylinder ID: FF14354	Temperature: 20.4° C
Cylinder Concentration: 6.34 ppm SO ₂	In Service: January 14, 2015	Technician: L. Burns

Instrument Settings	SO ₂ bkg ppb	SO ₂ Coefficient	Monitoring Range
Previous	34.1	1.108	200 ppb
Current	36.4	1.131	200 ppb

Final Zero: -0.8 ppb Final Span: 109.9 ppb As Found Correction Factor: 1.035

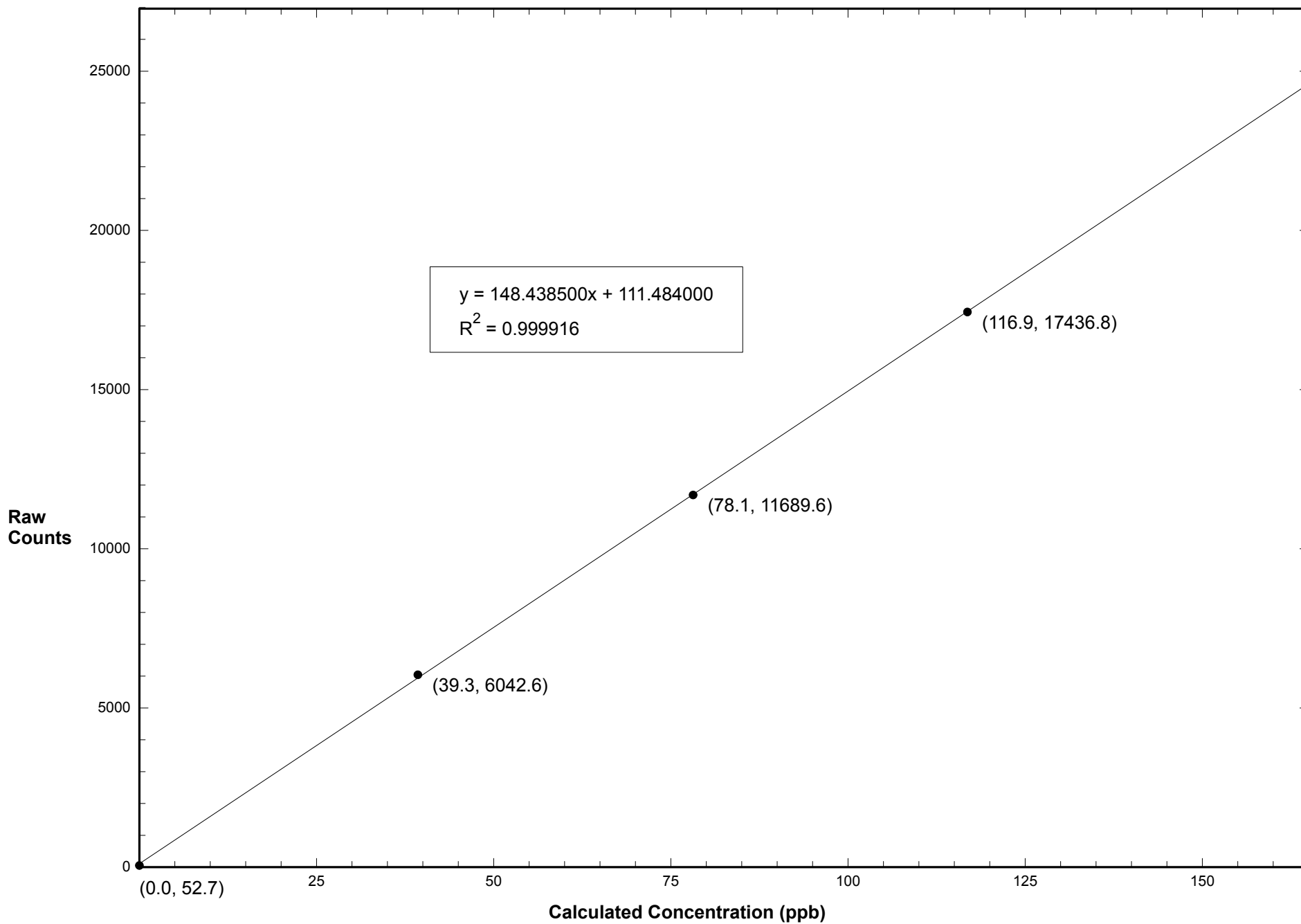
SO ₂ Flow Rate (LPM)	Dilution Flow Rate (LPM)	Calculated Concentration C _c (ppb)	Raw Count Output R _c	Indicated Concentration C _i (ppb)	Correction Factor C _c /C _i
0.0754	4.014	116.9	17436.8	116.7	1.001
0.0502	4.024	78.1	11689.6	78.0	1.002
0.0251	4.020	39.3	6042.6	40.0	0.983
0.0000	4.000	0.0	52.7	-0.4	

Results of Linear Regression			
R _c vs C _c	Slope	Intercept	R ²
Previous	151.283700	-32.208840	0.999946
Current	148.438500	111.484000	0.999916
C _i vs C _c			
Current	1.000000	0.000000	0.999917

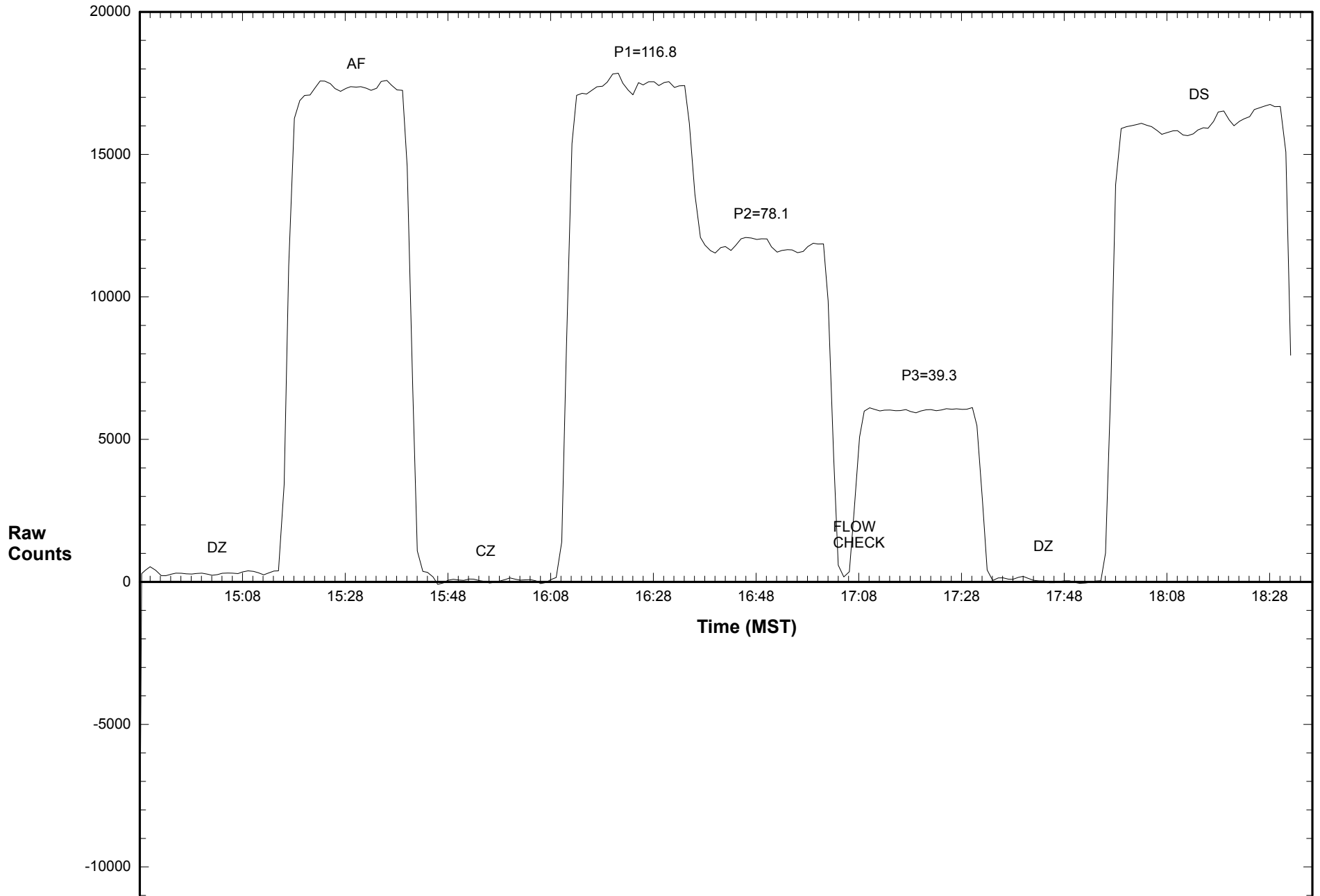
Average Correction Factor: 0.995
 Previous Correction Factor: 1.003
 Current Correction Factor: 1.001
 Percent Change of Correction Factor: -0.2

Comments:

Station 910 SO2 November 28, 2015: Linear Regression



Station 910 SO2 November 28, 2015: Calibration Graph



WEST CENTRAL AIRSHED SOCIETY

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

**AMS 910
GENESEE
NOVEMBER 2015**

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

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



WCAS - Genesee
Summary of Hourly Averages

External Temperature (ET) - C
November 2015

Maximum Value: 12.98 C on Nov 7 15:00 Maximum Daily Average: 5.78 C on Nov 7																								Hours in Service: 720 Hours of Data: 704																									
Minimum Value: -20.6 C on Nov 25 07:00 Minimum Daily Average: -12.41 C on Nov 25 Maximum Diurnal Average: 1.67 C at hour 15 Minimum Diurnal Average: -3.67 C at hour 7 Monthly Average: -1.704 C Percentiles: P ₁ = -19.7 P ₁₀ = -7.8 Q ₁ = -4.9 Median = -0.5 Q ₃ = 1.7 P ₉₀ = 3.5 P ₉₉ = 8.2																								Hours of Missing Data: 16 Hours of Calibration: 0 Percent Operational Time: 97.8																									
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-Nov	0.7	1.2	1.7	1.7	1.5	1.0	0.8	1.0	1.3	1.7	2.0	2.9	3.5	3.7	3.9	4.1	3.8	3.4	3.2	2.9	2.7	2.5	1.2	1.0	2.23	4.13																							
2-Nov	1.5	1.5	1.3	1.3	0.9	0.9	0.7	0.6	0.5	0.7	1.2	1.7	1.9	1.8	1.8	1.9	1.7	1.5	1.3	1.2	0.4	-0.1	-0.8	-0.9	1.02	1.90																							
3-Nov	-1.0	-0.9	-0.6	-0.5	-0.3	-0.3	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	-3.1	-3.4	--	-0.27																						
4-Nov	-3.4	-3.7	-4.5	-4.5	-4.8	-4.9	-5.0	-5.2	-3.7	-1.8	-0.1	1.8	2.9	3.7	4.1	4.5	3.0	1.5	-0.2	0.3	0.5	1.4	2.3	1.1	-0.61	4.50																							
5-Nov	0.2	0.4	0.2	2.1	2.7	2.4	2.3	1.9	1.0	1.2	1.5	1.8	2.0	2.2	2.4	2.4	1.9	1.4	1.8	1.5	1.5	0.9	-0.1	-0.3	1.48	2.74																							
6-Nov	-0.7	-0.6	-0.2	-0.8	-2.0	-2.4	-2.8	-3.2	-2.0	0.3	2.6	5.2	6.3	6.6	6.5	5.9	3.6	3.4	3.0	3.3	2.7	2.2	2.2	2.8	1.75	6.55																							
7-Nov	2.4	2.6	3.5	3.1	2.9	3.7	3.4	3.8	4.4	6.6	9.3	10.1	11.4	12.8	13.0	11.8	8.6	6.5	3.3	3.1	3.2	2.5	3.0	3.8	5.78	12.98																							
8-Nov	3.3	3.5	3.1	3.7	2.9	2.0	2.5	2.4	2.4	2.9	2.4	0.8	1.0	1.4	1.4	1.2	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.72	3.68																							
9-Nov	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.9	0.9	1.7	2.0	2.2	2.8	2.9	1.4	-0.2	-1.1	-1.8	-2.7	-3.9	-4.1	-3.9	0.05	2.91																							
10-Nov	-4.7	-4.6	-4.9	-5.7	-6.1	-5.6	-6.8	-6.7	-6.6	-3.2	-1.0	1.6	3.1	5.2	5.7	4.6	2.1	-0.2	-0.4	-0.5	-0.4	-0.5	-0.1	0.3	-1.47	5.72																							
11-Nov	1.0	-0.1	-0.6	-1.1	0.5	0.4	2.1	3.8	4.4	4.1	4.0	4.1	5.1	5.6	4.9	3.4	2.0	-0.1	-0.1	2.7	1.7	0.4	-1.0	0.6	1.98	5.64																							
12-Nov	-0.2	-0.9	-1.9	-3.4	-3.4	-4.7	-3.5	-5.1	-4.0	-0.4	2.8	5.0	5.5	5.0	4.4	4.4	2.9	2.5	1.6	1.1	-0.2	-1.1	-1.4	1.3	0.27	5.48																							
13-Nov	3.1	3.5	2.8	3.5	3.6	2.8	1.5	1.1	2.1	2.8	4.9	5.4	4.1	3.9	4.0	3.3	2.3	1.7	1.4	0.8	0.7	1.3	1.1	0.3	2.59	5.39																							
14-Nov	-0.9	-1.0	-1.7	-0.9	-0.3	0.1	0.6	0.0	-0.5	-0.1	1.0	2.9	4.0	5.4	5.6	3.2	0.5	-0.4	-0.1	-0.6	-1.4	-1.0	-0.7	-0.6	0.54	5.57																							
15-Nov	-0.5	-0.4	-0.2	0.1	0.2	0.3	0.2	0.1	-0.1	0.1	0.5	0.4	0.3	0.1	0.1	0.1	0.1	0.3	0.4	0.2	0.3	0.3	0.0	0.2	0.13	0.47																							
16-Nov	-0.2	-0.7	-1.0	-1.1	-1.1	-1.2	-1.6	-2.4	-2.7	-2.4	-0.9	0.5	1.5	2.1	2.2	1.2	-2.2	-4.0	-3.5	-2.6	-1.6	-0.5	0.1	0.2	-0.92	2.22																							
17-Nov	-0.9	-1.0	-0.9	-0.1	0.7	0.7	0.0	0.4	0.3	1.6	1.5	2.6	2.6	2.7	2.4	2.1	1.6	0.4	-0.1	-0.6	-0.5	-1.0	-0.9	-1.8	0.50	2.66																							
18-Nov	-2.1	-2.8	-4.4	-5.4	-6.4	-7.0	-7.1	-7.6	-7.8	-7.2	-6.5	-5.3	-4.1	-3.1	-2.5	-2.8	-4.7	-5.7	-6.5	-8.5	-8.2	-7.4	-7.7	-8.8	-5.82	-2.06																							
19-Nov	-10.0	-10.2	-8.3	-7.7	-6.4	-6.3	-5.8	-5.6	-5.7	-5.7	-4.9	-3.9	-2.8	-2.5	-2.5	-3.1	-4.0	-4.6	-4.8	-5.4	-5.1	-5.4	-6.1	-7.4	-5.59	-2.47																							
20-Nov	-8.0	-8.2	-8.5	-8.1	-9.0	-10.1	-10.2	-10.8	-11.9	-9.4	-6.5	-4.7	-3.1	-2.8	-2.9	-3.5	-6.2	-7.5	-7.0	-5.0	-4.2	-3.9	-2.9	-2.5	-6.53	-2.46																							
21-Nov	-0.8	-1.3	-3.2	-4.4	-3.3	-1.9	-4.1	-3.3	-2.6	-1.0	3.1	3.2	3.2	3.4	4.3	3.7	2.0	0.8	3.8	5.0	4.2	4.3	4.3	4.4	1.01	5.00																							
22-Nov	4.2	-0.7	-2.4	-1.6	-2.0	-2.3	0.1	2.7	1.8	3.4	4.6	5.7	6.2	6.3	5.9	4.4	3.1	2.0	1.3	0.5	0.7	0.4	-0.2	-2.1	1.75	6.26																							
23-Nov	-2.3	-1.4	-1.8	-1.7	-1.1	-1.8	-2.3	-2.6	-2.1	-1.7	-1.1	-0.6	-1.6	-1.9	-2.1	-2.8	-3.2	-3.6	-3.9	-4.1	-4.3	-4.5	-4.6	-4.6	-2.41	-0.56																							
24-Nov	-4.8	-4.8	-4.9	-5.2	-5.7	-6.6	-7.1	-7.4	-7.8	-8.3	-8.7	-8.9	-10.0	-10.3	-10.9	-11.3	-11.6	-11.9	-12.1	-13.3	-14.7	-16.4	-18.6	-19.6	-10.03	-4.78																							
25-Nov	-19.3	-20.1	-19.9	-19.7	-20.1	-20.1	-20.6	-19.7	-18.8	-17.3	-12.9	-10.9	-9.1	-6.4	-5.5	-5.5	-7.7	-6.1	-5.9	-7.0	-6.1	-5.8	-6.1	-7.2	-12.41	-5.49																							
26-Nov	-11.9	-12.0	-12.3	-12.5	-14.8	-12.6	-12.4	-12.7	-13.9	-12.0	-9.5	-6.8	-5.7	-5.7	-4.1	-4.9	-5.9	-6.6	-6.2	-7.1	-6.7	-7.4	-5.8	-6.2	-8.98	-4.12																							
27-Nov	-6.1	-6.1	-8.1	-8.1	-7.1	-8.8	-8.6	-8.1	-4.8	-5.4	-3.8	-1.4	3.1	2.4	4.1	4.7	1.5	1.0	-0.2	1.9	-5.0	-5.7	-6.1	-6.7	-3.40	4.69																							
28-Nov	-6.1	-5.1	-7.3	-8.2	-8.0	-8.6	-8.2	-7.1	-8.2	-6.8	-4.9	-3.2	-1.3	0.2	-0.2	-1.3	-1.3	-1.8	-2.4	-4.3	-4.1	-4.7	-4.8	-4.9	-4.69	0.24																							
29-Nov	-5.1	-6.9	-6.4	-5.7	-6.0	-6.3	-6.5	-6.6	-7.5	-5.6	-3.4	-2.2	-0.9	0.4	1.6	0.3	-0.2	0.4	0.0	-3.4	-2.7	-3.0	-4.5	-4.7	-3.54	1.58																							
30-Nov	-5.7	-4.6	-5.5	-6.2	-6.4	-7.0	-8.7	-10.4	-10.2	-7.4	-6.2	-4.8	-3.1	-2.1	-1.9	-1.4	-0.7	-4.3	-6.7	-7.1	-6.7	-7.4	-7.7	-10.2	-5.93	-0.75																							
																								-2.59	-2.83	-3.22	-3.22	-3.27	-3.46	-3.67	-3.66	-3.52	-2.39	-0.97	0.16	1.00	1.47	1.67	1.18	-0.15	-1.01	-1.37	-1.59	-1.90	-2.17	-2.41	-2.64	Diurnal Average	
																								4.22	3.50	3.50	3.68	3.64	3.70	3.37	3.83	4.42	6.62	9.28	10.09	11.39	12.79	12.98	11.77	8.59	6.45	3.85	5.00	4.25	4.34	4.34	4.41	Diurnal Maximum	
PF - Power Failure																																																	



WCAS - Genesee
Summary of Hourly Averages

External Temperature 10 m (ET_10) - C
November 2015

Maximum Value: 12.39 C on Nov 7 15:00 Maximum Daily Average: 6.62 C on Nov 7																								Hours in Service: 720			
Minimum Value: -18.6 C on Nov 25 05:00 Minimum Daily Average: -11.41 C on Nov 25																								Hours of Data: 704			
Maximum Diurnal Average: 1.34 C at hour 16 Minimum Diurnal Average: -2.82 C at hour 9																								Hours of Missing Data: 16			
Monthly Average: -1.112 C Percentiles: P₁ = -18.0 P₁₀ = -7.0 Q₁ = -3.7 Median = -0.2 Q₃ = 1.8 P₉₀ = 4.0 P₉₉ = 8.0																								Hours of Calibration: 0			
Percent Operational Time: 97.8																											
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-Nov	1.1	1.0	1.2	1.1	0.7	0.2	-0.1	0.0	0.3	0.6	1.1	2.0	2.6	2.9	3.2	3.5	3.2	2.9	2.7	2.4	2.2	2.0	0.7	0.6	1.59	3.53	
2-Nov	1.2	1.1	0.8	0.7	0.4	0.4	0.3	0.1	0.1	0.2	0.6	1.0	1.3	1.2	1.1	1.1	1.2	1.0	0.9	0.8	0.3	0.1	-0.2	-0.1	0.65	1.29	
3-Nov	-0.7	-0.5	-0.3	-0.7	-0.9	-0.8	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	-1.8	-2.1	--	-0.29
4-Nov	-2.1	-2.4	-2.8	-3.1	-4.0	-3.8	-3.7	-3.9	-3.8	-3.3	-1.9	-0.2	1.0	2.2	2.9	4.0	3.7	2.9	1.6	1.3	1.7	2.1	3.0	2.2	-0.26	4.01	
5-Nov	1.9	1.1	0.7	2.5	2.8	2.5	2.3	1.7	0.6	0.7	1.1	1.4	1.7	1.7	1.9	1.9	1.5	1.3	1.5	1.4	1.4	0.7	-0.7	-0.8	1.37	2.80	
6-Nov	-1.0	-0.6	-0.4	-0.3	-0.9	-1.6	-1.9	-2.1	-1.9	-0.7	1.2	3.7	5.1	5.8	6.1	6.0	5.1	5.3	4.9	4.4	3.8	4.1	4.4	4.6	2.22	6.09	
7-Nov	4.0	4.0	5.0	5.6	4.5	5.4	5.0	5.2	5.1	6.6	8.4	9.1	10.7	12.0	12.4	12.0	11.0	8.0	5.2	4.3	3.9	3.6	4.0	4.0	6.62	12.39	
8-Nov	3.4	3.9	3.7	3.6	3.3	2.7	2.5	2.2	2.1	2.5	2.0	0.4	0.5	0.9	0.8	0.7	0.4	0.1	0.0	0.0	0.1	0.1	0.1	0.0	1.50	3.88	
9-Nov	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.2	-0.2	-0.3	-0.2	0.1	0.7	1.1	1.4	2.0	2.1	1.7	0.9	0.1	-1.2	-2.0	-2.3	-2.6	-2.4	-0.06	2.11	
10-Nov	-2.5	-2.4	-2.6	-3.6	-3.7	-4.3	-4.8	-5.1	-6.0	-4.7	-2.7	-0.1	1.8	3.9	5.2	4.9	3.7	2.4	1.9	1.6	1.8	1.7	1.7	1.2	-0.44	5.21	
11-Nov	1.7	1.1	0.2	0.1	1.3	1.4	2.6	3.8	4.5	4.0	3.7	3.6	4.2	4.9	4.6	4.0	3.2	1.3	0.7	2.8	2.0	1.0	0.0	0.8	2.40	4.94	
12-Nov	0.4	-0.2	-1.2	-2.2	-2.2	-2.8	-1.9	-2.8	-3.0	-1.3	1.3	3.6	4.4	4.4	4.3	4.2	3.4	3.2	3.0	2.8	2.6	2.1	1.8	3.2	1.12	4.44	
13-Nov	4.2	5.0	4.8	4.8	5.2	4.8	4.3	3.2	3.2	3.7	5.0	4.8	3.6	3.6	4.1	3.6	2.3	1.7	1.4	1.0	0.9	1.4	1.3	1.0	3.29	5.15	
14-Nov	0.2	0.1	-0.2	0.1	0.4	0.9	1.5	1.4	0.9	0.1	0.8	2.0	3.3	4.2	4.8	3.9	2.8	1.2	0.7	0.2	-0.8	-0.2	-0.5	-0.6	1.13	4.79	
15-Nov	-0.8	-0.9	-0.7	-0.3	-0.3	0.0	-0.3	-0.4	-0.6	-0.5	-0.4	-0.6	-0.6	-0.7	-0.6	-0.5	-0.5	-0.2	0.0	-0.2	-0.2	-0.2	-0.2	-0.2	-0.41	-0.05	
16-Nov	-0.6	-1.1	-1.3	-1.6	-1.6	-1.7	-1.9	-2.6	-2.9	-2.8	-1.7	-0.5	0.5	1.1	1.4	1.3	0.2	-1.2	-1.9	-1.9	-1.3	-0.2	0.2	0.8	-0.89	1.37	
17-Nov	0.7	0.5	0.5	1.4	1.8	1.5	0.8	1.2	1.3	1.6	1.0	2.0	1.9	2.0	1.9	1.8	1.4	0.1	-0.4	-0.9	-0.8	-1.3	-1.1	-2.0	0.70	2.03	
18-Nov	-2.3	-3.1	-4.6	-5.6	-6.5	-7.1	-7.3	-7.8	-8.0	-7.8	-7.3	-6.3	-5.2	-4.1	-3.3	-3.3	-4.0	-4.5	-5.3	-6.3	-7.0	-7.4	-7.4	-7.9	-5.80	-2.31	
19-Nov	-9.0	-9.4	-8.4	-7.7	-6.8	-6.9	-6.3	-6.0	-6.0	-6.2	-5.6	-4.9	-4.0	-3.3	-3.2	-3.5	-4.0	-4.5	-4.6	-5.0	-5.2	-5.5	-6.2	-7.2	-5.80	-3.19	
20-Nov	-7.8	-8.1	-8.4	-8.3	-9.2	-10.2	-10.5	-10.9	-11.2	-10.3	-8.1	-6.7	-4.8	-4.0	-3.8	-3.7	-4.3	-5.4	-6.0	-4.9	-4.3	-4.2	-3.1	-2.3	-6.69	-2.32	
21-Nov	-0.7	-0.9	-2.1	-2.3	-1.5	-0.7	-1.9	-2.0	-1.6	-0.8	2.5	2.6	2.6	2.9	4.0	4.7	4.5	3.3	5.2	5.5	4.9	4.7	4.7	4.7	1.77	5.54	
22-Nov	4.7	1.6	0.3	0.3	0.2	-0.4	2.1	3.7	2.9	3.4	4.1	5.1	5.5	5.7	5.4	4.4	3.4	2.6	2.0	1.3	1.4	1.3	1.0	-0.8	2.55	5.65	
23-Nov	-1.7	-0.8	-1.8	-1.7	-1.1	-1.9	-1.6	-1.7	-1.2	-1.7	-1.3	-1.2	-2.3	-2.6	-2.7	-3.3	-3.8	-4.1	-4.4	-4.6	-4.8	-5.0	-5.1	-2.59	-0.80		
24-Nov	-5.3	-5.3	-5.4	-5.7	-6.1	-7.0	-7.6	-7.8	-8.2	-8.8	-9.2	-9.6	-10.6	-11.0	-11.5	-11.8	-12.1	-12.3	-12.6	-13.0	-13.9	-15.3	-17.0	-18.4	-10.23	-5.29	
25-Nov	-17.9	-18.4	-18.1	-18.3	-18.6	-18.4	-18.3	-17.9	-17.1	-16.6	-11.8	-9.8	-8.6	-6.8	-5.8	-5.5	-6.1	-5.4	-5.3	-5.7	-5.8	-5.6	-5.8	-6.6	-11.41	-5.28	
26-Nov	-9.4	-10.8	-11.0	-10.8	-11.9	-11.0	-10.8	-10.8	-11.8	-10.8	-9.1	-7.0	-5.7	-4.8	-3.8	-3.3	-3.5	-4.0	-3.8	-4.1	-3.6	-3.7	-2.2	-2.8	-7.11	-2.24	
27-Nov	-2.3	-2.9	-4.4	-4.6	-4.5	-4.8	-5.0	-4.1	-1.6	-1.3	-0.9	0.4	4.0	4.1	4.5	5.5	3.8	3.9	3.0	3.6	-0.9	-1.1	-2.5	-3.2	-0.48	5.51	
28-Nov	-3.2	-2.4	-4.7	-5.9	-5.2	-6.0	-5.6	-4.7	-5.5	-5.7	-4.2	-3.0	-1.2	0.6	0.6	1.0	1.6	1.8	1.0	-0.6	-0.4	-1.3	-1.3	-1.8	-2.34	1.82	
29-Nov	-2.0	-3.7	-3.8	-3.5	-3.3	-4.0	-4.3	-4.9	-5.4	-4.2	-3.2	-1.7	-0.7	0.8	2.1	2.6	3.0	3.4	3.2	0.9	0.8	0.4	0.0	-1.6	-1.22	3.40	
30-Nov	-1.4	-2.4	-3.5	-2.9	-3.4	-4.0	-6.5	-8.1	-6.9	-5.8	-5.3	-4.2	-3.1	-1.0	-0.7	0.0	0.6	0.1	-3.3	-3.1	-3.9	-4.2	-4.4	-5.7	-3.47	0.59	
																								Diurnal Average			
																								Diurnal Maximum			
																								-1.57 -1.90 -2.29 -2.30 -2.37 -2.59 -2.72 -2.80 -2.82 -2.41 -1.39 -0.47 0.35 0.98 1.32 1.34 0.83 0.20 -0.28 -0.58 -0.93 -1.11 -1.31 -1.62			
																								4.69 5.02 5.04 5.58 5.15 5.35 5.00 5.23 5.11 6.55 8.36 9.09 10.71 12.00 12.39 11.96 10.99 8.01 5.24 5.54 4.94 4.74 4.74 4.73			
PF - Power Failure																											



WCAS - Genesee
Summary of Hourly Averages

Delta Temperature (ET_D) - C
November 2015

Maximum Value: 4.61 C on Nov 27 22:00 Maximum Daily Average: 2.90 C on Nov 27																								Hours in Service: 720 Hours of Data: 704			
Minimum Value: -2.0 C on Nov 4 12:00 Minimum Daily Average: -0.62 C on Nov 1 Maximum Diurnal Average: 1.21 C at hour 18 Minimum Diurnal Average: -0.64 C at hour 13 Monthly Average: 0.590 C Percentiles: P ₁ = -1.6 P ₁₀ = -0.7 Q ₁ = -0.4 Median = 0.2 Q ₃ = 1.4 P ₉₀ = 2.5 P ₉₉ = 4.0																								Hours of Missing Data: 16 Hours of Calibration: 0 Percent Operational Time: 97.8			
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-Nov	0.3	-0.2	-0.5	-0.6	-0.8	-0.8	-0.8	-0.9	-1.0	-1.1	-0.9	-1.0	-0.9	-0.8	-0.7	-0.6	-0.5	-0.5	-0.4	-0.4	-0.5	-0.5	-0.5	-0.4	-0.62	0.30	
2-Nov	-0.3	-0.4	-0.5	-0.5	-0.5	-0.5	-0.4	-0.5	-0.4	-0.5	-0.6	-0.7	-0.6	-0.6	-0.7	-0.7	-0.5	-0.4	-0.4	-0.4	0.0	0.2	0.7	0.8	-0.35	0.77	
3-Nov	0.4	0.4	0.3	-0.2	-0.5	-0.5	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	1.3	1.3	--	1.28	
4-Nov	1.2	1.2	1.7	1.4	0.8	1.1	1.3	1.3	-0.1	-1.5	-1.8	-2.0	-1.9	-1.5	-1.2	-0.5	0.7	1.3	1.9	1.1	1.2	0.7	1.2	0.34	1.87		
5-Nov	1.8	0.7	0.5	0.4	0.1	0.1	0.0	-0.2	-0.4	-0.4	-0.4	-0.3	-0.3	-0.4	-0.5	-0.5	-0.4	-0.1	-0.3	-0.1	-0.2	-0.3	-0.5	-0.5	-0.10	1.75	
6-Nov	-0.3	0.0	-0.2	0.4	1.1	0.8	0.9	1.2	0.0	-1.0	-1.4	-1.5	-1.3	-0.7	-0.4	0.1	1.6	1.9	1.9	1.1	1.1	1.9	2.2	1.8	0.47	2.18	
7-Nov	1.6	1.3	1.5	2.5	1.6	1.6	1.6	1.4	0.7	-0.1	-0.9	-1.0	-0.7	-0.8	-0.6	0.2	2.4	1.5	2.0	1.2	0.7	1.1	1.0	0.2	0.84	2.45	
8-Nov	0.1	0.4	0.6	-0.1	0.4	0.7	0.0	-0.2	-0.3	-0.4	-0.4	-0.4	-0.5	-0.4	-0.5	-0.5	-0.4	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.21	0.65	
9-Nov	-0.4	-0.4	-0.5	-0.5	-0.5	-0.5	-0.6	-0.7	-0.8	-1.1	-0.9	-0.9	-0.9	-0.8	-0.8	-0.8	0.4	1.2	1.2	0.6	0.7	1.6	1.4	1.6	-0.10	1.56	
10-Nov	2.2	2.2	2.3	2.1	2.3	1.3	2.1	1.5	0.6	-1.4	-1.7	-1.7	-1.3	-1.2	-0.5	0.3	1.5	2.6	2.3	2.1	2.1	2.2	1.8	0.9	1.02	2.58	
11-Nov	0.8	1.2	0.8	1.2	0.8	1.0	0.5	0.0	0.1	-0.1	-0.3	-0.5	-0.8	-0.7	-0.2	0.7	1.2	1.4	0.9	0.1	0.3	0.6	1.0	0.2	0.41	1.44	
12-Nov	0.6	0.7	0.7	1.2	1.2	1.9	1.6	2.2	0.9	-0.8	-1.5	-1.4	-1.0	-0.6	-0.1	-0.3	0.5	0.6	1.4	1.6	2.7	3.2	3.1	2.0	0.85	3.21	
13-Nov	1.1	1.5	2.0	1.2	1.5	2.0	2.7	2.1	1.2	0.9	0.1	-0.6	-0.5	-0.4	0.1	0.3	0.0	-0.1	0.0	0.2	0.2	0.1	0.2	0.7	0.69	2.73	
14-Nov	1.1	1.0	1.4	1.0	0.7	0.8	0.9	1.4	1.5	0.2	-0.2	-0.8	-0.7	-1.2	-0.8	0.7	2.3	1.5	0.8	0.8	0.6	0.7	0.2	0.1	0.58	2.27	
15-Nov	-0.3	-0.5	-0.4	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.6	-0.9	-1.0	-0.9	-0.8	-0.7	-0.6	-0.5	-0.5	-0.5	-0.4	-0.4	-0.4	-0.3	-0.4	-0.53	-0.27
16-Nov	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.3	-0.2	-0.2	-0.5	-0.8	-1.0	-1.0	-1.0	-0.8	0.0	2.5	2.8	1.6	0.7	0.4	0.2	0.2	0.6	0.04	2.83	
17-Nov	1.7	1.4	1.4	1.5	1.0	0.8	0.8	0.8	1.0	0.1	-0.4	-0.6	-0.7	-0.6	-0.4	-0.4	-0.2	-0.4	-0.4	-0.3	-0.3	-0.3	-0.2	-0.1	0.21	1.65	
18-Nov	-0.2	-0.3	-0.2	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.5	-0.8	-1.0	-1.0	-0.9	-0.7	-0.4	0.7	1.1	1.3	2.1	1.2	-0.1	0.2	0.9	0.02	2.13	
19-Nov	1.0	0.8	-0.1	-0.1	-0.4	-0.5	-0.5	-0.4	-0.3	-0.5	-0.7	-0.9	-1.2	-0.9	-0.6	-0.4	-0.1	0.1	0.2	0.4	0.0	-0.1	0.0	0.1	-0.21	1.00	
20-Nov	0.1	0.0	0.0	-0.2	-0.1	-0.1	-0.2	-0.1	0.7	-0.9	-1.6	-1.9	-1.6	-1.2	-0.8	-0.2	1.9	2.1	1.0	0.0	-0.1	-0.3	-0.2	0.1	-0.15	2.08	
21-Nov	0.1	0.3	1.1	2.1	1.7	1.2	2.1	1.2	1.0	0.2	-0.6	-0.6	-0.6	-0.5	-0.3	1.0	2.4	2.5	1.3	0.5	0.7	0.4	0.4	0.3	0.75	2.46	
22-Nov	0.5	2.4	2.6	1.9	2.2	1.9	1.9	1.0	1.0	-0.1	-0.4	-0.6	-0.7	-0.6	-0.4	0.0	0.3	0.5	0.7	0.8	0.7	0.9	1.2	1.2	0.78	2.62	
23-Nov	0.6	0.6	0.1	0.0	0.0	-0.1	0.6	0.9	0.9	0.0	-0.6	-0.6	-0.6	-0.7	-0.6	-0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.17	0.95	
24-Nov	-0.5	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.5	-0.5	-0.6	-0.7	-0.6	-0.6	-0.5	-0.5	-0.4	-0.4	0.3	0.8	1.1	1.5	1.2	-0.19	1.53	
25-Nov	1.4	1.6	1.8	1.3	1.5	1.7	2.3	1.9	1.6	0.7	1.1	1.1	0.5	-0.4	-0.2	0.0	1.6	0.7	0.6	1.3	0.4	0.2	0.3	0.5	0.98	2.28	
26-Nov	2.4	1.2	1.3	1.6	2.8	1.6	1.5	1.8	2.1	1.1	0.4	-0.2	0.1	0.8	0.3	1.6	2.4	2.6	2.4	3.0	3.1	3.7	3.5	3.4	1.85	3.69	
27-Nov	3.8	3.2	3.7	3.5	2.6	4.0	3.6	4.0	3.2	4.1	2.8	1.8	0.9	1.7	0.4	0.8	2.3	2.9	3.2	1.7	4.0	4.6	3.5	3.4	2.90	4.61	
28-Nov	2.9	2.7	2.6	2.3	2.8	2.6	2.6	2.4	2.7	1.2	0.6	0.2	0.1	0.3	0.8	2.3	3.0	3.6	3.4	3.6	3.6	3.3	3.5	3.1	2.34	3.63	
29-Nov	3.0	3.2	2.5	2.1	2.7	2.3	2.1	1.7	2.1	1.4	0.2	0.4	0.2	0.4	0.5	2.3	3.1	3.0	3.2	4.2	3.5	3.4	4.5	3.1	2.30	4.50	
30-Nov	4.2	2.1	2.0	3.3	3.1	2.9	2.2	2.3	3.3	1.6	0.9	0.5	0.0	1.0	1.2	1.3	1.3	4.3	3.4	4.0	2.9	3.3	3.3	4.4	2.45	4.43	
																								Diurnal Average			
																								Diurnal Maximum			
																								4.24 3.22 3.69 3.48 3.05 3.99 3.60 3.97 3.27 4.07 2.82 1.77 0.92 1.70 1.19 2.28 3.12 4.33 3.44 4.23 4.03 4.61 4.50 4.43			
PF - Power Failure																											



WCAS - Genesee
Summary of Hourly Averages

Wind Speed (WS) - kph
November 2015

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1 Spd	7.2	7.9	6.3	4.5	3.9	7.6	6.2	3.3	8.6	8.7	6.9	9.4	12.7	13.3	12.9	13.8	9.4	9.4	7.6	7.4	5.8	6.7	9.6	7.8	5.43	13.81	
Dir	ENE	E	ESE	ESE	S	SW	SW	SSW	S	SSE	E	E	ESE	ESE	E	E	E	E	ESE	ESE	ESE	SE	SW	W	ESE	E	
2 Spd	9.9	12.2	14.2	10.4	10.1	7.9	6.3	9.9	11.9	11.5	12.5	10.1	8.4	8.0	6.9	4.6	5.3	2.1	5.6	2.5	3.1	1.3	2.4	0.4	6.65	14.19	
Dir	W	WNW	WNW	WNW	WNW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	WNW	W	NNW	SW	W	W	W	ENE	WSW	NW	NW	WNW	
3 Spd	2.2	6.3	6.2	1.1	4.0	5.1	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	10.6	9.8	--	10.59
Dir	SSW	NW	NNW	NW	W	W	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	WSW	WSW	--	WSW
4 Spd	7.5	5.6	0.7	5.1	5.7	6.3	5.9	7.4	8.5	10.2	9.8	9.6	11.1	7.3	8.9	7.5	5.1	5.2	8.1	8.5	7.8	14.9	14.2	7.5	6.91	14.89	
Dir	SW	SW	SE	S	SSE	S	SSW	WSW	SW	SSW	SSW	SSW	SW	S	S	SSW	SW	SW	SW	WSW	WSW	WSW	WSW	W	WSW	SW	WSW
5 Spd	10.2	11.6	11.6	13.3	12.6	12.1	12.0	19.0	14.3	13.4	11.9	12.9	12.5	12.6	10.6	10.5	6.1	9.4	7.5	8.9	4.1	3.6	1.6	9.07	18.96		
Dir	WSW	WSW	WSW	W	W	WNW	W	WNW	WNW	W	W	WNW	WNW	NW	NNW	NNW	WNW	NW	WNW	NW	N	E	SSE	WNW	WNW	WNW	WNW
6 Spd	4.1	6.0	8.0	7.7	9.9	8.1	11.8	11.0	11.5	11.1	10.2	12.6	17.1	15.0	13.0	13.7	11.5	11.5	9.9	13.2	7.3	7.6	4.4	6.0	9.14	17.14	
Dir	S	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SSW	SSW	S	S	S	S	SSW	S	SW	SSW	SW	WSW	SW	SSW	SSW	
7 Spd	5.2	0.7	2.0	3.8	1.3	0.8	1.9	2.6	4.8	4.6	3.7	7.0	2.5	3.6	2.0	1.3	8.0	12.4	11.9	16.6	14.3	12.5	10.3	12.4	2.63	16.57	
Dir	SSW	SSE	SSW	S	S	NE	SE	S	SW	SW	SW	S	WSW	SW	S	N	N	NNE	N	N	NNW	NNW	NNW	NW	NNW	NNW	N
8 Spd	1.6	6.7	13.0	12.1	9.8	4.2	3.5	5.8	9.6	12.1	17.2	16.3	14.4	20.5	16.2	14.3	10.6	9.0	11.0	10.9	12.4	8.9	9.6	9.3	9.57	20.48	
Dir	SW	NW	NNW	NW	NNW	NNE	NE	NNE	N	NNE	NE	NE	NNE	NNE	NNE	NNE	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNE	
9 Spd	7.2	6.0	4.4	3.1	4.4	1.6	0.7	1.1	3.3	4.3	4.0	8.7	6.8	2.6	1.4	6.9	5.8	6.3	6.2	10.0	9.0	8.7	7.9	9.7	2.15	9.96	
Dir	N	N	N	NNW	NNW	N	ENE	ESE	SE	SSE	WSW	WSW	WSW	SSW	SE	SSE	SE	ESE	SE	SE	SSE	SSE	SSE	S	SSE	SE	
10 Spd	10.2	8.7	5.7	9.7	11.3	7.6	9.6	9.6	6.2	9.3	10.5	8.5	6.1	7.1	11.4	11.2	11.2	10.1	15.5	14.9	12.0	12.8	12.3	5.5	8.85	15.48	
Dir	S	S	SSW	S	SSW	SW	SW	WSW	SW	SSW	SSW	SSW	SSE	SE	SE	SE	SE	SSE	S	S	S	S	S	SW	S	S	
11 Spd	8.3	5.7	9.7	10.9	4.2	6.7	9.4	18.0	12.1	12.7	13.1	15.2	17.3	19.8	17.7	7.2	7.6	10.1	10.3	15.2	14.0	14.5	11.8	12.5	10.99	19.82	
Dir	W	WNW	WSW	WSW	WNW	WSW	W	NW	WNW	W	WNW	WNW	WNW	WNW	NW	WNW	WSW	SW	WSW	WNW	WNW	W	W	W	W	WNW	
12 Spd	10.3	9.3	9.3	8.6	6.5	4.2	6.6	8.2	11.5	13.0	12.4	15.6	20.3	19.9	18.8	27.1	18.8	16.9	11.9	13.8	13.4	11.4	10.0	13.6	10.88	27.14	
Dir	W	WSW	WSW	SW	WSW	SW	WSW	SSW	SW	SW	SW	SSW	S	S	SSE	SSE	SSE	SSE	SSE	S	SSE	SSE	S	SW	SSW	SSE	
13 Spd	10.7	7.5	7.7	8.8	10.9	9.1	10.1	5.5	0.1	1.1	12.2	19.2	27.9	11.9	8.4	8.0	16.1	16.6	14.9	13.1	13.6	16.4	14.5	15.7	8.32	27.90	
Dir	SW	SSW	S	SSW	SSW	SSE	S	S	SSW	NW	WNW	NW	NW	WNW	WSW	SSW	WSW	WSW	SW	SW	SW	SW	SW	SW	WSW	NW	
14 Spd	16.0	15.5	14.1	15.7	15.9	15.2	10.8	0.6	7.2	2.1	1.0	5.3	9.2	15.2	12.6	5.8	7.1	7.8	6.2	5.3	3.7	0.6	4.9	5.1	5.54	16.03	
Dir	SW	SW	SW	SW	SW	SW	SW	NW	SSE	SSE	SE	SSW	SW	SW	SSW	SSW	NNW	N	N	NNE	S	SE	SE	E	SW	SW	
15 Spd	4.9	3.8	6.4	5.8	13.7	12.5	11.8	11.7	9.0	9.2	7.6	6.3	4.5	2.7	3.4	2.6	5.0	7.3	17.7	19.8	19.3	16.2	15.3	20.4	4.08	20.38	
Dir	ENE	E	ENE	ENE	NNE	NE	ENE	E	E	ESE	ESE	ESE	E	NNE	NNE	N	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	N	WNW	
16 Spd	23.1	21.7	22.5	24.1	30.6	30.5	28.8	17.8	18.1	15.3	16.4	15.4	16.5	15.5	11.8	11.2	10.2	12.3	12.9	18.1	15.1	12.0	13.9	18.6	10.81	30.55	
Dir	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	WSW	SW	S	SSE	SSE	SSE	SSE	SSE	SSE	SSW	W	WNW	
17 Spd	16.4	9.2	5.2	14.7	20.1	20.5	17.2	16.3	9.8	12.5	11.5	7.4	4.4	4.8	7.2	5.6	9.3	8.7	16.4	14.7	24.5	22.0	27.2	28.8	7.42	28.82	
Dir	SSW	SW	W	SW	SW	WSW	SW	SW	WSW	NW	NW	WSW	SSE	SE	NE	ENE	NNE	NE	N	NNW	NNW	NW	NW	NW	WNW	NW	
18 Spd	29.9	37.0	35.3	35.1	31.3	25.0	22.6	28.0	24.3	32.4	29.9	28.0	29.9	28.4	24.0	22.4	12.9	9.9	7.7	6.5	12.7	11.8	10.4	12.8	21.66	36.96	
Dir	NW	NW	NW	NW	NW	WNW	WNW	NW	WNW	NW	NW	NW	NW	NW	WNW	NW	NW	WNW	WSW	WSW	WSW	WSW	SW	WSW	WNW	NW	
19 Spd	14.2	14.7	12.5	10.8	5.3	13.7	10.7	13.2	15.1	13.4	11.8	15.4	16.4	18.4	18.1	15.8	9.8	10.3	12.0	11.8	14.9	13.0	15.1	14.1	12.31	18.36	
Dir	WSW	WSW	WSW	WSW	NW	NW	NW	WSW	WNW	W	W	WNW	WNW	NW	NW	WNW	WNW	W	W	WNW	WNW	WNW	WNW	WNW	WNW	NW	
20 Spd	14.0	13.5	12.9	21.9	23.3	17.4	17.9	13.4	12.2	11.3	14.1	14.5	16.9	20.1	17.9	14.0	10.9	9.1	13.2	12.7	13.6	13.6	13.8	13.6	12.31	23.33	
Dir	WNW	WNW	WNW	NW	NW	WNW	WNW	W	WSW	WSW	SW	SW	SW	SW	SW	SW	SSW	SSW	SW	WSW	WSW	SW	SW	WSW	WSW	NW	
21 Spd	16.5	16.0	12.3	8.9	9.3	12.9	11.7	11.8	12.7	13.0	18.2	14.1	10.2	11.8	9.9	6.6	8.6	11.1	14.9	16.6	17.8	16.5	17.8	16.6	11.92	18.23	
Dir	W	W	WSW	SW	WSW	WSW	SW	SW	SW	SW	WSW	WSW	SSW	SSW	SSW	S	SSW	WSW	W	W	W	W	W	WNW	WSW	WSW	
22 Spd	14.0	10.8	12.4	11.8	13.4	11.9	13.4	13.9	11.0	15.7	26.6	30.4	30.2	33.2	29.4	25.4	20.5	18.4	14.0	12.4	12.8	12.1	9.3	10.2	15.44	33.23	
Dir	WNW	WSW	WSW	WSW	WSW	WSW	W	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	WNW	NW	WNW	W	WNW	NW	



WCAS - Genesee
Summary of Hourly Averages

Wind Speed (WS) - kph
November 2015

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	8.2	10.0	9.8	6.4	9.1	5.7	5.6	0.8	1.6	4.8	8.5	11.2	12.3	13.2	13.7	17.2	19.1	18.2	17.8	18.3	18.5	19.6	23.0	21.2	7.72	22.97	
Dir	WSW	WSW	WSW	WSW	WNW	SW	WSW	SW	NE	NE	NE	ENE	ENE	ENE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NE
24 Spd	21.3	21.7	22.4	23.1	22.8	25.4	25.3	22.7	25.3	23.3	20.4	22.6	20.8	20.1	19.2	16.9	13.5	14.6	9.3	4.2	5.9	9.9	7.9	8.4	15.49	25.41	
Dir	NNE	N	N	N	N	N	N	N	N	N	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	WNW	W	WSW	WSW	WSW	NNW	N	
25 Spd	10.7	14.2	13.6	8.0	12.8	13.0	11.2	12.0	14.4	8.0	18.1	20.7	15.8	11.3	12.1	12.1	9.8	13.0	14.0	12.7	15.8	17.1	17.0	14.2	12.81	20.65	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	W	WNW	WNW	WNW	W	W	WNW	W	WNW	WNW	WNW	WNW	W	W	
26 Spd	9.0	14.5	14.9	16.2	11.0	15.1	17.7	15.4	9.3	12.7	14.9	13.4	10.9	13.9	16.1	12.9	15.7	18.2	18.8	18.9	22.8	21.2	19.5	17.3	15.36	22.81	
Dir	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
27 Spd	18.8	19.4	19.3	22.0	23.3	19.4	19.1	19.2	21.9	19.1	20.3	18.0	18.9	16.4	16.6	20.4	14.9	14.2	13.4	15.2	12.3	11.5	17.0	19.3	17.36	23.33	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	WNW	W	W	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW
28 Spd	21.3	17.8	8.7	11.8	20.1	14.0	18.8	21.6	17.3	17.6	19.2	11.7	9.0	4.6	6.7	6.4	13.0	7.2	9.1	4.2	12.3	16.5	18.1	17.6	13.40	21.65	
Dir	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WNW	W	W	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW
29 Spd	17.1	12.9	12.7	14.3	17.5	13.6	19.1	17.6	16.4	20.7	14.2	10.5	8.1	5.6	6.0	9.2	12.5	16.5	12.2	0.2	11.7	11.6	7.1	6.0	12.17	20.73	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	NE	WSW	WSW	W	SW	WSW	WSW	
30 Spd	12.5	8.6	10.3	17.4	15.8	11.5	11.2	7.1	10.0	19.7	15.7	12.7	4.5	6.8	4.1	7.6	9.5	4.0	2.6	4.1	5.3	13.9	7.9	2.3	9.28	19.66	
Dir	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	W	SSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW
Spd	8.43	8.53	7.94	8.60	9.13	8.26	8.74	8.27	7.67	7.95	8.69	7.86	7.39	6.10	4.85	3.68	3.95	4.06	5.17	5.34	6.76	7.20	7.24	8.23	Diurnal Average		
Dir	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	Diurnal Maximum	
Spd	29.87	36.96	35.32	35.14	31.26	30.46	28.85	27.99	25.26	32.39	29.86	30.38	30.24	33.23	29.45	27.14	20.47	18.40	18.83	19.79	24.50	21.97	27.19	28.82	Diurnal Maximum		
Dir	305.81	308.63	312.40	309.88	308.76	299.92	300.50	304.39	352.08	306.29	303.51	321.12	318.68	316.52	319.29	161.52	309.46	307.05	247.00	298.00	330.56	322.34	325.94	313.52	Diurnal Maximum		
Maximum Speed Value: 37.0 kph on Nov 18 02:00																		Minimum Speed Value: 0.1 kph on Nov 13 09:00						Hours in Service:		720	
Maximum Daily Speed Average: 21.66 kph on Nov 18																		Minimum Daily Speed Average: 2.15 kph on Nov 9						Hours of Data:		704	
Maximum Diurnal Speed Average: 9.13 kph at hour 5																		Minimum Diurnal Speed Average: 3.68 kph at hour 16						Hours of Missing Data:		16	
Monthly Average Velocity: 7.075 kph 267.74 deg																		Speed Percentiles: P ₁ = 0.7 P ₁₀ = 4.6 Q ₁ = 7.8 Median = 11.8 Q ₃ = 15.7 P ₉₀ = 20.1 P ₉₉ = 30.2						Percent Operational Time:		97.8	
All monthly, daily, and diurnal averages have been calculated using vector methods																											
PF - Power Failure																											
Frequency Distribution																											
		Speed Range (kph)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	9	15	8	11	0	0	43																				
NorthEast	8	7	13	5	0	0	33																				
East	5	13	8	0	0	0	26																				
SouthEast	10	13	5	0	0	0	28																				
South	13	30	24	3	0	0	70																				
SouthWest	19	72	88	12	0	0	191																				
West	9	53	115	13	0	0	190																				
NorthWest	6	28	42	29	18	0	123																				
Total	79	231	303	73	18	0	704																				



WCAS - Genesee
Summary of Hourly Averages

Relative Humidity (RH) - %
November 2015

Maximum Value: 94.32 % on Nov 2 09:00																								Hours in Service: 720			
Maximum Daily Average: 90.72 % on Nov 2																								Hours of Data: 704			
Minimum Value: 32.6 % on Nov 12 13:00																								Hours of Missing Data: 16			
Minimum Daily Average: 52.39 % on Nov 22																								Hours of Calibration: 0			
Maximum Diurnal Average: 77.26 % at hour 3																								Percent Operational Time: 97.8			
Minimum Diurnal Average: 61.97 % at hour 15																											
Monthly Average: 72.661 %																											
Percentiles: P ₁ = 37.5 P ₁₀ = 50.0 Q ₁ = 60.3 Median = 75.3 O ₃ = 88.0 P ₉₀ = 92.2 P ₉₉ = 93.9																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Nov	89.7	91.5	91.3	91.2	90.8	90.8	91.6	91.8	91.7	91.3	90.5	89.6	84.4	84.0	82.6	81.7	82.6	84.5	87.2	89.8	90.4	90.7	91.1	92.4	88.88	92.41	
2-Nov	92.5	92.0	92.3	93.4	93.8	94.0	94.1	94.3	94.3	93.9	92.0	88.2	85.0	85.0	85.8	87.2	86.4	87.2	89.1	88.8	90.4	91.7	92.5	93.5	90.72	94.32	
3-Nov	93.4	93.9	93.5	93.4	93.4	93.4	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	91.9	91.7	--	93.88
4-Nov	91.4	91.8	91.3	91.2	92.0	92.5	92.7	92.8	92.6	92.1	91.2	89.3	82.9	78.6	76.5	72.8	78.4	79.3	86.6	83.8	79.4	77.8	76.0	77.0	85.41	92.76	
5-Nov	82.6	81.5	83.6	69.9	64.8	66.2	68.7	78.1	89.9	91.9	91.4	89.8	88.3	89.1	88.7	88.4	89.7	91.1	90.0	90.0	88.1	88.8	91.7	92.2	84.77	92.23	
6-Nov	92.4	93.0	93.2	92.8	93.3	93.6	93.9	93.6	93.8	92.2	88.7	79.5	65.6	57.9	56.0	57.1	68.2	68.7	66.2	65.6	66.9	66.8	63.1	60.2	77.59	93.93	
7-Nov	64.0	64.8	62.3	66.6	68.8	67.6	70.1	67.5	67.8	62.3	55.2	54.2	54.7	45.9	45.5	52.2	57.5	65.9	81.4	87.9	87.8	89.5	88.7	84.5	67.19	89.52	
8-Nov	83.7	84.1	77.5	76.2	77.8	83.6	82.8	83.3	84.9	82.3	83.5	91.4	93.2	92.7	92.3	92.8	93.0	93.5	93.8	94.0	94.0	93.9	93.9	93.9	88.01	93.97	
9-Nov	93.7	93.4	93.3	93.3	93.4	93.4	93.5	93.6	93.6	93.3	92.9	89.5	81.0	78.3	74.2	76.1	80.4	84.5	87.2	89.9	91.3	91.7	92.2	92.8	89.02	93.71	
10-Nov	91.5	91.7	90.9	90.0	90.4	90.0	89.6	89.2	88.9	90.5	88.0	85.6	76.6	68.6	62.1	62.9	67.3	77.1	77.7	77.9	80.0	78.4	77.9	75.9	81.61	91.70	
11-Nov	66.0	67.7	69.3	75.8	66.3	68.8	64.8	63.9	55.6	55.1	54.4	54.0	47.8	37.5	35.8	41.1	46.4	62.8	73.9	50.3	47.7	51.8	59.7	53.0	57.07	75.84	
12-Nov	55.0	60.4	67.4	70.8	66.0	71.1	56.4	61.9	66.2	57.1	44.9	35.9	32.6	35.1	36.1	38.0	45.8	48.6	53.3	55.5	61.4	67.0	67.2	57.8	54.65	71.12	
13-Nov	50.3	49.1	54.5	52.4	51.2	56.0	57.0	60.8	54.4	53.1	51.5	51.0	72.6	75.0	69.8	71.2	78.7	84.6	86.6	88.5	89.8	89.1	87.9	88.2	67.63	89.82	
14-Nov	90.7	91.9	92.1	92.3	90.7	89.4	86.7	85.2	87.4	88.6	87.6	84.4	75.4	69.3	66.1	72.3	80.1	87.7	88.5	89.2	90.2	92.5	91.9	90.7	85.87	92.48	
15-Nov	88.3	89.2	91.6	92.2	92.8	90.7	89.3	86.5	86.8	85.6	82.7	81.5	83.4	83.9	84.9	85.7	87.7	88.7	88.2	84.2	85.3	85.6	85.5	83.3	86.82	92.75	
16-Nov	79.0	77.9	76.6	76.1	75.3	75.4	76.1	78.9	78.1	76.3	70.9	61.9	50.3	42.5	42.4	45.0	58.5	71.6	71.2	72.2	69.3	61.9	54.6	49.7	66.32	78.99	
17-Nov	52.0	54.6	54.2	55.4	52.0	50.9	53.9	54.0	54.4	49.6	52.9	49.8	50.3	52.0	53.8	55.0	60.6	80.6	85.0	89.2	81.3	75.8	62.6	65.4	60.23	89.21	
18-Nov	59.5	56.1	61.3	61.1	65.1	68.3	69.5	68.8	69.6	68.1	65.5	61.5	55.9	48.7	47.1	48.5	54.3	58.8	63.9	71.1	73.6	74.5	75.3	77.4	63.47	77.38	
19-Nov	78.4	80.5	77.1	73.8	72.2	77.3	88.2	89.1	88.5	85.1	81.0	76.9	71.7	64.8	60.1	60.3	63.8	65.9	65.6	68.3	71.1	77.9	77.7	78.6	74.74	89.06	
20-Nov	80.1	81.1	82.7	81.1	80.2	82.1	81.2	81.1	82.5	81.1	74.2	65.2	55.0	50.4	50.0	54.4	63.7	68.3	71.6	65.6	64.8	65.4	65.0	64.1	70.45	82.74	
21-Nov	55.4	57.1	63.2	71.3	69.1	60.8	68.4	70.0	66.4	61.6	44.3	45.5	50.7	53.0	51.3	53.6	58.8	64.9	58.5	52.4	54.5	53.1	52.5	49.9	57.75	71.26	
22-Nov	48.8	62.2	72.0	69.1	69.1	69.1	60.8	49.1	54.1	51.8	49.5	44.6	41.1	37.6	35.8	38.3	42.4	45.7	47.8	51.8	50.2	51.3	52.8	62.6	52.39	71.96	
23-Nov	67.4	64.4	68.5	68.8	65.7	68.5	71.2	71.1	66.1	65.3	66.3	62.8	64.1	82.4	91.5	92.4	92.5	92.7	92.7	92.5	92.5	92.4	92.4	92.2	78.19	92.74	
24-Nov	92.2	92.1	92.1	91.8	91.5	90.7	90.4	90.3	89.8	89.3	88.8	88.3	87.7	86.9	86.4	85.8	85.6	84.7	84.3	84.1	84.3	83.1	81.1	80.6	87.57	92.19	
25-Nov	80.7	80.2	80.2	80.3	79.8	80.2	79.1	80.5	81.2	82.7	86.1	86.3	86.3	82.6	81.8	81.1	83.8	84.1	82.3	84.2	82.7	81.9	81.4	83.7	82.22	86.28	
26-Nov	82.3	88.0	87.2	86.3	84.6	87.3	85.8	85.7	83.8	86.3	83.0	77.2	71.5	70.3	67.4	68.0	70.8	74.7	75.4	76.5	76.2	76.9	72.3	68.9	78.60	88.03	
27-Nov	71.8	66.3	70.7	71.3	67.7	69.7	69.0	66.3	56.6	57.9	56.7	52.6	38.7	44.0	38.2	35.0	43.4	41.9	44.7	37.5	58.6	61.0	63.4	64.7	56.17	71.83	
28-Nov	63.8	60.5	64.6	66.5	69.2	67.1	66.4	62.2	62.8	61.8	58.3	53.8	50.0	43.4	46.8	47.7	50.9	47.6	51.0	55.7	57.0	61.5	64.5	65.0	58.25	69.21	
29-Nov	64.3	65.4	65.8	63.3	62.1	61.1	62.1	61.8	62.7	58.8	50.1	49.5	46.0	43.4	40.5	42.1	45.1	42.0	37.7	44.6	45.5	45.3	49.3	55.9	52.68	65.79	
30-Nov	54.6	53.5	57.4	59.1	58.7	58.8	62.2	66.8	67.0	59.1	55.0	53.9	48.2	48.1	47.4	44.7	43.2	46.3	58.4	61.0	57.3	62.2	59.0	65.1	56.13	66.99	
75.18 75.86 77.26 77.23 76.26 76.94 76.39 76.49 76.26 74.62 71.62 68.75 65.21 63.14 61.97 63.15 67.57 71.51 73.79 73.86 74.54 75.15 75.17 75.03																								Diurnal Average			
93.71 93.88 93.51 93.42 93.78 94.05 94.10 94.30 94.32 93.92 92.89 91.39 93.24 92.71 92.32 92.84 92.99 93.48 93.82 93.95 93.97 93.93 93.92 93.89																								Diurnal Maximum			
PF - Power Failure																											



WCAS - Genesee
Summary of Hourly Averages

Global Solar Radiation (GSR) - W/m2
November 2015

Maximum Value: 425.22 W/m2 on Nov 10 12:00 Maximum Daily Average: 86.19 W/m2 on Nov 10																								Hours in Service:	720	
Minimum Value: 0.0 W/m2 on Nov 1 01:00 Minimum Daily Average: 10.44 W/m2 on Nov 8																								Hours of Data:	704	
Maximum Diurnal Average: 215.48 W/m2 at hour 13 Minimum Diurnal Average: 0.00 W/m2 at hour 1																								Hours of Missing Data:	16	
Monthly Average: 44.355 W/m2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 40.9 P ₉₀ = 170.6 P ₉₉ = 325.6																								Hours of Calibration:	0	
																								Percent Operational Time:	97.8	
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-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	16.0	34.9	38.9	89.3	67.6	54.8	36.6	30.9	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.63	89.33
2-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	31.7	51.0	83.1	108.2	90.3	43.2	40.3	24.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.04	108.17
3-Nov	0.0	0.0	0.0	0.0	0.0	0.0	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	0.0	0.0	--	0.00
4-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	122.7	235.3	300.5	406.7	400.9	267.3	172.6	90.3	20.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	84.28	406.68
5-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	15.6	56.2	48.5	34.9	31.3	45.0	58.8	31.3	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.72	58.76
6-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	119.5	265.0	333.4	362.8	373.4	268.4	139.5	80.9	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.76	373.35
7-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.8	130.6	192.2	221.9	176.4	243.9	174.8	66.2	17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.96	243.92
8-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	18.9	29.7	58.3	71.1	29.4	24.9	9.3	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.44	71.09
9-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1	45.2	52.6	110.9	142.5	168.3	152.6	69.4	21.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.29	168.34
10-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	102.3	253.0	403.0	425.2	328.8	307.3	165.1	67.4	16.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.19	425.22
11-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	39.9	68.8	148.5	306.4	273.8	144.2	44.5	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.52	306.43
12-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.2	171.1	270.9	298.8	277.3	179.2	98.8	83.5	11.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.18	298.75
13-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	56.2	116.4	170.0	82.9	28.8	25.7	28.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.94	169.97
14-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	46.8	84.4	106.4	130.7	236.6	155.7	57.1	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.07	236.56
15-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	38.1	85.1	100.8	90.3	78.9	48.2	25.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.82	100.81
16-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	135.4	244.8	307.6	325.6	288.0	160.8	47.9	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.70	325.61
17-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	45.9	65.9	81.2	84.4	66.2	36.5	14.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.97	84.40
18-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.9	138.2	238.1	300.6	313.5	277.7	159.9	44.8	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.09	313.47
19-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.6	64.5	128.6	216.2	306.5	179.4	111.4	62.6	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.34	306.53
20-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.7	143.5	243.4	284.6	300.6	230.0	120.5	58.1	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.95	300.63
21-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.9	68.3	126.6	81.4	55.4	61.2	77.3	42.9	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.00	126.58
22-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.0	116.4	211.9	272.0	286.2	248.6	152.2	33.6	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.17	286.17
23-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	36.1	51.4	57.3	47.9	41.6	40.1	18.4	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.45	57.28
24-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	44.5	130.6	144.2	129.0	116.0	88.8	41.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.38	144.23
25-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.2	163.0	266.5	319.5	337.1	292.8	138.3	38.3	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.64	337.12
26-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.8	163.3	276.4	338.6	316.3	249.1	164.8	53.5	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.69	338.62
27-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9	115.5	147.7	283.6	315.7	273.3	166.1	39.5	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.88	315.67
28-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	108.3	211.9	279.8	285.5	233.5	154.4	35.4	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.42	285.46
29-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.5	100.6	203.5	269.9	288.0	251.3	156.5	29.1	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.66	287.97
30-Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.1	102.1	204.8	271.8	287.5	251.5	156.1	28.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.92	287.47
																								Diurnal Average		
																								Diurnal Maximum		
PF - Power Failure																										



WCAS - Genesee
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
November 2015

Maximum Value: 7.76 kph on Nov 13 13:00 Maximum Daily Average: 4.53 kph on Nov 18																								Hours in Service:	720	
Minimum Value: 0.2 kph on Nov 13 09:00 Minimum Daily Average: 1.47 kph on Nov 9																								Hours of Data:	704	
Maximum Diurnal Average: 3.24 kph at hour 13 Minimum Diurnal Average: 2.14 kph at hour 3																								Hours of Missing Data:	16	
Monthly Average: 2.553 kph Percentiles: P ₁ = 0.7 P ₁₀ = 1.2 Q ₁ = 1.6 Median = 2.3 Q ₃ = 3.3 P ₉₀ = 4.3 P ₉₉ = 6.0																								Hours of Calibration:	0	
																								Percent Operational Time:	97.8	
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Nov	1.5	1.8	1.6	1.6	1.3	1.7	1.5	1.8	2.8	1.7	2.8	3.0	3.3	3.3	3.4	3.8	2.8	2.5	2.2	2.0	2.0	2.3	3.1	1.8	2.30	3.76
2-Nov	2.1	2.5	2.6	2.1	2.0	1.9	1.7	1.4	1.9	1.9	2.5	2.3	2.4	1.5	1.5	2.1	1.7	1.8	1.9	2.2	1.4	1.6	1.6	1.1	1.91	2.58
3-Nov	2.3	2.4	2.1	1.7	1.6	2.0	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	1.3	0.9	--	2.37
4-Nov	0.7	1.0	1.5	1.1	1.0	1.2	0.9	2.1	1.3	2.0	3.4	1.6	2.2	2.2	2.0	1.4	0.8	0.9	2.2	3.4	4.4	2.6	5.6	1.7	1.96	5.61
5-Nov	1.1	1.6	0.9	2.5	2.7	2.4	2.1	4.7	3.1	2.6	2.9	2.6	2.6	2.2	2.3	2.2	1.7	1.4	4.1	1.3	1.5	2.7	1.8	1.4	2.26	4.68
6-Nov	1.1	1.5	1.0	1.5	1.1	1.4	0.8	1.1	1.5	1.6	1.7	3.3	2.4	2.5	1.8	1.4	0.9	1.7	1.2	2.1	2.3	2.6	1.5	1.3	1.64	3.26
7-Nov	1.5	1.5	1.5	1.9	1.6	1.8	2.3	1.9	2.8	2.0	1.4	1.3	2.4	1.6	1.8	2.4	1.1	4.2	1.7	1.7	1.4	1.1	1.2	2.0	1.84	4.16
8-Nov	2.6	3.4	1.2	1.4	2.1	2.3	1.9	2.3	1.4	3.1	3.7	3.3	3.2	3.6	3.4	2.7	2.2	1.1	1.4	1.4	1.8	1.7	1.7	1.9	2.29	3.66
9-Nov	1.7	1.0	0.7	1.0	0.7	1.9	1.0	1.6	1.2	1.0	1.8	2.5	3.3	1.9	2.3	1.5	1.2	1.3	1.3	1.4	1.3	1.0	0.7	1.9	1.47	3.28
10-Nov	0.7	1.0	3.2	3.2	2.6	2.7	1.2	1.6	2.3	2.4	2.4	1.4	1.5	2.0	1.5	1.6	0.9	0.7	2.3	1.2	1.3	2.3	1.7	3.0	1.87	3.22
11-Nov	2.0	4.2	3.1	3.6	3.8	1.9	3.1	6.0	4.8	2.5	2.7	3.4	3.7	4.8	4.2	1.9	1.1	2.0	2.8	3.7	2.8	2.5	1.8	2.8	3.14	5.98
12-Nov	1.5	1.4	1.3	1.5	1.2	1.8	0.8	2.4	1.4	1.7	2.0	2.7	3.3	2.7	3.3	4.3	3.7	2.4	1.4	1.2	1.3	1.0	2.2	2.0	2.02	4.31
13-Nov	2.8	4.9	2.4	2.3	3.4	1.6	1.1	3.8	0.2	1.8	4.5	5.9	7.8	4.5	1.8	3.1	3.1	2.3	2.4	2.3	2.2	2.2	2.0	1.9	2.93	7.76
14-Nov	1.3	1.5	1.6	1.4	1.5	1.9	3.1	2.7	1.7	2.3	1.3	2.1	2.8	4.3	3.0	2.2	1.9	1.6	1.6	2.7	0.8	1.1	1.8	2.0	2.00	4.25
15-Nov	1.5	1.4	1.8	1.7	3.0	3.5	2.6	2.5	2.3	2.1	1.8	2.1	2.1	2.3	2.6	1.8	2.2	4.4	4.0	4.1	4.3	4.0	3.5	5.5	2.80	5.47
16-Nov	5.1	4.8	4.6	5.7	5.8	5.8	5.7	3.3	3.2	2.9	3.8	3.7	4.2	3.3	3.2	2.2	1.3	1.7	1.5	2.7	3.8	3.1	2.6	3.5	3.65	5.82
17-Nov	2.0	3.9	1.4	3.9	3.5	3.2	3.3	1.8	2.0	5.3	3.7	2.4	3.7	3.6	3.8	2.2	3.5	3.8	4.4	4.2	6.1	4.5	4.8	4.8	3.59	6.09
18-Nov	5.9	7.0	6.5	6.8	5.6	5.5	6.4	6.1	5.1	6.2	5.9	4.6	5.0	5.0	5.8	4.2	3.8	1.6	1.1	3.3	1.4	1.6	1.7	2.5	4.53	6.96
19-Nov	1.6	1.2	1.5	2.5	4.1	1.8	2.6	2.1	3.4	2.6	2.9	3.3	3.5	3.5	3.9	4.3	1.8	2.1	2.2	1.6	2.7	2.2	2.7	2.2	2.60	4.29
20-Nov	2.5	2.1	2.9	4.2	4.0	3.4	3.5	2.4	1.7	1.8	3.4	2.5	3.9	3.4	2.7	2.0	2.4	2.5	1.5	1.7	1.7	1.5	2.2	2.3	2.59	4.25
21-Nov	2.9	2.4	2.5	1.4	3.7	1.9	1.2	1.4	1.1	3.4	3.6	3.2	1.8	2.0	3.8	1.2	2.2	1.8	3.3	2.8	2.7	2.8	3.7	3.3	2.50	3.83
22-Nov	2.7	1.7	1.4	1.2	0.9	1.0	1.6	2.2	2.6	4.5	4.6	5.4	5.0	5.8	5.3	4.6	3.8	2.8	3.8	1.9	2.4	1.9	2.1	2.1	2.97	5.84
23-Nov	2.2	1.7	1.2	3.7	1.4	3.2	2.9	1.0	2.1	0.9	2.4	2.5	2.7	3.1	3.6	4.1	4.6	4.6	3.8	4.0	3.9	3.5	3.8	3.6	2.94	4.62
24-Nov	2.5	2.9	2.5	2.6	3.8	2.8	3.0	3.8	3.9	4.5	4.0	2.9	3.0	2.4	2.1	2.4	2.8	3.5	1.2	2.2	1.3	0.9	1.0		2.70	4.52
25-Nov	1.5	1.2	1.3	1.4	1.7	3.3	1.7	1.3	1.6	2.4	3.6	1.0	4.4	2.9	2.3	2.4	2.6	1.9	1.9	1.4	2.1	2.2	2.5	2.2	2.13	4.43
26-Nov	2.6	0.8	1.7	3.3	0.9	2.2	0.9	1.5	2.3	3.7	2.4	2.8	1.8	1.8	1.8	2.6	1.4	1.8	1.4	1.3	1.2	2.7	3.0	2.0	2.00	3.67
27-Nov	3.5	1.3	1.3	2.8	2.4	1.7	1.8	2.2	2.2	1.5	1.4	2.3	3.1	1.9	2.5	3.4	2.9	2.0	2.0	3.2	2.1	4.0	1.7	2.4	2.32	4.03
28-Nov	1.5	2.6	2.8	2.0	1.9	2.2	5.5	4.1	2.8	5.3	5.2	3.6	3.0	3.4	4.5	2.6	3.4	4.2	5.2	3.7	5.6	2.4	2.3	3.1	3.45	5.64
29-Nov	2.1	2.3	3.5	2.0	2.6	1.8	1.6	1.5	2.4	3.7	1.4	2.5	1.5	3.0	3.0	2.1	1.9	1.1	4.9	0.8	5.1	4.5	4.1	3.7	2.63	5.14
30-Nov	2.1	1.8	2.7	1.6	2.0	4.9	6.4	5.1	4.1	1.8	5.1	4.6	4.5	4.8	2.2	1.1	0.9	4.4	2.8	2.7	2.1	4.3	4.3	2.7	3.29	6.41
																								Diurnal Average		
																								Diurnal Maximum		
PF - Power Failure ,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																										



WCAS - Genesee
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
November 2015

Maximum Value: 98.13 deg on Nov 4 03:00 Maximum Daily Average: 31.54 deg on Nov 7 Minimum Value: 2.5 deg on Nov 26 21:00 Minimum Daily Average: 7.34 deg on Nov 25 Maximum Diurnal Average: 18.97 deg at hour 14 Minimum Diurnal Average: 11.56 deg at hour 12 Monthly Average: 15.220 deg Percentiles: P ₁ = 3.4 P ₁₀ = 5.4 Q ₁ = 7.8 Median = 10.4 Q ₃ = 15.6 P ₉₀ = 30.9 P ₉₉ = 81.7																								Hours in Service: 720 Hours of Data: 704 Hours of Missing Data: 16 Hours of Calibration: 0 Percent Operational Time: 97.8		
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-Nov	10.6	12.6	14.9	20.3	16.8	11.5	14.6	32.7	12.2	11.5	21.9	19.7	15.5	13.9	12.6	14.8	14.2	12.6	13.2	11.0	14.0	35.4	12.6	20.6	16.25	35.35
2-Nov	12.0	12.0	15.0	10.1	10.5	23.1	17.1	8.8	8.0	7.7	9.4	14.9	17.5	11.8	30.4	33.6	26.0	78.8	11.4	60.9	59.2	54.1	34.6	94.6	27.56	94.62
3-Nov	26.3	23.0	16.9	82.3	41.4	13.5	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	PF	4.1	5.3	--	82.25
4-Nov	6.6	17.7	98.1	6.0	7.2	7.4	10.1	10.7	14.3	11.5	17.1	18.3	12.4	18.2	11.4	15.8	9.0	29.2	14.9	25.7	54.3	10.4	8.4	16.2	18.79	98.13
5-Nov	7.2	10.3	11.5	8.6	10.0	11.7	9.3	8.7	10.9	9.5	10.3	9.8	12.3	13.5	7.8	8.1	10.6	23.7	16.5	9.8	9.7	33.4	38.4	18.6	13.34	38.43
6-Nov	23.5	19.6	5.3	4.8	4.5	5.2	4.5	5.3	5.5	8.8	8.7	9.8	8.5	10.6	6.3	5.6	4.6	12.6	11.6	5.4	21.4	12.0	31.4	21.9	10.73	31.40
7-Nov	9.9	81.8	51.2	22.7	59.6	71.5	76.5	42.5	18.3	18.9	19.0	12.9	52.1	32.4	47.3	66.9	9.4	19.4	11.0	6.7	6.0	5.1	7.5	8.8	31.54	81.77
8-Nov	84.6	30.9	11.3	9.7	9.7	52.2	27.1	18.3	14.6	11.6	10.0	9.4	11.4	10.3	8.9	11.3	14.0	12.5	7.9	5.8	8.8	6.5	5.9	7.7	16.69	84.63
9-Nov	15.0	10.8	8.8	12.7	7.9	45.1	37.9	44.9	19.1	10.2	30.9	13.4	14.5	46.7	82.4	11.0	13.7	8.4	10.8	6.8	6.5	4.1	4.2	6.6	19.69	82.37
10-Nov	5.9	6.9	26.8	10.5	15.4	17.4	19.2	12.2	10.7	8.0	13.0	13.3	19.6	11.9	8.7	5.9	5.4	7.0	7.1	3.8	5.4	7.0	10.0	38.0	12.04	38.04
11-Nov	18.6	28.8	31.0	15.3	56.7	32.2	25.2	16.9	18.8	10.7	10.1	11.3	10.6	10.0	9.1	19.4	13.8	7.9	12.2	12.6	10.1	8.1	10.8	13.7	17.25	56.72
12-Nov	8.4	16.9	6.8	10.6	8.8	25.3	9.7	12.6	6.3	8.3	8.1	9.7	9.6	6.0	8.5	7.0	8.7	5.5	8.2	6.4	10.1	12.1	21.9	4.9	10.01	25.30
13-Nov	13.6	29.0	14.3	31.6	14.8	7.0	9.8	11.4	20.9	68.5	10.4	9.9	10.0	22.8	18.9	27.6	10.7	7.3	10.5	8.9	8.4	8.5	10.8	5.9	16.32	68.50
14-Nov	4.0	4.8	5.5	5.3	4.8	8.1	40.6	93.5	13.6	83.7	67.1	14.0	18.8	10.4	12.3	64.7	20.9	11.9	18.6	49.8	13.8	44.3	13.5	28.9	27.20	93.53
15-Nov	15.7	22.0	12.5	23.2	13.5	14.1	11.6	10.7	12.1	13.2	21.6	21.3	22.3	61.0	39.2	30.5	12.0	13.4	11.7	9.4	9.9	11.6	9.4	10.5	18.02	61.00
16-Nov	9.3	10.0	11.1	10.4	8.2	8.8	8.1	9.1	9.4	10.4	11.6	13.1	12.2	13.4	19.8	12.2	18.0	5.9	9.3	11.1	9.9	11.5	11.9	13.8	11.19	19.83
17-Nov	6.0	22.5	24.0	8.0	6.8	6.6	6.3	5.3	18.8	19.0	26.0	12.9	77.1	44.2	23.3	20.8	17.2	23.7	16.9	12.2	7.5	8.3	7.3	8.4	17.89	77.13
18-Nov	8.3	8.9	7.6	8.4	7.4	8.7	11.8	9.0	9.7	9.1	8.6	8.7	8.0	8.5	12.8	9.6	14.6	13.6	16.5	39.3	6.7	12.5	8.8	6.5	10.98	39.28
19-Nov	5.9	4.5	7.5	8.6	45.5	10.9	15.3	16.4	12.6	10.6	17.3	12.0	11.6	12.3	9.3	12.5	8.9	7.4	8.3	7.9	8.9	9.4	8.2	7.5	11.64	45.53
20-Nov	7.7	8.4	9.3	9.6	6.8	11.3	9.1	10.8	7.2	10.4	9.0	13.6	13.5	8.3	8.9	5.7	7.4	12.4	7.6	7.7	5.4	5.9	8.8	11.3	9.01	13.56
21-Nov	7.8	7.8	18.0	4.9	17.6	16.0	8.6	10.2	6.2	16.8	7.9	13.1	10.1	7.9	15.0	9.3	21.0	8.6	10.8	8.5	7.4	9.4	9.2	9.0	10.87	20.96
22-Nov	9.3	14.4	5.8	4.9	4.0	4.1	12.3	10.4	10.2	10.0	8.0	7.3	7.9	8.3	7.1	7.2	9.3	6.8	14.0	10.0	10.8	8.4	17.6	10.0	9.10	17.57
23-Nov	7.5	12.2	5.9	29.6	23.4	56.8	37.2	22.0	73.9	9.9	11.1	12.1	10.9	12.3	11.3	11.1	11.6	11.1	10.8	10.8	9.2	8.2	10.3	10.3	17.95	73.92
24-Nov	8.1	21.2	19.5	21.3	15.4	7.6	8.4	6.6	8.0	9.2	8.1	8.7	12.1	8.7	9.1	7.2	9.2	8.3	14.1	22.9	20.6	5.5	8.0	9.7	11.55	22.92
25-Nov	10.2	4.4	3.5	7.8	5.2	6.0	6.8	4.4	4.6	14.0	6.7	3.3	7.9	10.9	9.0	7.9	13.5	6.6	6.3	6.1	7.5	6.6	9.5	7.3	7.34	13.97
26-Nov	20.7	3.4	4.2	9.0	7.9	5.3	4.5	3.5	13.7	9.8	5.2	13.7	18.5	13.3	8.0	5.7	4.1	5.0	4.1	4.5	2.5	3.0	5.0	9.0	7.65	20.69
27-Nov	6.6	7.8	2.7	5.1	3.5	4.0	3.6	6.4	7.4	4.2	5.6	4.5	8.7	6.6	9.1	7.7	20.9	10.5	15.1	11.0	8.3	17.9	3.5	3.9	7.70	20.90
28-Nov	4.3	4.8	12.8	10.3	4.5	6.9	6.8	7.0	7.4	7.8	7.2	8.1	15.4	48.3	41.3	31.4	12.3	19.0	32.9	46.0	33.0	4.4	5.4	5.1	15.93	48.34
29-Nov	4.8	3.9	9.1	7.0	2.9	6.6	3.0	4.7	5.4	6.4	8.3	6.8	11.4	9.4	8.5	8.6	4.8	5.5	37.2	89.5	28.9	11.9	35.3	15.6	13.97	89.47
30-Nov	7.9	11.4	6.9	3.3	3.4	14.1	20.9	21.8	18.7	5.3	6.8	9.5	37.1	58.3	24.2	7.1	7.3	42.8	35.2	20.7	8.9	10.5	9.1	74.9	19.41	74.89
																								Diurnal Average		
																								Diurnal Maximum		
																								84.63 81.77 98.13 82.25 59.57 71.48 76.47 93.53 73.92 83.67 67.12 21.32 77.13 61.00 82.37 66.88 26.02 78.79 37.19 89.47 59.19 54.07 38.43 94.62		
PF - Power Failure																										
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																										

WEST CENTRAL AIRSHED SOCIETY

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

**END OF REPORT
NOVEMBER 2015**