

**WEST CENTRAL AIRSHED
SOCIETY
October 2014
Monthly Report**



November 10th, 2014

Director, Central Region
Alberta Environmental Protection
4th Floor, Oxbridge Place
9820 106 Street
Edmonton, Alberta T5K 2J6

Dear Sir:

Monthly Ambient Air Quality Monitoring Report for October 2014

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

Network Stations are	AMS 901	Tomahawk
Identified as:	AMS 902	Violet Grove
	AMS 903	Carrot Creek
	AMS 905	Steeper
	AMS 911	Drayton Valley
	AMS 912	Edson
	AMS 913	Breton

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 October.

3. Monitoring Notes:

AMS 901 (Tomahawk)

NOx analyzer was taken from service on October 17th for service, allowed to stabilize overnight and returned to service October 18th, returning an uptime of 97.9 percent. The PM_{2.5} analyzer experienced unstable operation, returning an uptime of 99.5 percent. All other analyzers and meteorological equipment returned uptimes of 100 percent for the month of October.

AMS 902 (Violet Grove)

All analyzers and meteorological equipment returned uptimes of 100 percent for the month of October.

AMS 903 (Carrot Creek)

All analyzers and meteorological equipment returned uptimes of 100 percent for the month of October.

AMS 905 (Steeper)

All analyzers and meteorological equipment returned uptimes of 100 percent for the month of October.

AMS 911 (Drayton Valley)

PM_{2.5} analyzer experienced unstable operation, returning an uptime of 99.7 percent. All other analyzers and meteorological equipment returned uptimes of 100 percent for the month of October.

AMS 912 (Edson)

SO₂, O₃ and NOx analyzers taken offline for glassware cleaning, returning an uptime of 99.9 percent. All other analyzers and meteorological equipment returned uptimes of 100 percent for the month of October.

AMS 913 (Breton)

All analyzers and meteorological equipment returned uptimes of 100 percent for the month of October.

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

Sincerely,



Robert Scotten
Executive Director



Patrick Andersen
Environmental Specialist



Greg Swain
Senior Technologist



Jeff McClintock
Technologist

The West Central Airshed Society (WCAS)

The WCAS is a non-profit organization registered under the Societies Act of Alberta in 1994, and governed by its by-laws. Membership, participation and funding throughout the West Central Airshed Zone, includes a host of industry players, the Alberta Provincial Government, Municipal Governments, environmental organizations and the public. The WCAS operates under the guidelines of the Clean Air Strategic Alliance and is recognized by Alberta Environmental Protection and the Alberta Energy and Utilities Board who have granted concessions on ambient air monitoring requirements for several licensed facilities with participation in the program.

Success of the WCAS is based on full participation and support from all members and stakeholders who contribute air emissions into the airshed zone.

One of the objectives of the WCAS is to strengthen cooperative relationships between all parties within the zone whether citizens, industrial representatives, or regulators. The goal of WCAS is to provide sound, credible, and scientifically defensible air quality data as a basis for sound decision making aimed at the protection of the environment, agricultural crops, and human health from adverse health effects of atmospheric emissions.

To achieve this goal, the WCAS presently operates eleven continuous air quality-monitoring stations, five agricultural bio-monitoring sites, twelve passive monitoring sites and two forestry bio-monitoring sites.

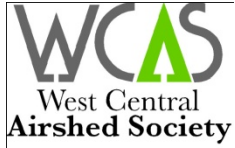
The air monitoring stations monitor concentrations of a wide range of common atmospheric pollutant such as sulphur dioxide and nitrogen oxide as well as ozone, hydrocarbons and fine particles. Meteorological data is collected to assist in the interpretation of the information. The acidity of precipitation is measured and the amounts of total acidic deposition in different areas of the zone are calculated.

The agricultural bio-monitoring sites contain test plots of alfalfa, a forage crop widely grown in the zone, and Saskatoon bushes, a shrub that occurs naturally and is used as a commercial crop. The test crops are inspected for visible symptoms of stress and, at three sites, intensive measurements are made of growth and yield. The resulting information is being incorporated into a computer model that, over the long-term, will detect any influence of emissions on productivity.

The forestry bio-monitoring program consists of two sites that were established in cooperation with the Canadian Forest Service. Baseline information on the trees, shrubs, groundcover, and soils has been collected and the "forest health" documented. Any changes in forest health will be monitored over a several year period.

Our future success rests with Albertans who actively participate and support the WCAS principles and who conduct activities in the West Central zone.

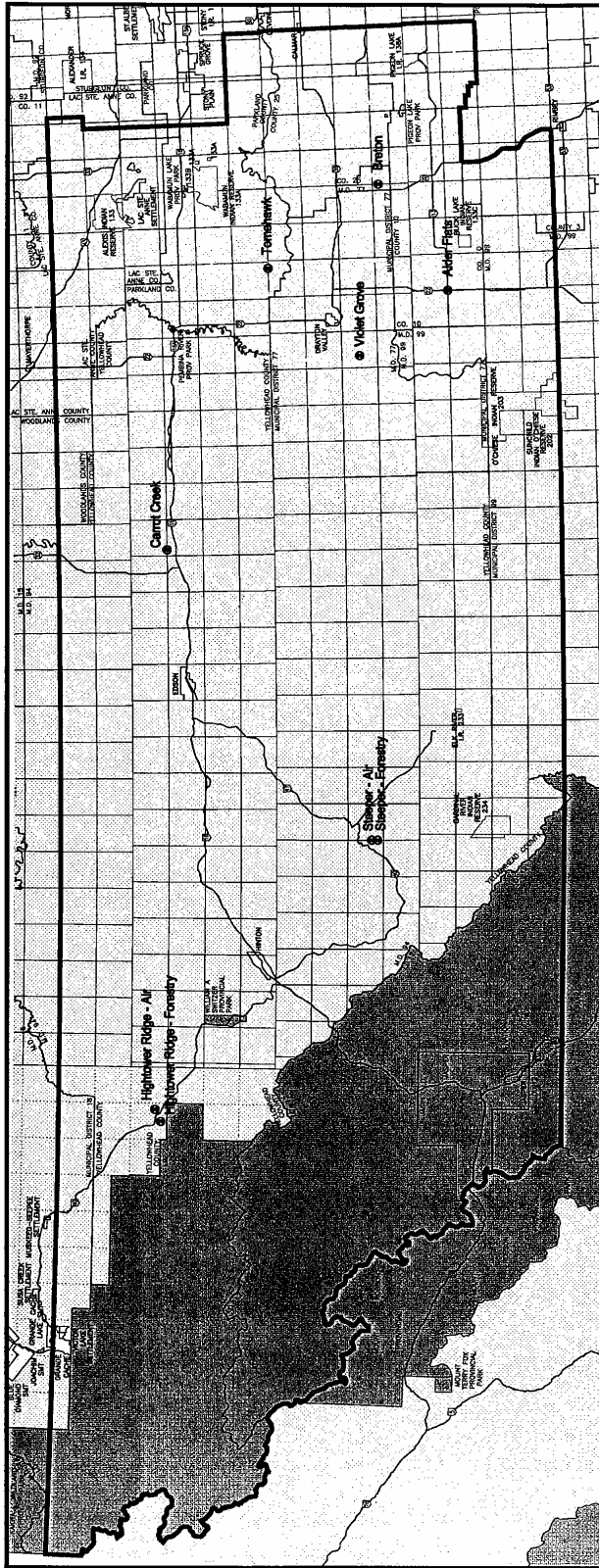
Further information on the zone can be found in the WCAS annual report or from the sector representatives. A list of sector representatives follows. Specific air quality data can be obtained from the Executive Director, Robert Scotten, (780) 514-3533.



Board of Directors 2013

Sector Director & Alternate

Agriculture:	Cecil Andersen (Chairman) Cliff Whitlock, Pembina Agriculture Protection Assoc.
Electrical Utilities	Kent Brandt, TransAlta Generation Partnership Barb Shmidtke, Capital Power Corp.
Environmental NGO's	Susan Kelly
Forestry	Phil Whitney/Jennifer Fowler, West Fraser Mills - Hinton Pulp
Oil & Gas Producers (Treasurer)	JoAnne Volk, Talisman Energy
Provincial Government (Secretary)	David Helmer, Alberta Environment Mesbah Ahmed, Alberta Environment
Public-at-Large (Vice-Chair)	Audrey Kelto, Leduc County
Municipalities	Reeve Wes Tweedle, Brazeau County
Transportation/Foothills Coal	Ben Ludwig, Sherritt International
Coal Operations	Chris Blurton, Teck Coal, Cardinal River Operations
Health	Vacant



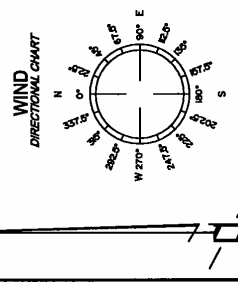
West Central Airshed Society Geographical Boundary

- Bottom of Twp. 43 & Hwy. 20
- North along Hwy 20 to intersection of Northern Boundary of Penobscot County
- East along Hwy 20 to intersection of Hwy 795
- North along Hwy 795 to intersection of Hwy 39
- Directly north of Hwy 39 to Hwy 627
- West along Hwy 627 to intersection of Hwy 777
- North to connect Hwy 777 and continued North to top of Twp. 56
- West along Twp 56 to the EC border

West Central Airshed Society Stations

- Site 1 - Violet Grove (SE17-48-3-W5) - Air monitoring / Agricultural bio-monitoring
- Site 2 - Hightower Ridge (SE17-48-3-W5) - Foresty bio-monitoring
- Site 3 - Tomahawk (SE22-51-6-W5) - Air monitoring / Agricultural bio-monitoring
- Site 4 - Steeper (SW12-48-22-W5) - Air monitoring
- Site 5 - Carrot Creek (SE37-55-13-W5) - Foresty bio-monitoring
- Site 6 - Alter Falls (SE36-45-1-W5) - Agricultural bio-monitoring
- Site 7 - Steeper (NW25-47-4-W5) - Agricultural bio-monitoring

- Municipality Boundaries
- WCAS Boundaries shown thus
- Station
- Primary Highways shown thus



FOCUS
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Drawn by: KC
 Date: May 2003 Scale: 1:1,000,000
 Job No. 100750-70 FILE No.
 Dwg. No. 100750-70

**TOMAHAWK
STATION #901**

CONTINUOUS AIR MONITORING DATA

OCTOBER 2014

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Tomahawk Station 901													October 2014
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Total	Min	Max	P10	Q1	Percentile Median	Q3	P90	24 Hour Average Max (ppm)
SO ₂ (ppb)	37	707	100.0	0.315	-	0.0	9.6	0.0	0.0	0.1	0.3	0.7	0.002
O ₃ (ppb)	37	707	100.0	22.0	-	1.0	44.1	7.0	13.5	22.3	30.7	35.8	0.036
NO (ppb)	44	684	97.9	0.8	-	0.0	30.6	0.0	0.0	0.1	0.6	2.5	-
NO ₂ (ppb)	44	684	97.9	4.4	-	0.3	19.9	0.8	1.6	3.6	6.0	8.8	0.009
NO _x (ppb)	44	684	97.9	5.1	-	0.4	46.1	0.9	1.7	4.1	7.0	10.8	-
Particulate Matter 2.5 microns (μm ³)	0	740	99.5	3.7	-	0.5	19.1	1.8	2.1	3.0	4.2	6.4	12.6 ug/m3
Wind Speed (kph)	0	744	100.0	9.7	-	0.2	35.2	3.7	5.4	8.2	12.4	18.5	-
Temperature (°C)	0	744	100.0	6.1	-	-7.5	22.5	-0.6	1.8	5.3	10.2	14.2	-
Relative Humidity (%)	0	744	100.0	67.9	-	21.8	96.8	40.0	52.0	70.0	85.9	93.5	-
Photosynthetically Active Radiation (W/m ²)	0	744	100.0	84.6	-	0.0	4081.1	1.4	4.0	26.4	153.5	179.5	-
Precipitation (mm)	0	744	100.0	-	10.2	0.0	1.4	0.0	0.0	0.0	0.0	0.0	-
Std Dev Wind Direction (deg)	0	744	100.0	19.9	-	5.6	99.2	9.5	11.3	15.1	21.8	36.3	-
Std Dev Wind Speed (kph)	0	744	100.0	2.4	-	0.5	10.4	1.0	1.4	2.0	3.0	4.6	-



WCAS - Tomahawk
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
October 2014

Maximum Value: 9.56 ppb on Oct 29 20:00 Maximum Daily Average: 2.19 ppb on Oct 29																				Hours in Service: 744 Hours of Data: 707 Hours of Missing Data: 37 Hours of Calibration: 37 Percent Operational Time: 100.0																												
Minimum Value: 0.0 ppb on Oct 1 16:00 Minimum Daily Average: 0.02 ppb on Oct 2 Maximum Diurnal Average: 0.55 ppb at hour 20 Minimum Diurnal Average: 0.18 ppb at hour 6 Monthly Average: 0.315 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.3 P ₉₀ = 0.7 P ₉₉ = 2.6																																																
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																								
1-Oct	0.1	0.0	Z	0.2	0.3	0.3	0.2	0.1	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.11	0.35																						
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	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.10																						
3-Oct	0.0	0.0	Z	0.1	0.2	0.3	1.1	2.5	2.6	1.2	1.1	0.9	0.8	0.8	0.8	0.5	0.6	0.4	0.6	0.5	0.4	0.4	0.2	0.5	0.71	2.59																						
4-Oct	0.3	0.2	Z	0.3	0.6	0.5	0.2	0.1	0.2	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.16	0.56																							
5-Oct	0.1	0.3	Z	0.2	0.2	0.2	0.2	0.4	0.5	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.18	0.56																							
6-Oct	0.1	0.1	Z	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.08	0.19																							
7-Oct	0.2	0.1	Z	0.1	0.2	0.2	0.1	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.3	0.1	0.5	0.5	0.2	0.4	0.7	1.1	2.7	0.42	2.72																						
8-Oct	2.4	1.4	Z	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.4	0.7	0.6	0.5	0.6	0.6	0.6	0.7	0.8	0.5	0.2	0.2	0.1	0.52	2.40																						
9-Oct	0.0	0.3	Z	0.4	0.1	0.3	1.0	0.6	0.8	0.7	0.4	0.6	0.8	0.8	0.6	0.5	0.6	0.5	0.5	0.3	0.4	0.6	0.9	1.2	0.57	1.24																						
10-Oct	0.6	0.3	Z	0.1	0.1	0.0	0.0	0.1	0.2	0.2	0.3	0.2	0.3	0.1	0.5	0.6	0.2	0.4	0.3	0.3	0.3	0.2	0.0	0.0	0.23	0.64																						
11-Oct	0.0	0.0	Z	0.0	0.1	0.0	0.1	0.0	0.1	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.0	0.2	0.08	0.35																						
12-Oct	0.1	0.1	Z	0.5	0.3	0.2	0.3	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.2	0.1	0.2	0.15	0.49																						
13-Oct	0.1	0.1	Z	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.1	0.0	0.2	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.3	0.15	0.31																						
14-Oct	0.2	0.2	Z	0.2	0.1	0.2	0.2	0.4	0.3	0.3	0.4	0.9	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.17	0.87																						
15-Oct	0.1	0.0	Z	0.0	0.1	0.2	0.4	0.5	0.3	0.3	0.3	1.7	0.7	1.5	1.2	0.6	0.6	0.9	0.5	0.3	0.2	0.1	0.0	0.0	0.46	1.71																						
16-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1	0.1	0.10	0.23																						
17-Oct	0.2	0.1	Z	0.0	0.0	0.0	0.2	0.4	0.3	C	C	C	C	C	C	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.2	--	0.41																						
18-Oct	0.0	0.0	Z	0.0	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	0.0	0.0	0.0	0.1	0.1	0.0	0.06	0.27																						
19-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.6	0.4	0.3	0.3	0.1	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.1	0.18	0.56																						
20-Oct	0.1	0.1	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.5	0.8	0.7	0.3	0.1	0.5	0.5	0.3	0.4	0.2	0.1	0.23	0.82																						
21-Oct	0.0	0.0	Z	0.2	0.3	0.2	0.2	0.2	0.2	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.4	0.3	1.1	0.8	1.2	1.6	1.0	0.43	1.62																						
22-Oct	0.4	0.2	Z	0.0	0.0	0.4	0.7	0.3	0.2	0.4	0.4	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.1	0.20	0.68																						
23-Oct	0.1	0.2	Z	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.09	0.35																						
24-Oct	0.2	0.2	Z	0.3	0.1	0.4	0.2	0.5	0.3	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.17	0.50																						
25-Oct	0.2	0.6	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.3	0.1	0.1	0.5	0.9	0.7	0.5	0.6	0.5	0.6	0.7	2.1	2.4	1.2	0.56	2.35																						
26-Oct	2.0	0.9	Z	3.0	2.2	1.2	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.50	2.99																						
27-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	0.2	0.2	0.7	0.3	0.2	0.2	0.09	0.67																						
28-Oct	0.2	0.1	Z	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.4	0.3	0.2	0.2	0.3	0.1	0.3	0.8	0.8	2.0	1.7	1.0	0.45	2.03																						
29-Oct	0.8	1.3	Z	0.2	0.2	0.1	0.1	0.3	0.6	0.7	0.9	1.5	2.2	2.5	3.3	2.3	1.9	2.4	7.8	9.6	6.6	3.1	1.3	0.7	2.19	9.56																						
30-Oct	0.4	0.3	Z	0.2	0.1	0.0	0.1	0.4	0.7	0.2	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	0.14	0.68																						
31-Oct	0.1	0.2	Z	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.11	0.26																						
																								0.30	0.24	--	0.23	0.20	0.18	0.25	0.28	0.31	0.29	0.27	0.33	0.28	0.32	0.35	0.27	0.25	0.28	0.45	0.55	0.45	0.43	0.37	0.36	Diurnal Average
																								2.40	1.36	--	2.99	2.17	1.17	1.44	2.52	2.59	1.20	1.08	1.71	2.16	2.45	3.27	2.28	1.89	2.41	7.78	9.56	6.64	3.13	2.35	2.72	Diurnal Maximum
Z - zerospan C - Calibration																																																
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 172 ppb 24-hr 48 ppb																																																



WCAS - Tomahawk
Summary of Hourly Averages

Ozone (O₃) - ppb
October 2014

Maximum Value: 44.08 ppb on Oct 18 18:00		Maximum Daily Average: 36.46 ppb on Oct 11		Hours in Service: 744																									
Minimum Value: 1.0 ppb on Oct 29 21:00		Minimum Daily Average: 6.37 ppb on Oct 29		Hours of Data: 707																									
Maximum Diurnal Average: 30.03 ppb at hour 16		Minimum Diurnal Average: 13.95 ppb at hour 8		Hours of Missing Data: 37																									
Monthly Average: 22.006 ppb		Percentiles: P ₁ = 1.2 P ₁₀ = 7.0 Q ₁ = 13.5 Median = 22.3 Q ₃ = 30.7 P ₉₀ = 35.8 P ₉₉ = 43.3		Hours of Calibration: 37																									
				Percent Operational Time: 100.0																									
Day	Hourly Period Ending At																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Oct	23.1	20.1	Z	11.7	9.9	9.1	6.9	6.0	7.1	10.5	17.8	26.3	30.2	35.9	36.6	36.0	34.4	31.1	32.1	27.7	20.7	14.3	15.3	17.9	20.90	36.59			
2-Oct	20.2	20.1	Z	21.5	21.4	22.0	22.5	21.8	24.7	24.2	25.4	26.3	24.3	23.9	24.9	25.0	24.7	24.2	23.1	23.1	22.2	19.5	18.3	13.4	22.46	26.31			
3-Oct	10.4	9.7	Z	5.0	4.2	7.1	2.5	2.1	5.4	11.5	13.2	15.2	16.4	18.5	21.0	21.6	18.8	17.0	17.0	17.3	13.9	11.3	9.0	11.0	12.13	21.63			
4-Oct	8.8	11.4	Z	7.7	7.8	5.2	7.3	8.0	7.9	8.2	11.8	19.7	33.6	35.0	34.6	35.3	33.4	34.1	34.8	29.6	26.9	32.1	33.9	34.0	21.79	35.27			
5-Oct	31.9	29.6	Z	26.8	25.7	25.3	23.9	21.5	21.1	28.4	35.3	37.7	38.1	37.8	37.9	38.1	36.1	35.1	34.7	33.1	29.4	25.2	9.6	10.3	29.25	38.15			
6-Oct	14.6	20.5	Z	14.5	14.7	15.0	26.1	22.7	25.9	30.6	33.6	35.5	36.8	37.1	37.9	38.5	38.1	36.0	35.7	33.6	30.1	32.6	32.3	25.5	29.03	38.46			
7-Oct	24.5	24.4	Z	28.7	28.2	24.7	19.5	21.7	15.0	22.0	32.2	33.6	33.6	35.0	35.2	35.1	31.5	24.1	26.5	27.2	27.1	25.6	21.9	20.5	26.87	35.22			
8-Oct	20.3	24.6	Z	27.9	27.6	26.4	23.3	21.8	22.0	22.8	24.0	24.4	24.4	23.4	22.8	22.6	21.1	19.4	19.9	16.7	13.1	13.0	10.3	8.1	20.85	27.88			
9-Oct	4.5	2.6	Z	3.1	2.0	3.3	1.3	2.7	4.0	10.2	13.8	15.8	18.7	23.8	29.1	33.7	34.0	28.3	32.7	32.3	29.0	23.1	19.9	17.4	16.75	34.01			
10-Oct	20.6	13.9	Z	11.5	10.9	9.0	7.6	7.7	8.3	11.5	13.8	19.9	23.7	29.5	35.4	38.1	38.7	35.8	31.2	30.2	26.7	30.6	33.0	31.3	22.57	38.74			
11-Oct	31.2	31.4	Z	40.1	40.3	39.3	36.7	33.6	31.5	31.9	36.5	39.5	41.9	41.0	40.3	39.3	37.9	35.4	34.2	35.2	36.4	35.9	35.4	33.6	36.46	41.94			
12-Oct	30.8	31.1	Z	30.7	31.6	32.3	33.2	33.7	33.5	33.8	34.9	36.5	36.9	37.7	38.4	38.0	36.8	36.7	35.7	34.3	27.8	27.7	26.1	26.7	33.24	38.38			
13-Oct	23.7	21.6	Z	18.7	18.4	15.1	14.1	13.0	15.3	19.7	23.8	25.3	27.9	32.7	34.5	33.4	33.4	31.8	30.6	28.1	28.0	26.2	25.2	24.6	24.57	34.50			
14-Oct	23.8	22.2	Z	19.5	14.4	13.0	12.5	11.4	10.9	14.6	20.5	27.7	34.1	33.4	33.3	31.4	30.1	32.2	33.2	31.0	31.7	27.6	16.0	12.2	23.33	34.11			
15-Oct	17.4	10.8	Z	8.7	3.7	1.0	8.5	1.9	11.7	14.8	20.8	22.2	25.3	20.9	17.0	23.5	29.1	24.1	21.4	20.5	18.5	23.5	16.9	14.7	16.39	29.11			
16-Oct	22.1	22.2	Z	19.6	16.4	18.1	16.9	18.9	19.2	21.6	24.6	29.6	31.3	30.8	30.7	29.7	28.5	26.8	27.5	26.0	24.5	24.5	23.5	21.0	24.09	31.35			
17-Oct	20.2	16.8	Z	7.1	4.7	2.7	2.2	1.2	3.3	C	C	C	C	C	C	20.6	20.1	21.9	19.8	19.0	16.1	15.2	15.6	12.7	--	21.92			
18-Oct	5.7	1.2	Z	1.7	2.0	3.5	6.3	7.0	13.6	19.6	27.1	38.6	40.5	42.4	43.4	43.4	43.6	44.1	43.9	41.2	28.0	34.3	30.7	25.5	25.53	44.08			
19-Oct	16.3	21.6	Z	19.8	17.9	17.4	17.1	15.9	17.6	13.6	14.7	17.4	17.8	20.6	23.0	24.2	24.2	22.6	21.4	22.3	19.2	12.2	10.1	9.3	18.10	24.19			
20-Oct	3.4	1.1	Z	9.8	15.8	15.2	16.0	14.7	12.8	17.3	19.5	16.3	19.0	29.2	30.9	33.4	39.5	37.5	34.8	31.5	31.8	32.7	36.7	32.2	23.09	39.48			
21-Oct	33.6	31.9	Z	31.1	25.4	20.8	14.5	13.1	15.0	16.9	19.3	24.0	25.1	27.9	29.0	33.8	33.7	34.5	35.2	30.3	30.3	25.9	21.6	12.3	25.46	35.22			
22-Oct	7.0	7.9	Z	9.6	10.1	9.6	5.6	8.3	17.5	20.0	25.3	28.8	31.5	28.6	31.7	29.8	29.6	29.3	23.9	26.6	27.3	27.3	29.6	25.3	21.30	31.70			
23-Oct	23.5	21.5	Z	12.9	15.1	15.4	9.5	5.7	6.5	7.5	12.5	27.9	42.4	43.7	43.9	42.2	40.5	40.5	38.2	37.2	37.3	36.3	33.3	28.4	27.03	43.92			
24-Oct	27.3	30.5	Z	28.5	29.0	27.9	25.9	26.8	29.0	32.7	35.6	36.8	38.8	40.3	40.9	41.1	40.1	38.7	37.4	36.1	34.7	30.5	31.6	32.4	33.59	41.06			
25-Oct	28.5	25.3	Z	18.9	18.8	20.1	19.0	11.2	10.4	22.5	27.8	32.1	33.2	30.9	30.3	30.1	28.1	28.8	29.2	29.5	27.6	23.8	22.8	23.6	24.90	33.17			
26-Oct	23.3	24.2	Z	19.6	19.0	22.9	22.8	23.2	22.8	26.5	26.7	27.2	27.0	25.8	26.0	25.9	25.1	22.7	19.5	19.2	17.1	16.9	17.1	17.5	22.53	27.20			
27-Oct	19.5	19.3	Z	19.2	19.2	19.9	25.7	28.6	27.3	30.6	33.1	33.5	32.9	33.4	35.8	35.8	33.5	29.3	25.7	19.9	19.5	18.9	18.3	20.1	26.05	35.82			
28-Oct	20.7	22.0	Z	15.3	9.4	9.7	8.4	6.0	8.3	10.9	12.3	16.1	18.9	18.5	19.8	20.9	19.3	18.7	15.1	13.0	11.8	9.7	8.3	7.9	13.96	22.04			
29-Oct	8.8	3.4	Z	7.0	7.3	7.7	6.9	7.7	10.1	10.9	10.5	10.9	10.8	10.6	9.6	7.4	6.8	3.4	1.5	1.0	1.0	1.1	1.1	1.1	6.37	10.89			
30-Oct	1.5	3.7	Z	5.5	4.8	6.7	11.3	11.6	10.2	7.9	6.5	9.4	12.8	14.8	16.7	16.4	16.0	16.0	16.3	15.1	14.7	14.5	12.9	12.0	11.19	16.74			
31-Oct	11.3	9.4	Z	6.4	6.9	5.8	4.5	2.9	2.5	3.5	3.5	4.2	5.6	6.4	6.9	6.8	7.4	9.6	12.3	11.1	9.4	7.1	7.6	13.2	7.15	13.21			
		18.67	17.94	--	16.39	15.57	15.21	14.79	13.95	15.17	18.55	21.87	25.28	27.78	28.99	29.91	30.03	29.48	28.06	27.25	25.77	23.60	22.55	20.78	19.21	Diurnal Average			
		33.64	31.93	--	40.12	40.30	39.30	36.74	33.69	33.49	33.76	36.50	39.48	42.36	43.72	43.92	43.44	43.62	44.08	43.87	41.18	37.25	36.28	36.73	33.96	Diurnal Maximum			
Z - zerospan		C - Calibration																											
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 82.5 ppb		24-hr -- ppb																									



WCAS - Tomahawk
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2014

Maximum Value: 19.90 ppb on Oct 22 01:00																								Maximum Daily Average: 8.59 ppb on Oct 29																								Hours in Service: 744	
Minimum Value: 0.3 ppb on Oct 11 14:00																								Minimum Daily Average: 0.98 ppb on Oct 2																								Hours of Data: 684	
Maximum Diurnal Average: 6.04 ppb at hour 8																								Minimum Diurnal Average: 2.56 ppb at hour 16																								Hours of Missing Data: 60	
Monthly Average: 4.365 ppb																								Percentiles: P ₁ = 0.4 P ₁₀ = 0.8 Q ₁ = 1.6 Median = 3.6 Q ₃ = 6.0 P ₉₀ = 8.8 P ₉₉ = 15.8																								Hours of Calibration: 44	
Percentiles: P ₁ = 0.4 P ₁₀ = 0.8 Q ₁ = 1.6 Median = 3.6 Q ₃ = 6.0 P ₉₀ = 8.8 P ₉₉ = 15.8																								Percent Operational Time: 97.9																									
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-Oct	2.3	3.2	Z	5.9	6.7	6.3	7.4	5.5	4.6	5.2	3.5	2.3	1.7	1.0	0.7	0.6	0.7	0.9	0.7	0.8	0.8	0.6	0.5	0.4	2.71	7.44																							
2-Oct	0.4	0.4	Z	0.5	0.5	0.6	0.5	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.6	0.9	0.9	1.3	2.5	2.7	5.5	0.98	5.48																							
3-Oct	6.8	6.9	Z	10.7	11.9	8.8	14.6	15.4	12.4	6.4	6.0	4.3	4.5	4.3	5.1	4.6	6.7	7.5	7.4	7.6	9.2	9.0	8.4	7.1	8.07	15.42																							
4-Oct	7.0	6.0	Z	5.9	5.6	7.6	5.0	4.6	4.5	5.8	4.0	2.1	0.7	0.7	1.0	0.9	1.3	1.0	1.1	2.1	3.3	1.3	1.0	1.0	3.19	7.64																							
5-Oct	1.3	1.2	Z	1.8	1.7	1.8	2.1	3.9	4.2	1.7	0.9	0.7	0.7	0.8	0.9	0.8	1.0	1.4	1.2	2.6	4.6	8.2	18.2	16.8	3.41	18.17																							
6-Oct	10.8	3.7	Z	3.8	4.8	5.8	2.2	1.7	1.1	0.7	0.5	0.4	0.4	0.4	0.5	0.5	0.6	0.8	1.0	1.8	2.7	1.7	1.4	2.4	2.16	10.76																							
7-Oct	3.1	3.5	Z	1.6	1.6	3.3	5.4	5.0	7.1	3.6	1.5	1.1	1.2	1.0	0.8	0.9	2.0	9.1	6.3	4.8	3.1	4.0	4.6	6.5	3.53	9.10																							
8-Oct	6.4	4.9	Z	1.3	1.2	1.3	2.1	2.1	2.4	3.1	2.8	2.9	3.5	3.9	3.2	3.2	3.3	4.2	4.5	7.5	8.2	4.9	6.3	8.4	3.98	8.42																							
9-Oct	4.8	10.9	Z	9.0	5.5	6.5	10.4	7.6	5.6	5.2	5.4	6.2	6.1	4.7	4.1	3.2	3.5	7.2	3.4	3.3	4.5	8.2	10.4	12.0	6.43	12.00																							
10-Oct	8.0	9.5	Z	5.6	5.5	6.2	6.6	6.5	5.2	4.3	4.8	3.3	2.9	2.1	1.2	1.2	1.5	3.5	4.8	3.6	4.5	2.8	1.3	1.2	4.17	9.52																							
11-Oct	1.1	1.1	Z	0.7	0.7	0.9	1.6	2.6	3.5	2.5	1.0	0.6	0.4	0.3	0.4	0.5	0.6	1.0	1.1	1.0	0.9	0.8	0.7	0.9	1.07	3.49																							
12-Oct	1.9	1.3	Z	1.4	1.2	1.0	0.9	0.8	0.8	0.9	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.4	2.6	5.5	3.3	3.3	3.2	1.47	5.53																							
13-Oct	3.9	4.9	Z	5.5	3.8	5.0	5.8	6.7	3.9	3.3	3.2	3.0	3.2	1.7	1.2	1.8	1.7	1.7	2.2	2.7	2.5	2.6	2.8	3.1	3.31	6.65																							
14-Oct	3.1	3.1	Z	3.3	4.4	3.7	5.5	7.2	6.1	4.5	3.8	2.6	1.3	1.4	1.3	1.0	1.0	0.9	1.4	2.0	1.3	3.0	12.8	15.9	3.94	15.85																							
15-Oct	8.9	8.3	Z	5.5	8.1	13.2	13.3	10.9	6.3	6.2	4.3	5.5	4.0	5.5	7.2	4.8	3.0	4.9	4.7	4.9	4.7	2.5	2.7	3.1	6.20	13.33																							
16-Oct	1.8	1.6	Z	4.3	2.8	3.4	3.9	3.1	3.4	2.8	2.6	2.1	2.0	2.1	1.9	2.5	2.8	3.6	2.6	2.6	2.5	2.6	2.8	3.3	2.75	4.34																							
17-Oct	2.9	3.5	Z	4.3	7.6	7.4	7.8	7.8	5.5	C	C	C	C	C	C	C	C	C	C	C	AF	AF	AF	AF	--	7.84																							
18-Oct	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	AF	C	C	C	2.2	1.9	1.6	1.4	3.4	15.3	5.4	5.2	6.7	--	15.35																							
19-Oct	15.5	7.0	Z	7.2	4.8	5.9	5.8	7.0	7.4	12.5	10.8	9.7	8.9	7.2	5.7	6.5	6.1	7.4	8.2	6.3	7.2	11.3	11.8	12.6	8.39	15.54																							
20-Oct	16.1	15.6	Z	8.4	7.4	8.7	7.5	8.4	10.3	7.0	6.9	10.4	10.4	6.9	8.1	7.4	3.5	5.3	6.5	7.3	6.6	4.5	2.3	2.4	7.74	16.15																							
21-Oct	1.7	1.7	Z	2.3	4.7	4.9	10.9	10.6	6.0	6.2	6.2	6.0	6.3	6.2	6.7	5.0	5.6	5.0	3.9	5.9	5.8	8.7	11.5	17.9	6.52	17.87																							
22-Oct	19.9	15.1	Z	9.5	7.8	12.4	17.9	14.0	7.6	8.5	5.0	3.8	4.1	6.8	4.0	4.7	4.9	5.3	11.0	7.5	4.5	4.0	2.3	2.8	7.99	19.90																							
23-Oct	3.1	3.7	Z	10.3	7.2	4.8	8.4	9.7	10.6	11.2	8.4	3.0	1.3	0.9	0.7	0.8	1.0	1.1	1.5	1.4	1.4	1.4	1.5	1.8	4.13	11.17																							
24-Oct	2.2	1.4	Z	1.6	1.6	2.4	4.3	3.9	2.9	1.8	1.5	0.9	0.6	0.6	0.6	0.6	0.6	0.8	1.2	1.9	3.0	4.0	2.4	2.0	2.00	4.28																							
25-Oct	3.1	5.0	Z	10.1	7.2	5.7	4.7	9.5	8.8	5.2	3.5	2.3	2.0	2.5	2.6	2.6	3.0	2.7	2.5	2.2	2.9	5.0	6.0	4.6	4.51	10.06																							
26-Oct	4.4	3.3	Z	6.8	7.1	4.3	4.6	1.8	2.0	1.2	1.1	1.1	1.2	1.2	1.1	1.2	1.2	1.7	1.8	1.8	2.0	1.8	1.4	1.3	2.41	7.12																							
27-Oct	1.2	1.2	Z	1.1	1.1	1.2	0.9	0.8	0.9	0.8	0.8	0.7	0.9	0.9	0.7	0.7	3.2	6.5	3.7	4.2	3.9	3.3	3.7	4.0	2.03	6.53																							
28-Oct	4.3	3.6	Z	5.3	8.8	7.2	7.0	9.1	6.9	5.5	4.8	3.6	3.6	4.5	3.8	3.6	4.8	4.8	5.9	5.7	6.5	7.8	7.6	6.7	5.71	9.07																							
29-Oct	6.3	11.6	Z	5.3	4.8	4.9	5.5	5.0	3.7	4.2	4.5	5.1	5.8	5.8	6.6	8.0	9.1	12.3	13.6	14.2	14.5	15.1	15.9	15.4	8.59	15.92																							
30-Oct	13.0	8.6	Z	5.2	5.1	4.0	3.7	4.2	4.3	4.9	5.6	4.4	3.3	3.2	2.7	3.2	4.8	5.4	4.1	3.7	3.5	3.3	3.2	3.2	4.64	13.04																							
31-Oct	3.1	3.8	Z	5.0	3.7	3.6	4.2	5.0	6.3	4.5	4.3	4.4	2.9	2.7	3.1	3.1	3.5	4.0	3.5	3.9	3.7	4.1	4.2	2.8	3.87	6.32																							
																								5.62	5.18	--	4.97	4.84	5.09	6.02	6.04	5.19	4.53	3.76	3.25	2.93	2.77	2.65	2.56	2.80	3.77	3.79	4.01	4.68	4.59	5.30	5.83	Diurnal Average	
																								19.90	15.56	--	10.69	11.94	13.25	17.91	15.42	12.36	12.53	10.79	10.39	10.39	7.17	8.06	8.01	9.11	12.35	13.63	14.24	15.35	15.13	18.17	17.87	Diurnal Maximum	
Z - zerospan																								C - Calibration				AF - Analyzer Failure																					
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																	



WCAS - Tomahawk
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
October 2014

Maximum Value: 19.12 µg/m ³ on Oct 15 04:00		Maximum Daily Average: 12.60 µg/m ³ on Oct 29		Hours in Service: 744																						
Minimum Value: 0.5 µg/m ³ on Oct 1 15:00		Minimum Daily Average: 1.34 µg/m ³ on Oct 1		Hours of Data: 740																						
Maximum Diurnal Average: 4.59 µg/m ³ at hour 4		Minimum Diurnal Average: 2.98 µg/m ³ at hour 13		Hours of Missing Data: 4																						
Monthly Average: 3.687 µg/m ³		Percentiles: P ₁ = 1.1 P ₁₀ = 1.8 Q ₁ = 2.1 Median = 3.0 Q ₃ = 4.2 P ₉₀ = 6.4 P ₉₉ = 14.1		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	1.1	0.9	0.5	1.5	1.7	1.5	1.3	1.4	1.9	2.2	AF	AF	AF	AF	0.5	0.5	1.2	1.4	1.5	1.6	1.6	1.4	1.5	1.6	1.34	2.20
2-Oct	1.7	1.7	1.9	1.9	1.8	1.8	1.9	2.0	2.3	2.3	2.4	2.4	5.2	6.0	5.7	5.0	4.4	4.1	4.4	4.3	4.2	3.3	3.3	4.3	3.27	6.04
3-Oct	5.3	4.6	4.3	4.8	4.7	2.8	2.8	4.1	2.4	2.0	2.0	2.0	2.1	1.9	2.0	1.9	2.1	2.5	2.3	3.1	3.2	3.1	3.9	3.1	3.04	5.33
4-Oct	3.2	3.0	3.3	3.2	2.9	2.7	2.6	2.9	5.8	3.4	2.1	1.3	1.0	1.3	1.7	1.8	1.7	1.6	2.0	2.4	2.2	2.1	1.9	2.7	2.45	5.81
5-Oct	3.1	3.2	3.4	3.4	3.4	3.2	3.2	3.0	2.6	2.1	2.1	2.3	2.4	3.0	3.1	3.0	3.4	3.3	3.3	3.1	3.2	3.7	5.5	5.3	3.22	5.46
6-Oct	6.1	5.2	5.2	5.9	6.2	5.9	3.6	3.2	2.6	2.4	2.3	2.1	2.2	2.2	2.1	2.1	2.0	2.3	2.4	2.6	2.2	2.0	2.0	3.21	6.23	
7-Oct	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.5	2.4	2.2	2.0	2.0	2.0	2.1	2.3	2.9	3.0	3.7	4.3	4.0	4.6	3.6	3.7	4.1	2.74	4.56
8-Oct	4.1	4.2	4.1	3.5	3.2	3.0	3.1	3.0	2.7	2.2	2.0	2.0	2.2	2.2	2.5	3.0	3.7	4.0	4.4	4.6	5.7	4.8	7.1	5.0	3.58	7.09
9-Oct	5.8	4.6	4.6	5.2	5.0	6.3	6.5	5.2	8.7	5.3	4.1	3.7	3.2	3.3	3.8	4.1	4.0	4.6	4.9	5.7	5.8	6.1	6.5	7.2	5.16	8.72
10-Oct	7.0	7.0	6.6	6.4	5.7	5.3	5.1	5.0	5.5	4.4	3.6	2.5	2.2	2.4	2.6	2.5	2.7	3.2	4.0	4.4	4.9	3.4	2.8	2.7	4.24	7.01
11-Oct	3.2	3.0	1.9	1.8	1.8	1.7	1.7	1.9	1.7	1.4	1.3	1.4	1.8	1.8	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.8	1.86	3.16
12-Oct	2.2	2.1	1.7	1.6	1.6	1.7	1.8	1.8	1.8	1.8	1.8	1.9	2.0	2.1	2.1	2.1	2.2	2.1	2.3	2.5	2.8	2.7	2.8	3.3	2.11	3.32
13-Oct	4.3	3.9	3.8	3.9	3.7	3.5	3.5	3.1	2.3	1.8	1.7	1.7	1.7	1.6	1.7	2.3	2.5	2.7	2.6	2.9	2.9	3.0	3.2	3.7	2.84	4.26
14-Oct	4.4	4.9	4.6	4.0	3.7	3.3	3.2	3.2	2.9	2.6	1.8	1.6	1.4	1.9	2.1	2.2	2.2	2.3	2.4	2.4	2.1	2.8	3.3	5.1	2.93	5.06
15-Oct	11.3	8.9	4.0	19.1	6.5	3.2	2.7	7.4	4.9	3.3	2.5	2.1	2.3	2.7	2.8	2.6	2.0	2.0	2.3	3.1	3.7	3.0	3.5	3.7	4.57	19.12
16-Oct	3.7	3.7	3.5	3.9	3.2	3.9	2.8	3.7	4.3	3.4	3.7	3.1	2.9	3.2	3.4	4.3	4.2	4.3	5.7	6.4	6.2	6.5	7.2	8.1	4.39	8.10
17-Oct	8.3	8.2	6.9	4.5	4.1	5.0	5.1	5.3	5.7	6.1	5.9	3.5	1.8	1.5	1.9	1.8	2.0	1.9	2.3	2.4	2.3	2.3	2.8	4.0	3.98	8.29
18-Oct	4.9	5.1	5.0	5.1	4.5	4.3	4.0	3.7	3.1	1.9	1.3	1.2	1.2	1.3	1.4	1.5	1.5	1.9	2.1	2.1	2.7	2.6	2.9	2.9	2.83	5.10
19-Oct	3.2	2.9	3.0	3.1	3.1	3.1	3.1	2.9	2.8	2.4	2.1	1.9	1.7	1.7	1.7	1.7	2.0	2.2	2.7	3.0	3.5	3.9	3.7	3.3	2.70	3.92
20-Oct	3.9	4.1	3.9	3.2	3.3	3.2	3.2	3.1	3.2	3.3	2.7	2.6	2.5	2.2	2.5	2.5	2.3	2.6	4.5	4.2	3.8	3.3	2.4	2.9	3.14	4.51
21-Oct	3.3	3.2	3.1	2.8	2.8	2.9	3.2	3.5	3.5	2.9	2.1	2.0	1.8	1.9	2.3	1.9	1.8	1.7	2.2	2.3	2.6	2.9	2.8	3.8	2.63	3.78
22-Oct	4.8	4.8	4.8	3.7	3.5	3.4	4.0	3.9	2.9	2.3	2.1	2.0	2.0	2.2	2.2	2.2	2.4	3.3	2.8	2.7	2.8	2.2	2.3	3.5	3.02	4.79
23-Oct	4.1	4.6	4.1	3.3	3.3	3.7	3.7	4.4	3.5	3.5	1.6	1.2	1.3	1.4	1.7	1.8	1.8	1.9	1.8	1.8	1.8	2.1	1.9	2.67	4.58	
24-Oct	1.7	1.5	1.6	1.5	1.6	1.8	2.0	2.0	1.9	1.8	1.8	1.8	1.9	2.1	2.1	2.2	2.4	2.4	2.5	2.5	2.5	2.6	2.5	2.6	2.06	2.65
25-Oct	2.6	2.7	2.8	3.0	2.8	2.6	2.5	2.7	2.7	2.5	2.5	2.5	2.6	3.0	2.9	3.1	3.8	3.1	2.7	2.1	2.1	2.1	2.1	2.4	2.67	3.84
26-Oct	3.0	3.3	4.3	4.4	4.1	3.6	3.2	3.2	3.5	4.3	4.8	3.8	3.3	3.0	2.6	2.0	2.1	2.1	1.7	1.6	1.4	1.4	1.5	1.9	2.92	4.84
27-Oct	2.5	2.7	2.7	2.4	2.5	2.3	2.3	2.3	2.4	2.0	2.0	2.0	2.0	2.0	1.9	1.9	2.0	2.1	2.4	2.9	3.3	3.4	3.4	3.8	2.47	3.77
28-Oct	4.8	4.3	4.1	6.5	6.9	8.4	9.5	10.3	10.5	9.9	9.0	7.4	5.5	5.7	5.7	5.2	5.3	5.7	5.4	5.1	5.4	5.6	6.2	6.2	6.60	10.49
29-Oct	6.5	7.0	7.5	12.0	14.4	15.8	15.9	15.5	14.2	13.3	12.9	11.9	11.1	11.3	12.5	13.6	13.5	13.5	14.3	12.9	13.0	13.7	13.6	12.7	12.60	15.94
30-Oct	12.3	10.6	10.0	9.8	9.3	9.1	11.2	11.7	11.9	11.7	11.2	9.2	7.9	5.0	3.5	3.3	3.3	3.3	3.4	3.3	3.3	3.3	4.1	4.8	7.36	12.33
31-Oct	5.7	5.6	5.1	5.1	4.5	3.6	4.9	4.8	6.5	7.7	8.6	8.5	8.3	7.7	7.9	7.1	5.2	3.5	2.7	2.6	2.9	2.9	2.9	3.2	5.31	8.56
																								Diurnal Average		
4.51 4.30 4.01 4.59 4.13 4.02 4.05 4.26 4.32 3.82 3.59 3.13 2.98 2.99 3.00 3.03 3.04 3.12 3.36 3.43 3.58 3.47 3.71 3.98																								Diurnal Maximum		
12.33 10.55 10.01 19.12 14.35 15.78 15.94 15.46 14.17 13.29 12.89 11.88 11.09 11.33 12.51 13.61 13.49 13.52 14.27 12.86 13.02 13.71 13.58 12.70																										
AF - Analyzer Failure Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																										

**TOMAHAWK
STATION #901**

METEOROLOGICAL DATA

OCTOBER 2014



WCAS - Tomahawk
Summary of Hourly Averages

External Temperature (ET) - C
October 2014

Maximum Value: 22.50 C on Oct 10 16:00		Maximum Daily Average: 12.15 C on Oct 11		Hours in Service: 744																							
Minimum Value: -7.5 C on Oct 28 05:00		Minimum Daily Average: -1.53 C on Oct 28		Hours of Data: 744																							
Maximum Diurnal Average: 11.70 C at hour 15		Minimum Diurnal Average: 1.70 C at hour 8		Hours of Missing Data: 0																							
Monthly Average: 6.146 C		Percentiles: P ₁ = -5.6 P ₁₀ = -0.6 Q ₁ = 1.8 Median = 5.3 Q ₃ = 10.2 P ₉₀ = 14.2 P ₉₉ = 19.4		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	3.8	3.3	1.7	0.7	0.1	-0.2	-0.7	-0.6	1.7	5.6	9.3	11.3	11.5	9.7	7.0	4.7	5.4	5.1	4.3	3.5	2.7	2.3	1.4	0.5	3.93	11.54	
2-Oct	0.1	-0.1	-0.2	-0.2	-0.2	-0.4	-0.6	-0.2	0.2	0.6	2.0	3.2	4.6	5.8	6.6	6.6	6.1	4.7	1.3	-0.3	-0.7	-1.6	-2.1	-2.8	1.34	6.57	
3-Oct	-3.4	-3.8	-4.4	-5.2	-5.3	-6.0	-5.6	-4.6	-2.5	0.1	3.0	5.0	6.5	7.8	9.4	10.0	10.3	9.8	9.0	8.9	8.3	7.0	6.6	7.4	2.84	10.33	
4-Oct	6.7	7.3	6.6	6.7	7.1	7.2	7.2	7.5	8.0	9.3	11.6	15.7	17.6	18.4	18.0	18.1	16.9	16.6	13.4	11.0	9.5	11.3	11.3	10.6	11.40	18.38	
5-Oct	9.1	6.4	6.0	5.9	5.3	5.2	5.2	5.9	8.6	12.5	14.8	16.1	16.6	16.6	17.2	17.3	15.6	14.2	12.9	12.2	11.3	11.3	10.1	9.9	11.08	17.26	
6-Oct	9.6	9.2	8.6	8.2	8.3	8.5	12.0	12.2	12.8	13.8	14.6	15.3	15.6	16.0	16.3	16.1	15.0	11.9	9.4	8.1	6.7	6.9	6.7	3.8	11.06	16.25	
7-Oct	4.6	5.3	5.3	5.8	5.4	4.7	4.1	5.1	6.0	8.0	11.6	11.5	11.5	11.8	11.9	11.7	11.1	10.6	9.7	9.0	8.4	8.1	7.0	6.9	8.13	11.92	
8-Oct	6.3	6.0	5.7	5.3	4.7	3.9	3.5	3.6	4.9	6.1	7.3	9.2	11.0	10.9	11.4	11.2	11.4	9.2	7.4	6.7	5.2	3.7	3.2	3.4	6.72	11.41	
9-Oct	1.9	1.7	1.0	1.1	-0.2	0.7	0.5	0.4	2.2	6.0	8.1	10.2	12.3	14.5	16.5	17.9	18.0	16.4	14.2	12.5	10.9	9.8	8.7	8.3	8.07	18.04	
10-Oct	7.1	4.7	4.0	2.7	2.4	2.0	1.8	2.0	3.8	7.0	10.8	15.2	18.3	20.4	22.0	22.5	22.1	19.1	16.4	14.3	14.1	16.2	16.2	14.2	11.63	22.50	
11-Oct	14.0	13.4	12.5	11.5	11.0	10.2	9.6	9.3	9.3	11.6	14.2	15.8	17.0	16.4	16.2	15.0	14.1	12.5	10.3	10.0	10.8	10.0	9.3	7.6	12.15	16.96	
12-Oct	6.6	6.8	6.2	8.1	8.9	9.0	9.5	9.2	10.0	10.8	12.4	13.7	14.6	15.1	15.8	15.5	14.2	12.6	10.0	9.0	6.9	5.2	3.7	4.3	9.92	15.83	
13-Oct	3.8	3.4	2.1	1.9	1.3	0.2	-0.4	-0.6	2.3	5.3	8.9	12.1	14.3	15.4	15.5	15.2	14.1	13.4	12.7	11.8	11.7	10.2	9.5	9.3	8.06	15.45	
14-Oct	8.1	6.2	6.0	5.7	5.8	5.2	5.1	4.8	6.4	8.9	12.1	15.1	17.0	16.9	15.5	13.6	12.3	10.4	9.4	9.1	8.0	6.7	5.8	4.7	9.11	17.02	
15-Oct	3.3	1.2	2.7	0.5	0.6	0.6	1.7	0.6	2.7	4.2	6.0	7.4	7.4	7.1	6.8	6.2	5.8	5.4	5.1	4.9	4.8	4.4	4.1	4.0	4.06	7.44	
16-Oct	3.8	3.6	3.5	2.9	3.0	2.8	2.0	2.4	3.8	5.5	6.8	8.3	8.8	9.3	9.4	9.5	9.3	7.9	6.3	5.2	4.6	4.3	3.3	2.5	5.37	9.52	
17-Oct	2.1	0.9	0.2	-2.8	-3.1	-3.6	-3.6	-3.7	-1.6	1.1	4.6	8.8	11.4	12.7	12.8	12.6	11.6	11.1	10.4	9.9	9.2	8.6	7.3	5.9	5.11	12.81	
18-Oct	4.9	5.4	5.0	4.9	4.6	4.4	4.4	3.4	5.6	9.9	14.2	17.9	18.5	19.6	19.9	19.8	19.0	16.4	14.5	11.7	10.6	9.4	7.6	5.9	10.72	19.87	
19-Oct	5.2	4.1	2.6	2.0	1.8	1.6	1.3	1.3	2.6	4.4	5.6	7.8	9.3	10.9	11.3	11.4	11.0	10.5	9.2	8.4	7.9	6.2	5.5	5.8	6.15	11.36	
20-Oct	4.1	2.7	2.3	3.0	4.3	4.5	4.5	4.8	5.2	7.0	9.8	11.4	13.6	15.9	18.6	19.4	19.3	16.6	14.6	12.7	12.9	12.7	14.2	11.7	10.24	19.41	
21-Oct	10.3	8.3	7.4	8.1	7.3	5.5	4.7	4.8	6.0	7.8	9.6	11.5	12.3	12.4	13.4	14.1	13.9	11.6	9.8	8.8	7.3	5.7	5.2	3.5	8.73	14.14	
22-Oct	2.3	1.2	0.9	1.0	0.7	0.6	0.1	0.2	2.7	5.9	9.3	11.6	13.0	12.8	15.7	14.6	14.1	12.5	11.6	11.0	10.0	9.4	9.1	6.8	7.38	15.73	
23-Oct	5.1	4.6	3.9	3.0	1.9	0.9	-0.7	-1.1	0.2	2.1	5.0	12.0	16.2	16.2	15.3	14.0	13.7	10.6	8.7	7.5	7.2	5.3	4.1	3.3	6.62	16.23	
24-Oct	3.8	5.0	4.7	4.5	4.4	3.6	2.2	1.2	2.0	5.0	7.4	8.5	10.3	10.7	11.5	11.3	10.5	8.1	6.2	4.5	4.0	1.2	0.6	0.1	5.46	11.53	
25-Oct	-1.4	-1.9	-2.0	-2.6	-3.6	-4.1	-3.1	-3.5	-2.5	2.3	4.4	5.2	5.6	7.0	7.2	7.0	6.2	6.4	6.0	6.1	5.3	4.1	3.4	2.8	2.25	7.22	
26-Oct	2.8	3.0	2.6	1.7	1.7	1.5	0.9	-0.2	0.1	1.1	1.4	1.7	1.6	1.8	2.1	2.4	2.5	2.4	2.0	1.4	0.9	0.6	0.4	0.2	1.53	2.97	
27-Oct	0.8	0.8	0.6	0.5	0.1	-0.3	-0.3	-1.0	-2.0	0.3	1.7	2.2	2.6	2.9	3.2	3.8	2.8	0.4	-1.8	-2.4	-2.6	-3.0	-3.7	-4.7	0.04	3.79	
28-Oct	-4.9	-5.1	-5.5	-6.6	-7.5	-6.6	-6.1	-6.6	-5.8	-3.2	-1.7	1.5	3.9	3.8	4.6	4.2	3.1	1.0	0.9	0.8	0.4	-0.1	-0.5	-0.7	-1.53	4.64	
29-Oct	-1.0	-1.3	-0.8	-0.6	-0.7	-0.7	-1.0	-1.1	-0.5	-0.1	0.4	1.2	2.0	2.6	3.0	3.0	2.2	1.1	0.0	-0.5	-0.5	-0.4	-0.4	-0.4	0.23	3.02	
30-Oct	-0.7	-1.3	-2.1	-2.7	-3.0	-2.4	-1.7	-1.3	-1.1	-0.7	-0.2	1.1	3.8	5.0	4.9	4.1	2.8	1.9	1.5	1.3	1.9	2.1	2.3	2.8	0.76	4.96	
31-Oct	2.8	1.9	1.2	0.1	-0.7	-1.1	-1.2	-1.4	-0.5	0.3	0.6	1.1	1.8	3.1	3.6	4.0	4.2	4.4	4.1	3.9	3.7	3.6	3.6	3.7	1.96	4.38	
		3.92	3.32	2.84	2.42	2.14	1.85	1.78	1.70	2.92	5.10	7.28	9.31	10.65	11.27	11.70	11.51	10.93	9.51	8.04	7.13	6.50	5.84	5.27	4.56	Diurnal Average	
		13.96	13.41	12.49	11.55	10.98	10.24	11.97	12.17	12.80	13.81	14.78	17.85	18.46	20.43	22.03	22.50	22.07	19.09	16.44	14.32	14.08	16.22	16.15	14.18	Diurnal Maximum	



WCAS - Tomahawk
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

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	11.0	10.3	7.3	6.6	9.9	9.8	8.7	9.7	8.2	9.9	12.1	11.9	13.9	22.6	29.8	19.2	13.8	16.7	15.5	12.8	18.1	23.9	24.4	23.5	10.61	29.79
Dir	W	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	N	N	N	NNW	WNW	NW	NW	WNW	NNW	NNW	NNW	NNW	NW	N
2 Spd	22.8	20.6	17.9	18.5	13.9	19.8	14.5	15.5	26.8	21.0	22.1	26.0	28.4	26.8	28.0	24.7	20.7	14.3	6.7	4.1	4.5	4.6	5.6	6.9	16.38	28.41
Dir	NNW	NNW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	NW	W	W	WSW	WSW	NNW	NNW
3 Spd	6.0	4.9	3.7	4.1	3.9	4.8	3.3	4.1	4.5	5.3	7.0	7.4	5.4	5.8	8.1	2.1	2.6	5.8	4.9	4.4	2.4	4.8	6.2	4.3	3.95	8.13
Dir	WSW	SW	SSW	SSW	SSE	SSE	S	SSE	S	S	SSW	SW	SW	SSW	SSE	SSW	S	SSE	SSE	SSE	SSW	W	WSW	W	SSW	SSE
4 Spd	6.3	4.6	4.3	6.0	6.2	1.0	6.2	5.4	8.4	9.6	10.4	11.7	17.1	16.8	8.4	12.1	4.3	1.8	3.7	4.1	8.4	10.7	11.8	10.2	5.42	17.07
Dir	SW	W	WSW	WSW	WSW	ENE	W	WSW	WSW	WSW	WSW	W	NW	NNW	N	NNE	NE	NE	N	W	W	NW	NW	WNW	WNW	NW
5 Spd	7.2	7.9	8.3	10.2	9.3	11.0	12.4	11.5	8.7	9.3	16.0	15.2	18.7	16.3	12.6	11.4	7.7	3.2	4.0	0.2	2.5	5.6	3.4	4.9	6.44	18.74
Dir	WNW	W	W	W	W	W	W	W	W	NW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNE	NNE	SW	S	SSE	SSW	SSW	NW	NNW
6 Spd	4.0	3.1	5.3	8.5	10.0	10.0	18.6	20.3	28.1	33.9	35.2	34.2	33.4	28.9	25.6	26.3	22.6	11.2	4.8	5.1	7.1	10.7	10.7	10.3	13.79	35.20
Dir	W	W	SSW	WSW	WSW	WSW	NW	NNW	NNW	N	NNW	N	NNW	N	N	N	NNE	N	NNW	W	W	WNW	WNW	W	NNW	NNW
7 Spd	10.4	8.2	9.8	10.7	9.9	8.2	7.8	8.3	5.3	6.2	7.4	9.1	6.7	5.7	4.0	4.3	4.3	3.0	5.1	6.4	6.8	6.3	8.7	11.1	2.81	11.11
Dir	W	W	W	WNW	WNW	W	WSW	W	W	W	NNW	NNW	WNW	WNW	WNW	WSW	SSW	S	SE	ESE	E	E	E	E	W	E
8 Spd	8.4	12.1	13.0	14.8	14.9	15.7	15.6	13.2	10.5	6.0	4.0	5.5	4.0	6.3	8.2	5.4	6.6	3.1	1.6	1.5	1.2	4.3	2.3	2.1	4.90	15.70
Dir	ESE	SE	SE	SE	SSE	SE	SE	SSE	SE	SE	SE	SSE	SW	NNW	NNE	NNE	NNE	N	NW	ENE	S	NE	SSW	SSE	SE	SE
9 Spd	0.7	1.3	1.6	2.0	4.3	1.0	2.4	1.4	5.9	2.5	5.3	7.7	7.9	6.4	8.0	7.8	7.8	5.3	6.8	8.1	4.5	5.2	4.0	5.3	3.82	8.10
Dir	ENE	ENE	N	SSW	NE	NW	SSE	WNW	SSW	W	SSW	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSE	S	S	SSE
10 Spd	5.3	4.7	4.9	4.9	7.7	7.4	7.5	8.6	9.9	10.3	8.4	8.3	6.1	9.9	9.7	10.1	8.0	7.4	8.3	7.4	9.1	14.6	12.6	9.2	5.83	14.56
Dir	S	SSW	S	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	S	S	S	S	SSE	S	SSW	WSW	NW	NW	NNW	SW	NW
11 Spd	8.5	17.1	22.5	11.9	13.0	8.5	8.8	7.8	6.8	10.6	18.0	18.9	23.0	22.8	22.8	15.8	18.1	9.5	9.0	12.7	15.6	16.9	14.7	10.2	13.23	23.00
Dir	NNW	NW	NW	WNW	WNW	W	WSW	WSW	W	W	WNW	WNW	NW	NW	NNW	NW	NW	WNW	NNW	WNW	WNW	NW	NW	WNW	NW	NW
12 Spd	10.8	12.4	9.9	14.8	17.9	15.6	15.8	16.5	16.7	19.6	24.6	26.9	22.0	22.5	19.5	16.8	12.1	6.2	5.4	7.7	7.4	7.9	7.7	6.6	13.49	26.93
Dir	W	WNW	W	WNW	NW	NW	WNW	WNW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NW	W	WNW	W	WNW	WSW	WSW	NW	NW
13 Spd	6.1	6.0	6.4	6.4	5.0	6.5	4.0	5.0	5.4	8.0	10.1	6.9	7.9	9.5	12.2	13.3	10.3	12.8	11.9	10.7	12.2	11.3	9.6	7.4	6.10	13.33
Dir	SW	SW	SW	WSW	SW	SW	S	SW	SW	SW	SW	S	SSE	SSE	SSE	SSE	SSE	ESE	SE	ESE	ESE	ESE	ESE	SE	SSE	SSE
14 Spd	1.7	3.8	4.1	4.6	4.8	2.1	5.0	6.0	3.2	5.2	5.9	10.5	21.6	23.8	25.3	26.4	15.5	8.2	5.5	7.7	5.4	4.1	3.7	3.0	6.64	26.37
Dir	S	N	WNW	SW	NNW	WNW	W	W	W	W	WNW	NW	NNW	NNW	NNW	N	N	N	NW	WNW	NW	S	SSW	S	NW	N
15 Spd	0.4	5.6	4.5	6.0	5.3	2.4	5.2	2.2	9.6	8.6	8.8	9.2	10.6	11.2	7.0	8.3	8.0	5.1	4.5	5.2	1.9	1.0	2.6	3.7	4.00	11.16
Dir	NE	SW	WSW	NE	SSW	ESE	SE	ESE	ESE	E	E	ESE	ESE	ESE	ESE	SE	SE	ESE	E	E	SE	NNE	WNW	W	ESE	ESE
16 Spd	2.7	2.1	2.4	3.5	3.4	6.2	8.6	11.2	9.5	9.6	9.1	12.5	12.2	12.9	11.9	10.1	6.1	6.7	9.1	9.9	12.5	9.2	3.8	6.9	7.25	12.90
Dir	W	SW	SSE	ESE	SE	SE	ESE	ESE	SE	SSE	S	S	S	S	S	S	SSE	SE	SSE	SSE	SSE	SSE	SE	SE	SSE	S
17 Spd	10.4	10.4	5.8	3.3	2.8	4.4	2.6	1.9	1.8	4.0	6.7	11.6	15.0	14.2	12.6	9.2	7.5	9.5	6.6	6.6	7.6	3.1	1.9	4.0	5.64	15.03
Dir	SE	ESE	SE	SW	SSW	SW	SSW	ESE	SSW	SSE	S	SSE	SSE	SSE	S	S	SSE	SSE	SSE	S	SSW	WSW	N	NW	SSE	SSE
18 Spd	7.0	6.6	2.9	3.6	4.0	6.6	7.2	6.9	7.4	7.8	7.0	15.2	17.7	18.3	18.7	17.4	14.4	12.1	8.1	4.4	5.7	6.0	6.5	6.2	7.19	18.73
Dir	NNW	N	SSW	SSW	W	WSW	WSW	WSW	WSW	WSW	WSW	W	WNW	WNW	WNW	NW	NW	NW	NW	SW	SSW	WSW	SW	SSW	W	WNW
19 Spd	6.0	2.3	4.4	7.1	6.8	4.7	7.3	5.1	5.0	5.6	4.8	7.1	9.1	7.1	8.3	8.2	7.8	5.3	5.6	5.1	6.5	3.9	2.4	5.5	4.18	9.14
Dir	SSW	SSW	SSW	WSW	WSW	SW	SW	SW	SSW	S	S	S	S	SSE	SE	ESE	SE	ESE	ESE	ESE	SE	SW	NW	SW	S	S
20 Spd	5.8	6.6	8.1	9.1	8.6	8.3	8.8	6.9	6.2	4.5	6.5	7.3	5.4	4.3	3.7	6.2	6.9	6.8	4.6	6.0	6.4	9.7	11.3	16.6	4.46	16.63
Dir	SW	WSW	SW	SW	WSW	SW	WSW	SW	SSW	SSW	SW	SSW	SW	SSW	S	S	SSE	SSE	SE	SW	WSW	WNW	NW	N	SW	N
21 Spd	8.6	5.3	4.9	8.7	3.5	4.7	2.0	4.3	4.6	5.0	5.2	2.0	4.8	6.3	7.2	5.4	8.0	6.6	7.4	5.4	6.3	4.8	5.2	3.9	3.27	8.73
Dir	N	WNW	WSW	W	WSW	W	NW	SSW	W	WSW	WSW	SSW	SW	SW	SSW	S	S	SSE	SE	SSE	SSE	S	SSW	S	SW	WNW
22 Spd	5.5	7.6	7.0	7.0	6.1	5.5	7.0	9.2	13.1	14.0	11.3	9.4	12.4	9.3	13.3	7.9	7.6	9.1	8.3	8.8	8.8	9.5	9.0	9.8	6.47	13.95
Dir	SSW	SSW	SW	SW	SSW	SSE	S	S	S	S	S	SSE	S	S	S	SSE	SE	SE	S	SW	WSW	W	WNW	NNE	S	S



WCAS - Tomahawk
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

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	6.1	3.2	2.3	5.6	3.2	4.0	5.3	7.1	4.3	7.6	8.9	15.4	20.4	27.1	22.5	12.2	11.3	10.1	9.8	10.4	12.2	10.3	7.0	7.2	7.75	27.12		
Dir	NNW	NNE	SSW	SW	NW	NNW	SW	WSW	SW	SW	W	W	W	WNW	NW	NNW	NNW	NNW	NW	NW	NW	NNW	NNW	WNW	WNW	WNW		
24 Spd	11.5	11.2	8.7	11.0	11.2	8.5	7.1	9.1	12.7	17.0	17.6	15.0	19.4	19.6	20.1	20.6	16.2	8.1	8.1	8.6	8.7	8.0	6.3	7.2	11.51	20.60		
Dir	WNW	NW	NW	NW	NW	WNW	W	WSW	WSW	W	WNW	WNW	NW	NW	NW	NW	WNW	NW	WNW	WNW	WNW	W	W	NW	WNW	NW		
25 Spd	4.8	4.4	5.4	5.7	3.9	3.4	3.8	0.7	3.5	9.1	15.1	18.9	21.0	25.3	25.6	25.1	22.4	19.9	16.0	18.0	17.8	16.1	14.0	14.3	11.11	25.61		
Dir	WSW	SW	SSW	SSW	WSW	WSW	WSW	SW	E	ESE	SE	SE	SE	ESE	SE	ESE	ESE	SE	SE	SE	SE	ESE	E	E	E	SE	SE	
26 Spd	15.2	13.1	9.7	7.8	10.6	12.7	10.4	10.9	11.4	13.4	14.9	17.0	16.6	17.2	20.5	18.5	17.8	18.3	20.6	19.7	18.4	16.2	20.8	19.9	13.07	20.85		
Dir	E	E	ENE	NNE	NNE	NNE	NE	NNW	N	N	N	N	N	N	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	NNW		
27 Spd	25.3	23.6	23.2	22.1	19.3	16.6	17.8	14.1	6.3	12.5	17.1	15.7	12.5	9.3	9.7	6.2	4.3	4.0	9.9	9.4	7.8	6.5	7.1	7.7	8.42	25.32		
Dir	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	WNW	NW	NNW	NNW	NNW	N	N	NNE	ENE	ESE	ESE	SE	SE	SE	SSE	SSE	NNW	NNW		
28 Spd	6.8	7.1	7.4	8.7	8.2	12.4	10.6	8.3	10.9	11.6	9.5	11.1	10.6	13.5	15.8	15.5	9.0	8.0	9.2	10.9	9.3	5.7	4.4	5.6	8.77	15.79		
Dir	SSE	SSE	SE	ESE	E	ESE	ESE	E	E	ESE	ESE	SE	SE	ESE	ESE	ESE	ESE	E	E	E	E	E	NNE	NNE	ESE	ESE		
29 Spd	5.9	1.2	3.3	7.0	8.8	7.9	2.5	2.9	6.7	1.2	3.0	2.4	2.5	2.7	4.6	7.1	3.6	5.4	6.7	5.7	6.3	6.9	7.0	8.4	3.10	8.82		
Dir	N	NNE	NNW	NNW	N	NNE	NE	NW	NNW	N	S	S	SSE	NE	NE	ENE	ENE	E	E	E	E	E	ESE	ESE	NE	N		
30 Spd	8.0	7.1	8.7	10.1	11.2	10.2	14.1	13.1	14.9	13.7	12.8	15.5	19.1	19.2	20.2	18.5	14.6	16.5	17.6	16.4	18.5	13.8	13.4	12.0	13.31	20.23		
Dir	ESE	SE	ESE	ESE	ESE	ESE	SE	SE	SSE	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE	S	S	SSE	SSE	SSE	SSE	SE	SSE	SSE		
31 Spd	8.2	9.1	8.5	6.5	5.5	4.5	5.8	5.0	9.7	8.5	10.5	11.5	9.1	8.1	3.9	8.4	7.3	10.0	11.3	6.2	1.6	1.1	5.3	8.3	5.11	11.48		
Dir	ESE	E	ENE	ENE	NE	N	NNW	NNW	NNW	NNW	N	NNW	NW	NNW	NNW	NNW	NW	WNW	NNW	NNW	N	NW	NW	NW	NNW	NNW		
Spd	2.13	2.17	2.31	3.01	3.09	2.33	2.71	2.98	2.53	3.00	4.00	3.75	4.63	4.67	3.75	3.14	1.83	1.02	0.88	1.19	1.55	1.87	2.55	1.87	Diurnal Average			
Dir	WNW	WNW	W	W	WNW	W	W	W	W	W	WNW	WNW	NW	NNW	NNW	N	N	ENE	E	SSW	SW	WNW	NW	NW	Diurnal Maximum			
Spd	25.32	23.59	23.16	22.11	19.32	19.81	18.61	20.27	28.11	33.85	35.20	34.21	33.37	28.89	29.79	26.37	22.55	19.88	20.63	19.66	18.54	23.95	24.38	23.53	Diurnal Maximum			
Dir	336.61	337.03	340.93	343.05	337.26	339.82	309.10	334.48	344.96	350.59	348.37	350.46	344.26	351.85	351.60	349.03	12.94	128.88	336.34	328.50	165.34	341.67	339.22	334.06	Diurnal Maximum			
Maximum Speed Value: 35.2 kph on Oct 6 11:00																			Minimum Speed Value: 0.2 kph on Oct 5 20:00					Hours in Service:		744		
Maximum Daily Speed Average: 16.38 kph on Oct 2																			Minimum Daily Speed Average: 2.81 kph on Oct 9					Hours of Data:		744		
Maximum Diurnal Speed Average: 4.67 kph at hour 14																			Minimum Diurnal Speed Average: 0.88 kph at hour 19					Hours of Missing Data:		0		
Monthly Average Velocity: 2.084 kph 296.15 deg																			Speed Percentiles: P ₁ = 1.1 P ₁₀ = 3.7 Q ₁ = 5.4 Median = 8.2 Q ₃ = 12.4 P ₉₀ = 18.5 P ₉₉ = 28.0					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	16	31	24	18	8	0	97																					
NorthEast	14	7	2	0	0	0	23																					
East	6	40	8	0	0	0	54																					
SouthEast	12	55	35	9	0	0	111																					
South	37	52	19	0	0	0	108																					
SouthWest	35	78	2	0	0	0	115																					
West	23	66	16	1	0	0	106																					
NorthWest	11	35	52	31	1	0	130																					
Total	154	364	158	59	9	0	744																					



WCAS - Tomahawk
Summary of Hourly Averages

Relative Humidity (RH) - %
October 2014

Maximum Value: 96.83 % on Oct 30 07:00 Maximum Daily Average: 93.06 % on Oct 31 Minimum Value: 21.8 % on Oct 10 16:00 Minimum Daily Average: 43.84 % on Oct 12 Maximum Diurnal Average: 83.50 % at hour 8 Minimum Diurnal Average: 48.38 % at hour 15 Monthly Average: 67.948 % Percentiles: P ₁ = 24.8 P ₁₀ = 40.0 Q ₁ = 52.0 Median = 70.0 Q ₃ = 85.9 P ₉₀ = 93.5 P ₉₉ = 96.6																								Hours in Service:	744																								
																								Hours of Data:	744																								
																								Hours of Missing Data:	0																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	81.7	81.6	87.3	90.6	92.1	92.1	92.8	93.4	88.8	76.2	59.7	47.7	45.1	51.3	64.0	77.8	71.4	72.9	70.0	76.4	79.3	71.7	68.3	70.1	75.09	93.37																							
2-Oct	69.8	73.8	74.5	75.5	76.7	75.9	75.0	72.8	63.6	63.8	58.8	51.9	45.5	40.2	36.0	35.9	37.4	42.0	53.1	59.9	61.3	66.0	68.4	73.2	60.46	76.70																							
3-Oct	77.8	82.0	88.0	89.6	87.0	86.7	85.6	83.9	80.4	71.9	61.7	56.9	51.2	47.2	41.2	40.7	43.3	48.4	49.9	50.4	55.8	65.2	68.7	70.0	65.97	89.59																							
4-Oct	76.6	78.0	82.8	85.2	86.3	88.9	90.5	90.6	91.3	85.2	76.3	57.7	42.8	40.5	41.9	42.5	48.0	47.9	57.1	67.1	69.5	60.8	58.5	60.2	67.75	91.28																							
5-Oct	65.8	76.6	78.2	78.8	80.4	81.2	81.0	79.5	73.9	60.1	49.2	44.1	42.6	42.8	42.0	41.4	45.8	50.8	54.3	56.2	60.0	59.8	67.5	70.4	61.76	81.16																							
6-Oct	74.3	80.5	85.4	87.7	87.5	86.0	79.3	72.8	65.3	54.2	46.5	40.9	37.6	35.8	33.9	33.6	36.3	45.2	51.7	57.3	62.4	59.7	59.0	71.5	60.19	87.71																							
7-Oct	69.6	67.5	65.3	61.1	61.7	65.8	70.9	67.9	70.8	64.7	48.3	47.8	48.1	46.6	46.3	48.2	52.6	53.6	56.6	60.0	64.7	69.7	79.0	81.9	61.20	81.86																							
8-Oct	88.2	92.0	93.0	90.5	88.9	88.4	89.8	87.9	81.5	74.3	67.3	61.6	56.8	60.1	64.8	65.9	66.5	73.9	81.7	84.6	88.8	92.8	94.3	94.8	80.34	94.78																							
9-Oct	95.2	95.6	96.1	96.1	96.5	96.6	96.6	96.8	96.2	84.3	73.7	65.9	59.5	52.6	46.7	42.6	39.1	44.0	49.6	55.9	63.8	69.4	74.8	75.1	73.45	96.78																							
10-Oct	78.1	87.1	91.7	93.1	95.0	95.2	95.7	95.5	90.3	74.5	59.7	44.4	35.8	28.9	23.8	21.8	22.4	26.8	32.8	38.3	42.3	38.2	36.9	46.1	58.10	95.69																							
11-Oct	48.6	51.9	52.2	52.8	54.5	56.8	60.2	64.3	65.5	57.8	43.5	33.3	26.2	27.2	27.9	30.7	33.2	40.0	47.9	47.9	40.5	42.5	46.4	52.3	46.00	65.54																							
12-Oct	56.6	56.8	58.8	53.3	49.3	48.1	45.7	46.3	44.6	42.2	37.5	33.2	31.7	29.2	27.6	28.4	31.6	33.7	39.8	40.7	48.2	53.2	59.3	56.5	43.84	59.29																							
13-Oct	60.1	63.2	68.6	69.5	72.0	75.9	78.9	82.8	71.0	59.0	46.6	41.0	36.5	31.9	30.4	31.6	33.1	36.1	39.7	44.3	45.5	51.2	54.1	55.2	53.27	82.78																							
14-Oct	59.6	67.8	69.4	70.0	72.5	76.2	75.3	76.1	74.1	65.9	54.3	42.8	36.1	37.4	45.8	52.4	52.7	54.6	54.9	57.7	61.0	67.4	72.7	78.1	61.45	78.14																							
15-Oct	83.5	90.2	90.1	91.0	94.2	94.6	89.4	92.1	89.3	85.4	80.4	76.7	74.5	75.4	82.2	88.6	90.7	91.4	93.0	93.5	93.7	94.1	94.5	95.0	88.48	95.02																							
16-Oct	95.3	95.5	95.6	95.8	95.9	96.0	96.2	95.8	93.1	89.2	87.1	76.7	71.5	69.0	68.7	68.2	68.5	73.9	78.9	82.6	85.9	86.8	89.8	92.3	85.34	96.17																							
17-Oct	92.3	93.9	95.0	95.7	96.2	96.3	96.1	95.9	96.4	96.1	91.6	67.4	52.8	45.7	46.4	49.1	52.2	54.8	57.4	58.4	61.6	64.8	69.6	76.2	75.08	96.37																							
18-Oct	85.1	85.0	85.5	86.5	86.6	87.0	84.8	86.5	76.7	61.2	48.3	32.2	29.5	26.0	24.9	24.4	25.4	27.8	30.4	37.5	41.8	47.2	54.6	63.7	55.77	86.96																							
19-Oct	66.6	71.9	76.2	79.8	78.9	79.3	79.3	79.5	76.4	72.4	68.4	62.6	59.0	54.6	53.6	52.0	53.0	55.2	60.1	62.5	66.8	73.6	78.3	76.1	68.16	79.81																							
20-Oct	83.2	87.5	86.9	82.6	75.4	72.7	72.4	72.2	71.9	68.1	59.7	56.9	51.4	40.3	34.5	32.4	30.0	34.3	40.6	47.2	46.8	48.8	43.8	57.6	58.22	87.54																							
21-Oct	63.9	71.5	75.5	73.7	76.4	83.3	85.5	88.5	85.9	78.1	71.5	63.5	60.6	59.1	55.4	51.2	51.5	56.5	63.6	69.1	73.3	79.4	82.0	89.2	71.17	89.24																							
22-Oct	92.3	94.5	95.5	95.0	93.2	91.0	85.4	83.3	75.0	63.2	50.0	42.5	36.2	37.4	31.3	35.8	37.7	41.4	43.6	42.9	46.6	48.8	49.0	57.9	61.22	95.45																							
23-Oct	63.8	66.0	69.5	73.8	79.7	83.8	87.0	90.0	86.4	82.1	72.9	49.4	28.8	24.8	22.7	25.9	27.6	32.2	45.3	48.9	46.9	51.4	57.3	67.3	57.65	89.99																							
24-Oct	68.4	64.5	65.7	67.3	65.9	66.3	70.3	74.6	77.7	66.6	52.0	46.4	34.0	26.1	23.6	23.3	25.4	29.5	33.7	42.1	43.8	52.0	52.4	54.3	51.08	77.73																							
25-Oct	60.2	63.8	68.8	70.6	78.5	79.7	75.7	77.6	78.5	62.3	56.7	50.6	47.7	45.9	46.3	46.0	49.2	48.8	49.5	48.6	53.0	58.7	60.9	63.7	60.06	79.71																							
26-Oct	65.2	65.8	67.0	71.4	70.9	71.6	77.3	84.6	87.7	83.2	80.9	81.3	82.8	85.3	82.8	79.0	76.9	77.5	79.4	81.4	82.1	82.1	79.0	77.7	78.04	87.71																							
27-Oct	74.1	73.1	74.0	75.9	79.9	84.0	76.8	76.3	81.4	71.6	64.1	60.9	59.7	58.1	53.8	51.9	54.0	62.8	76.5	85.8	87.6	91.0	93.0	91.2	73.23	93.02																							
28-Oct	89.3	88.1	89.2	92.9	93.7	93.5	93.4	93.5	94.0	91.0	89.5	77.9	63.6	63.3	61.9	61.7	64.8	73.8	78.4	84.0	86.3	88.2	89.7	91.0	83.03	93.95																							
29-Oct	91.5	92.4	93.1	93.7	94.0	93.9	93.8	94.4	93.6	91.4	91.0	88.8	85.0	83.3	82.5	83.1	84.7	87.9	91.4	92.9	92.9	93.0	92.8	93.2	90.59	94.41																							
30-Oct	93.5	94.5	95.3	96.0	96.4	96.6	96.8	96.7	96.3	95.5	93.8	87.8	75.7	68.9	68.7	71.8	76.9	81.4	82.7	83.9	84.2	85.9	88.6	88.9	87.36	96.83																							
31-Oct	89.1	91.2	92.4	93.9	95.2	95.9	96.2	96.3	96.6	96.4	96.3	96.1	94.8	91.2	88.3	90.6	90.3	88.4	90.7	92.2	93.2	93.7	94.2	90.3	93.06	96.57																							
																								76.10	78.82	80.86	81.60	82.31	83.20	83.01	83.50	81.10	73.81	65.71	57.63	51.70	49.22	48.38	49.31	50.72	54.43	59.17	62.90	65.47	67.97	70.24	73.59	Diurnal Average	
																								95.28	95.58	96.14	96.07	96.53	96.61	96.83	96.78	96.57	96.44	96.25	96.10	94.84	91.20	88.29	90.62	90.68	91.36	93.03	93.49	93.72	94.06	94.50	95.02	Diurnal Maximum	



WCAS - Tomahawk
Summary of Hourly Averages

Photosynthetically Active Radiation (PAR) - W/m2
October 2014

Maximum Value: 4081.1 W/m2 on Oct 17 10:00 Maximum Daily Average: 427.27 W/m2 on Oct 17																							Hours in Service:	744		
Minimum Value: 0.0 W/m2 on Oct 1 20:00 Minimum Daily Average: 10.62 W/m2 on Oct 31																							Hours of Data:	744		
Maximum Diurnal Average: 213.53 W/m2 at hour 11 Minimum Diurnal Average: 47.16 W/m2 at hour 6																							Hours of Missing Data:	0		
Monthly Average: 84.646 W/m2 Percentiles: P ₁ = 0.0 P ₁₀ = 1.4 Q ₁ = 4.0 Median = 26.4 Q ₃ = 153.5 P ₉₀ = 179.5 P ₉₉ = 587.2																							Hours of Calibration:	0		
																							Percent Operational Time:	100.0		
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0.6	0.6	0.8	0.8	0.9	0.7	1.2	24.1	75.5	125.9	177.7	128.9	95.5	87.2	89.2	57.3	33.8	5.2	0.3	0.0	0.2	0.3	0.0	0.0	37.78	177.72
2-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.1	10.3	43.8	63.5	127.7	186.5	213.1	207.8	179.1	131.2	78.1	24.5	0.8	1.1	0.5	1.6	0.7	1.4	52.98	213.07
3-Oct	0.7	1.5	1.6	1.3	1.7	1.5	1.6	15.2	37.8	102.0	97.5	99.3	75.1	92.4	68.3	31.0	31.2	7.9	0.0	0.0	0.0	0.0	0.1	0.3	27.85	102.02
4-Oct	0.3	0.9	0.3	0.2	0.1	1.4	1.9	9.4	21.7	47.0	129.3	193.8	103.7	113.9	85.0	79.3	40.7	19.9	1.9	1.7	0.2	0.0	0.0	1.1	35.57	193.79
5-Oct	1.8	1.3	3.3	2.4	3.5	0.8	3.3	24.8	75.2	123.9	166.3	190.7	177.7	132.6	142.4	88.5	29.7	7.5	2.8	2.8	3.6	3.8	3.8	3.5	49.83	190.71
6-Oct	2.5	1.8	1.8	1.7	1.7	2.1	1.6	20.0	73.9	130.6	170.0	185.4	178.1	175.2	152.6	122.0	69.0	14.8	3.6	3.5	3.6	3.3	4.0	4.0	55.29	185.40
7-Oct	3.8	2.2	2.5	2.4	2.7	1.2	3.3	8.8	22.3	57.8	139.8	81.4	74.3	74.9	65.9	37.9	17.0	6.0	2.3	2.9	3.6	3.3	3.1	3.9	25.97	139.78
8-Oct	3.4	3.2	2.9	2.5	2.8	0.0	0.0	0.0	0.0	0.0	1641.2	163.4	153.1	156.1	179.7	148.0	148.0	108.9	103.3	225.3	335.8	598.8	366.3	573.5	204.83	1641.2
9-Oct	753.7	641.2	592.8	290.8	65.6	0.0	335.1	312.3	0.0	34.5	160.1	152.8	150.6	150.1	151.5	153.9	155.1	157.8	168.0	194.2	186.2	180.2	175.8	164.3	221.94	753.70
10-Oct	158.4	151.3	150.6	150.1	154.0	152.8	152.4	147.2	114.3	114.6	153.7	150.4	152.4	155.8	156.1	157.2	154.7	154.2	156.2	158.6	156.1	152.7	153.9	154.9	150.51	158.62
11-Oct	153.9	154.5	151.7	151.4	156.9	153.2	157.2	157.9	159.3	150.4	150.3	153.4	155.0	155.2	155.7	155.2	153.6	154.5	155.5	153.2	151.7	152.6	153.0	156.6	154.24	159.32
12-Oct	158.4	161.5	167.8	160.0	159.3	158.3	157.3	158.2	156.0	155.5	152.0	136.0	148.2	150.3	152.5	153.2	153.4	156.0	164.5	176.6	176.6	173.8	174.0	171.8	159.63	176.63
13-Oct	173.4	175.8	170.3	167.6	167.9	166.8	166.9	165.0	213.0	190.6	159.1	152.2	149.5	149.5	151.4	152.1	159.1	163.9	162.9	165.5	162.7	163.2	161.7	165.3	165.64	213.03
14-Oct	176.5	185.5	186.6	190.4	197.3	175.3	168.4	196.4	200.4	168.1	152.2	148.8	151.3	152.9	153.7	153.0	154.0	155.6	158.0	156.0	165.4	177.6	182.3	184.3	170.40	200.36
15-Oct	194.2	210.2	207.8	202.3	208.3	204.6	243.2	259.5	229.9	197.3	168.1	164.0	162.1	161.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.22	259.49
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	388.0	280.1	206.8	177.2	158.8	157.5	164.8	171.3	164.8	170.1	170.1	175.3	175.5	106.68	388.00
17-Oct	181.2	179.6	178.3	179.5	177.3	179.1	179.2	180.8	169.2	4081.1	1846.9	395.5	0.0	99.7	225.1	224.8	225.4	222.7	223.9	228.3	225.4	220.0	217.1	214.5	427.27	4081.1
18-Oct	210.8	212.7	212.2	206.4	205.3	206.1	211.5	211.1	211.7	214.3	191.6	175.5	180.5	166.2	133.3	91.0	46.7	9.5	4.5	6.5	6.3	6.0	6.2	6.3	130.50	214.32
19-Oct	6.6	6.3	6.1	6.0	6.2	6.4	6.1	13.1	26.5	26.6	36.4	56.4	46.8	41.2	30.2	19.6	11.8	6.1	3.9	6.0	6.0	6.0	5.9	5.8	16.33	56.38
20-Oct	5.9	5.8	5.7	6.1	6.0	6.0	6.0	13.0	18.5	53.4	91.9	65.5	91.8	102.9	112.1	90.4	42.6	7.8	3.8	5.0	5.1	4.5	3.6	5.6	31.63	112.06
21-Oct	5.4	5.1	4.5	4.6	4.6	4.5	5.0	8.2	26.8	61.2	53.4	85.7	79.3	66.2	91.8	77.4	47.3	8.1	4.5	4.7	4.9	4.5	4.3	5.0	27.78	91.77
22-Oct	5.2	4.9	4.3	4.0	4.4	4.8	5.2	12.7	52.8	74.6	114.0	69.7	45.8	45.3	128.7	39.0	26.1	4.3	2.8	4.1	3.4	3.5	3.9	4.3	27.83	128.71
23-Oct	4.0	4.1	4.0	4.2	4.3	4.7	4.8	12.6	21.3	19.5	53.1	162.5	180.1	147.9	76.1	45.3	34.4	6.3	4.4	3.9	4.1	4.4	5.0	4.9	33.99	180.12
24-Oct	4.6	4.7	4.7	4.4	4.3	4.1	4.2	9.1	42.0	93.0	120.0	147.2	163.7	114.8	119.0	83.2	35.6	6.6	4.0	4.4	4.8	4.7	3.8	4.3	41.30	163.74
25-Oct	4.1	3.9	3.9	4.3	3.7	3.7	3.8	6.4	39.5	80.7	54.5	42.7	40.7	131.3	61.7	49.7	7.9	4.6	4.4	4.0	4.4	4.1	4.0	4.2	23.84	131.32
26-Oct	4.2	4.1	4.1	4.2	4.2	3.9	4.2	6.9	27.8	21.9	33.9	28.7	21.9	27.5	39.0	21.6	12.1	4.3	4.3	4.0	4.1	4.3	4.3	4.1	12.49	39.05
27-Oct	3.5	4.1	4.3	4.2	4.2	4.9	4.9	7.7	31.9	81.5	113.3	98.3	85.0	56.9	50.6	49.9	18.6	5.7	4.0	4.0	4.0	4.2	4.0	4.1	27.24	113.33
28-Oct	4.1	4.0	4.1	4.0	3.6	3.6	3.6	6.1	24.0	69.3	78.3	146.8	146.7	67.4	94.2	57.1	19.3	4.9	3.6	3.6	4.2	4.5	4.2	3.8	31.87	146.76
29-Oct	4.0	3.8	3.2	3.3	3.3	3.6	3.5	4.7	13.8	25.9	43.4	55.7	60.3	52.3	53.5	32.3	15.2	3.8	3.4	3.6	3.4	3.1	3.4	3.4	16.91	60.26
30-Oct	3.3	3.2	4.0	3.6	4.2	4.6	4.5	3.5	11.4	20.8	30.6	77.4	151.4	137.5	108.4	70.8	17.5	2.5	2.3	2.9	2.2	2.9	2.6	2.1	28.09	151.40
31-Oct	1.9	2.9	2.1	2.2	2.6	3.5	3.4	2.6	7.8	13.2	13.0	19.5	46.3	35.0	26.5	31.5	11.3	4.0	3.8	4.1	4.1	4.5	4.6	4.5	10.62	46.26
71.94 69.06 67.29 56.93 50.34 47.16 59.46 64.76 69.29 212.86 213.53 138.78 121.29 116.60 110.01 89.10 67.95 51.70 49.33 54.69 58.15 66.53 59.06 65.72																							Diurnal Average			
753.70 641.15 592.80 290.76 208.29 206.07 335.11 312.32 229.93 4081.1 1846.9 395.53 280.09 207.84 225.06 224.80 225.41 222.66 223.91 228.33 335.83 598.79 366.26 573.54																							Diurnal Maximum			



WCAS - Tomahawk
Summary of Hourly Averages

Precipitation (PR) - mm
October 2014

Maximum Value: 1.40 mm on Oct 15 16:00 Maximum Daily Total: 3.20 mm on Oct 15 Minimum Value: 0.0 mm on Oct 1 01:00 Minimum Daily Total: 0.00 mm on Oct 2 Maximum Diurnal Total: 2.00 mm at hour 16 Minimum Diurnal Total: 0.00 mm at hour 5 Monthly Total: 10.200 mm Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.4																								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 Total	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.60	0.40
2-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
4-Oct	0.0	0.0	0.0	0.0	0.0	0.2	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	0.80	0.60
5-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
6-Oct	0.0	0.2	0.0	0.2	0.0	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	1.00	0.60
7-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
8-Oct	1.2	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.80	1.20
9-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
11-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
14-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.4	0.4	0.0	0.2	0.2	0.4	0.0	0.0	0.2	3.20	1.40
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
17-Oct	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	0.0	0.0	0.0	0.0	0.20	0.20
18-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
19-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
20-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
23-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
24-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
26-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
28-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
29-Oct	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	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.40	0.20
30-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
31-Oct	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	0.2	0.2	0.0	0.0	1.2	0.2	0.2	0.0	0.0	0.0	2.20	1.20
1.20 0.60 0.20 0.20 0.00 0.20 1.20 0.00 0.00 0.20 0.20 0.20 0.00 0.00 0.80 2.00 0.40 0.00 1.60 0.40 0.60 0.00 0.00 0.20																								Diurnal Average		
1.20 0.40 0.20 0.20 0.00 0.20 0.60 0.00 0.00 0.20 0.20 0.20 0.00 0.00 0.40 1.40 0.40 0.00 1.20 0.20 0.40 0.00 0.00 0.20																								Diurnal Maximum		



WCAS - Tomahawk
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2014

Maximum Value: 10.41 kph on Oct 11 02:00		Maximum Daily Average: 4.37 kph on Oct 2		Hours in Service: 744																							
Minimum Value: 0.5 kph on Oct 5 20:00		Minimum Daily Average: 1.46 kph on Oct 3		Hours of Data: 744																							
Maximum Diurnal Average: 3.84 kph at hour 13		Minimum Diurnal Average: 1.78 kph at hour 4		Hours of Missing Data: 0																							
Monthly Average: 2.445 kph		Percentiles: P ₁ = 0.6 P ₁₀ = 1.0 Q ₁ = 1.4 Median = 2.0 Q ₃ = 3.0 P ₉₀ = 4.6 P ₉₉ = 7.7		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	1.4	1.3	1.9	1.4	1.5	1.0	1.0	1.1	1.5	2.3	3.1	3.4	9.6	5.6	8.0	6.7	4.0	5.4	4.5	2.8	5.3	6.5	6.2	6.1	3.83	9.63	
2-Oct	5.3	5.1	4.7	5.1	3.8	6.0	3.6	4.6	7.1	5.3	6.0	6.2	6.9	6.2	6.1	5.4	5.3	3.8	4.3	0.8	0.6	0.8	1.2	0.9	4.37	7.14	
3-Oct	1.0	0.6	0.8	0.8	0.9	1.6	2.1	1.3	1.4	2.1	2.0	1.9	1.6	1.9	2.7	1.5	1.3	1.6	0.9	1.3	2.1	0.9	0.9	1.6	1.46	2.74	
4-Oct	1.4	1.7	1.4	1.7	2.2	1.5	2.1	2.5	1.8	2.2	2.3	2.9	4.9	5.0	3.7	3.5	3.2	1.8	1.4	1.2	1.5	1.9	2.1	1.8	2.32	5.02	
5-Oct	1.8	1.0	1.1	1.1	1.3	1.7	1.3	1.6	1.5	2.8	3.6	3.9	4.7	4.2	3.1	3.3	3.0	1.6	1.4	0.5	1.1	1.2	1.2	1.1	2.05	4.71	
6-Oct	2.8	1.6	2.1	1.7	1.7	2.0	6.6	4.8	7.7	8.5	7.8	8.3	7.0	7.3	6.4	5.4	4.8	4.1	1.6	0.9	2.0	1.3	2.0	1.1	4.15	8.48	
7-Oct	1.2	1.5	1.3	1.5	1.3	1.0	1.7	1.0	2.2	2.5	4.7	2.6	2.5	2.5	2.0	1.7	1.0	0.5	1.2	1.5	1.7	2.7	1.1	2.6	1.81	4.67	
8-Oct	2.4	2.3	3.1	2.8	2.5	2.4	2.4	2.3	2.1	1.5	1.8	3.1	2.8	3.6	1.9	1.6	1.7	1.7	0.8	1.1	1.2	1.5	1.2	1.6	2.06	3.61	
9-Oct	3.0	3.2	1.5	1.8	3.1	2.1	1.9	1.3	1.4	2.3	2.0	2.5	2.6	2.1	2.4	2.2	2.0	0.9	0.9	1.3	1.6	1.4	1.5	1.1	1.93	3.19	
10-Oct	0.9	1.1	1.0	0.7	0.9	0.9	1.0	1.1	2.2	2.7	1.8	2.3	2.2	2.8	3.3	2.7	2.1	1.9	1.5	1.4	1.9	2.6	2.8	2.1	1.82	3.27	
11-Oct	2.9	10.4	7.0	3.2	3.8	2.3	1.9	1.6	1.3	3.8	4.2	4.4	5.7	6.3	5.5	4.0	4.4	1.5	1.6	4.0	3.0	3.3	4.0	2.8	3.86	10.41	
12-Oct	1.9	2.2	1.8	2.7	3.5	3.2	3.6	3.2	3.9	4.0	5.9	6.4	5.1	4.9	4.7	4.4	3.8	1.0	0.7	1.1	2.2	1.9	1.3	1.5	3.12	6.44	
13-Oct	1.4	1.1	0.9	0.9	1.3	0.8	1.4	1.0	2.6	1.8	2.3	2.1	2.5	3.1	2.9	2.7	2.8	2.9	2.3	1.4	2.4	1.3	2.4	1.4	1.89	3.07	
14-Oct	1.3	2.0	1.3	1.5	3.9	2.7	1.6	1.9	2.6	1.5	1.8	5.1	6.1	5.9	5.5	5.1	4.6	2.0	0.8	1.0	2.2	1.5	0.6	1.2	2.65	6.14	
15-Oct	2.1	2.7	1.7	2.6	2.4	1.2	1.6	1.9	1.3	1.5	1.4	1.9	2.0	2.2	2.1	2.4	1.8	1.0	0.9	2.4	1.2	1.1	0.9	0.9	1.73	2.74	
16-Oct	1.1	1.4	1.7	1.9	1.5	1.1	1.3	1.7	1.9	1.9	2.7	3.1	3.0	3.4	2.9	2.8	1.5	0.8	1.1	1.2	1.6	2.9	1.5	2.1	1.92	3.37	
17-Oct	1.5	1.2	1.8	0.8	1.0	1.0	1.6	1.2	1.5	2.3	2.1	2.9	3.5	2.8	3.1	1.8	1.9	1.6	1.3	1.0	0.9	1.6	2.3	1.8	1.77	3.45	
18-Oct	2.2	2.2	1.4	1.1	1.5	1.4	1.1	1.3	1.5	1.5	2.2	4.1	3.9	4.0	4.7	4.6	2.9	1.9	1.9	1.0	1.1	1.1	1.4	0.6	2.12	4.66	
19-Oct	0.9	1.4	2.3	2.7	1.6	2.1	1.3	2.1	1.3	1.4	2.4	1.8	2.5	1.4	1.6	2.5	2.9	2.0	2.0	2.5	1.3	1.9	1.9	1.0	1.88	2.95	
20-Oct	1.4	1.4	1.9	1.1	1.0	1.5	1.4	0.7	1.3	2.0	1.6	1.9	1.8	1.6	1.9	1.8	1.4	2.6	2.4	1.6	1.9	3.6	3.5	3.5	1.87	3.58	
21-Oct	3.1	2.5	2.5	2.3	2.6	2.7	1.3	2.4	1.5	1.1	1.7	1.7	1.3	1.6	1.9	1.8	2.1	0.9	1.1	1.2	1.8	1.6	0.7	0.8	1.76	3.15	
22-Oct	0.6	1.2	1.0	1.1	1.0	1.5	2.1	1.8	3.2	3.0	2.9	2.7	2.7	2.4	3.4	2.6	1.5	1.5	1.9	2.5	1.9	2.0	2.0	2.3	2.02	3.39	
23-Oct	3.1	3.4	1.6	1.2	1.8	2.0	3.0	1.8	2.6	3.2	2.6	3.2	5.5	5.9	6.1	2.9	3.4	2.6	1.5	2.0	1.7	2.0	2.3	2.0	2.79	6.10	
24-Oct	3.4	2.4	1.9	2.4	2.1	1.8	0.9	1.7	2.9	3.3	3.2	3.3	5.2	5.1	5.2	4.2	4.7	2.7	2.2	1.6	1.6	1.4	1.7	1.8	2.78	5.22	
25-Oct	1.3	0.7	1.2	0.9	1.0	0.6	0.7	1.2	1.8	2.3	3.1	3.7	4.1	5.0	5.2	5.5	4.1	4.4	3.1	3.3	3.4	2.3	2.5	2.5	2.66	5.46	
26-Oct	2.8	2.6	2.2	1.6	1.9	2.5	2.4	1.8	2.2	2.9	2.9	3.4	3.8	3.9	4.3	4.4	4.0	5.0	5.0	4.3	3.7	3.7	4.9	4.9	3.37	4.97	
27-Oct	5.1	5.1	4.6	4.4	3.8	3.8	3.7	3.2	1.4	3.7	3.8	3.4	3.4	2.9	2.5	2.7	0.8	2.0	1.6	1.6	0.9	0.9	1.5	1.1	2.83	5.07	
28-Oct	1.3	1.5	1.0	0.7	1.8	2.0	3.3	2.1	1.4	2.0	2.0	3.1	3.2	2.9	3.7	3.8	1.6	1.5	2.0	2.1	2.1	1.7	1.6	1.2	2.07	3.84	
29-Oct	1.6	2.0	2.6	1.4	1.8	2.4	2.1	1.6	1.4	1.7	2.2	2.3	2.0	2.3	2.2	2.4	2.3	2.3	0.8	1.3	0.9	1.4	1.1	1.2	1.81	2.59	
30-Oct	1.4	2.7	1.3	0.9	1.4	2.1	2.6	2.6	2.8	2.6	3.0	3.5	4.5	4.4	4.3	4.4	3.6	5.5	4.6	3.2	3.9	2.7	2.2	2.3	3.02	5.48	
31-Oct	2.8	2.3	1.6	1.2	1.8	2.2	1.6	3.0	2.0	1.7	3.7	3.7	2.4	1.9	2.0	2.0	2.4	1.5	2.0	2.4	1.3	1.4	1.3	2.2	2.10	3.70	
		2.08	2.32	2.01	1.78	1.99	1.97	2.07	1.98	2.30	2.62	2.99	3.38	3.84	3.71	3.71	3.33	2.80	2.28	1.91	1.78	1.94	2.01	1.99	1.90	Diurnal Average	
		5.28	10.41	6.96	5.13	3.92	5.96	6.62	4.80	7.73	8.48	7.75	8.29	9.63	7.33	8.01	6.70	5.29	5.48	4.97	4.27	5.30	6.55	6.24	6.10	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																											



WCAS - Tomahawk
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2014

Maximum Value: 99.23 deg on Oct 9 01:00		Maximum Daily Average: 37.12 deg on Oct 9		Hours in Service: 744																							
Minimum Value: 5.6 deg on Oct 17 21:00		Minimum Daily Average: 12.30 deg on Oct 30		Hours of Data: 744																							
Maximum Diurnal Average: 26.30 deg at hour 2		Minimum Diurnal Average: 16.33 deg at hour 24		Hours of Missing Data: 0																							
Monthly Average: 19.937 deg		Percentiles: P ₁ = 6.3 P ₁₀ = 9.5 Q ₁ = 11.3 Median = 15.1 Q ₃ = 21.8 P ₉₀ = 36.3 P ₉₉ = 84.0		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	6.4	9.7	10.4	11.0	6.0	7.0	6.5	8.6	9.6	13.2	15.4	16.4	63.0	18.7	22.2	21.8	22.7	20.2	19.0	17.3	15.8	16.1	12.0	13.0	15.92	62.97	
2-Oct	12.1	12.2	12.6	13.9	11.8	12.0	12.2	14.7	13.2	13.8	15.5	15.5	14.6	16.0	16.4	17.0	18.7	21.7	28.9	15.4	9.6	13.1	11.4	7.3	14.56	28.92	
3-Oct	7.2	8.6	15.1	10.2	17.2	17.7	26.3	14.2	19.5	20.4	20.4	18.4	21.6	26.0	17.4	69.1	55.0	13.2	12.6	13.6	58.0	13.8	10.8	24.7	22.14	69.10	
4-Oct	18.8	34.7	19.8	10.2	41.8	84.0	25.3	43.3	10.0	11.6	12.9	19.3	15.2	21.7	27.2	15.5	22.9	52.9	25.3	21.4	9.7	11.2	8.5	10.2	23.90	84.02	
5-Oct	19.4	8.4	6.8	6.3	5.8	5.7	6.3	6.8	9.3	18.7	16.9	17.7	15.0	14.7	19.3	18.3	32.9	28.8	13.7	64.5	31.6	19.7	12.9	11.6	17.13	64.55	
6-Oct	48.5	38.6	17.0	10.7	8.8	12.0	19.9	10.3	14.6	19.3	16.1	20.3	13.7	22.6	26.0	26.7	24.0	19.8	22.0	21.5	14.7	11.6	19.7	12.6	19.63	48.47	
7-Oct	12.7	11.0	10.1	8.4	9.2	13.4	10.6	10.3	35.2	17.3	40.1	18.1	28.0	26.9	28.5	28.0	10.9	15.1	11.9	10.5	14.5	29.9	11.5	11.5	17.65	40.09	
8-Oct	17.1	11.0	10.9	12.6	13.4	11.8	10.9	10.1	11.9	18.7	35.1	29.5	52.2	38.1	19.6	27.8	16.5	40.7	40.0	31.4	81.6	18.3	60.3	56.3	28.16	81.58	
9-Oct	99.2	84.3	51.7	79.0	64.1	75.7	74.3	84.1	12.7	63.1	29.5	18.0	17.9	21.8	20.5	18.5	13.3	11.9	6.2	6.8	10.0	7.9	9.7	10.7	37.12	99.23	
10-Oct	9.5	16.1	13.3	11.2	6.1	8.3	8.5	7.3	7.5	15.2	18.1	22.4	31.7	17.2	19.9	14.4	12.4	13.7	16.2	11.9	12.7	13.0	11.6	15.9	13.93	31.71	
11-Oct	10.9	24.3	11.1	19.6	16.0	19.1	13.6	10.7	10.2	18.6	13.8	14.0	14.9	14.4	13.0	11.8	10.4	10.6	15.3	11.1	10.0	9.6	13.2	15.3	13.81	24.27	
12-Oct	13.9	11.4	10.3	9.7	9.8	11.8	10.4	9.2	12.1	10.5	11.1	13.8	16.9	15.5	16.7	18.0	15.8	9.6	21.6	14.6	23.6	19.9	11.1	8.4	13.58	23.56	
13-Oct	19.3	9.4	8.3	8.3	11.3	6.0	17.2	11.4	16.9	13.1	13.4	29.8	21.9	17.0	11.0	10.6	12.6	12.8	9.5	14.3	10.9	8.3	9.6	8.3	12.97	29.79	
14-Oct	43.8	45.1	29.3	22.3	55.9	70.4	18.7	31.8	69.2	23.4	23.5	28.8	13.8	18.5	16.5	18.8	18.3	17.1	32.2	13.2	27.8	22.7	21.4	17.7	29.18	70.38	
15-Oct	90.2	39.8	40.9	51.1	12.7	36.5	24.9	60.5	7.2	7.3	9.6	17.3	12.2	11.2	15.9	24.8	12.0	15.1	13.3	15.3	22.3	67.0	31.7	24.1	27.62	90.17	
16-Oct	34.3	22.6	39.1	31.3	35.6	12.0	8.2	7.0	16.4	11.2	15.4	16.8	12.5	17.5	14.3	13.5	14.3	10.1	9.7	12.2	12.6	13.9	22.8	10.2	17.23	39.15	
17-Oct	13.8	12.6	18.9	19.8	32.9	12.9	31.3	58.1	45.8	25.7	16.4	13.5	13.4	12.1	11.6	8.5	17.4	7.7	11.7	11.9	5.6	44.7	76.6	44.6	23.65	76.62	
18-Oct	10.2	14.4	68.2	14.0	18.8	12.4	19.9	15.1	10.7	11.0	18.3	17.9	15.3	15.7	16.7	14.0	12.2	8.5	17.4	45.0	22.3	20.8	24.0	8.5	18.81	68.23	
19-Oct	11.4	75.7	28.0	8.9	9.0	8.7	10.9	25.0	20.5	20.0	30.5	11.5	11.9	10.7	10.5	10.9	27.3	34.3	33.7	32.8	22.4	67.0	46.7	13.2	24.23	75.69	
20-Oct	16.9	22.8	11.8	10.1	10.4	11.0	9.4	10.4	18.6	18.1	17.6	12.0	24.5	23.6	29.5	13.7	20.8	39.8	55.3	32.6	29.5	28.6	14.9	20.9	20.94	55.25	
21-Oct	19.5	26.2	30.5	19.3	48.3	48.1	69.9	30.0	20.8	25.1	23.2	44.7	18.1	20.4	16.6	27.4	10.2	9.9	10.8	12.3	13.0	19.1	7.5	11.8	24.28	69.86	
22-Oct	6.8	9.0	13.8	8.4	9.4	15.4	10.6	10.1	11.9	11.0	13.5	14.5	12.3	11.0	14.0	29.5	20.3	13.1	7.0	23.7	14.4	10.0	20.1	17.3	13.62	29.54	
23-Oct	48.9	62.5	42.8	27.5	43.6	27.6	34.0	16.3	29.3	17.0	16.6	14.9	19.2	14.5	11.3	9.6	17.9	13.0	9.3	11.6	9.3	7.5	27.7	18.8	22.95	62.54	
24-Oct	14.6	12.5	20.6	13.7	15.5	16.5	16.9	6.9	9.9	12.7	12.9	15.5	17.2	17.5	15.4	15.0	11.9	19.5	16.7	21.5	17.1	26.7	21.3	19.2	16.14	26.71	
25-Oct	36.0	14.5	15.5	13.9	16.4	7.0	8.0	82.8	27.3	18.8	9.3	9.3	12.7	10.8	10.5	11.9	10.5	10.4	9.1	9.7	14.0	9.5	15.3	10.8	16.42	82.75	
26-Oct	15.4	15.1	13.1	12.0	9.4	11.0	20.0	13.0	18.9	21.1	21.1	19.2	14.9	12.0	12.8	13.7	11.0	13.2	10.8	9.8	10.5	11.3	9.7	10.7	13.74	21.09	
27-Oct	10.1	9.7	10.2	10.5	10.8	11.1	11.3	11.3	22.4	15.4	13.1	19.5	19.6	26.6	18.9	22.3	21.9	27.6	15.6	10.1	7.2	8.0	9.3	7.4	14.59	27.63	
28-Oct	11.4	11.3	10.6	15.9	14.4	12.5	10.9	9.0	11.8	11.3	14.1	20.2	22.1	15.5	14.4	13.4	15.4	20.0	15.6	12.4	14.4	20.2	28.7	23.0	15.35	28.69	
29-Oct	26.2	92.7	62.2	11.7	15.3	25.4	48.7	69.4	20.8	96.9	56.7	47.4	43.6	49.8	32.8	26.9	20.1	28.5	12.1	12.5	16.4	20.2	14.1	15.0	36.06	96.91	
30-Oct	14.0	28.5	13.5	7.8	8.9	12.9	8.8	9.9	10.7	11.6	10.6	11.2	13.2	14.1	13.0	13.3	10.9	10.9	12.2	12.5	10.8	11.9	11.9	12.2	12.30	28.46	
31-Oct	28.0	20.8	24.2	18.9	24.8	17.4	14.0	22.1	8.9	11.4	13.4	15.7	14.5	19.4	36.6	21.1	15.5	11.4	10.8	18.1	47.5	39.8	21.8	14.8	20.46	47.45	
		24.07	26.30	22.28	17.04	19.79	21.07	19.95	23.54	18.19	20.09	19.16	19.45	20.57	19.08	18.36	19.54	17.94	18.75	17.61	18.44	19.99	20.69	20.26	16.33	Diurnal Average	
		99.23	92.69	68.23	79.00	64.09	84.02	74.34	84.07	69.16	96.91	56.68	47.45	62.97	49.78	36.65	69.10	55.04	52.92	55.25	64.55	81.58	66.99	76.62	56.33	Diurnal Maximum	
		,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																									

**VIOLET GROVE
STATION #902**

CONTINUOUS AIR MONITORING DATA

OCTOBER 2014

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Violet Grove Station 902													October 2014
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Total	Min	Max	----- P10	----- Q1	Percentile Median	----- Q3	----- P90	24 Hour Average Max (ppm)
SO ₂ (ppb)	36	708	100.0	0.2	-	0.0	2.9	0.0	0.1	0.2	0.3	0.6	0.001
O ₃ (ppb)	36	708	100.0	23.9	-	0.2	43.3	10.9	18.1	24.8	30.6	35.7	0.035
NO (ppb)	37	707	100.0	0.5	-	0.0	7.9	0.0	0.0	0.1	0.4	1.5	-
NO ₂ (ppb)	37	707	100.0	4.3	-	0.8	15.4	1.6	2.4	3.7	5.3	7.3	0.007
NO _x (ppb)	37	707	100.0	4.7	-	0.8	23.1	1.7	2.5	4.0	5.9	8.6	-
THC (ppm)	36	708	100.0	2.3	-	1.9	10.9	2.0	2.0	2.1	2.3	2.5	2.89
Wind Speed (kph)	0	744	100.0	10.0	-	0.2	32.9	3.7	6.1	9.0	12.4	18.4	-
Temperature (°C)	0	744	100.0	6.3	-	-5.4	20.9	-1.2	2.1	6.3	10.1	13.7	-
Delta Temperature (°C)	0	744	100.0	0.0	-	-6.6	1.8	-1.8	-0.5	0.4	0.8	1.1	-
Relative Humidity (%)	0	744	100.0	67.8	-	25.0	98.4	42.7	53.7	67.5	83.4	92.5	-
Global Solar Radiation (W/m ²)	0	744	100.0	83.2	-	0.0	574.9	0.0	0.0	0.2	113.9	328.4	-
Precipitation (mm)	0	744	100.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
Photosynthetically Active Radiation (µW/m ²)	0	744	100.0	33.0	-	0.0	216.1	0.0	0.0	2.1	48.8	128.3	-
Std Dev Wind Direction (deg)	0	744	100.0	18.8	-	4.1	91.5	8.6	10.4	13.9	20.2	35.3	-
Std Dev Wind Speed (kph)	0	744	100.0	2.7	-	0.4	9.6	1.4	1.7	2.4	3.2	4.5	-



WCAS - Violet Grove
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
October 2014

Maximum Value: 2.92 ppb on Oct 29 19:00		Maximum Daily Average: 1.09 ppb on Oct 29		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Oct 4 15:00		Minimum Daily Average: 0.04 ppb on Oct 16		Hours of Data: 708																													
Maximum Diurnal Average: 0.34 ppb at hour 12		Minimum Diurnal Average: 0.17 ppb at hour 3		Hours of Missing Data: 36																													
Monthly Average: 0.242 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.2 Q ₃ = 0.3 P ₉₀ = 0.6 P ₉₉ = 1.6		Hours of Calibration: 36																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Oct	0.1	Z	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.3	0.1	0.2	0.3	0.2	0.1	0.1	0.16	0.34							
2-Oct	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.0	0.12	0.49							
3-Oct	0.1	Z	0.1	0.1	0.2	0.3	0.3	0.6	0.9	0.8	0.6	0.6	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.32	0.95								
4-Oct	0.0	Z	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.2	0.3	0.7	0.2	0.2	0.0	0.0	0.0	0.4	0.1	0.1	0.1	0.2	0.4	0.16	0.66								
5-Oct	0.4	Z	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.3	0.2	0.1	0.1	0.1	0.5	0.4	0.2	0.1	0.1	0.1	0.18	0.51								
6-Oct	0.1	Z	0.1	0.1	0.1	0.0	0.1	0.9	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.2	0.2	0.11	0.86								
7-Oct	0.1	Z	0.3	0.1	0.2	0.2	0.3	0.5	0.6	0.7	1.1	1.2	0.5	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.32	1.20								
8-Oct	0.4	Z	0.4	0.2	0.1	0.1	0.0	0.0	0.2	0.6	0.7	0.8	1.1	0.8	0.6	0.5	0.6	0.4	0.3	0.2	0.2	0.2	0.3	0.2	0.39	1.07							
9-Oct	0.2	Z	0.2	0.1	0.2	0.4	0.2	0.1	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.6	0.9	0.8	0.5	0.6	0.5	0.4	0.4	0.36	0.93							
10-Oct	0.4	Z	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.3	0.1	0.1	0.2	0.3	0.20	0.44							
11-Oct	0.3	Z	0.0	0.0	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.5	0.0	0.1	0.4	0.7	0.5	0.16	0.70							
12-Oct	0.3	Z	0.2	0.3	0.3	0.2	0.2	0.4	0.4	0.2	0.3	0.3	0.2	0.0	0.1	0.1	0.1	0.1	0.4	0.3	0.5	0.2	0.4	0.3	0.25	0.46							
13-Oct	0.2	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.1	0.1	0.1	0.3	0.5	0.3	0.2	0.1	0.1	0.3	0.2	0.18	0.50								
14-Oct	0.3	Z	0.3	0.7	0.5	0.3	0.3	0.2	0.3	0.3	0.4	1.1	1.7	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.34	1.71							
15-Oct	0.0	Z	0.0	0.0	0.1	1.4	1.1	0.7	0.6	0.4	0.6	0.4	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.29	1.35							
16-Oct	0.0	Z	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.04	0.08							
17-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.05	0.17							
18-Oct	0.0	Z	0.0	0.1	0.0	0.1	0.1	0.0	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.6	0.3	0.4	0.1	0.0	0.0	0.13	0.56							
19-Oct	0.0	Z	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.3	0.2	0.3	0.2	0.4	0.4	0.2	0.1	0.1	0.1	0.0	0.15	0.38							
20-Oct	0.1	Z	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.2	0.1	0.3	0.2	0.1	0.1	0.2	0.6	0.18	0.56							
21-Oct	0.3	Z	0.1	0.7	0.7	0.4	0.2	0.2	0.1	0.2	0.2	1.7	0.7	0.2	0.1	0.8	2.1	1.7	1.0	1.4	1.4	0.7	0.4	0.2	0.67	2.06							
22-Oct	0.2	Z	0.1	0.1	0.0	0.0	0.0	0.3	0.1	0.2	0.2	0.2	0.2	1.0	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.14	1.01							
23-Oct	0.0	Z	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.09	0.23							
24-Oct	0.3	Z	0.4	0.2	0.5	0.1	0.3	0.2	0.1	0.8	0.3	0.3	0.4	0.3	0.3	0.6	0.2	0.3	0.1	0.1	0.1	0.0	0.2	0.3	0.28	0.80							
25-Oct	0.3	Z	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	1.1	0.7	0.6	0.3	0.2	0.2	1.0	1.0	0.7	0.5	0.2	0.37	1.13							
26-Oct	0.2	Z	0.3	0.2	0.8	0.6	0.4	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.17	0.76							
27-Oct	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.20	0.49							
28-Oct	0.1	Z	0.2	0.3	0.3	0.4	0.5	0.3	0.2	0.3	0.4	0.6	0.7	0.5	0.4	0.3	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.3	0.30	0.68							
29-Oct	0.5	Z	0.5	0.5	0.6	0.6	0.6	0.5	0.6	1.1	0.7	C	C	C	C	C	1.2	1.5	2.9	2.3	1.6	1.6	1.3	1.0	1.09	2.92							
30-Oct	0.6	Z	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.64							
31-Oct	0.0	Z	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.5	0.5	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.18	0.49							
		0.19	--	0.17	0.18	0.21	0.22	0.19	0.22	0.23	0.28	0.30	0.34	0.31	0.27	0.17	0.20	0.27	0.29	0.33	0.29	0.26	0.22	0.23	0.21	Diurnal Average							
		0.64	--	0.50	0.73	0.76	1.35	1.06	0.86	0.95	1.07	1.10	1.67	1.71	1.13	0.75	0.76	2.06	1.67	2.92	2.34	1.60	1.61	1.34	0.99	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb				24-hr 48 ppb																											



WCAS - Violet Grove
Summary of Hourly Averages

Ozone (O₃) - ppb
October 2014

Maximum Value: 43.33 ppb on Oct 23 13:00		Maximum Daily Average: 35.16 ppb on Oct 11		Hours in Service: 744																									
Minimum Value: 0.2 ppb on Oct 30 01:00		Minimum Daily Average: 3.09 ppb on Oct 29		Hours of Data: 708																									
Maximum Diurnal Average: 31.46 ppb at hour 16		Minimum Diurnal Average: 17.32 ppb at hour 8		Hours of Missing Data: 36																									
Monthly Average: 23.857 ppb		Percentiles: P ₁ = 0.5 P ₁₀ = 10.9 Q ₁ = 18.1 Median = 24.8 Q ₃ = 30.6 P ₉₀ = 35.7 P ₉₉ = 41.5		Hours of Calibration: 36																									
				Percent Operational Time: 100.0																									
Day	Hourly Period Ending At																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Oct	15.1	14.7	Z	13.0	13.3	11.0	8.6	12.7	10.7	14.4	22.3	26.0	31.3	33.0	35.0	34.8	32.4	31.9	32.9	30.6	26.7	20.6	15.7	17.7	21.93	35.01			
2-Oct	17.7	17.6	Z	21.3	22.2	24.8	22.9	22.2	22.4	23.0	22.8	22.4	23.4	24.4	25.3	25.8	25.9	25.6	22.3	19.9	18.7	18.5	17.0	17.8	21.91	25.92			
3-Oct	19.5	18.5	Z	17.8	15.3	14.9	15.3	15.6	15.2	16.4	17.1	19.3	18.9	22.6	25.4	23.6	21.1	19.9	18.6	17.4	18.1	18.0	16.6	18.5	18.41	25.39			
4-Oct	20.1	17.4	Z	13.0	12.2	14.1	12.0	6.1	13.5	14.6	18.5	21.7	22.4	29.3	33.7	34.5	34.8	32.4	31.0	28.8	26.7	29.1	29.7	29.6	22.84	34.75			
5-Oct	28.1	28.3	Z	19.5	20.2	12.5	15.8	14.7	14.2	20.7	28.2	35.7	36.0	37.1	37.8	37.8	36.5	30.2	30.4	24.8	26.1	25.9	26.8	30.7	26.86	37.81			
6-Oct	30.1	28.2	Z	23.0	20.8	19.7	14.7	15.2	19.5	27.5	31.6	33.7	35.9	37.4	37.1	37.2	37.0	36.5	32.5	30.7	32.2	28.9	29.1	26.3	28.89	37.41			
7-Oct	22.8	23.5	Z	22.8	23.4	20.2	19.5	19.7	15.9	17.2	23.7	27.3	26.7	32.7	35.4	33.8	31.1	30.1	28.1	27.0	26.4	27.5	25.7	27.3	25.56	35.36			
8-Oct	23.5	24.3	Z	26.9	25.5	22.5	19.5	18.7	18.7	20.1	20.0	21.3	24.3	25.5	26.4	26.3	24.7	21.0	19.1	17.9	17.1	18.9	19.8	17.8	21.72	26.88			
9-Oct	17.9	16.9	Z	12.5	12.9	15.5	10.6	5.1	9.2	12.1	13.8	15.4	18.7	22.0	24.8	28.6	33.0	31.3	26.4	26.4	28.3	27.8	26.0	23.0	19.94	33.00			
10-Oct	23.3	21.9	Z	15.0	13.4	10.2	8.6	9.5	11.7	16.0	19.7	22.9	27.1	29.3	34.6	38.0	36.6	31.6	29.6	33.6	31.7	29.6	29.9	30.2	24.08	37.98			
11-Oct	30.0	28.6	Z	39.1	38.5	38.6	36.1	36.8	35.9	33.9	34.2	38.3	40.6	40.6	39.0	37.7	37.0	35.3	32.1	31.9	31.9	32.1	30.4	29.9	35.16	40.64			
12-Oct	28.2	26.9	Z	25.0	23.9	23.4	23.5	22.4	22.6	24.7	27.9	32.7	35.2	36.6	37.2	37.3	36.2	32.6	32.8	32.0	30.9	28.4	28.1	28.1	29.42	37.32			
13-Oct	25.6	24.9	Z	26.6	24.5	22.9	25.3	22.2	21.9	21.7	23.8	27.4	30.3	32.9	33.9	33.1	30.7	29.7	28.8	28.6	27.4	26.7	30.6	31.4	27.44	33.90			
14-Oct	30.8	29.4	Z	25.3	20.7	21.9	21.8	19.0	11.6	10.3	12.2	18.6	28.2	34.8	34.3	33.6	31.0	29.9	29.7	23.7	27.0	26.6	27.4	25.3	24.91	34.77			
15-Oct	28.6	25.0	Z	22.2	18.3	22.6	19.8	22.8	23.1	20.8	19.9	17.4	16.9	19.0	36.7	40.3	37.2	33.7	28.2	25.6	28.4	31.7	33.4	31.4	26.22	40.31			
16-Oct	29.2	29.5	Z	27.1	28.0	26.8	22.0	19.4	20.4	22.8	25.0	25.8	25.5	26.0	27.0	27.0	27.4	25.1	20.6	18.8	15.4	20.9	19.1	20.0	23.86	29.50			
17-Oct	19.1	18.2	Z	11.0	8.0	6.0	7.2	7.5	8.1	11.2	12.1	16.2	21.3	26.2	27.1	23.1	21.3	20.4	19.1	20.1	25.0	24.2	25.0	22.6	17.40	27.13			
18-Oct	22.0	23.4	Z	32.4	32.2	30.1	28.7	30.2	30.7	27.7	30.7	35.9	39.5	41.6	42.2	42.1	41.7	40.0	38.2	38.4	38.3	37.2	38.0	39.4	34.79	42.16			
19-Oct	36.5	34.8	Z	30.2	31.5	31.1	31.4	27.6	27.7	28.7	25.6	28.6	28.8	29.6	26.7	23.1	24.1	26.2	25.1	21.5	26.2	27.1	30.5	33.2	28.51	36.49			
20-Oct	26.9	24.1	Z	27.7	30.7	25.5	22.0	15.3	24.1	16.8	16.0	25.9	26.9	33.4	39.0	37.2	37.3	32.7	32.5	36.5	33.5	37.4	30.1	32.8	28.88	39.00			
21-Oct	30.7	29.7	Z	29.3	29.5	23.3	20.5	23.2	20.2	20.5	26.6	28.5	26.3	30.3	35.3	38.0	35.8	29.9	25.0	24.0	27.1	24.7	26.6	22.4	27.27	37.98			
22-Oct	19.8	18.8	Z	22.8	25.1	20.3	21.4	24.8	25.2	25.3	27.5	28.2	27.9	28.2	33.4	35.7	37.0	36.0	34.7	34.4	32.0	29.2	24.8	26.3	27.78	37.01			
23-Oct	29.1	28.6	Z	21.8	20.2	21.4	17.6	10.8	16.0	19.9	27.6	38.9	43.3	42.6	42.6	39.2	38.0	37.2	36.3	36.0	36.0	34.3	35.3	33.8	30.71	43.33			
24-Oct	31.8	32.3	Z	35.6	33.8	32.8	31.8	31.8	31.5	31.2	33.7	34.8	36.4	37.6	38.4	39.1	38.9	37.0	35.5	33.1	33.4	31.1	31.0	28.6	33.96	39.15			
25-Oct	27.8	26.0	Z	23.7	22.3	15.2	17.5	21.9	22.4	24.1	26.6	29.4	29.7	30.9	33.1	33.0	31.6	30.1	30.2	28.7	29.3	29.1	26.1	24.5	26.67	33.08			
26-Oct	22.7	21.1	Z	21.2	18.1	18.9	16.9	18.9	18.0	23.0	24.0	22.7	23.7	22.4	22.1	21.7	20.1	16.7	16.7	19.2	17.9	17.9	17.6	16.8	19.93	23.97			
27-Oct	18.7	17.6	Z	19.9	22.5	22.6	22.8	23.5	19.8	22.7	27.7	31.3	34.4	34.3	35.1	33.8	31.9	29.3	26.1	27.3	28.0	30.0	31.3	28.8	26.94	35.09			
28-Oct	25.1	23.0	Z	20.8	18.2	16.1	14.6	13.0	12.5	13.5	14.8	15.9	18.2	16.7	17.3	18.1	18.3	14.3	8.3	6.5	6.1	5.2	6.2	7.0	14.33	25.06			
29-Oct	8.4	7.1	Z	5.1	5.1	3.5	2.6	1.3	2.5	4.2	5.3	C	C	C	C	C	5.8	2.6	0.6	0.4	0.3	0.3	0.3	0.2	3.09	8.44			
30-Oct	0.2	0.2	Z	0.8	1.6	0.9	1.1	2.9	4.0	6.3	7.3	8.5	10.7	14.2	15.0	15.9	15.5	14.2	13.2	11.9	10.9	10.6	10.8	10.7	8.15	15.91			
31-Oct	10.4	9.5	Z	2.1	4.4	2.3	2.4	1.9	1.8	2.3	2.2	2.1	3.3	6.7	9.5	14.3	16.9	12.8	12.2	11.7	9.4	8.9	11.4	13.9	7.50	16.95			
		23.22	22.26	--	21.11	20.52	19.08	17.89	17.32	17.78	19.14	21.57	25.09	27.06	29.26	31.35	31.46	29.89	27.62	25.70	24.75	24.72	24.47	24.20	24.06	Diurnal Average			
		36.49	34.79	--	39.12	38.54	38.63	36.14	36.83	35.92	33.88	34.18	38.86	43.33	42.58	42.60	42.09	41.66	40.00	38.19	38.44	38.28	37.40	38.03	39.37	Diurnal Maximum			
Z - zerospan		C - Calibration																											
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 82.5 ppb		24-hr -- ppb																									



WCAS - Violet Grove
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
October 2014

Maximum Value: 7.94 ppb on Oct 14 11:00		Maximum Daily Average: 1.44 ppb on Oct 31		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Oct 1 03:00		Minimum Daily Average: 0.07 ppb on Oct 11		Hours of Data: 707																													
Maximum Diurnal Average: 1.73 ppb at hour 11		Minimum Diurnal Average: 0.04 ppb at hour 3		Hours of Missing Data: 37																													
Monthly Average: 0.501 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.1 Q ₃ = 0.4 P ₉₀ = 1.5 P ₉₉ = 5.0		Hours of Calibration: 37																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.4	2.4	2.7	1.3	1.6	0.7	0.4	0.3	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.47	2.71							
2-Oct	0.0	Z	0.0	0.1	0.0	0.0	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.14	0.31							
3-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.2	1.1	1.2	0.7	1.1	0.7	0.8	0.9	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.40	1.24							
4-Oct	0.0	Z	0.0	0.0	0.1	0.0	0.0	1.4	0.6	1.1	1.4	0.7	0.8	0.3	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.31	1.44							
5-Oct	0.0	Z	0.0	0.0	0.0	0.2	0.1	0.4	3.0	2.5	1.0	0.2	0.3	0.2	0.1	0.2	0.1	0.3	0.1	0.3	0.0	0.0	0.0	0.0	0.39	3.02							
6-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.48							
7-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	1.2	1.6	0.8	0.8	0.9	0.4	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.30	1.58							
8-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.2	0.7	0.9	1.9	2.5	1.8	1.4	0.9	0.6	0.9	0.9	0.1	0.1	0.0	0.0	0.0	0.0	0.58	2.51							
9-Oct	0.0	Z	0.0	0.0	0.0	0.3	0.5	4.0	3.5	4.0	3.3	1.9	1.6	1.1	1.2	0.7	0.4	0.3	0.1	0.2	0.0	0.0	0.0	0.1	1.01	4.02							
10-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.3	2.1	2.4	2.1	1.2	0.8	1.2	0.4	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.49	2.36							
11-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.31							
12-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.6	0.7	0.4	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.16	0.71							
13-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.6	2.8	1.3	0.6	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.39	2.84							
14-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.7	4.6	7.9	3.9	2.1	0.5	0.4	0.4	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.97	7.94							
15-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.9	1.9	2.1	1.0	0.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.30	2.06							
16-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.15	0.44							
17-Oct	0.0	Z	0.1	0.0	0.0	0.4	0.0	0.1	1.4	1.9	2.0	1.6	1.3	0.8	0.5	0.4	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.48	2.01							
18-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	1.1	0.7	0.3	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.20	1.22							
19-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.4	0.4	0.3	0.3	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.45							
20-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.2	1.2	0.3	3.1	5.9	2.8	1.9	1.3	0.8	0.8	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.83	5.85							
21-Oct	0.0	Z	0.0	0.0	0.0	0.4	0.0	0.0	1.1	3.1	2.0	1.3	0.9	0.6	0.5	0.5	0.7	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.51	3.10							
22-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.8	0.8	0.2	0.3	0.5	0.7	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.19	0.81							
23-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	3.0	0.4	0.4	0.8	0.4	0.1	0.1	0.1	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.25	2.97							
24-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.55							
25-Oct	0.0	Z	0.0	0.0	0.0	0.6	0.0	0.1	0.2	0.6	0.6	0.3	0.4	1.1	0.9	0.6	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.27	1.09							
26-Oct	0.2	Z	0.0	1.5	0.0	0.4	0.2	0.2	0.4	0.1	0.2	5.7	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.45	5.74							
27-Oct	0.0	Z	0.0	0.0	0.0	0.1	0.1	0.1	0.6	0.8	0.6	0.4	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.22	0.79							
28-Oct	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.5	1.7	1.6	3.3	3.0	1.3	1.7	1.9	1.1	0.8	0.7	1.3	2.3	1.2	0.0	0.2	0.99	3.25							
29-Oct	0.1	Z	0.1	0.5	1.1	0.4	0.6	1.0	3.0	2.8	5.0	C	C	C	C	C	C	5.9	7.3	3.4	3.7	2.7	2.9	5.1	--	7.29							
30-Oct	4.9	Z	0.5	0.5	0.1	2.3	1.0	0.1	0.8	1.3	2.1	2.7	3.1	2.0	1.7	1.4	0.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0	1.11	4.86							
31-Oct	0.0	Z	0.2	3.0	0.2	1.5	1.4	2.1	2.4	2.5	3.8	3.3	5.1	3.4	1.6	0.8	0.5	0.4	0.1	0.3	0.1	0.1	0.1	0.0	1.44	5.10							
		0.18	--	0.04	0.19	0.05	0.21	0.16	0.50	0.98	1.50	1.73	1.41	1.04	0.70	0.51	0.43	0.33	0.40	0.32	0.22	0.22	0.15	0.12	0.18	Diurnal Average							
		4.86	--	0.53	2.98	1.08	2.31	1.38	3.98	3.46	4.58	7.94	5.74	5.10	3.44	1.71	1.95	1.15	5.92	7.29	3.41	3.69	2.66	2.90	5.05	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																											



WCAS - Violet Grove
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2014

Maximum Value: 15.37 ppb on Oct 29 19:00		Maximum Daily Average: 6.89 ppb on Oct 28		Hours in Service: 744																													
Minimum Value: 0.8 ppb on Oct 2 01:00		Minimum Daily Average: 1.48 ppb on Oct 2		Hours of Data: 707																													
Maximum Diurnal Average: 5.85 ppb at hour 8		Minimum Diurnal Average: 2.40 ppb at hour 15		Hours of Missing Data: 37																													
Monthly Average: 4.261 ppb		Percentiles: P ₁ = 1.0 P ₁₀ = 1.6 Q ₁ = 2.4 Median = 3.7 Q ₃ = 5.3 P ₉₀ = 7.3 P ₉₉ = 14.4		Hours of Calibration: 37																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Oct	8.9	Z	7.3	9.1	6.3	6.2	10.1	4.9	4.4	4.0	2.8	3.5	2.6	2.0	1.8	1.5	1.6	2.0	1.5	1.6	2.4	1.7	1.1	0.9	3.85	10.11							
2-Oct	0.8	Z	1.1	1.1	1.1	1.3	1.8	1.6	1.3	1.1	1.0	1.0	0.8	0.9	1.0	1.0	1.1	1.3	2.4	3.2	3.7	1.6	1.5	2.4	1.48	3.67							
3-Oct	2.7	Z	3.9	3.8	5.3	5.2	4.4	4.1	4.3	3.7	3.4	4.0	4.0	3.4	4.9	6.1	6.5	6.8	7.2	6.4	6.0	7.2	5.4	4.88	7.25								
4-Oct	3.8	Z	3.5	4.0	4.8	4.1	6.7	10.5	4.9	3.4	3.7	2.8	2.7	1.8	1.3	1.5	1.6	2.8	2.8	2.7	4.4	3.0	3.2	2.5	3.59	10.50							
5-Oct	2.7	Z	6.2	7.7	5.0	12.0	6.8	7.9	8.3	6.0	3.2	1.7	1.9	2.0	1.6	1.7	2.0	6.0	6.1	10.4	5.5	3.4	3.7	2.7	4.98	12.04							
6-Oct	3.0	Z	5.5	6.5	5.3	4.5	6.8	7.0	4.6	1.8	1.4	1.4	1.3	1.4	1.4	1.4	1.6	1.7	4.2	2.9	2.9	3.2	5.1	5.1	3.48	7.05							
7-Oct	4.7	Z	3.3	7.0	8.2	8.0	7.4	5.9	10.6	8.5	4.4	4.3	4.9	3.0	2.5	2.4	2.3	1.8	2.2	2.5	3.5	4.8	4.2	3.0	4.75	10.57							
8-Oct	4.1	Z	3.1	2.4	2.2	2.4	2.4	3.2	4.1	5.0	5.1	5.1	4.4	4.5	3.6	3.6	4.1	6.5	6.2	5.2	4.7	4.7	4.2	4.0	4.12	6.52							
9-Oct	4.0	Z	4.0	4.5	6.0	7.0	6.7	10.9	7.8	6.6	5.1	3.8	3.4	3.4	3.6	3.1	2.9	3.9	3.9	3.9	4.1	5.1	5.6	6.4	5.02	10.91							
10-Oct	5.9	Z	8.9	9.2	9.1	9.9	9.2	8.7	6.5	4.6	3.9	2.8	2.4	3.4	2.2	1.5	2.4	3.0	4.5	2.9	3.3	2.9	2.7	3.1	4.91	9.92							
11-Oct	3.0	Z	1.4	1.3	2.0	2.1	2.0	1.8	1.7	2.1	2.0	1.3	1.1	1.1	1.2	1.3	1.2	1.5	2.6	2.0	2.7	3.4	3.3	3.3	1.97	3.39							
12-Oct	3.3	Z	4.0	3.6	3.9	3.7	4.2	5.3	4.5	4.3	3.0	1.7	1.3	1.1	1.0	0.9	1.2	2.3	2.2	2.2	2.5	3.5	3.4	3.3	2.88	5.28							
13-Oct	3.4	Z	3.0	3.6	4.7	4.6	4.6	5.2	6.1	6.5	6.2	3.6	2.4	1.7	1.5	2.0	3.0	3.7	3.8	3.5	3.4	3.5	2.8	2.8	3.71	6.48							
14-Oct	3.0	Z	5.5	4.7	6.1	5.5	5.2	5.8	11.6	11.5	11.9	7.6	4.9	2.4	2.2	2.2	2.3	2.4	2.3	6.0	2.8	2.7	1.9	1.7	4.88	11.90							
15-Oct	2.6	Z	3.9	3.1	4.0	4.7	4.9	5.3	5.7	5.6	7.0	8.5	9.7	7.8	2.3	1.5	1.7	1.9	3.8	4.3	3.1	2.6	1.9	2.1	4.26	9.69							
16-Oct	1.5	Z	1.6	1.9	2.0	2.1	1.9	2.7	2.7	2.6	2.4	2.2	2.0	2.1	2.1	2.1	2.0	3.0	3.1	3.1	2.8	3.7	4.2	4.0	2.52	4.19							
17-Oct	4.0	Z	4.9	5.9	7.1	6.5	5.4	5.6	5.2	4.0	3.1	3.0	2.7	2.6	2.8	3.6	4.2	4.1	4.8	5.1	4.3	4.8	5.1	4.8	4.51	7.14							
18-Oct	5.7	Z	4.5	2.8	1.7	2.2	3.3	3.5	3.6	5.2	3.7	2.6	1.8	1.4	1.2	1.4	1.8	2.1	3.2	2.3	3.5	2.5	1.8	1.4	2.74	5.66							
19-Oct	3.0	Z	5.9	4.1	4.3	4.3	4.1	4.6	4.2	4.4	4.7	4.0	4.5	3.7	3.9	5.3	5.2	5.1	5.9	6.6	6.2	6.1	6.3	6.1	4.89	6.64							
20-Oct	5.4	Z	6.4	4.2	3.4	5.3	10.2	11.9	9.9	12.7	12.0	10.3	8.4	5.3	3.0	4.2	4.4	6.2	5.8	3.8	3.3	2.2	4.1	3.4	6.35	12.67							
21-Oct	3.6	Z	1.9	2.3	2.8	4.8	6.2	4.7	9.5	9.9	7.8	7.1	5.4	3.8	3.2	3.0	5.2	6.3	6.6	7.2	7.2	7.0	5.7	7.7	5.61	9.91							
22-Oct	6.6	Z	5.9	5.5	3.5	6.4	7.2	4.9	4.7	4.5	3.5	3.0	3.3	3.6	2.8	2.2	1.4	1.3	1.2	1.0	2.6	4.0	5.1	3.1	3.79	7.25							
23-Oct	2.1	Z	1.9	4.3	3.2	3.5	4.8	10.7	7.6	6.0	4.3	2.2	1.3	1.3	1.3	2.3	2.6	2.3	3.0	3.0	2.7	4.4	2.3	3.0	3.48	10.73							
24-Oct	3.4	Z	2.8	2.5	3.4	3.1	3.7	2.9	3.5	3.3	2.4	1.9	1.6	1.5	1.1	1.2	1.2	1.8	1.7	2.9	1.8	2.5	2.5	4.8	2.50	4.82							
25-Oct	5.1	Z	5.5	3.9	4.2	8.4	5.8	5.2	4.5	4.6	3.8	3.5	3.7	3.6	3.2	3.1	3.3	3.4	3.3	3.8	3.3	3.0	3.7	4.5	4.19	8.36							
26-Oct	4.7	Z	3.5	3.9	5.4	4.7	5.7	3.4	5.3	2.0	2.4	5.7	1.7	1.6	2.0	1.8	2.1	2.9	2.7	2.1	2.2	1.8	1.8	2.4	3.11	5.72							
27-Oct	2.1	Z	2.1	2.2	1.6	1.9	2.4	3.4	5.2	2.9	1.9	1.4	1.2	1.5	1.7	1.8	1.8	3.2	5.1	3.1	2.7	2.0	1.8	4.0	2.47	5.19							
28-Oct	4.6	Z	4.6	3.6	4.1	5.0	5.3	6.4	5.1	4.9	4.5	4.4	4.7	6.0	5.1	4.4	4.5	8.2	12.6	15.0	14.2	12.7	11.2	7.6	6.89	14.97							
29-Oct	5.8	Z	7.0	6.7	6.7	7.2	8.3	8.7	8.4	7.2	7.4	C	C	C	C	C	C	11.8	15.4	15.3	14.4	13.8	14.5	15.3	--	15.37							
30-Oct	14.5	Z	11.8	11.3	10.2	10.5	9.2	8.8	7.1	4.2	4.1	3.4	2.9	2.7	2.8	2.9	3.4	4.0	3.7	3.6	4.0	4.3	4.4	4.1	6.01	14.49							
31-Oct	4.3	Z	5.4	8.4	5.8	7.4	6.4	5.8	6.2	5.3	5.5	5.3	4.1	4.8	5.2	3.9	3.8	5.8	5.5	5.5	6.4	7.0	6.4	4.2	5.58	8.37							
		4.27	--	4.53	4.69	4.63	5.30	5.59	5.85	5.79	5.11	4.46	3.75	3.23	2.86	2.40	2.45	2.73	3.82	4.47	4.64	4.41	4.32	4.28	4.17	Diurnal Average							
		14.49	--	11.79	11.33	10.23	12.04	10.17	11.93	11.65	12.67	11.99	10.32	9.69	7.78	5.21	5.27	6.06	11.76	15.37	15.32	14.45	13.77	14.46	15.30	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb				24-hr 106 ppb																											



WCAS - Violet Grove
Summary of Hourly Averages

NOx (NO_x) - ppb
October 2014

Maximum Value: 23.13 ppb on Oct 29 19:00		Maximum Daily Average: 7.84 ppb on Oct 28		Hours in Service: 744																							
Minimum Value: 0.8 ppb on Oct 2 01:00		Minimum Daily Average: 1.57 ppb on Oct 2		Hours of Data: 707																							
Maximum Diurnal Average: 6.74 ppb at hour 9		Minimum Diurnal Average: 2.84 ppb at hour 16		Hours of Missing Data: 37																							
Monthly Average: 4.737 ppb		Percentiles: P ₁ = 1.1 P ₁₀ = 1.7 Q ₁ = 2.5 Median = 4.0 Q ₃ = 5.9 P ₉₀ = 8.6 P ₉₉ = 17.9		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	8.9	Z	7.3	9.1	6.3	6.2	10.1	5.3	6.8	6.7	4.1	5.0	3.2	2.3	2.1	1.6	1.8	2.1	1.5	1.6	2.5	1.8	1.2	0.9	4.28	10.08	
2-Oct	0.8	Z	1.1	1.2	1.1	1.4	1.9	1.7	1.4	1.3	1.3	1.2	1.1	1.1	1.2	1.1	1.2	1.5	2.5	3.2	3.6	1.6	1.4	2.3	1.57	3.65	
3-Oct	2.6	Z	3.8	3.7	5.2	5.1	4.3	4.1	4.9	4.9	4.7	4.6	4.6	5.0	4.0	5.7	6.9	7.0	6.9	7.2	6.3	6.0	7.2	5.4	5.23	7.21	
4-Oct	3.8	Z	3.5	3.9	4.9	4.1	6.7	11.9	5.5	4.5	5.1	3.5	3.5	2.1	1.4	1.6	1.6	2.9	2.8	2.6	4.4	2.9	3.2	2.5	3.86	11.89	
5-Oct	2.7	Z	6.1	7.7	5.0	12.2	6.9	8.3	11.3	8.5	4.1	1.9	2.1	2.2	1.7	1.9	2.1	6.2	6.2	10.7	5.5	3.3	3.7	2.6	5.34	12.15	
6-Oct	3.0	Z	5.5	6.4	5.2	4.4	7.1	7.2	5.0	2.0	1.6	1.6	1.5	1.6	1.5	1.6	1.8	1.8	4.3	2.9	2.9	3.2	5.0	5.1	3.57	7.22	
7-Oct	4.7	Z	3.2	7.0	8.2	7.9	7.4	6.0	11.7	10.1	5.2	5.1	5.7	3.3	2.7	2.5	2.5	1.8	2.2	2.4	3.4	4.7	4.2	3.0	5.00	11.70	
8-Oct	4.1	Z	3.1	2.4	2.1	2.3	2.6	3.4	4.8	5.9	7.0	7.6	6.3	5.9	4.4	4.1	5.0	7.3	6.3	5.2	4.7	4.7	4.2	3.9	4.66	7.56	
9-Oct	3.9	Z	3.9	4.5	5.9	7.2	7.2	14.9	11.2	10.6	8.4	5.7	4.9	4.5	4.8	3.8	3.2	4.2	3.9	4.1	4.1	5.2	5.6	6.4	6.00	14.86	
10-Oct	5.9	Z	8.9	9.2	9.1	9.9	9.2	8.9	8.6	7.0	6.0	4.0	3.1	4.6	2.6	1.6	2.5	3.2	4.4	2.9	3.2	2.8	2.7	3.1	5.36	9.88	
11-Oct	2.9	Z	1.3	1.3	2.0	2.0	2.0	1.8	1.7	2.3	2.3	1.4	1.1	1.1	1.3	1.3	1.3	1.5	2.6	2.0	2.7	3.4	3.3	3.3	2.01	3.37	
12-Oct	3.3	Z	4.0	3.5	3.9	3.7	4.2	5.3	4.9	4.9	3.7	2.0	1.5	1.2	1.1	1.0	1.3	2.5	2.2	2.2	2.5	3.5	3.4	3.3	3.01	5.34	
13-Oct	3.4	Z	3.0	3.5	4.6	4.5	4.5	5.2	7.0	9.0	9.0	4.9	2.9	1.8	1.7	2.1	3.1	3.7	3.7	3.5	3.4	3.4	2.8	2.7	4.06	9.03	
14-Oct	2.9	Z	5.5	4.7	6.1	5.5	5.1	5.8	13.3	16.0	19.8	11.5	7.0	2.8	2.6	2.6	2.5	2.3	6.1	2.8	2.7	1.9	1.7	1.7	5.81	19.82	
15-Oct	2.6	Z	3.9	3.1	3.9	4.7	4.8	5.3	5.8	6.0	7.9	10.3	11.7	8.7	2.4	1.5	1.6	1.9	3.7	4.5	3.1	2.5	1.9	2.0	4.52	11.71	
16-Oct	1.4	Z	1.6	1.9	2.0	2.1	1.9	2.7	2.9	2.9	2.8	2.6	2.2	2.3	2.3	2.4	2.3	3.2	3.1	3.1	2.8	3.7	4.2	4.0	2.63	4.22	
17-Oct	4.0	Z	5.0	5.8	7.1	6.9	5.4	5.6	6.6	6.0	5.1	4.6	4.0	3.3	3.2	4.0	4.4	4.1	4.8	5.2	4.3	4.8	5.1	4.8	4.96	7.12	
18-Oct	5.7	Z	4.5	2.8	1.6	2.1	3.3	3.5	3.8	6.4	4.8	3.2	2.1	1.6	1.3	1.4	1.9	2.2	3.2	2.3	3.5	2.5	1.7	1.4	2.91	6.36	
19-Oct	3.0	Z	5.9	4.1	4.3	4.2	4.1	4.5	4.2	4.4	5.0	4.3	4.9	4.0	4.1	5.7	5.4	5.2	5.9	6.6	6.2	6.0	6.3	6.0	4.97	6.60	
20-Oct	5.4	Z	6.3	4.2	3.3	5.3	10.4	13.1	10.2	15.8	17.8	13.0	10.3	6.6	3.8	5.0	4.7	6.4	5.8	3.8	3.3	2.2	4.1	3.4	7.14	17.82	
21-Oct	3.6	Z	2.0	2.3	2.7	5.1	6.2	4.7	10.6	13.0	9.8	8.3	6.3	4.4	3.6	3.5	6.0	6.6	6.6	7.2	7.1	7.0	5.7	7.7	6.08	12.98	
22-Oct	6.6	Z	5.9	5.5	3.4	6.3	7.2	4.8	5.1	5.2	4.3	3.2	3.5	4.0	3.4	2.5	1.5	1.3	1.2	1.0	2.5	4.0	5.1	3.1	3.94	7.17	
23-Oct	2.0	Z	1.8	4.3	3.1	3.5	4.7	13.7	7.9	6.3	5.0	2.6	1.4	1.4	1.4	2.5	2.9	2.3	3.0	3.0	2.7	4.3	2.2	3.0	3.70	13.69	
24-Oct	3.3	Z	2.8	2.5	3.4	3.1	3.7	2.8	3.6	3.8	2.9	2.2	1.8	1.8	1.3	1.3	1.3	1.8	1.7	2.9	1.8	2.5	2.5	4.8	2.58	4.78	
25-Oct	5.1	Z	5.4	3.9	4.1	8.9	5.7	5.2	4.7	5.2	4.3	3.8	4.0	4.6	4.0	3.7	3.5	3.6	3.4	3.8	3.3	3.0	3.7	4.5	4.40	8.94	
26-Oct	4.8	Z	3.5	5.4	5.4	5.0	5.8	3.5	5.7	2.1	2.6	11.4	1.8	1.8	2.2	2.0	2.3	2.9	2.7	2.1	2.2	1.8	1.8	2.4	3.53	11.43	
27-Oct	2.1	Z	2.1	2.2	1.6	1.9	2.4	3.4	5.8	3.6	2.5	1.8	1.4	1.8	2.1	2.1	2.0	3.3	5.3	3.1	2.7	2.0	1.7	3.9	2.65	5.75	
28-Oct	4.5	Z	4.5	3.5	4.0	4.9	5.3	6.5	5.6	6.6	6.1	7.6	7.6	7.2	6.8	6.3	5.6	8.9	13.2	16.2	16.4	13.9	11.1	7.8	7.84	16.45	
29-Oct	5.9	Z	7.1	7.2	7.8	7.7	8.9	9.8	11.5	10.1	12.5	C	C	C	C	C	C	18.1	23.1	19.2	18.6	16.8	17.8	20.7	--	23.13	
30-Oct	19.7	Z	12.6	12.1	10.5	13.0	10.4	9.1	8.1	5.7	6.4	6.4	6.3	4.9	4.6	4.3	4.3	4.2	3.8	3.6	4.1	4.3	4.5	4.1	7.27	19.74	
31-Oct	4.3	Z	5.6	11.3	5.9	8.9	7.8	7.9	8.7	7.8	9.2	8.6	9.2	8.2	6.8	4.7	4.2	6.2	5.6	5.8	6.5	7.1	6.4	4.2	7.00	11.33	
		4.42	--	4.54	4.85	4.65	5.49	5.72	6.32	6.74	6.60	6.18	5.14	4.24	3.53	2.88	2.84	3.03	4.21	4.77	4.84	4.61	4.44	4.38	4.32	Diurnal Average	
		19.74	--	12.60	12.12	10.52	13.04	10.42	14.86	13.27	16.03	19.82	13.03	11.71	8.73	6.77	6.30	6.94	18.12	23.13	19.18	18.58	16.85	17.76	20.73	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb					24-hr --- ppb																				



WCAS - Violet Grove
Summary of Hourly Averages

Total Hydrocarbon (THC) - ppm
October 2014

Maximum Value: 10.91 ppm on Oct 16 20:00		Maximum Daily Average: 2.89 ppm on Oct 16		Hours in Service: 744																																													
Minimum Value: 1.9 ppm on Oct 26 11:00		Minimum Daily Average: 1.96 ppm on Oct 11		Hours of Data: 708																																													
Maximum Diurnal Average: 2.70 ppm at hour 20		Minimum Diurnal Average: 2.11 ppm at hour 15		Hours of Missing Data: 36																																													
Monthly Average: 2.271 ppm		Percentiles: P ₁ = 1.9 P ₁₀ = 2.0 Q ₁ = 2.0 Median = 2.1 Q ₃ = 2.3 P ₉₀ = 2.5 P ₉₉ = 5.1		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	2.2	2.2	2.1	Z	2.2	2.3	2.3	2.2	2.2	2.3	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.13	2.30																							
2-Oct	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.7	2.7	2.0	2.09	2.73																							
3-Oct	2.2	2.6	2.3	Z	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.20	2.59																							
4-Oct	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.0	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.1	2.1	2.05	2.15																							
5-Oct	2.1	2.1	2.1	Z	2.2	2.2	2.2	2.2	2.4	2.2	2.1	1.9	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	3.3	2.5	5.1	2.5	2.31	5.14																							
6-Oct	2.2	2.1	2.5	Z	2.2	2.2	2.3	2.2	2.1	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.2	2.06	2.46																								
7-Oct	2.4	2.4	2.2	Z	2.2	2.3	2.3	2.3	2.2	2.3	2.2	2.1	2.1	2.1	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.2	2.2	2.1	2.21	2.43																							
8-Oct	2.1	2.0	2.0	Z	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.2	3.2	2.5	2.9	6.9	8.0	4.0	2.75	8.03																							
9-Oct	2.1	2.6	2.2	Z	2.6	2.3	3.2	3.6	3.8	3.5	2.4	2.4	2.4	2.4	2.4	2.3	2.2	2.3	4.9	3.3	2.9	2.2	2.2	2.5	2.72	4.88																							
10-Oct	2.6	2.2	2.2	Z	2.3	2.4	2.4	2.3	2.3	2.2	2.2	2.1	2.0	2.0	2.1	2.0	2.2	2.8	3.1	2.0	2.0	2.0	2.0	2.0	2.24	3.08																							
11-Oct	2.0	2.1	1.9	Z	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.96	2.06																							
12-Oct	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.07	2.12																							
13-Oct	2.1	2.3	2.9	Z	2.5	2.5	2.1	2.2	2.5	2.5	2.4	2.3	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.3	2.0	2.25	2.90																							
14-Oct	2.0	2.0	2.1	Z	2.1	2.1	2.1	2.1	2.4	2.5	2.4	2.4	2.2	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	3.8	2.3	2.4	2.22	3.83																							
15-Oct	2.1	2.2	2.3	Z	2.9	2.2	2.2	2.4	2.1	2.3	2.3	2.4	2.4	2.3	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.17	2.94																							
16-Oct	2.0	2.0	2.7	Z	2.2	2.4	2.2	4.1	2.5	2.4	2.3	2.1	2.1	2.1	2.2	2.1	2.1	2.2	5.3	10.9	3.6	2.1	2.5	2.2	2.89	10.91																							
17-Oct	2.2	2.3	2.4	Z	2.3	2.3	2.3	2.3	2.4	2.7	3.0	2.5	2.1	2.2	2.1	2.3	2.2	2.2	2.6	4.2	2.1	2.2	2.1	2.1	2.40	4.23																							
18-Oct	2.1	2.1	2.1	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	2.0	2.04	2.12																							
19-Oct	2.1	2.1	2.8	Z	2.3	2.2	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.4	3.2	3.9	2.5	2.3	2.4	2.2	2.3	2.2	2.1	2.37	3.95																							
20-Oct	2.2	2.2	3.6	Z	2.1	2.3	2.4	2.5	2.2	2.3	2.3	2.3	2.2	2.1	2.2	2.1	2.1	2.4	3.4	2.2	2.9	2.1	2.1	2.1	2.36	3.62																							
21-Oct	2.0	2.0	2.0	Z	2.0	2.0	2.2	2.2	2.2	2.2	2.1	2.1	2.3	2.2	2.1	2.1	2.1	2.2	5.8	5.2	2.4	2.4	2.2	2.2	2.44	5.75																							
22-Oct	2.3	2.7	2.2	Z	2.1	2.3	2.2	2.6	2.7	2.6	2.3	2.1	2.4	2.5	2.1	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	2.26	2.74																							
23-Oct	2.3	2.1	2.1	Z	2.2	3.1	2.6	2.3	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.14	3.06																							
24-Oct	2.1	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.05	2.12																							
25-Oct	2.1	2.1	2.1	Z	2.1	2.3	3.1	2.9	2.1	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.21	3.11																							
26-Oct	2.1	2.1	2.1	Z	2.1	2.0	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.99	2.13																							
27-Oct	2.0	2.0	2.0	Z	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	4.4	4.2	3.0	2.0	2.1	2.2	2.27	4.35																							
28-Oct	2.4	2.8	3.6	Z	2.1	2.2	2.3	2.3	2.5	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.33	3.60																							
29-Oct	2.1	2.3	2.1	Z	2.1	2.1	2.1	2.1	2.1	2.1	2.0	C	C	2.2	2.3	2.3	C	C	C	2.4	2.4	2.4	2.5	2.5	2.23	2.46																							
30-Oct	2.5	2.5	2.6	Z	2.6	2.7	2.7	2.7	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.9	2.5	2.50	2.89																							
31-Oct	2.5	2.3	2.4	Z	2.5	2.5	2.6	2.6	2.5	2.6	2.6	2.6	2.6	2.4	2.4	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.4	2.47	2.61																							
																								2.17	2.22	2.32	--	2.20	2.23	2.27	2.34	2.28	2.27	2.19	2.14	2.14	2.12	2.11	2.14	2.17	2.17	2.65	2.70	2.33	2.37	2.47	2.22	Diurnal Average	
																								2.58	2.83	3.62	--	2.94	3.06	3.17	4.06	3.78	3.48	2.95	2.58	2.58	2.46	2.42	3.24	3.95	2.77	5.75	10.91	3.61	6.88	8.03	4.01	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 10 ppb 24-hr 3 ppb																																																	

**VIOLET GROVE
STATION #902**

METEOROLOGICAL DATA

OCTOBER 2014



WCAS - Violet Grove
Summary of Hourly Averages

External Temperature (ET) - C
October 2014

Maximum Value: 20.88 C on Oct 10 17:00		Maximum Daily Average: 12.61 C on Oct 18		Hours in Service: 744																							
Minimum Value: -5.4 C on Oct 28 06:00		Minimum Daily Average: -1.82 C on Oct 28		Hours of Data: 744																							
Maximum Diurnal Average: 10.41 C at hour 16		Minimum Diurnal Average: 2.66 C at hour 8		Hours of Missing Data: 0																							
Monthly Average: 6.334 C		Percentiles: P ₁ = -4.2 P ₁₀ = -1.2 Q ₁ = 2.1 Median = 6.3 Q ₃ = 10.1 P ₉₀ = 13.7 P ₉₉ = 18.2		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	4.3	3.7	3.6	3.3	2.6	1.7	2.2	1.5	1.8	4.7	7.8	9.9	11.4	9.1	8.4	3.1	3.2	3.9	2.1	1.8	1.6	1.8	1.3	0.3	3.96	11.36	
2-Oct	-0.6	-1.0	-0.9	-0.9	-1.0	-1.0	-1.4	-1.5	-1.0	-0.3	0.6	1.8	2.6	3.6	4.5	4.9	4.9	4.5	3.3	1.6	0.8	0.4	0.2	-0.4	0.98	4.92	
3-Oct	-1.2	-1.3	-1.4	-1.5	-2.1	-2.4	-2.5	-2.4	-1.7	-0.5	1.0	2.9	4.1	6.2	8.3	9.3	9.4	9.0	8.7	8.6	8.4	9.0	9.4	3.63	9.42		
4-Oct	8.6	7.8	7.6	7.6	7.5	7.9	8.2	8.0	8.3	9.7	11.9	13.5	14.4	16.6	17.8	18.2	17.8	16.7	15.5	14.2	13.1	12.9	12.0	11.2	11.96	18.23	
5-Oct	10.8	10.4	9.0	7.8	6.9	5.9	5.4	4.9	5.3	8.2	11.7	13.4	14.4	15.2	15.9	16.0	15.5	14.5	13.8	13.1	12.1	11.3	10.9	11.1	10.98	16.03	
6-Oct	11.0	10.9	9.8	10.0	9.4	9.4	9.2	9.8	10.8	11.9	12.8	13.7	14.7	14.7	14.6	14.3	14.1	13.5	12.0	10.5	9.4	8.7	8.0	6.8	11.24	14.72	
7-Oct	5.4	5.7	5.9	5.3	6.0	5.1	5.0	4.1	4.6	5.1	7.0	8.6	9.4	9.9	10.2	10.2	9.9	9.6	8.9	8.3	8.1	8.2	7.4	6.5	7.27	10.22	
8-Oct	5.9	5.6	5.3	4.8	4.0	3.0	1.7	1.4	2.9	5.2	6.6	7.9	9.3	10.7	11.3	11.5	11.1	10.1	8.9	7.5	6.7	6.5	6.2	5.5	6.65	11.49	
9-Oct	5.1	4.9	3.9	2.7	3.2	4.4	2.5	1.4	2.1	3.7	6.0	8.1	10.5	12.2	13.9	15.7	16.6	15.8	13.2	12.1	12.1	11.8	10.4	9.0	8.39	16.57	
10-Oct	8.6	8.3	7.7	6.3	5.7	4.3	3.4	4.1	4.9	7.6	11.2	13.5	16.0	18.1	19.7	20.7	20.9	19.3	17.2	17.3	16.5	15.5	15.0	15.0	12.37	20.88	
11-Oct	14.7	12.6	11.5	10.2	9.7	9.5	9.1	9.8	9.7	10.4	11.5	13.7	14.6	15.0	14.5	14.0	13.6	12.7	11.3	10.5	9.3	9.2	8.9	8.4	11.43	15.00	
12-Oct	7.6	7.2	6.5	6.7	6.3	6.0	6.2	6.0	5.8	7.1	8.9	10.9	12.3	13.2	13.7	14.2	13.7	12.2	11.0	10.1	8.8	7.6	7.5	7.3	9.04	14.24	
13-Oct	6.4	5.7	5.0	5.5	4.6	3.8	4.1	3.0	3.6	5.3	7.7	10.2	12.1	13.2	14.0	14.0	13.0	12.6	11.9	11.7	11.4	11.0	12.1	11.7	8.90	14.04	
14-Oct	11.0	10.5	10.0	9.5	8.3	7.9	7.4	7.1	6.2	6.6	9.0	10.6	13.7	15.0	14.9	13.0	11.1	10.2	9.8	9.0	8.2	7.7	7.0	6.2	9.58	15.02	
15-Oct	5.9	5.3	4.9	4.6	4.2	5.3	4.4	4.9	4.7	4.5	5.1	5.1	5.5	5.4	4.5	4.1	4.1	4.0	3.7	3.6	3.6	3.2	3.1	3.1	4.44	5.93	
16-Oct	3.1	3.2	3.4	3.5	3.7	3.7	2.6	2.0	2.0	2.8	3.3	4.2	5.6	6.1	6.7	7.3	7.8	7.4	6.0	4.8	4.2	4.5	4.3	4.6	4.45	7.81	
17-Oct	4.4	3.8	2.8	1.6	1.3	0.3	0.5	0.5	0.6	1.6	2.5	5.0	7.9	10.4	11.4	11.0	10.4	10.0	9.9	10.1	10.3	9.7	9.5	9.2	6.03	11.38	
18-Oct	9.0	9.1	9.5	11.1	10.2	9.7	8.7	8.8	9.4	9.9	12.8	15.1	16.6	17.2	17.8	17.8	17.8	16.5	14.7	13.7	13.0	11.7	11.2	11.1	12.61	17.84	
19-Oct	9.6	9.8	7.5	6.8	7.0	6.7	7.1	6.2	6.8	7.6	7.2	9.2	10.0	10.3	10.0	9.8	10.0	10.8	10.5	9.6	11.2	10.8	11.2	11.6	9.06	11.58	
20-Oct	9.1	7.9	8.3	9.1	9.9	7.7	7.6	6.8	8.6	7.8	10.5	11.9	13.6	16.1	18.3	18.6	17.9	16.5	15.3	16.2	14.6	14.7	13.2	12.7	12.21	18.62	
21-Oct	10.8	9.9	9.5	9.0	8.8	7.6	6.8	6.4	6.5	6.9	9.0	9.9	10.6	11.2	11.8	12.3	12.5	11.2	9.4	9.0	9.3	8.2	8.0	6.6	9.21	12.46	
22-Oct	5.2	3.9	5.0	4.6	4.5	3.4	3.5	3.8	4.1	5.0	8.2	8.3	9.2	10.4	14.5	16.0	16.1	15.0	13.4	11.7	10.8	9.7	7.9	7.9	8.40	16.11	
23-Oct	9.4	8.9	7.8	5.1	4.3	3.9	2.6	1.9	2.9	5.2	7.9	12.0	13.6	14.2	14.4	13.1	12.7	11.2	9.4	8.4	7.3	6.8	6.1	5.9	8.12	14.38	
24-Oct	5.4	5.3	5.0	5.1	4.7	4.0	3.3	2.4	1.7	2.8	5.3	6.5	8.2	8.7	9.6	9.3	8.9	7.5	6.3	5.0	4.0	3.2	2.8	2.3	5.29	9.59	
25-Oct	1.5	1.5	1.5	-0.2	-0.6	-1.7	-1.7	-0.7	-0.8	0.0	1.5	2.8	3.5	5.5	7.1	6.9	6.6	6.0	5.5	5.5	5.1	4.3	2.9	2.0	2.67	7.13	
26-Oct	1.2	1.0	0.7	0.7	0.4	0.1	-0.6	-1.7	-1.6	-0.9	-0.7	-0.5	-0.2	0.0	0.5	0.8	0.9	0.9	0.7	0.1	-0.4	-0.5	-1.0	-1.3	-0.06	1.19	
27-Oct	-1.3	-2.0	-1.6	-1.3	-1.1	-1.4	-1.7	-2.5	-3.1	-2.4	-1.3	0.0	1.1	1.4	1.6	2.1	2.2	1.5	0.1	-0.2	-0.6	-1.2	-1.6	-2.1	-0.64	2.19	
28-Oct	-2.9	-3.7	-4.2	-4.0	-4.7	-5.4	-5.2	-5.1	-5.0	-4.0	-3.2	-1.5	1.1	1.4	1.9	2.7	2.6	1.5	0.5	-0.1	-1.1	-1.5	-1.9	-1.8	-1.82	2.70	
29-Oct	-1.4	-1.4	-1.5	-1.6	-1.8	-1.7	-1.6	-1.6	-1.7	-1.7	-1.3	-0.5	0.3	1.7	3.1	3.9	3.2	1.2	0.2	0.2	-0.4	-0.8	-1.0	-1.1	-0.30	3.95	
30-Oct	-1.3	-2.0	-2.3	-2.3	-2.6	-3.6	-4.8	-4.2	-3.3	-3.2	-2.6	-1.5	0.3	2.5	3.0	3.1	2.2	0.5	0.0	-0.4	-0.1	0.6	1.3	1.8	-0.79	3.14	
31-Oct	2.4	1.7	-0.1	-1.2	-1.5	-1.8	-2.3	-2.5	-2.3	-2.0	-1.7	-1.3	-0.6	1.2	3.0	4.7	5.1	4.6	3.7	3.6	3.5	3.4	3.3	3.2	1.09	5.09	
		5.41	4.94	4.50	4.13	3.80	3.30	2.88	2.66	3.00	4.02	5.68	7.21	8.57	9.57	10.35	10.41	10.19	9.39	8.30	7.65	7.13	6.70	6.29	5.93	Diurnal Average	
		14.74	12.59	11.47	11.14	10.25	9.74	9.17	9.83	10.76	11.90	12.81	15.14	16.64	18.12	19.73	20.73	20.88	19.28	17.23	17.32	16.50	15.53	14.96	14.99	Diurnal Maximum	



WCAS - Violet Grove

Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

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	8.7	6.6	9.8	10.2	8.9	6.4	2.9	8.4	12.9	12.6	12.5	7.9	19.2	20.6	27.1	14.7	24.2	20.5	12.6	12.1	20.9	28.2	28.9	10.12	28.93
Dir	W	W	WSW	W	W	WSW	WSW	SW	WSW	SW	SSW	SSW	W	N	N	N	NW	NW	NW	W	WNW	NW	NNW	NNW	NW	NNW
2 Spd	22.0	18.6	21.0	20.6	19.2	23.0	18.3	17.5	21.4	24.9	25.1	26.9	30.1	23.7	22.4	21.7	20.2	17.4	6.8	1.3	2.5	3.0	5.5	6.8	16.02	30.12
Dir	NNW	NW	NW	NNW	NW	NW	NNW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	ENE	S	S	SSW	NNW	NNW
3 Spd	9.2	10.6	11.9	10.9	12.4	10.1	10.8	5.6	8.3	9.9	8.4	9.0	8.3	11.1	11.4	9.9	7.9	10.7	10.2	10.7	8.0	8.2	11.1	8.2	9.08	12.38
Dir	SW	SSW	SSW	SSW	SSW	SSW	S	SSW	S	SSW	SSW	SSW	SSW	SSW	S	SW	SW	SSW	SSW	SW	SW	WSW	W	WSW	SSW	SSW
4 Spd	7.1	1.1	0.2	2.5	5.2	5.9	3.6	1.3	8.9	7.2	9.8	11.5	14.2	18.7	22.8	20.9	19.7	11.5	7.0	6.2	7.2	9.9	9.2	8.4	7.77	22.76
Dir	WSW	WNW	WNW	WSW	WSW	WSW	W	WNW	SW	SW	WSW	W	W	NW	NW	NNW	NW	NW	WNW	W	NW	NW	WNW	W	WNW	NW
5 Spd	9.8	9.6	9.8	10.8	10.8	11.2	11.7	9.1	9.5	8.7	6.5	6.8	5.2	12.0	11.0	11.8	10.3	5.0	0.9	3.8	4.6	6.0	6.1	5.0	4.88	11.99
Dir	WNW	WNW	W	W	W	W	W	W	WSW	W	WNW	NW	WNW	NW	N	N	N	NE	E	ENE	S	SSE	S	S	WNW	NW
6 Spd	7.0	7.8	5.5	11.5	11.5	10.4	6.4	8.3	16.0	27.7	31.6	31.0	32.9	32.4	26.5	20.9	16.1	14.9	8.7	1.0	3.2	4.8	7.7	8.7	10.81	32.92
Dir	SW	SW	W	SW	SW	WSW	NW	WNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	N	N	NW	W	WSW	WSW	NNW	NNW
7 Spd	10.0	8.4	8.3	6.7	6.8	7.8	7.9	9.0	7.6	6.1	8.0	3.3	1.8	0.8	0.7	4.1	6.1	3.5	3.1	4.7	4.9	6.0	5.2	7.7	2.64	9.97
Dir	W	W	WSW	W	WSW	W	W	W	W	W	W	W	WNW	N	NNE	ESE	SE	SE	SE	SE	ESE	ESE	ESE	ESE	WSW	W
8 Spd	3.8	10.7	12.0	11.6	8.5	7.0	6.4	6.2	6.0	3.6	2.5	2.8	1.7	5.5	9.9	8.1	8.3	4.7	4.2	5.2	5.1	3.8	3.2	6.6	3.66	12.01
Dir	E	ESE	ESE	SE	SE	SE	SE	SE	SE	SW	SW	NNW	WNW	NNW	N	NNE	ENE	ENE	SE	SE	SE	SSE	SSE	SE	ESE	ESE
9 Spd	8.2	7.6	6.1	3.5	7.8	6.7	4.4	0.4	8.6	10.7	6.0	1.2	3.7	5.4	8.0	9.2	8.1	5.9	4.2	7.0	11.8	11.9	8.6	2.5	6.14	11.89
Dir	SSE	SSE	SE	S	SSE	S	SSE	SSE	SSE	S	WSW	S	SE	SE	SSE	SSE	SSE	SE	SSE	SSE	S	S	S	S	SSE	S
10 Spd	4.6	9.9	13.3	9.7	7.6	6.1	3.2	5.0	4.2	11.8	9.4	8.9	10.1	10.4	10.2	9.0	8.7	7.1	8.1	9.2	11.7	12.6	8.9	8.6	7.24	13.29
Dir	SSW	SW	SSW	SW	SSW	SW	SSW	SSW	SW	SW	SW	SW	SSW	S	S	S	SSE	SSE	S	SSW	WSW	W	W	WNW	SW	SSW
11 Spd	9.0	10.0	22.2	16.5	14.9	9.0	10.5	10.0	12.3	13.2	13.5	19.4	21.9	21.8	20.0	20.1	19.8	14.8	10.1	11.2	10.1	11.1	9.4	10.5	12.81	22.22
Dir	WNW	WNW	NW	NW	NW	WSW	SW	WSW	WSW	WSW	W	WNW	NW	WNW	NW	NW	WNW	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	NW
12 Spd	9.3	10.5	14.0	13.2	13.9	13.2	13.0	12.5	13.8	15.1	15.3	21.0	25.2	22.0	22.1	20.3	16.4	7.8	5.6	7.9	9.6	8.1	7.1	5.3	12.35	25.16
Dir	WNW	WNW	W	W	W	W	W	W	W	W	WNW	NW	NW	NW	NW	NW	NNW	NNW	WSW	W	W	W	W	WSW	WNW	NW
13 Spd	7.1	7.2	8.2	10.9	6.1	6.6	8.7	7.1	13.6	12.9	10.6	9.6	12.0	12.2	14.0	13.6	12.4	11.2	10.9	10.9	10.0	4.5	10.9	10.0	8.61	13.95
Dir	S	S	S	SSW	SSW	S	SSW	SSW	SSW	SSW	SW	S	SSE	SSE	SE	SE	SE	SE	SE	SE	SE	SSE	SSW	SSW	S	SE
14 Spd	10.0	8.3	7.0	6.7	3.3	2.9	1.5	4.2	7.7	5.4	7.1	8.1	8.7	10.8	19.9	26.4	20.4	10.2	1.7	2.2	1.7	2.8	6.3	4.7	4.72	26.38
Dir	SW	SW	WSW	WNW	W	SW	W	WSW	W	W	WNW	WNW	NNW	NNW	NNW	N	N	N	NNE	WNW	WSW	S	S	SSW	NW	N
15 Spd	5.7	6.8	1.8	3.6	5.5	7.4	7.0	11.0	10.8	10.1	8.4	6.5	6.1	6.8	15.7	13.3	10.9	7.4	5.9	5.0	10.1	10.0	8.2	8.8	6.59	15.74
Dir	SSW	SSW	S	S	SSE	SSE	SE	SSE	SSE	SE	ESE	E	ENE	ESE	ESE	ESE	ESE	ESE	E	ENE	E	E	E	ESE	ESE	ESE
16 Spd	7.1	7.4	8.5	7.4	9.6	9.5	7.2	4.4	6.5	9.3	13.6	11.6	9.9	9.2	8.9	6.6	6.1	4.9	2.0	2.1	4.1	9.9	5.8	12.9	7.28	13.62
Dir	SE	SE	S	S	S	S	SSE	S	SSE	S	SSE	SSE	SSE	S	S	SSE	SE	ESE	SE	S	SSE	SSE	S	S	SSE	SSE
17 Spd	13.1	10.3	7.8	12.9	10.4	3.2	13.4	13.7	11.9	13.5	12.0	13.4	14.7	13.0	12.8	11.4	9.4	5.5	6.5	8.2	10.1	7.4	9.3	10.0	9.53	14.65
Dir	S	SSW	SSW	SSW	SSW	SSW	SSW	S	S	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSW	SW	WSW	W	S	SSE
18 Spd	7.6	11.5	11.9	12.1	11.6	17.3	16.8	14.4	12.9	10.9	10.7	13.2	13.6	10.2	11.0	8.3	12.9	11.1	5.6	7.4	9.1	7.9	9.5	7.8	9.81	17.32
Dir	WSW	W	WSW	WSW	WSW	W	W	WSW	W	W	W	W	WNW	WNW	NW	NW	NNW	NW	WNW	WSW	SW	SW	SW	SW	W	W
19 Spd	9.6	7.8	6.8	6.2	6.8	10.4	13.0	7.5	7.9	13.2	4.4	13.7	17.9	13.3	8.9	8.2	5.9	8.5	4.9	5.4	11.4	10.5	9.8	9.7	8.81	17.92
Dir	SSW	SSW	S	SSW	SSW	SSW	SSW	S	SSW	SSW	SSW	SSW	SW	SSW	S	SSE	S	SSW	S	SSW	SW	SW	SW	SW	SSW	SW
20 Spd	5.3	5.5	5.5	7.8	7.6	7.0	4.0	4.1	8.4	1.8	2.8	4.6	2.4	2.6	4.5	7.6	7.2	7.1	8.8	5.9	5.3	5.8	9.4	12.3	2.62	12.29
Dir	WSW	WSW	SSW	S	SSW	S	SW	WSW	SW	WNW	WSW	WSW	W	SE	ESE	E	E	SE	SSE	W	SSW	SW	NW	NNW	SSW	NNW
21 Spd	9.5	1.7	3.1	4.9	2.6	4.8	4.7	7.4	6.7	6.7	6.8	0.8	3.9	4.8	6.5	8.0	9.3	7.2	7.2	8.6	9.1	6.5	11.1	10.7	4.04	11.13
Dir	NNW	NW	WSW	WSW	WSW	WNW	WSW	WSW	W	WSW	WNW	SE	SSE	SW	S	SSE	SSE	SSE	SSE	S	SSW	SSW	SW	WSW	SW	SW
22 Spd	4.7	2.7	9.6	10.7	12.1	14.2	14.2	14.3	16.1	16.1	12.1	10.8	7.8	9.6	16.3	11.5	11.7	13.4	11.1	11.4	10.0	5.1	4.0	2.8	9.30	16.32
Dir	WSW	S	SSW	SSW	SSW	S	S	S	S	S	S	SSW	S	S	SSW	SSW	SSW	SW	SSW	SW	WSW	NW	N	S	SSW	SSW



WCAS - Violet Grove
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	1.0	1.3	7.6	1.4	1.7	0.5	2.6	4.5	13.1	14.3	18.4	17.9	19.8	18.2	20.8	11.6	10.6	12.4	8.2	7.3	10.8	6.6	7.2	8.6	7.30	20.84	
Dir	WSW	SW	S	W	SSW	SSW	W	SW	SW	SW	SW	WSW	W	W	WNW	NW	NW	NW	NW	NW	NNW	NNW	W	W	W	WNW	
24 Spd	9.2	6.0	5.5	13.8	10.4	8.4	9.1	9.9	13.0	13.0	13.7	15.5	17.7	20.6	20.2	24.4	20.7	12.3	10.4	8.3	9.1	9.8	9.7	5.7	11.42	24.41	
Dir	WNW	WNW	NW	NW	WNW	W	WSW	WSW	WSW	WSW	W	W	WNW	NW	WNW	WNW	NW	WNW	W	WNW	W	W	W	WSW	WNW	WNW	
25 Spd	8.6	7.6	3.9	5.4	4.5	4.5	5.6	9.0	10.3	9.8	12.9	17.1	16.4	25.8	27.2	27.4	25.5	22.1	17.5	14.2	14.0	10.9	7.6	7.7	11.54	27.39	
Dir	SW	WSW	SW	SSW	SSW	S	SSE	SSE	SE	SE	SE	SE	ESE	SE	SE	SE	SE	SE	SE	ESE	ESE	ESE	E	E	SE	SE	
26 Spd	8.6	10.1	7.3	5.2	8.3	9.5	7.8	9.5	11.1	12.8	11.7	13.6	17.7	16.6	17.7	17.6	16.0	15.5	21.4	23.1	19.4	21.4	19.8	19.4	12.59	23.07	
Dir	ENE	ENE	ENE	NNE	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	
27 Spd	16.7	14.5	14.1	14.2	17.9	17.1	16.7	14.2	11.2	12.8	12.8	14.1	18.5	15.1	15.4	10.4	9.6	4.5	3.5	4.4	6.1	7.3	8.2	8.2	8.81	18.47	
Dir	NW	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	NW	NW	NNW	NNW	N	N	N	NNE	SSE	S	S	SSW	SSW	SSW	NW	NNW	
28 Spd	9.3	11.7	12.2	12.6	9.4	7.9	6.0	7.3	5.6	8.8	9.6	10.7	9.5	6.7	10.0	9.9	9.3	5.0	3.2	4.1	1.7	1.9	2.1	4.5	5.69	12.61	
Dir	S	S	S	SSE	SSE	SE	SE	SE	SSE	SSE	SSE	SE	SE	ESE	E	E	E	E	E	ENE	E	ENE	NNW	NW	NNW	SE	SSE
29 Spd	5.1	1.3	4.2	6.4	5.8	2.5	1.1	1.7	2.4	2.4	4.3	1.8	3.4	2.0	2.5	5.9	8.5	7.6	5.8	6.6	7.6	7.4	6.7	6.4	2.85	8.54	
Dir	NW	NE	NW	N	N	NNW	NNW	WNW	NNE	NE	ESE	SE	SE	ESE	ENE	E	E	E	ESE	E	E	E	E	ESE	ENE	E	
30 Spd	5.8	5.3	3.7	5.2	4.4	4.5	6.3	8.0	10.9	12.3	12.1	14.8	18.5	20.9	21.0	21.3	19.9	19.1	16.3	14.7	15.6	16.9	19.7	14.6	12.72	21.29	
Dir	ESE	SE	SE	SE	SE	ESE	SE	SE	SSE	SSE	SSE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	SE	SSE	SSE	S	SSE	SSE	SSE	
31 Spd	17.1	3.8	2.6	3.7	4.2	6.0	7.3	7.9	9.6	9.0	8.7	11.0	11.0	8.2	6.1	10.5	10.4	9.9	12.4	8.5	3.8	4.6	6.7	9.1	6.58	17.14	
Dir	S	WSW	WNW	WNW	WNW	NW	NW	NW	WNW	WNW	WNW	NW	NW	NW	NW	NW	NW	WNW	NW	NW	WNW	NW	NW	NW	NW	NW	S
Spd	4.10	3.90	4.06	4.53	4.57	4.36	4.42	4.32	5.53	5.64	4.93	4.33	4.35	3.76	3.00	3.30	2.29	1.05	1.34	2.47	3.04	2.95	3.98	3.74	Diurnal Average		
Dir	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WNW	NW	NNW	NNW	N	NNW	SW	SW	SW	WSW	WSW	WSW	Diurnal Maximum		
Spd	21.96	18.62	22.22	20.60	19.21	23.02	18.31	17.52	21.36	27.69	31.63	30.98	32.92	32.44	27.19	27.39	25.45	24.19	21.43	23.07	19.37	21.44	28.21	28.93	Diurnal Maximum		
Dir	335.65	324.50	324.52	327.96	316.07	321.87	327.87	321.69	318.90	341.92	340.10	344.05	343.33	348.05	134.26	131.62	130.27	314.20	324.38	319.66	318.73	313.18	333.57	333.58			
Maximum Speed Value: 32.9 kph on Oct 6 13:00																				Minimum Speed Value: 0.2 kph on Oct 4 03:00				Hours in Service: 744			
Maximum Daily Speed Average: 16.02 kph on Oct 2										Minimum Daily Speed Average: 2.62 kph on Oct 29										Hours of Data: 744							
Maximum Diurnal Speed Average: 5.64 kph at hour 10										Minimum Diurnal Speed Average: 1.05 kph at hour 18										Hours of Missing Data: 0							
Monthly Average Velocity: 3.173 kph 254.35 deg																				Speed Percentiles: P ₁ = 1.0 P ₁₀ = 3.7 Q ₁ = 6.1 Median = 9.0 Q ₃ = 12.4 P ₉₀ = 18.4 P ₉₉ = 27.5				Percent Operational Time: 100.0			
All monthly, daily, and diurnal averages have been calculated using vector methods																											
Frequency Distribution																											
		Speed Range (kph)																									
Direction	0 to 5	5 to 11	11 to 19	19 to 28	28 to 38	> 38	Total																				
North	9	15	10	8	4	0	46																				
NorthEast	7	2	0	0	0	0	9																				
East	12	29	1	0	0	0	42																				
SouthEast	19	56	20	10	0	0	105																				
South	24	90	33	1	0	0	148																				
SouthWest	21	56	35	0	0	0	112																				
West	22	83	30	1	0	0	136																				
NorthWest	13	42	45	43	3	0	146																				
Total	127	373	174	63	7	0	744																				



WCAS - Violet Grove
Summary of Hourly Averages

Delta Temperature (ET_D) - C
October 2014

Maximum Value: 1.76 C on Oct 30 13:00 Maximum Daily Average: 0.72 C on Oct 29 Minimum Value: -6.6 C on Oct 23 01:00 Minimum Daily Average: -1.26 C on Oct 20 Maximum Diurnal Average: 1.14 C at hour 13 Minimum Diurnal Average: -1.03 C at hour 21 Monthly Average: -0.013 C Percentiles: P ₁ = -4.5 P ₁₀ = -1.8 Q ₁ = -0.5 Median = 0.4 Q ₃ = 0.8 P ₉₀ = 1.1 P ₉₉ = 1.4																								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	0.1	-0.2	-0.4	-0.9	-0.6	-0.4	-2.6	-1.2	0.6	1.0	1.2	1.3	1.2	0.9	1.0	0.7	0.4	0.6	0.6	0.6	0.4	0.6	0.6	0.5	0.24	1.26																						
2-Oct	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	1.1	1.3	1.4	1.5	1.4	1.4	1.1	0.9	0.7	-0.5	-2.0	-3.2	-4.2	-4.9	-2.8	-0.06	1.49																						
3-Oct	0.0	0.3	0.4	0.3	0.4	0.3	0.3	0.6	0.8	0.9	1.0	1.1	0.9	1.0	1.0	0.9	0.8	0.7	0.5	0.4	0.3	0.3	0.4	0.4	0.59	1.07																						
4-Oct	0.4	-0.5	-0.6	-0.8	-0.1	0.3	0.2	-0.3	0.5	0.9	1.0	1.0	1.1	1.4	1.3	1.3	0.7	0.2	-0.5	-1.6	-1.4	-0.6	-1.0	-0.6	0.10	1.41																						
5-Oct	-0.9	-0.7	-0.3	-0.2	-0.3	0.0	0.1	0.0	0.6	0.9	1.2	1.3	1.3	1.2	1.3	1.1	0.6	0.3	-1.1	-1.0	-0.8	-0.7	-0.6	0.3	0.14	1.31																						
6-Oct	0.3	0.4	0.1	0.4	0.5	0.5	0.1	0.1	0.5	0.7	1.0	1.1	1.3	1.1	1.0	0.8	0.5	0.1	-1.7	-4.0	-4.6	-4.6	-1.9	-0.9	-0.30	1.29																						
7-Oct	-0.4	-1.1	-0.5	0.1	0.1	0.2	-0.5	0.0	0.6	0.8	0.9	1.0	0.9	0.9	0.9	0.9	0.7	0.4	-0.1	-0.3	-0.3	0.3	0.3	0.3	0.25	0.98																						
8-Oct	0.5	0.6	0.6	0.4	0.1	-0.7	-1.0	-0.2	0.5	0.9	1.0	1.1	1.1	1.2	1.2	1.0	1.0	0.5	-1.4	-2.0	-2.1	-2.4	-2.2	-1.9	-0.09	1.23																						
9-Oct	-0.9	-1.1	-0.7	-1.6	-0.9	0.3	-0.6	-1.1	0.1	1.0	1.1	1.1	1.1	1.1	1.3	1.2	1.0	0.1	-1.5	-1.8	-0.3	0.1	-0.2	-1.1	-0.09	1.27																						
10-Oct	-0.6	0.3	0.4	0.4	0.4	0.4	0.2	0.2	0.6	0.9	1.1	1.2	1.2	1.2	1.2	1.1	0.8	-1.2	-2.3	-0.8	0.1	-0.2	-1.4	-2.8	0.10	1.25																						
11-Oct	-0.8	-0.2	0.2	0.2	0.3	0.4	0.5	0.3	0.6	0.8	1.0	1.2	1.3	1.3	0.6	0.6	0.5	0.2	-0.7	-0.3	-0.6	0.1	0.0	0.3	0.32	1.31																						
12-Oct	0.3	0.3	0.2	0.4	0.5	0.3	0.4	0.2	0.5	0.8	1.0	1.3	1.3	1.4	1.2	1.1	0.8	-1.0	-2.4	-1.6	-1.5	-1.5	-2.0	-2.3	-0.01	1.39																						
13-Oct	-2.3	-2.3	-2.2	0.0	-0.5	-1.4	-0.3	-0.1	0.7	1.0	1.1	1.3	1.3	1.0	1.0	0.6	0.3	0.3	-0.1	-0.1	-0.3	-0.7	-0.2	0.4	-0.06	1.27																						
14-Oct	0.3	-0.1	0.0	-1.8	-1.2	-1.2	-2.4	-2.9	0.5	0.7	1.1	1.2	1.5	1.4	1.3	1.0	0.7	0.4	-0.2	-1.3	-3.1	-5.1	-4.5	-3.8	-0.73	1.46																						
15-Oct	-0.3	0.0	-0.9	-0.7	-1.3	-1.0	-0.5	0.3	0.6	0.7	0.8	1.0	0.9	0.9	0.7	0.1	0.2	0.6	0.7	0.3	0.6	0.6	0.6	0.5	0.24	0.97																						
16-Oct	0.4	0.4	0.4	0.6	0.6	0.6	0.0	-0.2	0.3	0.9	1.4	1.7	1.2	1.0	1.1	1.1	1.0	0.1	-2.2	-2.6	-3.0	-0.5	-1.0	-0.2	0.13	1.65																						
17-Oct	0.1	0.4	0.3	0.5	0.5	0.3	0.5	0.5	0.6	0.8	1.0	1.1	1.2	1.1	0.8	0.6	0.4	-0.5	-0.6	-0.3	0.4	0.1	-0.4	-0.4	0.37	1.20																						
18-Oct	-0.1	-0.1	0.2	0.2	0.2	0.0	0.0	-0.1	0.1	0.8	1.1	1.3	1.5	1.2	1.2	0.5	0.7	-0.7	-3.0	-2.7	-2.2	-3.2	-2.7	-4.0	-0.41	1.54																						
19-Oct	-0.5	-2.0	-3.2	-2.3	-0.6	-0.1	0.2	0.2	0.5	0.6	0.7	0.7	0.7	0.7	0.6	0.5	0.2	0.3	0.0	-1.7	0.2	-0.2	-0.5	-1.3	-0.26	0.72																						
20-Oct	-3.8	-1.4	-4.4	-2.9	-2.4	-1.0	-0.5	-2.3	-0.8	-0.1	0.0	0.6	0.7	1.0	1.2	1.1	0.1	-2.3	-1.9	-2.1	-4.4	-2.0	-2.0	-0.6	-1.26	1.16																						
21-Oct	0.1	-0.9	-1.8	-1.2	-2.2	-1.2	-0.7	-0.2	-0.8	0.5	0.9	0.9	0.9	0.9	1.1	1.1	1.0	-0.4	-1.4	-0.9	-0.4	-1.6	0.0	-0.3	-0.28	1.11																						
22-Oct	-0.9	-2.4	-0.4	0.0	-0.2	-0.4	-0.2	0.1	0.5	0.8	1.0	0.7	0.7	0.7	1.1	0.8	0.6	0.4	0.3	0.2	0.1	-0.9	-0.8	-3.7	-0.09	1.08																						
23-Oct	-6.6	-5.8	-1.9	-1.7	-3.9	-4.5	-3.6	-2.5	0.4	0.5	0.8	1.1	1.1	1.2	0.8	0.2	0.2	-0.7	-1.7	-2.1	-0.9	-0.6	-0.3	0.2	-1.26	1.20																						
24-Oct	0.4	0.3	0.1	0.4	0.5	0.4	0.2	-0.4	0.4	0.8	1.1	1.2	1.4	1.1	1.3	0.9	0.6	-0.4	-1.0	-1.6	-1.4	-1.8	-1.4	-1.9	0.05	1.40																						
25-Oct	-2.1	-3.4	-4.7	-3.1	-2.4	-1.9	-0.9	0.1	0.3	0.8	0.9	0.8	0.9	1.3	1.2	0.9	0.7	0.5	0.4	0.5	0.4	0.3	0.1	-0.1	-0.36	1.25																						
26-Oct	0.3	0.6	0.6	0.5	0.5	0.5	0.1	0.2	0.6	0.8	0.9	0.9	0.9	0.9	0.9	0.8	0.7	0.6	0.5	0.4	0.4	0.5	0.4	0.5	0.58	0.90																						
27-Oct	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.2	0.3	0.9	1.2	1.4	1.4	1.1	1.0	0.9	0.8	-0.4	-2.2	-4.4	-4.3	-1.4	-0.6	-0.3	-0.03	1.39																						
28-Oct	-0.5	-0.1	0.1	0.1	-0.6	-0.4	0.0	0.4	0.4	0.8	1.0	1.2	1.2	0.8	0.9	1.1	0.9	-0.2	-0.5	-1.1	-1.6	-1.2	-0.3	0.3	0.11	1.24																						
29-Oct	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.0	1.0	1.2	1.1	0.9	0.2	-0.2	0.6	0.6	0.7	0.6	0.7	0.72	1.15																						
30-Oct	0.6	-0.1	-0.6	-1.6	-1.4	-1.0	-0.4	0.3	0.7	0.8	0.9	0.9	1.8	1.4	1.3	1.1	0.8	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.39	1.76																						
31-Oct	0.6	-0.2	-0.7	-0.6	-0.3	0.6	0.7	0.7	0.8	0.8	0.9	0.8	0.9	1.4	1.4	0.9	0.6	0.5	0.5	0.5	0.5	0.3	0.4	0.4	0.52	1.43																						
																								-0.47	-0.56	-0.57	-0.41	-0.39	-0.27	-0.28	-0.18	0.44	0.79	0.97	1.08	1.14	1.10	1.08	0.88	0.65	0.02	-0.75	-1.03	-1.03	-0.94	-0.80	-0.76	Diurnal Average
																								0.62	0.66	0.68	0.66	0.71	0.73	0.74	0.74	0.77	1.09	1.37	1.65	1.76	1.41	1.43	1.27	0.99	0.71	0.75	0.72	0.64	0.69	0.65	0.67	Diurnal Maximum



WCAS - Violet Grove
Summary of Hourly Averages

Relative Humidity (RH) - %
October 2014

Maximum Value: 98.43 % on Oct 16 09:00 Maximum Daily Average: 92.49 % on Oct 31 Minimum Value: 25.0 % on Oct 10 16:00 Minimum Daily Average: 48.12 % on Oct 18 Maximum Diurnal Average: 79.60 % at hour 8 Minimum Diurnal Average: 50.92 % at hour 15 Monthly Average: 67.808 % Percentiles: P ₁ = 29.6 P ₁₀ = 42.7 Q ₁ = 53.7 Median = 67.5 Q ₃ = 83.4 P ₉₀ = 92.5 P ₉₉ = 97.5																								Hours in Service:	744																								
																								Hours of Data:	744																								
																								Hours of Missing Data:	0																								
																								Hours of Calibration:	0																								
																								Percent Operational Time:	100.0																								
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	78.2	81.1	81.4	82.2	85.8	88.5	89.7	87.9	81.6	72.7	59.6	51.1	42.2	51.5	53.9	83.1	84.6	77.2	86.1	86.8	85.8	81.7	72.0	69.6	75.60	89.74																							
2-Oct	73.4	79.8	76.6	75.5	76.0	72.3	76.5	76.7	69.7	65.2	60.6	52.3	47.3	44.6	42.4	41.1	40.8	43.1	49.6	64.9	68.7	75.2	78.0	71.9	63.42	79.78																							
3-Oct	65.3	65.0	64.8	65.0	67.7	69.7	71.2	69.6	68.7	65.6	60.3	53.3	51.4	44.6	38.9	40.9	46.0	51.5	54.0	61.1	64.6	68.6	73.0	75.0	60.65	74.99																							
4-Oct	84.6	90.8	93.2	93.8	92.5	88.7	85.0	89.2	83.0	76.8	65.0	59.0	56.8	45.8	41.1	40.7	42.7	49.0	55.3	64.1	66.0	62.8	64.5	66.5	69.05	93.83																							
5-Oct	69.1	68.6	73.2	75.6	77.6	80.3	82.5	83.4	80.6	71.0	60.5	53.0	49.0	47.1	44.7	44.8	48.6	53.5	60.5	63.5	67.7	71.3	70.2	66.2	65.11	83.43																							
6-Oct	66.8	71.3	81.8	76.7	77.8	78.7	82.5	80.8	78.0	67.5	55.8	49.3	41.7	38.0	39.4	40.2	40.6	42.6	50.6	64.0	70.8	73.4	64.6	66.6	62.47	82.47																							
7-Oct	71.9	70.3	65.3	63.7	60.2	64.6	67.6	70.1	67.9	68.0	62.3	56.4	55.8	50.4	49.0	52.2	57.2	62.0	65.9	68.8	70.5	65.2	71.3	79.7	64.01	79.66																							
8-Oct	83.3	86.0	88.9	87.4	87.2	89.5	93.8	94.3	84.3	75.0	69.1	65.1	59.8	59.1	59.8	61.3	62.5	67.7	79.0	85.6	89.4	91.9	92.7	92.5	79.38	94.29																							
9-Oct	91.3	90.2	91.0	94.8	92.4	82.3	90.0	92.2	89.1	83.4	76.3	67.5	61.2	55.8	51.1	45.4	42.7	48.8	59.8	65.7	66.9	66.6	71.7	76.2	73.02	94.83																							
10-Oct	79.4	76.8	79.6	83.9	83.6	86.3	87.8	80.2	73.5	62.3	50.9	43.5	36.5	30.9	26.9	25.0	27.2	36.7	43.4	39.0	38.9	43.4	45.3	47.5	55.34	87.76																							
11-Oct	45.7	50.7	59.7	62.7	65.2	63.7	70.9	64.3	65.2	62.7	54.2	37.9	31.1	30.2	32.8	34.5	34.2	39.2	47.4	49.8	54.3	53.7	55.4	56.8	50.92	70.94																							
12-Oct	59.4	61.0	64.1	62.5	62.9	64.7	63.0	63.3	64.3	58.6	51.7	41.5	35.2	32.3	30.4	28.8	31.9	40.4	45.2	43.6	44.9	48.6	50.3	52.6	50.05	64.68																							
13-Oct	59.1	58.8	59.9	51.3	55.3	62.2	56.4	61.1	58.5	53.4	47.3	42.6	38.6	35.8	37.4	39.2	43.9	44.9	48.5	51.1	54.4	55.0	50.3	49.1	50.58	62.23																							
14-Oct	51.3	52.9	54.5	59.5	65.3	66.4	71.4	76.3	71.7	71.5	63.2	57.6	45.4	42.0	42.4	53.4	60.1	60.7	62.6	68.7	75.9	81.5	83.3	86.0	63.48	86.05																							
15-Oct	79.1	79.7	83.9	83.8	86.3	75.9	78.2	76.7	79.4	83.1	82.5	82.7	81.7	87.1	89.6	91.0	92.5	93.7	95.2	96.7	97.6	97.6	97.6	97.1	87.03	97.60																							
16-Oct	96.3	96.4	96.1	96.9	95.9	95.3	96.5	97.7	98.4	97.5	94.4	90.8	87.7	84.7	81.8	78.1	75.6	79.8	92.9	96.4	97.3	94.6	91.9	90.3	91.80	98.43																							
17-Oct	89.3	89.3	90.8	94.4	95.4	96.2	93.8	91.7	88.8	84.7	82.9	74.3	62.7	52.5	50.8	57.6	62.4	68.7	71.7	67.5	58.7	60.2	59.7	63.8	75.33	96.19																							
18-Oct	63.8	64.2	61.6	53.9	57.3	58.9	62.1	60.7	57.2	55.5	46.8	39.2	33.6	30.6	29.6	31.1	31.4	35.3	43.3	44.5	43.2	49.9	52.0	49.2	48.12	64.16																							
19-Oct	48.4	50.4	63.1	63.6	56.5	56.8	53.7	58.7	56.6	53.9	57.9	51.9	50.1	50.6	55.5	58.2	58.2	52.5	53.4	63.7	50.8	52.5	50.0	49.5	54.86	63.73																							
20-Oct	67.2	64.6	74.2	65.8	60.6	64.6	63.0	73.5	59.5	66.1	64.7	51.7	51.0	41.6	34.3	35.2	38.5	48.7	50.9	45.3	56.4	49.2	59.4	55.8	55.90	74.25																							
21-Oct	64.9	70.7	76.2	77.3	80.0	83.1	82.9	80.8	80.6	76.9	67.6	64.3	66.6	62.7	58.3	53.9	53.3	62.5	74.0	75.5	71.3	78.0	73.5	73.5	71.18	83.14																							
22-Oct	78.5	86.2	72.2	71.7	67.2	70.8	66.4	61.7	61.1	58.1	48.8	49.6	48.2	46.4	33.9	30.8	29.8	31.8	35.9	41.8	45.8	52.4	60.4	66.8	54.85	86.22																							
23-Oct	70.9	72.2	63.4	71.7	79.8	82.5	84.0	82.4	73.1	66.8	58.4	43.8	33.3	30.4	26.5	33.5	34.9	37.8	41.1	43.0	46.1	47.8	49.5	49.8	55.11	83.98																							
24-Oct	52.2	55.4	61.9	58.7	62.4	71.1	74.6	78.8	82.4	77.7	64.5	55.6	44.1	37.5	31.5	28.3	27.1	32.2	36.2	41.8	45.1	48.6	50.2	51.8	52.90	82.37																							
25-Oct	55.6	60.1	66.3	67.5	64.9	71.5	70.2	64.4	69.5	69.4	66.7	60.2	57.3	49.7	46.2	47.3	49.4	51.5	51.5	53.9	56.4	58.4	63.6	67.9	59.98	71.54																							
26-Oct	72.7	73.5	75.1	76.7	78.8	79.0	81.6	88.8	90.9	89.2	90.6	94.7	94.8	94.1	91.6	89.1	87.8	88.5	87.0	85.0	85.9	84.8	84.6	84.8	85.40	94.77																							
27-Oct	83.8	86.9	85.7	85.1	82.5	83.1	83.9	84.1	86.1	81.5	74.4	67.3	60.7	60.3	57.5	56.0	55.9	61.8	70.6	78.7	80.2	73.0	71.5	72.0	74.27	86.90																							
28-Oct	76.5	81.5	85.1	84.8	87.6	89.8	90.1	89.2	87.0	83.4	82.0	75.7	64.6	65.4	65.7	63.1	63.6	70.7	77.6	80.2	86.4	88.1	87.4	90.0	79.81	90.13																							
29-Oct	91.1	90.9	92.2	94.1	95.4	95.8	96.1	95.8	95.8	96.2	95.5	93.3	88.9	82.3	75.4	70.6	75.9	85.7	91.0	92.4	93.7	94.0	94.2	94.6	90.45	96.22																							
30-Oct	94.8	95.3	95.9	96.0	95.6	95.1	94.9	95.5	96.4	96.6	96.7	93.6	77.7	72.4	73.4	73.1	78.5	86.2	89.2	90.8	90.8	90.3	89.7	89.2	89.49	96.74																							
31-Oct	88.2	89.7	94.3	95.8	96.7	97.4	97.5	97.6	97.7	97.8	97.8	97.8	97.0	92.2	86.8	84.2	81.8	86.6	91.3	91.7	91.9	91.5	88.9	87.4	92.49	97.83																							
																								72.66	74.53	76.52	76.53	77.17	78.22	79.28	79.60	77.31	73.81	68.03	61.82	56.51	53.18	50.92	51.99	53.54	57.78	63.24	66.63	68.27	69.34	69.89	70.63	Diurnal Average	
																								96.29	96.37	96.14	96.91	96.69	97.38	97.52	97.68	98.43	97.83	97.83	97.75	97.04	94.10	91.64	91.03	92.54	93.71	95.23	96.66	97.59	97.60	97.56	97.06	Diurnal Maximum	



WCAS - Violet Grove
Summary of Hourly Averages

Global Solar Radiation (GSR) - W/m2
October 2014

Maximum Value: 574.92 W/m2 on Oct 6 13:00																								Hours in Service: 744																									
Maximum Daily Average: 140.88 W/m2 on Oct 2																								Hours of Data: 744																									
Minimum Value: 0.0 W/m2 on Oct 1 01:00																								Hours of Missing Data: 0																									
Maximum Diurnal Average: 330.48 W/m2 at hour 13																								Hours of Calibration: 0																									
Monthly Average: 83.215 W/m2																								Percent Operational Time: 100.0																									
Minimum Daily Average: 21.91 W/m2 on Oct 31																																																	
Minimum Diurnal Average: 0.00 W/m2 at hour 2																																																	
Percentiles: P₁ = 0.0 P₁₀ = 0.0 Q₁ = 0.0 Median = 0.2 Q₃ = 113.9 P₉₀ = 328.4 P₉₉ = 517.7																																																	
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	159.4	311.1	445.1	538.6	404.3	171.1	208.0	140.2	172.2	52.6	11.2	0.0	0.0	0.9	0.5	0.0	110.31	538.56																							
2-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.3	106.6	240.6	399.5	471.1	542.5	486.4	425.2	336.8	213.2	123.4	11.4	0.0	0.0	0.0	0.0	0.0	140.88	542.53																							
3-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	75.1	160.5	165.7	266.4	106.8	242.2	197.5	138.3	105.6	54.9	9.0	0.0	0.0	0.1	0.0	0.0	64.24	266.37																							
4-Oct	0.0	0.0	0.1	0.4	0.8	0.1	0.0	6.0	59.0	163.8	319.3	281.5	405.1	522.6	515.9	423.7	203.2	56.3	8.0	0.0	0.0	0.0	0.0	0.0	123.57	522.60																							
5-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.6	91.5	174.9	397.6	488.6	526.1	357.5	491.1	305.2	119.4	40.5	1.4	0.0	0.0	0.0	0.1	1.2	125.35	526.09																							
6-Oct	0.0	0.0	0.0	0.0	0.0	0.3	0.0	7.7	63.5	175.2	397.7	479.9	574.9	440.5	386.6	237.4	147.8	65.4	1.9	0.0	0.0	0.0	0.0	0.0	124.12	574.92																							
7-Oct	0.0	0.0	0.3	0.0	0.0	0.0	0.0	16.9	42.4	103.9	139.4	204.3	194.8	188.3	132.6	107.1	66.5	26.7	0.2	0.0	0.5	0.0	0.0	0.0	51.01	204.32																							
8-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	18.1	53.4	121.8	261.5	381.4	441.0	339.0	312.2	184.0	175.5	41.4	0.0	0.0	0.0	0.0	0.0	0.0	97.05	441.00																							
9-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	76.9	138.4	332.4	319.8	405.4	381.1	447.3	351.4	214.5	73.0	0.0	0.0	0.0	0.0	0.0	0.0	114.72	447.33																							
10-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.5	100.3	106.9	391.7	477.9	520.1	514.3	452.6	345.9	208.7	34.4	0.0	0.0	0.0	0.0	0.0	0.0	131.84	520.05																							
11-Oct	0.0	0.0	0.0	0.0	0.0	0.1	0.0	6.3	97.8	129.6	320.0	471.9	515.6	447.0	144.0	155.4	96.2	35.8	0.3	0.0	0.0	0.0	0.0	0.0	100.83	515.61																							
12-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	63.2	118.8	254.5	464.6	506.7	502.4	408.9	356.3	208.6	21.2	0.0	0.0	0.0	0.0	0.0	0.0	121.24	506.73																							
13-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	114.4	161.8	362.0	401.0	410.7	253.6	237.8	94.2	30.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	86.81	410.68																							
14-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	47.5	90.7	230.5	320.5	492.8	474.4	404.3	222.6	115.4	29.5	0.0	0.0	0.0	0.0	0.0	0.0	101.28	492.76																							
15-Oct	0.0	0.0	0.0	0.0	0.0	0.4	0.0	2.9	19.8	45.6	76.0	113.4	86.6	67.3	107.0	82.9	40.2	14.1	0.4	0.8	1.3	1.3	1.3	1.3	27.60	113.37																							
16-Oct	1.3	0.0	0.8	0.6	0.4	0.1	0.0	7.1	66.3	151.6	201.2	229.7	139.3	157.8	205.6	240.6	172.8	37.2	0.0	0.0	0.0	0.0	0.0	0.0	67.18	240.59																							
17-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	86.1	152.3	224.7	314.5	421.4	369.6	167.9	73.2	32.2	9.0	0.2	0.0	0.0	0.0	0.0	0.0	77.39	421.36																							
18-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	74.0	194.5	341.7	439.4	531.8	406.3	394.4	178.4	192.9	39.8	0.0	0.0	0.0	0.0	0.0	0.0	116.42	531.76																							
19-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	14.1	23.2	55.3	95.2	98.9	93.2	76.9	59.8	40.5	29.8	0.0	0.0	0.0	0.0	0.0	0.0	24.66	98.92																							
20-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	28.9	91.6	141.2	137.0	192.7	379.3	402.6	285.2	79.8	16.4	0.0	0.0	0.0	0.1	0.0	0.0	73.18	402.56																							
21-Oct	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	33.8	144.3	191.0	172.8	158.5	199.2	280.2	264.4	173.2	28.2	0.0	0.0	0.0	0.0	0.0	0.0	68.58	280.16																							
22-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	65.7	170.3	256.2	91.0	89.2	217.9	377.8	204.3	110.4	26.3	0.0	0.0	0.0	0.0	0.0	0.0	67.15	377.82																							
23-Oct	0.0	0.0	0.2	0.0	0.0	0.0	0.0	1.3	37.2	50.7	209.4	398.1	436.8	428.0	252.3	106.6	112.6	22.6	0.0	0.0	0.0	0.0	0.0	0.0	85.65	436.75																							
24-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	38.7	175.9	284.1	350.2	453.3	324.1	400.4	251.5	124.2	10.9	0.0	0.0	0.0	0.0	0.0	0.0	100.56	453.28																							
25-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	35.5	104.9	99.8	96.1	102.4	361.9	360.9	196.7	66.0	8.1	0.0	0.0	0.0	0.0	0.0	0.0	59.68	361.86																							
26-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.5	40.9	67.7	68.7	80.3	78.1	93.0	58.2	30.2	3.1	0.0	0.0	0.0	0.0	0.0	0.0	22.74	92.97																							
27-Oct	0.0	0.0	0.5	0.1	0.1	0.1	0.0	0.0	38.9	161.9	280.3	371.5	392.5	212.8	215.2	190.6	124.9	18.5	0.0	0.0	0.0	0.0	0.0	0.0	83.66	392.46																							
28-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	47.2	138.6	146.7	341.7	295.9	64.8	143.5	226.8	106.7	8.1	0.0	0.0	0.0	0.1	0.6	1.3	63.45	341.74																							
29-Oct	1.3	0.0	0.1	0.0	0.1	0.4	0.1	0.6	14.0	36.1	84.6	105.0	178.2	228.3	302.8	223.9	87.7	2.4	0.0	0.0	0.0	0.0	0.0	0.0	52.74	302.83																							
30-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	36.0	77.8	257.6	408.6	376.2	317.5	219.0	68.8	3.1	0.0	0.0	0.0	0.0	0.0	0.0	73.84	408.61																							
31-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	18.6	24.4	26.1	131.9	110.1	74.9	87.7	31.7	3.4	2.2	2.4	2.4	2.4	2.4	2.4	21.91	131.88																							
																								0.08	0.00	0.07	0.04	0.05	0.06	0.00	6.86	57.66	126.93	231.57	295.99	330.48	303.07	288.28	204.79	118.43	30.55	1.49	0.10	0.13	0.16	0.16	0.20	Diurnal Average	
																								1.27	0.00	0.79	0.61	0.79	0.42	0.13	32.34	159.37	311.14	445.06	538.56	574.92	522.60	515.89	423.72	214.52	123.38	11.37	2.40	2.40	2.40	2.40	2.40	Diurnal Maximum	



WCAS - Violet Grove
Summary of Hourly Averages

Precipitation (PR) - mm
October 2014

Maximum Value: 0.00 mm on Oct 1 01:00 Maximum Daily Total: 0.00 mm on Oct 1 Minimum Value: 0.0 mm on Oct 1 01:00 Minimum Daily Total: 0.00 mm on Oct 1 Maximum Diurnal Total: 0.00 mm at hour 1 Minimum Diurnal Total: 0.00 mm at hour 1 Monthly Total: 0.000 mm Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0																								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 Total	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
4-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
6-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
7-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
8-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
11-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
14-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
17-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
18-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
19-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
20-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
23-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
24-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
26-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
28-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
29-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
31-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
0.00																								Diurnal Average			
0.00																								Diurnal Maximum			



WCAS - Violet Grove
Summary of Hourly Averages

Photosynthetically Active Radiation (PAR) - W/m2
October 2014

Maximum Value: 216.14 W/m2 on Oct 6 13:00 Maximum Daily Average: 54.49 W/m2 on Oct 10																								Hours in Service:	744	
Minimum Value: 0.0 W/m2 on Oct 1 01:00 Minimum Daily Average: 7.57 W/m2 on Oct 31																								Hours of Data:	744	
Maximum Diurnal Average: 127.17 W/m2 at hour 13 Minimum Diurnal Average: 0.32 W/m2 at hour 1																								Hours of Missing Data:	0	
Monthly Average: 33.039 W/m2 Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 2.1 O ₃ = 48.8 P ₉₀ = 128.3 P ₉₉ = 199.0																								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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	57.9	112.1	157.9	193.2	144.1	62.9	76.8	51.1	63.1	18.1	2.8	0.0	0.0	0.0	0.0	0.0	39.63	193.20
2-Oct	1.1	1.6	1.8	1.6	1.7	1.8	1.9	9.4	41.8	96.9	147.3	174.0	198.4	179.7	158.9	129.8	86.0	53.1	9.6	2.5	2.2	1.9	1.7	1.7	54.44	198.44
3-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5	25.3	61.1	59.7	97.8	39.6	89.7	72.2	50.4	39.4	20.0	2.7	0.0	0.0	0.0	0.0	0.0	23.44	97.82
4-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	21.4	76.2	117.4	104.6	151.2	193.2	191.9	157.7	76.8	22.0	3.3	0.0	0.0	0.0	0.0	0.0	46.55	193.18
5-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	48.9	103.3	148.6	184.4	199.7	133.6	182.7	116.7	45.9	16.2	1.2	0.0	0.0	0.0	0.0	0.0	49.49	199.67
6-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	30.2	87.4	151.3	181.5	216.1	167.2	148.8	94.3	62.7	28.7	2.4	0.0	0.0	0.0	0.0	0.0	48.85	216.14
7-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	15.0	39.2	52.9	78.1	75.5	73.8	53.3	42.5	26.0	10.1	0.0	0.0	0.0	0.0	0.0	0.0	19.65	78.11
8-Oct	2.2	2.7	2.9	2.9	2.9	2.7	2.7	9.2	49.1	54.2	106.2	156.0	175.4	135.4	125.6	76.2	77.0	26.2	5.2	3.2	3.1	2.9	2.8	2.7	42.89	175.44
9-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	36.6	87.2	127.4	124.4	156.2	147.6	175.8	141.2	91.4	36.5	2.5	0.0	0.0	0.0	0.0	0.0	47.11	175.79
10-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	45.9	100.8	148.2	182.3	199.0	197.4	177.9	140.8	90.1	19.7	1.4	0.0	0.0	0.0	0.0	0.0	54.49	199.01
11-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	40.1	60.0	125.6	184.6	202.2	173.9	57.6	60.3	37.6	14.0	0.8	0.0	0.0	0.0	0.0	0.0	39.93	202.15
12-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	24.3	45.2	100.1	184.1	201.2	199.0	165.1	144.1	85.7	11.6	0.7	0.0	0.0	0.0	0.0	0.0	48.44	201.15
13-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	46.7	100.2	145.2	161.7	165.2	102.0	95.5	38.1	12.5	4.4	0.0	0.0	0.0	0.0	0.0	0.0	36.41	165.16
14-Oct	2.4	3.0	3.1	3.1	3.1	3.0	3.0	4.5	22.0	48.8	98.0	135.4	205.5	196.8	169.0	97.3	54.2	17.0	3.6	3.4	3.2	3.1	3.0	2.9	45.36	205.46
15-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	17.8	30.5	46.2	36.1	28.6	43.6	32.8	15.3	4.2	0.0	0.0	0.0	0.0	0.0	0.0	10.90	46.18
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	26.2	58.1	72.7	83.0	50.1	56.3	73.4	88.8	69.9	17.5	0.0	0.0	0.0	0.0	0.0	0.0	24.87	88.78
17-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	32.3	56.8	82.7	114.5	153.7	133.8	60.3	26.2	11.6	2.6	0.0	0.0	0.0	0.0	0.0	0.0	28.12	153.66
18-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	29.3	73.6	124.6	158.5	189.5	151.1	147.6	69.8	75.6	19.1	0.1	0.0	0.0	0.0	0.0	0.0	43.30	189.51
19-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	7.6	20.6	34.7	36.1	34.1	28.4	21.8	14.5	9.2	0.0	0.0	0.0	0.0	0.0	0.0	8.79	36.14
20-Oct	2.3	2.7	2.9	2.7	2.8	2.8	2.7	3.7	13.0	38.3	55.4	54.0	74.8	149.6	160.3	120.4	42.6	13.0	3.8	3.4	3.4	3.4	3.4	3.3	31.85	160.31
21-Oct	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	56.8	75.5	66.6	60.7	75.4	108.4	105.6	73.9	15.6	0.0	0.0	0.0	0.0	0.0	0.0	27.15	108.37
22-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2	63.5	95.6	35.1	34.7	84.4	149.3	82.5	44.7	10.7	0.0	0.0	0.0	0.0	0.0	0.0	25.95	149.31
23-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.7	17.9	79.0	153.3	170.4	168.0	100.9	44.8	50.8	11.9	0.0	0.0	0.0	0.0	0.0	0.0	33.69	170.39
24-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.4	71.2	110.2	137.5	178.4	128.9	157.4	102.7	54.8	6.6	0.0	0.0	0.0	0.0	0.0	0.0	40.18	178.44
25-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.8	40.5	38.6	37.9	39.7	144.2	146.0	83.9	25.3	2.6	0.0	0.0	0.0	0.0	0.0	0.0	23.77	145.98
26-Oct	1.7	2.3	2.4	2.4	2.3	2.2	2.2	2.7	11.5	18.5	30.1	30.5	34.9	34.5	39.2	25.6	14.0	3.3	1.7	1.7	1.7	1.7	1.7	1.7	11.27	39.22
27-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1	65.8	111.7	146.6	154.0	83.4	88.1	78.0	52.9	7.9	0.0	0.0	0.0	0.0	0.0	0.0	33.48	153.95
28-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3	48.5	57.9	136.3	120.0	25.5	56.5	94.3	48.6	4.8	0.0	0.0	0.0	0.0	0.0	0.0	25.23	136.29
29-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	11.6	30.5	39.5	70.8	91.3	125.3	97.3	40.6	3.1	0.0	0.0	0.0	0.0	0.0	0.0	21.38	125.26
30-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4	16.4	36.6	99.2	160.4	150.6	129.0	92.2	32.3	1.8	0.0	0.0	0.0	0.0	0.0	0.0	30.04	160.35
31-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	9.0	8.3	48.6	39.8	27.3	31.7	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.57	48.64
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Violet Grove
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2014

Maximum Value: 9.60 kph on Oct 6 09:00		Maximum Daily Average: 4.01 kph on Oct 2		Hours in Service: 744																							
Minimum Value: 0.4 kph on Oct 9 19:00		Minimum Daily Average: 1.63 kph on Oct 7		Hours of Data: 744																							
Maximum Diurnal Average: 3.88 kph at hour 15		Minimum Diurnal Average: 1.94 kph at hour 20		Hours of Missing Data: 0																							
Monthly Average: 2.662 kph		Percentiles: P ₁ = 0.8 P ₁₀ = 1.4 Q ₁ = 1.7 Median = 2.4 Q ₃ = 3.2 P ₉₀ = 4.5 P ₉₉ = 6.5		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1.4	1.5	1.0	1.2	1.0	1.2	1.1	2.6	3.0	2.5	3.0	3.6	5.2	5.0	8.8	9.2	2.7	7.7	5.9	3.0	2.1	6.1	5.9	6.3	3.79	9.17	
2-Oct	4.5	3.7	3.8	4.2	4.1	4.9	4.7	5.1	4.7	5.0	5.0	5.9	5.5	5.2	5.0	4.9	4.9	4.3	3.3	1.6	2.0	1.9	0.6	1.7	4.01	5.88	
3-Oct	1.8	2.2	2.7	2.5	3.0	2.4	2.4	2.9	2.6	3.6	2.8	3.3	2.3	3.7	4.6	3.0	2.0	2.4	2.8	2.1	3.0	3.7	2.2	2.3	2.77	4.62	
4-Oct	2.8	1.8	0.7	2.0	3.3	1.3	1.3	1.9	2.1	3.8	2.4	4.3	3.0	5.0	5.0	5.5	4.7	3.7	2.2	1.5	2.4	1.9	1.1	1.0	2.69	5.45	
5-Oct	1.0	1.7	1.3	1.3	1.5	1.4	1.9	1.3	1.2	1.9	2.2	2.7	3.8	3.0	3.5	3.0	2.8	1.9	1.4	1.1	1.6	0.7	1.2	2.0	1.89	3.80	
6-Oct	4.0	3.5	2.0	2.2	2.4	2.2	3.4	2.0	9.6	6.3	6.8	6.3	6.5	7.1	5.4	5.0	3.4	3.9	1.4	2.0	2.0	0.7	1.3	1.3	3.79	9.60	
7-Oct	1.0	1.0	0.9	1.7	1.2	2.0	2.7	2.2	3.2	1.3	2.0	1.9	1.8	1.5	1.4	2.3	1.2	1.0	1.3	0.9	1.4	1.5	1.4	2.4	1.63	3.20	
8-Oct	2.1	3.8	3.1	2.1	1.7	1.3	1.5	2.1	2.3	2.8	2.2	2.1	2.2	3.8	3.0	2.4	2.1	1.9	1.2	0.9	1.3	0.8	1.9	3.0	2.16	3.81	
9-Oct	1.2	1.4	2.5	2.5	1.5	5.8	2.5	1.9	2.2	2.8	2.5	1.8	3.2	2.2	2.5	2.9	2.0	1.2	0.4	1.7	2.7	2.4	1.8	2.7	2.26	5.80	
10-Oct	3.4	4.4	3.0	3.0	3.0	2.4	2.3	3.5	3.0	3.3	3.0	2.8	3.0	2.9	3.2	2.9	2.2	1.4	1.4	2.3	2.1	2.0	1.6	2.0	2.67	4.35	
11-Oct	1.6	7.8	6.6	5.5	3.7	3.2	4.1	3.5	3.0	2.9	3.4	6.7	5.2	5.8	6.1	6.8	5.4	3.8	1.6	1.9	1.6	1.8	1.3	1.5	3.95	7.84	
12-Oct	1.8	1.8	2.3	2.3	2.0	2.1	1.8	2.2	2.8	2.4	2.9	4.3	5.6	5.1	5.1	5.2	3.6	3.1	1.5	1.7	1.0	1.0	1.1	1.5	2.68	5.60	
13-Oct	1.7	1.6	1.4	2.4	2.7	2.1	2.1	4.4	3.1	2.8	3.5	2.3	3.0	2.9	3.0	2.6	2.0	1.9	1.6	1.5	1.2	3.6	3.4	2.4	2.45	4.42	
14-Oct	2.1	1.7	1.5	2.3	2.4	2.9	2.2	2.4	2.6	2.4	1.7	1.9	3.1	4.5	5.5	5.4	5.2	3.4	2.9	2.1	1.9	2.2	1.6	2.7	2.77	5.51	
15-Oct	2.1	3.7	2.2	2.3	1.0	0.9	1.8	1.8	1.9	2.2	2.5	2.1	1.7	2.0	4.2	3.6	2.5	2.4	1.9	1.7	3.0	2.9	2.4	2.0	2.29	4.25	
16-Oct	1.5	2.0	1.6	1.4	1.7	1.9	1.8	1.1	1.7	2.6	3.4	3.1	2.7	3.0	3.2	2.5	2.0	2.0	1.8	2.0	3.0	1.5	3.8	2.3	2.23	3.77	
17-Oct	2.5	2.5	3.8	2.8	4.4	4.3	3.2	4.3	4.3	2.7	2.4	3.1	3.4	2.9	2.8	2.2	2.5	1.3	1.1	1.5	2.5	1.5	1.4	1.6	2.71	4.44	
18-Oct	1.1	2.5	2.2	2.5	3.0	2.6	2.7	2.9	2.2	2.0	2.5	2.8	3.6	3.2	3.2	4.2	2.8	2.2	1.1	1.5	1.7	1.6	1.9	1.5	2.39	4.16	
19-Oct	1.6	1.9	1.1	2.9	2.9	4.3	2.9	3.7	2.9	2.5	3.9	3.8	4.0	3.6	2.7	1.6	2.2	4.8	3.6	4.3	2.3	2.1	1.6	2.1	2.88	4.75	
20-Oct	1.3	1.2	1.5	1.9	1.6	3.8	3.2	2.4	1.5	3.8	2.0	2.3	2.1	2.4	2.6	2.1	1.7	1.4	1.7	1.7	2.3	1.3	2.5	3.9	2.18	3.93	
21-Oct	4.2	2.2	1.5	2.5	1.7	2.0	2.2	1.0	2.8	3.2	1.6	2.1	1.7	1.6	1.8	2.0	2.4	1.3	1.0	1.6	2.2	1.6	2.3	3.0	2.06	4.15	
22-Oct	1.7	2.7	2.2	2.5	2.1	1.6	2.0	2.6	3.2	3.4	4.2	2.2	2.2	3.6	4.5	4.5	5.7	3.4	2.7	2.4	2.0	1.5	2.2	2.5	2.82	5.72	
23-Oct	1.5	2.1	1.6	2.4	2.4	1.6	2.2	4.5	2.2	2.8	4.1	4.6	4.7	4.2	5.0	3.1	2.6	2.6	1.6	2.1	1.6	2.7	1.6	2.6	2.77	5.04	
24-Oct	2.3	3.2	2.7	3.6	2.0	1.5	2.1	1.6	2.3	2.4	3.2	4.0	4.7	5.0	5.3	5.4	4.9	2.9	1.4	2.0	1.0	0.7	1.5	1.4	2.79	5.41	
25-Oct	1.6	1.7	1.9	3.7	2.7	2.5	1.1	1.3	1.4	1.7	2.4	4.7	4.2	6.3	5.8	5.7	5.3	4.4	3.4	3.0	3.0	2.3	1.7	1.3	3.04	6.28	
26-Oct	2.3	2.9	2.5	1.4	2.0	1.7	1.6	1.4	1.7	2.5	2.5	2.1	2.8	2.7	3.3	3.2	3.1	3.4	5.7	4.2	3.3	3.9	3.3	3.7	2.80	5.67	
27-Oct	3.3	2.5	2.3	2.9	4.1	3.2	2.6	3.0	2.3	2.1	2.7	3.3	3.7	3.3	3.0	4.2	2.4	3.5	0.9	0.6	1.6	1.2	1.9	1.6	2.59	4.15	
28-Oct	1.5	2.9	1.6	2.4	2.0	1.0	1.8	2.1	2.6	3.9	2.2	3.2	2.5	1.7	2.7	2.5	2.6	1.2	2.8	1.7	1.9	1.8	1.6	1.4	2.15	3.91	
29-Oct	1.5	2.0	1.9	1.5	1.5	3.5	3.8	2.1	2.2	1.9	1.6	2.2	3.8	2.1	2.7	2.2	1.9	1.6	1.2	1.3	1.7	1.8	1.6	1.6	2.04	3.84	
30-Oct	1.7	1.7	2.4	2.6	1.2	1.4	1.6	1.6	2.5	2.6	3.2	3.7	4.4	4.9	3.8	4.8	4.7	4.2	3.5	2.4	3.3	4.0	4.7	3.9	3.12	4.90	
31-Oct	3.9	4.4	1.8	2.5	1.6	1.3	1.6	1.7	1.6	1.6	1.7	3.0	2.0	2.1	1.7	1.9	2.1	2.4	1.9	1.8	2.3	1.9	1.9	3.5	2.17	4.42	
		2.13	2.58	2.19	2.48	2.31	2.39	2.33	2.49	2.72	2.83	2.88	3.30	3.48	3.62	3.88	3.76	3.08	2.79	2.12	1.94	2.09	2.09	2.07	2.34	Diurnal Average	
		4.50	7.84	6.61	5.52	4.44	5.80	4.67	5.08	9.60	6.29	6.81	6.73	6.53	7.13	8.75	9.17	5.72	7.67	5.92	4.29	3.29	6.12	5.86	6.30	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																											



WCAS - Violet Grove
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2014

Maximum Value: 91.48 deg on Oct 7 14:00 Maximum Daily Average: 35.93 deg on Oct 29																							Hours in Service: 744 Hours of Data: 744			
Minimum Value: 4.1 deg on Oct 24 22:00 Minimum Daily Average: 10.56 deg on Oct 25 Maximum Diurnal Average: 25.38 deg at hour 13 Minimum Diurnal Average: 13.81 deg at hour 17 Monthly Average: 18.816 deg Percentiles: P₁ = 6.0 P₁₀ = 8.6 Q₁ = 10.4 Median = 13.9 Q₃ = 20.2 P₉₀ = 35.3 P₉₉ = 78.3																							Hours of Missing Data: 0 Hours of Calibration: 0 Percent Operational Time: 100.0			
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	10.0	8.0	7.3	7.7	4.9	6.2	10.4	25.4	19.0	14.3	14.3	19.9	45.6	21.9	21.9	23.1	17.8	14.3	17.0	15.0	11.4	14.1	10.1	10.0	15.41	45.57
2-Oct	8.8	8.8	8.7	8.9	9.8	10.6	9.1	9.6	9.7	11.4	12.1	13.9	12.0	13.7	18.2	16.2	13.9	18.5	19.8	66.6	28.5	34.1	8.4	11.8	15.97	66.62
3-Oct	9.9	10.4	11.5	12.0	12.4	12.8	11.1	20.8	17.4	17.8	20.5	18.6	16.2	19.3	19.4	15.2	13.6	13.8	14.4	12.2	17.8	18.1	8.9	20.7	15.20	20.84
4-Oct	29.6	54.9	38.9	36.5	10.7	10.7	21.2	68.4	10.3	32.5	13.8	16.4	16.7	14.0	14.3	17.8	12.3	10.3	13.8	12.4	19.2	10.4	13.1	7.0	21.05	68.40
5-Oct	10.7	9.7	6.8	6.4	6.9	6.9	7.7	9.0	5.9	13.2	19.6	30.4	47.3	14.6	22.1	20.1	15.4	18.6	28.5	26.9	13.5	6.1	7.6	12.9	15.29	47.28
6-Oct	35.8	25.0	31.5	10.6	9.3	14.4	38.4	15.4	15.2	13.2	13.9	17.4	17.2	20.0	21.6	20.7	18.6	16.4	14.0	63.7	32.7	20.3	15.4	8.3	21.21	63.73
7-Oct	7.4	9.7	7.6	11.6	13.8	10.7	21.8	8.0	15.2	16.8	16.1	41.1	52.1	91.5	66.9	25.0	9.6	8.1	6.3	8.2	20.0	12.9	19.7	17.1	21.55	91.48
8-Oct	49.3	13.3	10.4	8.3	8.9	9.5	10.1	13.7	24.2	34.5	35.3	56.7	66.5	34.1	19.6	21.7	20.6	18.9	23.2	14.9	20.0	12.8	13.4	15.0	23.12	66.53
9-Oct	4.8	10.0	51.2	50.2	14.1	66.2	50.0	84.2	15.4	16.8	27.8	61.9	69.8	23.5	19.5	16.4	17.3	13.9	7.5	6.7	8.7	9.1	9.6	57.6	29.68	84.17
10-Oct	27.2	14.6	11.9	14.2	18.1	20.2	29.7	40.2	53.9	15.4	18.3	22.1	23.4	17.5	18.0	18.5	17.3	15.4	10.3	17.7	15.3	6.8	13.7	11.7	19.64	53.91
11-Oct	20.2	39.3	14.6	12.8	12.9	35.5	29.7	16.8	10.4	11.8	17.9	19.2	17.3	15.6	19.9	12.2	11.1	9.4	8.8	8.8	8.8	7.6	7.8	8.6	15.70	39.28
12-Oct	10.7	8.4	7.4	9.4	8.7	8.5	9.3	8.2	7.8	8.5	11.8	12.9	12.3	18.1	11.7	16.0	16.3	27.4	8.1	9.9	5.6	16.5	13.4	12.0	11.63	27.38
13-Oct	11.4	12.4	12.3	10.7	32.0	24.7	11.6	50.0	12.0	12.4	16.3	19.7	13.3	14.8	11.3	9.9	8.9	14.6	10.5	8.6	12.7	12.8	11.0	11.7	15.22	49.96
14-Oct	17.5	11.0	14.6	17.2	58.3	60.7	52.9	26.5	17.0	27.3	11.9	15.4	26.8	29.3	25.4	21.1	21.0	16.1	82.1	67.7	24.9	14.3	10.2	26.2	28.97	82.10
15-Oct	18.9	19.5	28.9	15.5	14.6	5.6	18.5	8.4	9.4	8.3	20.3	16.3	13.7	18.2	11.4	12.6	12.0	11.8	11.7	16.0	14.8	13.2	16.3	13.3	14.55	28.86
16-Oct	8.9	23.2	9.4	9.9	7.8	12.2	15.1	19.0	10.0	10.7	11.2	13.8	13.6	23.4	21.1	26.9	13.5	13.6	13.8	13.1	13.9	7.7	45.2	7.8	15.19	45.19
17-Oct	7.1	11.1	17.6	11.2	14.2	79.6	13.8	10.7	11.7	11.6	11.1	10.2	12.0	11.0	10.2	9.4	8.1	6.9	9.9	11.6	12.9	13.5	16.8	11.8	14.33	79.58
18-Oct	9.2	8.4	10.4	11.8	20.1	8.0	7.6	9.6	9.0	10.1	10.7	13.1	18.8	25.9	21.1	26.1	13.3	9.0	14.1	19.4	16.1	11.4	8.8	14.9	13.62	26.06
19-Oct	8.3	17.2	17.4	17.0	31.9	16.9	9.9	33.6	23.3	9.5	74.3	11.5	11.8	12.1	20.0	13.1	11.1	30.9	77.1	22.1	11.7	10.1	9.1	8.0	21.16	77.12
20-Oct	16.8	15.1	25.9	9.0	9.0	22.8	65.3	46.8	21.1	55.6	53.6	23.3	61.0	52.8	25.8	18.6	14.7	21.0	20.8	42.9	37.4	18.1	19.2	18.8	29.81	65.26
21-Oct	17.8	78.9	31.9	24.3	48.9	35.2	40.6	13.9	24.3	11.0	21.5	58.5	34.9	29.8	24.4	20.6	16.7	13.9	13.7	6.4	10.4	16.4	11.2	10.8	25.67	78.92
22-Oct	28.5	27.2	11.5	9.5	9.0	6.1	6.3	9.6	8.8	11.0	19.5	12.1	20.5	18.6	14.8	15.7	14.8	13.7	12.9	11.5	15.6	28.5	24.5	63.1	17.24	63.12
23-Oct	26.8	30.0	10.5	69.9	45.8	38.1	44.0	60.1	12.2	16.1	11.3	14.9	15.5	19.3	21.3	12.7	11.6	7.2	12.3	11.3	10.0	26.3	14.3	18.2	23.32	69.88
24-Oct	16.9	30.1	35.5	16.4	14.0	13.3	11.9	9.3	9.0	9.5	15.7	16.4	15.8	14.5	26.1	15.8	14.1	10.5	7.6	22.8	6.0	4.1	6.2	11.2	14.70	35.47
25-Oct	9.3	7.6	15.1	12.7	9.0	19.8	12.1	7.7	8.1	8.7	9.3	10.6	11.0	11.3	11.7	9.4	9.0	7.9	9.4	9.5	9.7	11.4	12.8	10.5	10.56	19.76
26-Oct	14.5	13.7	14.1	21.5	13.4	16.3	21.0	16.6	14.0	13.5	12.6	7.9	8.6	8.6	9.4	9.9	9.9	8.4	8.9	7.6	8.5	8.3	8.2	9.3	11.87	21.52
27-Oct	9.6	8.6	8.6	9.6	11.3	8.9	8.8	9.2	8.7	13.2	12.8	16.2	17.8	17.1	15.4	24.8	16.2	43.9	29.6	11.0	11.0	8.5	8.8	9.7	14.14	43.87
28-Oct	9.0	9.8	7.2	13.9	8.9	8.6	15.6	8.9	12.2	16.6	14.7	12.2	18.0	21.1	13.4	14.1	13.2	28.2	45.3	28.3	55.9	80.9	28.2	16.8	20.87	80.91
29-Oct	25.1	86.8	37.2	16.8	14.8	65.4	84.8	32.4	66.0	58.9	22.8	51.8	52.7	46.0	75.9	22.9	12.1	15.7	12.1	15.7	11.1	11.3	12.0	11.9	35.93	86.81
30-Oct	15.6	22.0	15.4	11.8	15.1	14.2	12.0	10.2	10.5	11.8	12.5	11.8	14.9	11.6	10.3	11.5	11.1	10.9	11.2	8.9	10.1	11.7	10.2	11.7	12.38	21.95
31-Oct	12.3	53.3	48.8	38.5	23.8	12.5	11.6	10.9	8.0	7.7	11.6	12.0	9.8	22.4	30.7	13.6	12.9	10.3	8.4	9.3	19.9	16.5	23.6	11.7	18.34	53.25
16.39 22.51 18.72 17.28 17.18 21.97 22.96 23.00 16.11 17.09 19.20 21.88 25.38 22.95 21.71 17.15 13.81 15.47 18.82 19.58 16.58 15.93 14.12 15.82																							Diurnal Average			
49.31 86.81 51.24 69.88 58.25 79.58 84.83 84.17 65.99 58.93 74.30 61.93 69.79 91.48 75.90 26.87 21.01 43.87 82.10 67.71 55.90 80.91 45.19 63.12																							Diurnal Maximum			
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																										

**CARROT CREEK
STATION #903**

CONTINUOUS AIR MONITORING DATA

OCTOBER 2014

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Carrot Creek Station 903													October 2014	
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Total	Min	Max	P10	Q1	Percentile Median	Q3	P90	24 Hour Average Max (ppm)	
SO ₂ (ppb)	36	708	100.0	0.1	-	0.0	3.7	0.0	0.0	0.0	0.1	0.2	0.001	
O ₃ (ppb)	36	708	100.0	17.2	-	0.0	45.0	1.3	6.4	17.3	26.3	33.9	0.033	
NO (ppb)	36	708	100.0	1.6	-	0.0	29.7	0.0	0.1	0.3	1.9	5.1	-	
NO ₂ (ppb)	36	708	100.0	5.2	-	0.4	24.2	1.1	2.4	4.5	6.7	10.0	0.011	
NO _x (ppb)	36	708	100.0	6.8	-	0.5	41.8	1.1	2.7	5.4	9.1	13.8	-	
Wind Speed (kph)	0	744	100.0	6.9	-	0.1	29.9	1.5	3.0	5.5	9.5	14.4	-	
Temperature (°C)	0	744	100.0	5.0	-	-7.4	23.3	-0.9	0.6	4.3	8.6	13.4	-	
Relative Humidity (%)	0	744	100.0	74.1	-	21.4	99.4	42.5	59.8	78.8	92.0	96.6	-	
Photosynthetically Active Radiation (W/m ²)	0	744	100.0	38.6	-	0.1	261.5	0.2	0.5	0.7	57.6	151.6	-	
Precipitation (mm)	0	744	100.0	-	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-	
Std Dev Wind Direction (deg)	0	744	100.0	30.4	-	4.5	101.7	11.3	14.8	21.5	39.7	68.9	-	
Std Dev Wind Speed (kph)	0	744	100.0	2.5	-	0.6	8.0	1.2	1.6	2.1	2.9	4.2	-	



WCAS - Carrot Creek
Summary of Hourly Averages

Ozone (O₃) - ppb
October 2014

Maximum Value: 44.96 ppb on Oct 20 16:00 Maximum Daily Average: 32.99 ppb on Oct 11																						Hours in Service: 744 Hours of Data: 708																											
Minimum Value: 0.0 ppb on Oct 3 06:00 Minimum Daily Average: 2.01 ppb on Oct 17 Maximum Diurnal Average: 27.29 ppb at hour 16 Minimum Diurnal Average: 10.43 ppb at hour 8 Monthly Average: 17.184 ppb Percentiles: P ₁ = 0.0 P ₁₀ = 1.3 Q ₁ = 6.4 Median = 17.3 Q ₃ = 26.3 P ₉₀ = 33.9 P ₉₉ = 41.0																						Hours of Missing Data: 36 Hours of Calibration: 36 Percent Operational Time: 100.0																											
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	11.6	12.9	12.1	Z	11.5	10.5	8.9	7.8	12.9	12.4	15.8	20.6	25.9	34.0	34.9	35.5	33.7	31.6	28.2	22.3	14.0	14.9	17.4	18.4	19.47	35.50																							
2-Oct	20.5	21.2	20.8	Z	24.7	23.9	23.6	23.2	22.6	22.8	23.4	23.5	24.2	24.8	25.6	25.7	25.9	25.1	22.5	10.1	1.6	4.6	2.6	3.6	19.41	25.85																							
3-Oct	4.6	3.6	1.3	Z	0.0	0.0	0.0	1.0	3.9	9.0	9.3	9.2	12.3	13.5	14.3	12.7	9.9	7.9	2.0	0.3	0.4	1.4	0.6	0.5	5.12	14.31																							
4-Oct	6.4	9.7	10.3	Z	12.3	10.7	9.2	7.9	13.6	17.3	21.9	24.5	30.3	29.3	33.1	34.9	35.7	35.8	34.1	34.6	34.3	32.7	30.5	23.1	23.14	35.78																							
5-Oct	18.7	17.5	17.8	Z	14.6	14.2	12.7	12.6	14.0	20.2	25.6	32.6	35.5	35.5	37.2	36.7	31.7	31.4	26.8	10.1	11.2	18.2	28.3	25.8	23.00	37.24																							
6-Oct	15.4	8.5	11.6	Z	11.9	11.7	11.8	20.5	26.5	30.0	33.0	34.7	36.1	36.8	38.3	38.9	39.1	37.4	35.3	33.7	32.9	18.6	9.2	18.2	25.66	39.11																							
7-Oct	19.1	21.6	21.4	Z	19.9	20.9	17.4	17.3	13.2	15.7	18.8	23.7	29.2	33.3	35.9	36.1	33.2	28.8	26.3	21.9	19.5	18.5	20.2	18.2	23.04	36.07																							
8-Oct	20.2	23.7	21.5	Z	16.4	18.2	13.4	13.3	16.0	17.0	19.3	18.5	17.9	16.8	17.0	23.3	25.1	21.9	12.1	2.9	5.3	3.1	2.3	0.7	15.04	25.07																							
9-Oct	0.1	0.1	0.1	Z	0.1	0.0	0.0	0.7	2.5	4.6	6.8	11.5	12.4	13.9	17.3	17.2	16.6	17.6	7.1	1.6	0.3	0.0	0.0	0.0	5.68	17.62																							
10-Oct	0.0	0.2	0.8	Z	2.7	2.3	2.8	2.1	4.9	7.2	11.5	15.2	25.1	33.5	36.9	38.1	35.9	27.9	24.1	28.7	32.5	32.9	29.5	25.3	18.27	38.07																							
11-Oct	35.8	40.3	41.4	Z	35.9	32.0	27.3	22.7	25.2	28.3	33.5	37.6	39.2	38.2	36.4	34.4	34.6	34.9	36.6	32.3	31.9	29.4	25.6	25.2	32.99	41.43																							
12-Oct	23.6	24.2	25.9	Z	25.0	25.4	25.5	24.5	25.7	27.7	30.6	34.9	37.0	37.2	38.1	34.7	34.1	29.1	28.3	30.0	28.4	18.7	15.0	17.5	27.87	38.10																							
13-Oct	17.0	10.1	8.1	Z	4.3	1.3	2.3	3.7	7.9	15.0	17.3	22.2	23.7	32.6	32.9	31.5	30.9	29.2	29.9	30.4	28.9	25.1	18.9	11.6	18.90	32.91																							
14-Oct	6.6	9.6	9.1	Z	11.1	8.5	4.2	6.4	8.8	12.8	17.2	24.4	30.2	31.6	28.0	36.6	37.6	36.5	17.5	2.6	10.9	10.4	9.5	8.5	16.46	37.59																							
15-Oct	6.8	1.6	1.3	Z	0.3	0.5	0.9	2.2	11.0	18.6	18.7	22.0	30.0	33.7	32.0	32.6	28.9	28.8	27.1	23.4	19.5	16.6	14.4	13.9	16.73	33.67																							
16-Oct	16.8	19.0	23.5	Z	27.1	25.6	13.5	7.9	12.2	11.7	13.1	15.6	19.9	21.6	22.8	23.1	22.0	19.9	16.4	3.8	1.1	0.0	0.2	0.8	14.68	27.07																							
17-Oct	0.4	0.3	1.1	Z	3.5	4.5	3.0	1.8	2.0	3.3	5.0	4.8	4.9	5.3	3.6	1.8	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	2.01	5.31																							
18-Oct	0.0	0.0	0.0	Z	0.4	4.2	22.2	8.0	17.9	27.4	31.7	33.2	37.4	39.4	42.3	42.7	42.1	38.1	32.4	32.4	31.4	30.4	29.0	26.8	24.76	42.70																							
19-Oct	18.9	18.3	11.9	Z	5.8	7.0	5.2	2.7	1.6	1.7	3.4	4.2	6.5	8.0	13.6	14.7	14.1	11.8	7.0	1.2	0.5	1.3	1.2	4.0	7.16	18.89																							
20-Oct	5.6	8.0	12.6	Z	17.8	15.8	16.1	14.8	13.7	20.1	21.9	28.0	33.6	37.8	44.1	45.0	40.9	25.2	14.4	10.8	18.6	31.7	29.4	30.6	23.32	44.96																							
21-Oct	26.6	22.7	24.5	Z	29.6	26.4	26.5	22.0	20.1	21.8	25.2	29.3	38.5	40.2	42.4	41.4	38.7	31.7	25.2	22.8	21.6	22.7	21.8	18.2	27.82	42.39																							
22-Oct	5.2	4.4	3.5	Z	0.8	2.2	17.2	19.6	20.8	14.0	3.4	3.8	10.5	14.6	22.6	21.8	14.6	8.6	1.1	1.8	2.4	1.6	1.8	0.1	8.55	22.62																							
23-Oct	0.2	0.2	0.0	Z	0.1	0.0	0.0	0.2	2.5	5.4	9.9	19.5	29.2	37.3	41.3	38.9	35.2	32.5	38.8	32.3	28.7	29.7	26.4	20.9	18.65	41.29																							
24-Oct	22.2	23.0	22.4	Z	22.1	24.1	26.8	C	C	C	C	C	33.3	37.3	37.4	37.0	36.3	32.7	25.2	25.8	25.8	23.9	21.8	22.4	27.75	37.37																							
25-Oct	21.8	17.9	15.1	Z	6.6	1.9	2.4	4.6	7.9	16.8	19.1	26.7	29.7	30.0	30.4	27.3	27.1	24.7	23.4	20.0	18.6	21.7	22.8	22.8	19.11	30.42																							
26-Oct	21.1	21.1	22.2	Z	22.7	22.9	23.9	22.9	22.7	22.5	19.2	19.3	17.7	18.5	17.3	17.4	15.9	17.0	17.0	16.7	17.3	17.3	16.3	19.7	19.58	23.86																							
27-Oct	20.3	21.7	24.3	Z	24.4	27.1	26.6	25.6	17.1	26.4	30.2	30.1	29.6	29.7	32.2	31.4	30.6	26.3	8.3	1.0	2.6	3.2	1.7	3.0	20.58	32.17																							
28-Oct	6.8	7.0	5.1	Z	6.6	9.6	12.1	10.8	8.8	10.9	12.8	13.3	14.2	13.2	12.8	10.3	4.9	3.8	7.6	8.1	9.9	10.4	8.5	7.6	9.34	14.19																							
29-Oct	7.6	7.0	6.3	Z	6.7	5.9	5.9	4.9	4.6	5.8	5.8	5.5	5.5	5.7	6.5	8.2	8.0	5.8	6.0	6.5	5.9	3.9	2.4	3.1	5.80	8.20																							
30-Oct	1.0	0.0	0.0	Z	0.0	0.0	0.0	0.6	4.3	6.3	6.4	7.1	8.3	8.9	8.1	9.0	10.5	10.7	10.1	10.8	10.2	9.8	9.1	8.9	6.08	10.80																							
31-Oct	8.2	6.1	3.3	Z	4.3	4.2	2.0	0.8	2.3	1.7	2.0	3.3	4.8	4.8	7.0	7.3	6.7	12.5	15.8	19.9	19.3	17.8	24.5	28.7	9.02	28.71																							
																								12.55	12.31	12.24	--	11.91	11.67	11.72	10.43	12.24	15.14	17.06	19.96	23.69	25.71	27.18	27.29	25.84	23.40	19.57	16.10	15.66	15.19	14.22	13.80	Diurnal Average	
																								35.78	40.32	41.43	--	35.95	32.02	27.27	25.65	26.52	30.02	33.47	37.59	39.25	40.19	44.08	44.96	42.10	38.06	38.83	34.62	34.31	32.91	30.52	30.56	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 82.5 ppb 24-hr -- ppb																																																	



WCAS - Carrot Creek
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
October 2014

Maximum Value: 29.71 ppb on Oct 9 22:00		Maximum Daily Average: 7.71 ppb on Oct 9		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Oct 1 19:00		Minimum Daily Average: 0.12 ppb on Oct 24		Hours of Data: 708																													
Maximum Diurnal Average: 2.99 ppb at hour 11		Minimum Diurnal Average: 0.49 ppb at hour 18		Hours of Missing Data: 36																													
Monthly Average: 1.625 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.1 Median = 0.3 Q ₃ = 1.9 P ₉₀ = 5.1 P ₉₉ = 13.1		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	0.1	0.1	0.1	Z	0.1	0.1	0.2	2.4	3.7	3.1	2.5	1.4	0.9	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.65	3.73							
2-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.6	3.7	0.6	2.0	1.4	0.44	3.66							
3-Oct	0.2	0.1	1.3	Z	3.4	5.0	8.7	8.2	7.5	4.8	5.7	5.3	4.6	4.0	1.5	1.2	3.0	1.8	2.2	6.8	5.1	0.8	1.2	0.9	3.64	8.66							
4-Oct	1.2	0.1	0.1	Z	0.1	0.7	0.3	1.7	2.1	1.9	0.8	0.9	0.4	0.3	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.47	2.08							
5-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.1	0.7	2.6	2.6	1.7	0.7	0.2	0.3	0.1	0.1	0.3	0.1	0.0	0.1	0.4	0.6	0.1	0.0	0.47	2.57							
6-Oct	0.0	0.1	0.1	Z	0.1	0.1	0.1	0.2	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	0.3	0.5	0.1	0.13	0.53							
7-Oct	0.1	0.0	0.0	Z	0.1	0.1	0.4	0.2	3.6	2.8	1.4	1.3	0.7	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.54	3.55							
8-Oct	0.0	0.0	0.0	Z	0.1	0.1	0.0	0.4	0.7	2.0	2.1	2.4	1.3	1.1	2.0	1.4	0.8	0.3	0.3	5.1	3.1	5.3	1.9	4.3	1.51	5.33							
9-Oct	12.2	5.1	8.5	Z	3.3	3.6	6.4	6.2	5.8	7.8	5.9	4.8	4.5	4.2	2.9	3.4	2.3	0.6	3.9	9.5	13.1	29.7	18.0	15.4	7.71	29.71							
10-Oct	9.8	5.6	1.3	Z	0.5	0.9	0.8	3.4	8.8	12.3	7.8	5.6	1.3	0.6	0.5	0.4	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.1	2.64	12.33							
11-Oct	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.4	0.6	0.5	0.3	0.2	0.1	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.60							
12-Oct	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.1	0.3	0.4	0.8	0.3	0.2	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.13	0.76							
13-Oct	0.0	0.1	0.1	Z	0.1	0.8	0.7	1.1	2.2	2.9	3.5	2.6	2.3	0.4	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.78	3.53							
14-Oct	0.2	0.1	0.1	Z	0.1	0.3	1.2	0.8	2.9	3.3	2.4	1.7	0.9	0.3	0.5	0.2	0.1	0.1	2.6	8.5	1.8	1.6	0.3	0.1	1.31	8.50							
15-Oct	0.1	1.2	1.4	Z	3.4	2.5	2.0	1.8	0.7	0.9	1.9	1.6	0.9	0.4	0.5	0.4	0.2	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.88	3.39							
16-Oct	0.1	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.5	1.2	0.7	1.0	0.8	0.5	0.4	0.3	0.3	0.2	0.1	2.8	1.7	11.1	8.5	4.4	1.52	11.13							
17-Oct	3.8	2.9	0.6	Z	0.2	0.2	0.2	1.3	4.2	6.7	5.4	4.8	5.6	4.6	6.2	4.5	2.8	5.7	9.1	5.9	9.5	12.4	12.2	7.5	5.06	12.37							
18-Oct	5.8	4.9	4.0	Z	5.6	1.8	0.1	1.3	1.5	0.7	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.17	5.77							
19-Oct	0.0	0.0	0.0	Z	0.1	0.1	0.1	0.4	5.1	11.1	10.6	8.6	6.7	5.8	3.1	2.7	2.8	0.7	0.3	12.6	13.1	4.1	2.7	0.4	3.97	13.11							
20-Oct	0.1	0.1	0.1	Z	0.0	0.0	0.1	0.4	1.5	2.0	2.5	2.1	1.4	1.0	0.4	0.2	0.1	0.9	0.3	0.6	0.4	0.1	0.1	0.0	0.62	2.54							
21-Oct	0.0	0.1	0.1	Z	0.1	0.1	0.0	0.2	1.0	1.0	2.3	2.4	0.7	0.4	0.1	0.1	0.1	0.1	0.2	0.3	0.2	0.1	0.1	0.1	0.43	2.41							
22-Oct	0.6	0.2	0.2	Z	1.7	1.6	12.0	0.2	0.3	0.9	7.0	9.8	5.8	6.1	3.0	2.5	1.4	0.8	15.0	8.2	5.5	4.7	2.8	10.8	4.40	15.04							
23-Oct	6.7	3.5	5.5	Z	3.6	9.2	9.1	16.2	7.2	6.3	5.8	2.4	0.8	0.5	0.1	0.2	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	3.39	16.22							
24-Oct	0.0	0.0	0.0	Z	0.6	0.4	0.1	C	C	C	C	C	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.12	0.57							
25-Oct	0.0	0.0	0.0	Z	0.3	1.8	0.7	0.3	1.9	1.6	1.6	0.4	0.2	0.3	0.4	0.4	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.46	1.94							
26-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.8	0.3	0.4	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.77							
27-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	1.3	0.7	0.5	0.4	0.4	0.3	0.1	0.2	0.1	0.0	4.1	5.6	3.2	4.2	9.8	1.7	1.43	9.83							
28-Oct	0.4	0.1	0.1	Z	0.1	0.2	0.1	0.3	1.9	1.7	4.2	5.2	4.7	3.4	3.5	4.8	5.3	1.5	0.1	0.1	0.1	0.1	0.1	0.1	1.64	5.30							
29-Oct	0.1	0.1	0.1	Z	0.2	0.1	0.1	0.3	1.1	1.3	2.2	2.7	2.7	3.5	3.4	2.4	1.1	0.5	0.2	0.1	0.1	0.1	0.2	0.1	0.98	3.53							
30-Oct	1.5	1.1	3.6	Z	5.0	3.2	3.7	1.5	1.3	1.7	2.7	3.1	2.4	2.3	2.8	2.8	1.0	0.3	0.1	0.1	0.0	0.1	0.1	0.1	1.75	5.03							
31-Oct	0.1	0.1	0.1	Z	0.1	0.4	1.6	1.9	1.7	3.6	6.0	6.3	4.4	3.2	1.8	2.0	1.6	0.1	0.1	0.1	0.1	0.1	0.0	0.0	1.53	6.27							
		1.40	0.83	0.89	--	0.94	1.07	1.58	1.74	2.41	2.89	2.99	2.65	1.80	1.46	1.14	1.02	0.81	0.49	1.27	2.18	1.99	2.46	1.97	1.55	Diurnal Average							
		12.18	5.62	8.54	--	5.64	9.15	12.01	16.22	8.82	12.33	10.58	9.79	6.66	6.05	6.23	4.79	5.30	5.66	15.04	12.61	13.12	29.71	18.02	15.42	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																											



WCAS - Carrot Creek
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2014

Maximum Value: 24.17 ppb on Oct 14 20:00		Maximum Daily Average: 10.77 ppb on Oct 22		Hours in Service: 744																																													
Minimum Value: 0.4 ppb on Oct 12 15:00		Minimum Daily Average: 1.89 ppb on Oct 11		Hours of Data: 708																																													
Maximum Diurnal Average: 8.44 ppb at hour 20		Minimum Diurnal Average: 2.57 ppb at hour 15		Hours of Missing Data: 36																																													
Monthly Average: 5.153 ppb		Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 2.4 Median = 4.5 Q ₃ = 6.7 P ₉₀ = 10.0 P ₉₉ = 19.0		Hours of Calibration: 36																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	3.3	2.7	3.0	Z	3.7	4.9	5.2	7.3	5.7	4.7	4.5	4.1	2.9	1.1	0.8	0.8	1.1	0.7	1.2	1.4	1.1	1.3	1.1	0.9	2.75	7.28																							
2-Oct	0.9	1.5	1.4	Z	0.6	0.7	0.8	0.8	1.0	0.7	0.6	0.7	0.6	0.5	0.6	0.6	0.8	1.0	1.0	7.1	15.6	11.2	11.5	9.5	3.03	15.63																							
3-Oct	7.0	4.7	5.9	Z	7.3	6.9	7.4	9.1	6.3	5.7	6.5	6.8	5.2	5.8	5.5	5.8	6.9	7.9	13.9	12.6	11.7	8.8	7.4	5.9	7.44	13.94																							
4-Oct	4.3	2.7	2.8	Z	4.3	5.8	6.3	6.7	4.2	3.0	1.9	2.0	1.3	1.8	0.8	0.5	0.8	1.2	1.9	1.7	1.1	1.2	1.6	3.2	2.66	6.71																							
5-Oct	3.2	3.8	2.9	Z	3.8	3.5	5.0	4.9	5.3	4.6	3.3	1.9	1.3	1.3	1.0	1.3	3.1	2.9	3.4	15.0	11.8	10.1	3.1	2.9	4.32	15.00																							
6-Oct	2.7	2.9	3.7	Z	4.0	4.2	4.7	2.6	1.2	0.9	0.7	0.6	0.6	0.6	0.5	0.6	0.7	1.1	2.0	2.1	2.1	6.3	6.9	2.2	2.34	6.88																							
7-Oct	2.2	2.3	2.2	Z	3.7	4.1	6.2	4.5	7.9	8.6	5.3	4.9	3.2	2.4	1.5	1.6	2.6	3.1	4.6	4.8	3.5	3.8	3.3	3.6	3.91	8.60																							
8-Oct	2.6	1.6	3.1	Z	4.7	3.3	2.6	4.5	2.6	3.8	3.6	3.6	4.2	4.4	5.0	3.9	4.0	4.7	7.0	13.3	11.4	14.1	10.0	6.1	5.39	14.14																							
9-Oct	6.1	5.7	4.9	Z	6.3	6.4	6.0	4.4	3.3	4.9	3.7	4.9	5.0	4.7	4.3	5.8	6.2	6.3	12.9	17.6	15.8	12.3	6.6	4.6	6.90	17.64																							
10-Oct	4.4	3.4	4.4	Z	7.2	7.7	7.1	6.2	6.4	7.5	6.4	5.5	2.5	1.9	2.0	1.9	2.2	7.2	7.8	4.7	2.5	1.7	2.5	4.9	4.69	7.82																							
11-Oct	1.1	0.8	0.7	Z	1.9	3.3	2.9	6.1	2.8	1.6	1.0	0.9	0.6	0.7	1.0	1.2	1.0	1.1	0.8	1.8	2.0	2.2	4.1	3.8	1.89	6.15																							
12-Oct	4.9	3.4	2.7	Z	2.6	2.6	2.7	3.0	2.9	2.6	1.9	1.1	0.6	0.5	0.4	0.8	1.3	3.1	3.5	2.4	2.8	7.4	8.0	4.6	2.88	8.00																							
13-Oct	3.9	5.1	4.3	Z	5.3	6.3	6.5	6.2	5.3	5.0	4.5	4.5	5.0	2.0	1.8	2.1	2.3	3.9	2.9	2.7	3.0	3.3	4.6	8.8	4.32	8.77																							
14-Oct	11.1	8.9	7.0	Z	5.4	6.2	10.6	8.1	6.4	8.4	6.7	4.1	2.1	1.3	1.5	0.9	1.1	2.3	14.7	24.2	14.8	13.2	11.8	8.0	7.77	24.17																							
15-Oct	6.0	10.3	8.6	Z	8.9	12.5	12.1	9.9	6.2	4.4	6.8	5.8	4.1	3.4	3.9	3.9	4.9	3.9	3.3	5.7	8.1	7.9	7.4	5.8	6.68	12.51																							
16-Oct	3.7	4.1	3.4	Z	1.6	2.0	2.0	1.8	2.9	6.3	3.5	3.4	2.7	2.4	2.2	2.2	2.7	3.5	4.7	8.3	6.0	5.5	6.8	6.5	3.83	8.27																							
17-Oct	6.9	7.6	6.0	Z	5.1	4.8	5.5	5.7	4.3	3.9	3.0	2.9	3.2	3.1	4.9	5.5	6.1	7.1	7.0	6.0	5.8	6.4	5.2	3.6	5.21	7.62																							
18-Oct	3.5	3.3	2.5	Z	4.3	4.4	3.8	8.8	5.2	2.3	1.6	1.2	0.9	0.6	0.5	0.6	0.6	1.1	5.1	3.4	3.5	3.0	2.8	3.0	2.87	8.76																							
19-Oct	3.5	2.7	4.9	Z	5.5	4.1	4.3	4.7	9.1	11.7	10.0	10.0	10.1	9.0	8.4	8.3	9.7	11.3	11.2	14.1	11.3	8.2	6.5	9.9	8.20	14.08																							
20-Oct	10.5	9.9	6.9	Z	4.9	6.6	7.5	8.5	8.8	6.1	6.0	4.6	3.6	3.0	1.7	1.5	2.1	10.8	19.3	18.5	10.1	4.5	5.6	4.2	7.18	19.28																							
21-Oct	3.7	4.7	4.1	Z	4.1	5.0	4.9	7.4	8.2	6.5	5.8	5.1	2.2	1.8	0.8	1.0	1.7	6.0	8.9	10.4	10.8	7.1	5.3	6.5	5.30	10.81																							
22-Oct	11.5	10.9	8.3	Z	8.8	7.7	8.4	8.5	7.1	7.6	13.9	12.7	7.5	7.1	5.6	7.0	9.9	12.8	19.8	17.5	14.3	15.2	12.9	12.6	10.77	19.79																							
23-Oct	11.3	7.2	7.1	Z	4.8	4.7	5.8	6.3	9.6	9.8	7.9	4.9	3.1	1.9	0.9	1.6	2.3	4.5	1.1	3.3	6.7	3.7	3.2	3.6	5.02	11.25																							
24-Oct	3.0	3.3	4.9	Z	8.9	6.2	4.9	C	C	C	C	C	1.4	1.0	0.9	0.9	0.9	2.5	8.1	6.1	6.7	7.8	7.7	4.4	4.42	8.93																							
25-Oct	3.9	5.0	6.4	Z	10.3	13.9	10.8	7.3	10.0	8.4	6.7	3.3	2.4	2.2	2.4	4.6	4.2	5.8	5.5	7.8	9.3	5.7	3.2	2.7	6.18	13.92																							
26-Oct	4.0	3.8	2.8	Z	1.5	1.9	1.3	1.3	1.8	1.6	3.5	2.9	1.5	1.7	2.3	2.5	2.2	2.6	2.0	2.1	1.8	1.9	3.5	1.7	2.26	3.98																							
27-Oct	1.7	1.7	1.0	Z	1.8	1.3	2.0	3.2	7.1	2.4	1.6	1.2	1.1	1.1	0.7	1.5	1.3	1.8	17.3	24.0	22.1	21.2	20.0	14.5	6.59	23.98																							
28-Oct	8.2	4.9	4.6	Z	6.7	7.1	5.5	6.9	9.1	7.7	5.8	6.1	5.0	5.4	4.4	6.5	12.6	13.5	9.0	7.7	5.9	5.5	6.6	6.3	7.00	13.47																							
29-Oct	4.8	4.2	4.5	Z	4.5	4.6	4.1	5.1	5.3	3.7	3.5	3.5	3.7	4.2	4.1	3.4	4.2	5.9	6.2	5.3	5.6	7.7	9.5	7.1	4.99	9.53																							
30-Oct	10.3	9.9	11.9	Z	13.9	13.3	12.6	11.2	6.7	5.1	5.6	5.5	4.4	4.7	4.6	3.9	4.9	5.6	6.2	4.3	4.6	4.7	5.2	4.7	7.13	13.92																							
31-Oct	4.5	4.4	4.3	Z	4.2	5.4	7.9	9.6	6.8	7.1	6.7	5.2	4.7	4.6	4.7	7.0	8.3	7.0	6.7	5.6	4.1	6.4	3.5	2.4	5.70	9.63																							
																								5.11	4.77	4.56	--	5.18	5.53	5.72	6.02	5.64	5.22	4.75	4.13	3.11	2.78	2.57	2.89	3.64	4.92	7.06	8.44	7.61	7.08	6.37	5.43	Diurnal Average	
																								11.52	10.92	11.89	--	13.92	13.92	12.58	11.23	10.02	11.72	13.94	12.74	10.09	8.99	8.39	8.34	12.55	13.47	19.79	24.17	22.09	21.18	20.05	14.48	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																	



WCAS - Carrot Creek
Summary of Hourly Averages

NOx (NO_x) - ppb
October 2014

Maximum Value: 41.77 ppb on Oct 9 22:00		Maximum Daily Average: 15.18 ppb on Oct 22		Hours in Service: 744																																													
Minimum Value: 0.5 ppb on Oct 12 15:00		Minimum Daily Average: 2.02 ppb on Oct 11		Hours of Data: 708																																													
Maximum Diurnal Average: 10.62 ppb at hour 20		Minimum Diurnal Average: 3.70 ppb at hour 15		Hours of Missing Data: 36																																													
Monthly Average: 6.773 ppb		Percentiles: P ₁ = 0.6 P ₁₀ = 1.1 Q ₁ = 2.7 Median = 5.4 Q ₃ = 9.1 P ₉₀ = 13.8 P ₉₉ = 26.2		Hours of Calibration: 36																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	3.3	2.7	3.0	Z	3.7	5.0	5.4	9.7	9.4	7.8	7.0	5.5	3.7	1.1	0.8	0.8	1.1	0.7	1.2	1.4	1.1	1.3	1.1	0.9	3.39	9.66																							
2-Oct	0.9	1.5	1.4	Z	0.6	0.7	0.8	0.8	1.0	1.0	0.8	0.9	0.8	0.7	0.7	0.8	1.0	1.1	1.0	7.7	19.3	11.8	13.5	11.0	3.47	19.31																							
3-Oct	7.2	4.8	7.3	Z	10.8	11.9	16.0	17.3	13.7	10.5	12.2	12.1	9.8	9.8	7.0	7.0	9.9	9.7	16.2	19.4	16.8	9.7	8.7	6.8	11.07	19.42																							
4-Oct	5.5	2.8	2.9	Z	4.4	6.5	6.6	8.4	6.3	4.9	2.7	2.9	1.7	2.1	0.9	0.6	0.9	1.3	1.9	1.7	1.1	1.2	1.6	3.2	3.13	8.42																							
5-Oct	3.2	3.8	2.9	Z	3.9	3.5	5.1	5.6	7.8	7.2	4.9	2.5	1.5	1.6	1.1	1.4	3.3	3.1	3.4	15.2	12.2	10.8	3.2	2.9	4.79	15.17																							
6-Oct	2.7	3.0	3.8	Z	4.1	4.3	4.8	2.8	1.4	1.1	0.9	0.7	0.7	0.7	0.6	0.7	0.8	1.1	2.0	2.2	2.2	6.6	7.4	2.2	2.47	7.43																							
7-Oct	2.2	2.3	2.3	Z	3.7	4.2	6.7	4.7	11.4	11.4	6.7	6.2	4.0	2.9	1.7	1.8	2.8	3.2	4.6	4.9	3.6	3.9	3.4	3.7	4.45	11.41																							
8-Oct	2.6	1.6	3.2	Z	4.8	3.4	2.6	4.9	3.3	5.7	5.7	5.9	5.5	5.5	7.0	5.4	4.7	5.1	7.4	18.4	14.5	19.5	11.9	10.4	6.91	19.49																							
9-Oct	18.2	10.8	13.4	Z	9.6	10.0	12.3	10.6	9.1	12.6	9.6	9.7	9.6	8.9	7.2	9.1	8.5	7.0	16.9	27.2	28.9	41.8	24.5	19.9	14.57	41.77																							
10-Oct	14.1	9.0	5.8	Z	7.7	8.7	8.0	9.6	15.2	19.7	14.2	11.1	3.7	2.5	2.5	2.2	2.5	7.5	8.0	4.7	2.5	1.7	2.5	5.0	7.32	19.73																							
11-Oct	1.1	0.8	0.8	Z	1.9	3.4	2.9	6.6	3.4	2.1	1.3	1.2	0.7	0.8	1.0	1.4	1.1	1.2	0.8	1.9	2.0	2.2	4.1	3.8	2.02	6.57																							
12-Oct	5.0	3.5	2.8	Z	2.7	2.6	2.8	3.2	3.2	3.1	2.7	1.4	0.8	0.6	0.5	0.9	1.4	3.2	3.6	2.4	2.8	7.5	8.1	4.7	3.01	8.10																							
13-Oct	3.9	5.2	4.4	Z	5.5	7.2	7.3	7.4	7.5	7.9	8.0	7.0	7.3	2.5	2.1	2.4	2.4	3.9	2.9	2.7	3.0	3.4	4.7	8.9	5.10	8.91																							
14-Oct	11.4	9.1	7.2	Z	5.5	6.5	11.8	9.0	9.4	11.8	9.1	5.8	2.9	1.6	2.0	1.1	1.2	2.4	17.3	32.7	16.7	14.9	12.1	8.2	9.10	32.73																							
15-Oct	6.1	11.5	10.0	Z	12.3	15.0	14.0	11.8	7.0	5.3	8.7	7.4	4.9	3.8	4.4	4.2	5.0	3.9	3.4	5.8	8.2	8.1	7.5	5.9	7.57	14.99																							
16-Oct	3.8	4.2	3.4	Z	1.6	2.0	2.0	1.9	3.4	7.5	4.3	4.5	3.5	2.9	2.6	2.6	2.9	3.6	4.7	11.1	7.7	16.6	15.3	10.8	5.34	16.56																							
17-Oct	10.7	10.5	6.7	Z	5.3	5.0	5.7	7.0	8.5	10.6	8.4	7.6	8.8	7.6	11.1	9.9	8.9	12.8	16.0	11.9	15.3	18.7	17.3	11.1	10.24	18.74																							
18-Oct	9.3	8.1	6.5	Z	9.9	6.2	3.9	10.1	6.7	3.0	2.0	1.4	1.1	0.7	0.6	0.6	0.6	1.2	5.2	3.5	3.5	3.0	2.7	3.0	4.03	10.07																							
19-Oct	3.5	2.7	4.9	Z	5.6	4.2	4.4	5.1	14.2	22.8	20.5	18.5	16.7	14.8	11.5	11.1	12.5	12.0	11.6	26.6	24.3	12.3	9.2	10.3	12.16	26.64																							
20-Oct	10.7	10.0	7.0	Z	5.0	6.7	7.6	8.9	10.3	8.1	8.5	6.6	5.0	4.0	2.1	1.7	2.2	11.7	19.6	19.2	10.5	4.5	5.7	4.3	7.82	19.65																							
21-Oct	3.7	4.8	4.2	Z	4.2	5.1	4.9	7.7	9.2	7.6	8.1	7.5	2.9	2.2	1.0	1.2	1.8	6.2	9.1	10.7	11.1	7.2	5.4	6.6	5.75	11.08																							
22-Oct	12.2	11.2	8.5	Z	10.5	9.3	20.3	8.7	7.5	8.5	21.0	22.5	13.3	13.1	8.6	9.5	11.4	13.7	34.8	25.7	19.8	19.8	15.8	23.3	15.18	34.82																							
23-Oct	17.9	10.7	12.6	Z	8.3	13.8	14.8	22.5	16.8	16.1	13.6	7.4	4.0	2.4	1.0	1.8	2.6	5.0	1.1	3.3	6.8	3.7	3.2	3.6	8.39	22.46																							
24-Oct	3.0	3.3	5.0	Z	9.6	6.6	5.0	C	C	C	C	C	1.8	0.8	0.7	0.7	0.7	2.4	8.0	6.0	6.5	7.7	7.6	4.3	4.44	9.55																							
25-Oct	3.9	5.0	6.4	Z	10.6	15.7	11.5	7.6	12.0	10.0	8.3	3.7	2.6	2.5	2.9	5.1	4.4	5.9	5.5	7.9	9.4	5.8	3.2	2.7	6.63	15.73																							
26-Oct	4.0	3.8	2.8	Z	1.6	1.9	1.3	1.3	1.9	1.7	4.0	3.7	1.7	2.1	2.9	2.7	2.3	2.6	2.0	2.1	1.8	1.9	3.5	1.7	2.39	4.02																							
27-Oct	1.7	1.7	1.0	Z	1.8	1.3	2.0	3.3	8.5	3.1	2.1	1.6	1.4	1.4	0.8	1.8	1.4	1.9	21.3	29.6	25.3	25.4	29.9	16.2	8.02	29.91																							
28-Oct	8.6	5.0	4.6	Z	6.8	7.3	5.6	7.2	11.0	9.4	9.9	11.3	9.7	8.8	7.9	11.3	17.8	14.9	9.1	7.8	6.0	5.5	6.7	6.4	8.64	17.82																							
29-Oct	4.8	4.3	4.6	Z	4.7	4.7	4.1	5.3	6.4	5.0	5.7	6.2	6.4	7.7	7.5	5.7	5.3	6.4	6.4	5.4	5.7	7.8	9.8	7.2	5.96	9.78																							
30-Oct	11.7	11.1	15.5	Z	18.9	16.5	16.2	12.7	8.0	6.9	8.3	8.7	6.8	6.9	7.4	6.6	5.9	5.9	6.3	4.3	4.6	4.7	5.2	4.7	8.86	18.91																							
31-Oct	4.6	4.4	4.4	Z	4.2	5.7	9.5	11.5	8.5	10.7	12.6	11.5	9.1	7.8	6.5	9.0	9.9	7.1	6.7	5.7	4.1	6.4	3.5	2.4	7.21	12.64																							
																								6.50	5.59	5.45	--	6.12	6.61	7.29	7.76	8.05	8.10	7.73	6.76	4.91	4.22	3.70	3.91	4.43	5.41	8.33	10.62	9.59	9.53	8.34	6.97	Diurnal Average	
																								18.17	11.47	15.45	--	18.91	16.46	20.30	22.46	16.76	22.76	20.97	22.50	16.71	14.76	11.50	11.27	17.82	14.93	34.82	32.73	28.88	41.77	29.91	23.28	Diurnal Maximum	
Z - zerospan C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	

**CARROT CREEK
STATION #903**

METEOROLOGICAL DATA

OCTOBER 2014



WCAS - Carrot Creek
Summary of Hourly Averages

External Temperature (ET) - C
October 2014

Maximum Value: 23.28 C on Oct 10 16:00		Maximum Daily Average: 12.02 C on Oct 4		Hours in Service: 744																							
Minimum Value: -7.4 C on Oct 28 04:00		Minimum Daily Average: -2.43 C on Oct 28		Hours of Data: 744																							
Maximum Diurnal Average: 10.77 C at hour 16		Minimum Diurnal Average: 1.12 C at hour 7		Hours of Missing Data: 0																							
Monthly Average: 4.983 C		Percentiles: P ₁ = -6.4 P ₁₀ = -0.9 Q ₁ = 0.6 Median = 4.3 Q ₃ = 8.6 P ₉₀ = 13.4 P ₉₉ = 18.9		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1.1	1.0	0.7	0.5	0.2	0.0	-0.7	0.3	4.4	6.4	8.0	8.7	8.6	4.3	5.0	6.6	6.2	4.4	3.8	3.0	2.5	1.8	0.5	0.3	3.23	8.68	
2-Oct	0.3	-0.1	-0.3	-0.1	-0.2	-0.3	-0.4	-0.7	-0.4	0.9	2.1	3.6	5.0	5.7	6.2	6.2	6.0	5.4	2.6	-1.7	-3.3	-3.6	-4.5	-4.7	0.99	6.23	
3-Oct	-4.7	-5.7	-6.2	-6.7	-6.9	-7.2	-6.4	-4.5	-2.7	-0.1	2.2	3.4	5.7	7.8	7.4	6.8	7.4	6.3	4.3	3.5	4.3	4.9	4.7	4.8	0.92	7.79	
4-Oct	5.9	7.0	6.8	7.0	7.9	8.0	7.7	6.6	9.7	12.8	15.0	16.2	17.6	17.2	18.7	18.4	18.1	16.8	14.9	13.9	13.2	12.1	10.6	6.3	12.02	18.74	
5-Oct	5.0	5.2	4.8	4.0	3.2	2.7	2.4	3.1	6.9	10.3	13.4	15.3	15.5	16.5	16.9	17.0	15.8	14.8	12.6	10.4	10.0	10.9	11.9	10.9	9.99	16.96	
6-Oct	8.9	8.4	8.6	8.6	8.3	9.3	9.7	10.8	12.4	13.4	14.4	15.0	15.4	15.7	16.2	16.3	15.5	13.9	11.5	9.3	8.9	4.2	0.9	3.1	10.77	16.29	
7-Oct	4.0	4.5	4.3	4.4	4.4	4.7	3.4	4.0	4.9	7.2	8.2	9.8	10.8	11.4	11.7	11.7	11.3	10.4	9.5	8.7	7.6	6.9	6.3	6.0	7.32	11.67	
8-Oct	5.9	5.9	5.7	4.8	4.3	4.1	3.2	3.0	4.1	6.1	7.5	8.4	8.6	8.6	9.5	11.5	11.1	10.3	6.9	5.5	5.5	4.7	3.2	1.9	6.26	11.52	
9-Oct	1.4	0.5	0.3	1.1	0.5	0.0	-0.6	-0.5	1.5	3.7	6.1	8.6	10.7	13.0	15.2	15.9	15.6	14.3	9.8	6.8	5.2	3.6	2.4	1.2	5.69	15.93	
10-Oct	0.8	-0.2	0.0	0.6	0.6	0.7	0.1	0.3	4.4	7.7	11.3	15.5	19.5	22.0	23.1	23.3	21.9	17.2	14.6	16.5	17.1	17.1	13.9	12.5	10.86	23.28	
11-Oct	12.6	11.4	11.6	11.2	9.4	9.1	7.4	6.0	9.1	10.9	13.2	14.9	15.1	14.5	13.3	13.5	13.5	12.5	10.5	8.3	7.5	5.9	4.9	4.9	10.47	15.05	
12-Oct	4.8	5.0	6.3	6.4	6.3	6.9	5.7	5.3	7.1	8.5	11.1	13.4	14.3	14.4	15.0	13.0	12.5	9.8	8.4	8.6	6.6	3.4	1.2	1.3	8.13	15.00	
13-Oct	0.9	-1.2	-1.6	-2.0	-2.2	-1.6	-0.8	-0.7	1.7	5.2	8.6	11.3	13.2	14.6	14.9	14.2	13.3	12.8	12.2	12.1	11.1	9.5	7.6	5.3	6.60	14.89	
14-Oct	4.3	4.4	4.7	5.2	5.7	5.3	4.7	5.2	6.0	9.3	10.5	12.7	13.6	12.5	11.5	12.0	11.8	10.3	6.3	3.0	1.8	1.0	-0.2	0.0	6.72	13.60	
15-Oct	-0.2	-0.3	-0.2	0.1	-0.3	-0.2	-0.5	-0.9	1.7	4.1	6.1	7.7	9.1	9.0	9.1	8.5	7.1	5.8	4.9	4.6	4.6	4.6	4.5	4.4	3.89	9.15	
16-Oct	4.2	3.7	3.9	4.1	4.4	3.5	2.0	1.0	2.5	3.8	4.4	5.6	6.6	7.3	7.7	7.7	7.0	6.6	5.3	2.7	1.8	0.4	-0.4	-1.2	3.94	7.70	
17-Oct	-1.7	-0.7	-0.1	0.9	0.3	-0.3	-0.7	-1.1	-0.9	-0.6	0.7	1.9	3.2	5.3	5.8	4.5	4.3	4.2	4.1	3.1	2.3	1.8	1.2	1.0	1.60	5.82	
18-Oct	1.5	1.8	1.9	1.3	0.6	0.3	4.7	2.7	6.8	11.5	14.0	15.1	17.5	18.4	18.4	17.9	16.8	13.5	9.6	8.5	8.1	6.8	5.8	4.1	8.65	18.44	
19-Oct	2.2	0.9	-0.3	-1.5	-1.4	-0.7	-0.7	0.1	1.7	3.1	4.2	4.8	5.3	6.6	7.9	9.0	10.2	9.4	4.8	2.0	1.4	0.9	0.2	2.6	3.02	10.21	
20-Oct	3.8	4.2	4.3	5.7	5.4	5.1	4.9	4.3	4.9	7.8	11.7	14.3	18.2	20.3	22.2	22.5	20.0	15.5	12.0	9.8	9.9	13.3	12.0	10.7	10.95	22.47	
21-Oct	8.8	7.6	7.3	7.3	6.8	6.5	6.2	5.5	6.2	7.4	9.6	12.6	14.8	16.2	16.6	16.6	15.3	11.7	9.0	7.6	6.1	5.6	4.7	3.4	9.14	16.62	
22-Oct	0.1	-0.6	-1.5	-2.0	-2.1	-2.0	2.5	4.1	4.4	3.6	2.5	2.6	4.8	8.8	11.0	12.2	10.3	8.0	5.5	4.7	3.9	3.7	2.9	2.2	3.73	12.23	
23-Oct	1.9	1.1	0.9	-0.7	-1.7	-2.4	-3.3	-3.3	-0.9	0.9	4.1	9.2	11.1	13.5	13.7	12.6	12.0	9.3	8.4	4.7	4.5	3.4	3.3	2.0	4.35	13.67	
24-Oct	3.1	3.0	2.4	2.7	2.6	1.4	1.2	-0.1	1.5	3.8	5.7	7.8	9.5	10.5	11.2	10.4	8.5	5.7	3.1	2.5	2.0	1.2	0.2	-1.5	4.10	11.20	
25-Oct	-2.5	-3.3	-3.6	-4.3	-5.4	-6.0	-5.8	-4.7	-3.2	-0.3	1.2	3.2	4.0	4.9	5.9	5.8	5.7	5.3	5.0	4.6	4.4	3.8	2.5	1.5	0.78	5.86	
26-Oct	1.3	1.4	0.8	0.7	0.6	0.6	0.6	0.6	0.7	1.0	0.4	0.5	0.8	1.4	2.3	2.3	1.7	1.4	1.1	0.8	0.7	0.5	0.4	0.3	0.95	2.30	
27-Oct	0.4	0.4	0.3	0.0	-0.4	-1.1	-2.5	-2.8	-2.4	-0.4	0.9	1.8	3.2	4.1	4.4	4.0	3.9	1.1	-2.2	-3.1	-3.6	-3.8	-4.7	-5.5	-0.33	4.36	
28-Oct	-6.3	-6.7	-7.3	-7.4	-7.1	-5.9	-5.6	-5.5	-4.4	-3.7	-1.9	-0.2	1.4	1.6	2.1	1.8	0.8	-0.2	-0.5	-0.5	-0.6	-0.8	-0.7	-0.7	-2.43	2.10	
29-Oct	-0.7	-0.8	-0.7	-0.8	-0.9	-1.0	-1.1	-1.1	-0.8	-0.5	0.2	1.0	1.5	1.7	2.4	2.9	1.9	0.6	0.6	0.7	0.7	0.7	0.7	0.4	0.32	2.88	
30-Oct	0.1	-0.9	-0.8	-0.9	-1.2	-1.4	-1.9	-2.1	-2.2	-2.1	-1.6	-1.1	-0.4	0.4	1.2	3.3	3.4	2.0	0.7	-0.5	-0.5	-0.2	-0.1	0.0	-0.29	3.35	
31-Oct	-0.2	-0.7	-0.7	-0.3	-0.3	-0.6	-0.6	-0.5	-0.3	0.0	0.3	1.4	2.6	3.6	4.7	5.6	5.9	5.6	5.4	4.9	4.2	4.0	3.9	2.8	2.11	5.85	
		2.16	1.82	1.68	1.61	1.32	1.21	1.12	1.12	2.72	4.57	6.26	7.90	9.25	10.05	10.68	10.77	10.15	8.53	6.61	5.33	4.77	4.14	3.22	2.59	Diurnal Average	
		12.59	11.44	11.59	11.22	9.44	9.32	9.69	10.75	12.36	13.40	15.03	16.23	19.54	22.03	23.06	23.28	21.91	17.24	14.85	16.50	17.06	17.06	13.92	12.46	Diurnal Maximum	



WCAS - Carrot Creek
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1 Spd	6.5	4.8	4.2	6.2	7.1	4.5	4.7	4.9	9.1	5.0	7.3	5.9	8.5	11.2	10.0	13.2	16.1	14.6	11.0	16.0	18.0	19.2	14.8	14.3	7.61	19.21
Dir	SW	WSW	SW	SW	SW	SW	WSW	W	WSW	NW	W	NNW	NE	NNW	NW	NW	NNW	NW	WNW	NW	NW	NNW	NW	NW	NW	NNW
2 Spd	15.1	12.1	11.3	16.9	21.2	16.5	16.5	14.8	14.2	20.2	20.5	20.1	19.5	16.8	16.2	14.5	11.7	7.0	1.1	1.8	3.8	3.4	3.9	3.3	11.23	21.21
Dir	NW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NNW	N	ENE	S	SSW	S	SSW	S	NW	NW
3 Spd	0.7	1.5	0.9	0.3	0.1	1.6	0.6	0.5	0.9	0.6	1.2	4.9	1.8	1.4	4.1	0.2	2.7	4.4	1.6	3.9	5.0	2.9	1.9	3.5	1.23	5.00
Dir	NE	N	NNE	N	NW	NNW	W	NNW	WNW	W	NW	NW	WSW	NNW	NW	W	NNE	NNW	NW	WSW	WSW	W	N	SSW	NW	WSW
4 Spd	4.2	5.5	4.4	5.9	8.2	8.4	4.0	4.1	12.9	16.9	18.8	18.2	19.7	15.4	15.8	16.7	14.0	8.9	6.4	8.7	6.5	6.6	6.2	5.8	8.71	19.66
Dir	SW	SW	WSW	SW	WSW	W	W	WSW	W	W	W	W	W	W	WNW	NW	NNW	NNW	NNW	NW	NW	NW	WNW	SW	WNW	W
5 Spd	6.2	6.4	7.3	6.0	9.8	7.0	7.0	8.1	6.8	9.0	8.3	6.1	9.8	7.4	6.6	1.8	3.1	5.4	1.8	2.4	2.4	5.5	4.9	0.7	3.55	9.78
Dir	WSW	SW	SW	WSW	WSW	SW	WSW	WSW	WSW	W	W	WNW	NW	NW	NNW	W	ESE	E	E	S	SE	SSE	SSE	W	WSW	WSW
6 Spd	0.7	2.1	11.7	5.6	5.2	12.1	7.6	11.4	15.4	17.9	19.2	21.2	20.7	17.7	16.3	15.1	12.7	9.4	5.7	3.4	5.5	3.6	6.6	7.1	8.16	21.15
Dir	WNW	SSW	SW	SSW	WNW	WNW	WNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	N	WSW	SW	SW	NW	NNW
7 Spd	6.3	3.9	5.2	4.3	4.8	4.5	5.5	3.2	5.1	3.0	2.4	2.0	1.3	1.0	2.0	2.6	3.4	2.9	2.3	1.4	1.5	2.7	7.2	3.1	1.39	7.17
Dir	SW	SW	SW	WSW	WSW	WSW	SW	WSW	SW	WSW	SW	NW	N	ENE	E	SE	SE	ESE	SSE	E	ENE	ENE	ENE	ESE	SSW	ENE
8 Spd	5.6	7.6	7.6	7.1	8.7	8.0	4.0	2.3	4.8	1.4	4.6	7.0	7.6	4.7	3.1	1.1	3.2	3.5	1.8	2.0	2.5	1.7	0.7	1.9	1.57	8.65
Dir	ESE	ESE	E	E	E	E	NE	ENE	E	ENE	WNW	WNW	WNW	NW	W	SSE	ESE	SSE	SE	SE	SSE	S	NE	SSW	E	E
9 Spd	1.4	1.4	4.6	2.3	3.4	1.8	2.8	0.6	1.5	2.7	4.5	2.1	0.8	2.1	4.2	5.8	6.2	4.7	2.1	0.4	0.3	0.7	2.0	3.1	0.09	6.18
Dir	NNE	SW	SSW	N	S	W	SSW	SW	WSW	NW	NNW	NNW	N	NNE	NE	ENE	E	E	SE	SSW	SSW	SSW	SW	SW	E	E
10 Spd	3.4	5.0	4.6	4.3	6.4	3.3	5.9	2.0	3.5	2.6	1.4	2.5	3.2	5.0	5.7	6.9	6.5	4.5	7.6	10.1	10.8	10.4	6.2	6.3	3.15	10.80
Dir	SW	SW	WSW	WSW	WSW	WSW	WSW	W	W	NW	NNW	ESE	ESE	S	SSE	SSE	SSE	SSW	SW	WNW	WNW	WNW	W	WNW	WSW	WNW
11 Spd	22.4	18.4	14.7	12.2	9.9	10.3	10.0	8.5	13.4	16.5	17.5	19.5	18.3	19.9	14.5	13.4	17.4	12.6	11.3	10.5	8.6	8.6	11.2	11.7	13.41	22.36
Dir	NW	WNW	WNW	WNW	W	W	W	WSW	WSW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	WNW	NW
12 Spd	11.7	12.5	14.5	13.2	11.4	14.7	9.5	13.1	11.2	12.1	15.7	19.0	19.0	16.5	16.3	11.6	9.6	7.8	8.4	9.7	8.2	3.3	5.1	4.4	10.80	19.04
Dir	W	W	W	W	WNW	WNW	W	WNW	W	W	WNW	WNW	NW	NW	NW	WNW	WNW	W	W	WNW	W	SSW	SSW	SSW	WNW	WNW
13 Spd	3.6	3.6	1.2	0.8	1.4	2.5	3.1	1.3	3.4	2.3	3.3	5.6	7.2	9.0	10.2	10.4	10.7	12.2	9.7	10.2	6.4	1.0	2.5	3.2	3.65	12.25
Dir	SSW	S	N	SSW	SSW	SSW	SSW	WSW	WSW	WSW	ENE	E	ESE	SE	SE	ESE	ESE	ESE	ESE	ESE	ESE	E	N	SW	SE	ESE
14 Spd	3.7	4.0	3.1	5.5	2.6	0.8	4.5	2.9	3.2	6.4	12.0	13.4	16.8	17.9	17.5	14.1	9.5	3.3	1.0	5.5	4.2	4.0	3.7	1.5	4.39	17.86
Dir	WSW	SW	SW	SW	SW	SW	WSW	WSW	WSW	W	W	WNW	NW	NNW	NNW	NNW	NNW	NNW	SSW	SSW	SSW	SSW	SSW	N	WNW	NNW
15 Spd	1.0	2.6	3.3	1.2	0.7	1.3	2.2	2.1	6.7	10.2	4.9	6.8	8.4	7.0	9.2	11.9	7.8	7.8	4.2	7.7	6.1	4.2	4.4	3.8	4.46	11.86
Dir	S	S	SW	N	SSW	SE	NNE	ENE	E	E	ESE	E	SSE	SSE	ESE	ESE	SE	ESE	SE	E	ESE	E	ESE	ESE	ESE	ESE
16 Spd	2.7	4.8	7.6	8.4	8.9	6.2	2.6	3.3	1.8	3.7	6.8	5.8	7.9	3.5	4.7	6.8	6.8	5.2	3.6	2.2	1.7	1.6	2.1	0.3	3.79	8.92
Dir	SE	SSE	SSE	SSE	S	SSE	SE	ENE	ENE	E	E	SE	S	SSW	SE	ESE	ESE	SE	SE	SSE	NE	SSE	SE	SE	SE	S
17 Spd	2.4	1.5	2.3	8.9	7.2	5.8	3.7	1.0	2.4	3.2	4.1	3.4	5.0	3.0	6.2	5.0	4.5	5.3	6.0	4.2	5.3	6.0	2.2	2.4	1.79	8.86
Dir	WNW	NW	SW	SSW	SSW	SSW	WSW	SW	ESE	ENE	ENE	ENE	ENE	ENE	NW	NW	W	W	W	W	W	SW	SSW	SW	WSW	SSW
18 Spd	0.8	1.4	0.5	2.1	2.8	1.6	9.3	4.1	4.7	10.2	16.9	13.2	20.3	23.5	29.9	27.0	22.6	12.8	8.6	9.3	9.9	3.3	2.7	2.9	9.43	29.86
Dir	WSW	SE	E	SSW	SW	N	WSW	SW	W	WNW	W	W	W	WNW	W	W	W	W	WSW	W	W	SW	WSW	WSW	W	W
19 Spd	1.3	2.4	2.1	3.5	2.8	2.6	0.3	2.0	1.3	0.4	2.3	4.6	1.5	3.1	5.2	3.1	3.2	3.1	1.1	2.7	3.5	4.8	7.6	7.4	1.06	7.59
Dir	SE	NNE	SW	S	SW	SW	SE	SW	WSW	NNE	S	N	NNW	ESE	E	N	E	SE	NNW	SSW	SW	SW	SW	SW	SSW	SW
20 Spd	7.3	5.2	8.6	6.9	5.0	6.7	3.3	3.7	6.5	7.7	3.2	8.6	7.8	5.8	5.1	1.2	3.3	3.1	3.3	2.2	5.7	8.8	6.8	2.1	3.95	8.83
Dir	SW	WSW	SW	SW	WSW	WSW	W	WSW	WSW	WSW	WNW	W	WNW	WNW	WSW	SSE	ESE	SE	W	SSW	WNW	NNW	NNW	NNW	W	NNW
21 Spd	4.9	3.9	9.1	7.0	3.0	3.4	4.1	5.7	3.0	1.5	2.7	3.9	7.8	4.2	10.1	6.7	4.8	5.0	5.3	5.9	2.8	10.4	7.8	1.8	3.47	10.36
Dir	W	SW	SW	SW	SW	SW	SSW	WSW	SW	SW	W	NW	W	WNW	W	WNW	ENE	SE	SSE	SSE	S	SW	SW	SW	SW	SW
22 Spd	3.5	0.8	0.8	2.6	0.9	2.5	5.6	4.3	5.3	1.9	1.7	2.4	2.2	2.2	0.5	3.4	0.4	2.4	4.6	3.0	3.6	1.3	1.6	1.0	1.17	5.59
Dir	SSW	SE	N	SSW	ENE	SSE	SSE	SE	ESE	NE	NNW	N	NNW	NW	W	SSE	WSW	ESE	SSW	S	SSW	SSE	SSW	S	SSE	SSE



WCAS - Carrot Creek
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	0.6	2.8	2.1	1.7	2.0	2.7	3.1	4.3	2.7	5.6	4.5	8.9	16.9	24.1	20.5	14.7	7.1	7.7	11.2	9.6	7.3	7.3	4.9	8.7	6.83	24.12	
Dir	NNE	WSW	SSW	SW	SSW	SW	WSW	SW	WSW	WNW	WSW	WSW	W	WNW	WNW	W	WNW	NNW	NW	W	W	WNW	NW	W	W	W	W
24 Spd	11.8	6.3	7.2	8.1	12.4	10.9	14.4	11.0	10.7	12.4	14.0	18.0	24.1	25.2	26.3	21.1	14.1	9.2	7.9	9.2	7.8	7.3	5.7	3.8	12.10	26.34	
Dir	W	WNW	WNW	W	W	W	WSW	WSW	W	W	W	WNW	WNW	W	W	W	WNW	W	WSW	W	W	W	WSW	SSW	W	W	
25 Spd	5.0	2.3	3.5	0.6	2.4	1.9	0.9	2.4	2.7	8.2	10.6	14.3	15.1	16.9	19.3	17.0	16.2	14.5	13.6	11.1	12.1	11.6	11.5	9.1	8.18	19.31	
Dir	SW	SW	SSW	ENE	S	SSW	NNE	ENE	ESE	E	ESE	ESE	ESE	E	ESE	E	E	E	E	E	E	ENE	ENE	ENE	E	E	E
26 Spd	8.6	10.5	11.1	6.4	5.2	8.7	3.8	3.3	3.5	5.5	5.7	7.7	8.8	9.9	11.3	12.0	12.5	11.5	12.2	12.7	13.6	13.2	13.0	14.0	7.10	13.96	
Dir	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	N	NNW	NW	NW	NW	WNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW
27 Spd	13.7	15.7	16.5	13.9	9.3	9.5	8.0	6.7	7.6	9.3	8.8	9.9	11.5	13.0	8.8	7.7	4.4	2.7	3.1	2.7	3.8	3.9	2.5	0.5	6.16	16.46	
Dir	NW	NW	NW	NW	NW	NW	WNW	WNW	WSW	WNW	NW	NW	NW	WNW	NNW	NNW	NNE	ENE	SSE	S	S	S	S	ESE	NW	NW	NW
28 Spd	0.8	2.1	3.0	3.5	1.3	3.4	2.1	4.4	2.8	6.5	8.6	7.2	9.8	11.8	12.7	12.3	8.5	9.4	5.6	4.1	5.3	5.5	1.5	2.0	5.22	12.66	
Dir	ESE	ESE	ENE	NNE	E	ENE	ENE	E	E	E	E	E	ENE	ENE	ENE	ENE	NE	NE	ENE	NE	NE	NE	NNE	N	ENE	ENE	ENE
29 Spd	1.9	0.9	0.7	3.8	3.8	4.4	3.7	3.2	2.8	3.0	1.7	3.1	4.4	3.8	4.2	5.8	6.0	6.2	5.7	5.9	5.8	5.6	5.8	5.1	3.64	6.16	
Dir	NNE	NNW	E	E	E	ENE	ENE	ESE	SE	SSE	NNE	ENE	NE	NE	ENE	E	E	ENE	E	ENE	E	E	E	ENE	E	E	ENE
30 Spd	4.8	2.9	5.0	5.8	5.3	5.0	6.6	9.3	10.4	10.1	9.2	10.6	11.2	12.2	11.6	7.7	8.0	11.0	9.0	10.5	9.1	8.2	7.3	6.4	7.69	12.18	
Dir	E	NE	E	SE	S	E	E	E	E	ESE	ESE	ESE	ESE	ESE	E	ENE	E	ESE	E	E	E	E	ENE	ENE	E	E	ESE
31 Spd	4.0	1.4	1.0	2.4	4.4	7.3	8.2	6.2	7.4	4.9	4.3	3.9	4.6	7.8	8.0	8.1	7.7	10.2	4.9	3.2	2.5	2.5	6.3	7.2	4.02	10.18	
Dir	ENE	S	WNW	NW	WNW	W	W	WSW	W	WNW	NW	SSW	S	SW	W	W	WNW	WNW	NW	N	N	NNW	NW	NW	W	W	WNW
Spd	2.62	2.16	2.71	2.60	3.08	2.78	3.12	2.21	2.89	3.58	4.30	4.61	5.05	5.13	4.79	3.75	2.78	1.50	0.94	1.46	1.83	1.61	1.42	1.92	Diurnal Average		
Dir	W	W	WSW	WSW	WSW	W	W	W	W	WNW	WNW	WNW	NW	NW	NW	NNW	N	WNW	WNW	WNW	WNW	W	W	W	Diurnal Maximum		
Spd	22.36	18.44	16.46	16.94	21.21	16.49	16.46	14.76	15.36	20.21	20.48	21.15	24.07	25.16	29.86	26.97	22.59	14.63	13.63	16.00	17.97	19.21	14.80	14.28	Diurnal Maximum		
Dir	310.15	303.17	311.65	314.58	317.84	319.01	319.85	315.74	327.24	309.79	318.41	327.06	282.50	280.60	276.32	280.99	279.89	314.64	96.00	306.75	322.43	331.66	325.72	314.83			
Maximum Speed Value: 29.9 kph on Oct 18 15:00		Minimum Speed Value: 0.1 kph on Oct 3 05:00										Hours in Service: 744															
Maximum Daily Speed Average: 13.41 kph on Oct 11		Minimum Daily Speed Average: 0.09 kph on Oct 3										Hours of Data: 744															
Maximum Diurnal Speed Average: 5.13 kph at hour 14		Minimum Diurnal Speed Average: 0.94 kph at hour 19										Hours of Missing Data: 0															
Monthly Average Velocity: 2.595 kph 289.72 deg		Speed Percentiles: P ₁ = 0.4 P ₁₀ = 1.5 Q ₁ = 3.0 Median = 5.5 Q ₃ = 9.5 P ₉₀ = 14.4 P ₉₉ = 23.0										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	33	8	4	0	0	0	45																				
NorthEast	32	16	3	0	0	0	51																				
East	42	46	15	1	0	0	104																				
SouthEast	40	22	2	0	0	0	64																				
South	50	12	0	0	0	0	62																				
SouthWest	80	50	1	0	0	0	131																				
West	41	65	39	12	1	0	158																				
NorthWest	25	36	55	13	0	0	129																				
Total	343	255	119	26	1	0	744																				



WCAS - Carrot Creek
Summary of Hourly Averages

Relative Humidity (RH) - %
October 2014

Maximum Value: 99.37 % on Oct 30 08:00		Maximum Daily Average: 96.82 % on Oct 17																								Hours in Service: 744	
Minimum Value: 21.4 % on Oct 20 16:00		Minimum Daily Average: 53.59 % on Oct 11																								Hours of Data: 744	
Maximum Diurnal Average: 87.62 % at hour 8		Minimum Diurnal Average: 51.96 % at hour 16																								Hours of Missing Data: 0	
Monthly Average: 74.102 %		Percentiles: P₁ = 28.0 P₁₀ = 42.5 Q₁ = 59.8 Median = 78.8 Q₃ = 92.0 P₉₀ = 96.6 P₉₉ = 99.2																								Hours of Calibration: 0	
																										Percent Operational Time: 100.0	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	90.1	88.6	88.7	87.7	88.2	88.8	90.1	87.6	75.6	71.0	64.7	57.6	56.4	79.2	70.1	55.1	57.9	68.8	70.7	78.1	74.2	67.4	70.0	72.7	74.96	90.08	
2-Oct	73.7	75.5	77.8	74.1	69.9	70.5	69.7	69.6	68.8	62.3	54.8	49.6	41.3	37.7	37.5	37.0	38.2	41.1	53.2	76.7	84.0	84.5	88.3	89.3	63.55	89.33	
3-Oct	89.4	92.1	94.0	94.5	94.9	94.6	94.6	92.5	88.7	79.0	70.5	67.2	57.6	51.5	56.3	67.4	71.8	72.7	78.4	86.7	88.6	91.1	93.7	95.3	81.80	95.33	
4-Oct	95.5	92.7	90.1	87.1	81.3	80.5	80.3	84.2	72.2	61.3	54.4	50.3	44.8	47.2	41.0	39.0	39.4	42.5	48.3	51.5	55.1	57.7	62.8	79.1	64.09	95.46	
5-Oct	84.1	82.5	83.5	84.5	87.2	88.2	88.5	87.7	76.9	64.6	55.4	49.0	47.2	44.9	41.4	42.4	49.9	51.7	62.3	73.5	75.6	69.0	61.4	70.5	67.58	88.49	
6-Oct	88.7	93.8	92.9	91.6	92.4	89.6	88.1	78.2	65.1	54.7	46.8	41.7	38.0	36.1	32.7	32.0	32.5	37.2	43.9	51.0	50.7	69.7	85.8	79.1	63.00	93.75	
7-Oct	74.5	69.6	69.3	68.7	70.6	67.7	73.4	74.7	74.2	63.4	61.3	54.7	48.7	45.2	45.2	45.5	49.4	56.5	60.1	65.8	75.4	83.8	90.0	92.8	65.85	92.83	
8-Oct	93.3	92.5	91.9	94.4	96.1	95.7	96.6	97.2	94.9	85.9	79.3	77.9	81.3	84.7	80.4	67.8	69.1	72.5	88.6	92.0	90.8	93.2	95.1	96.4	87.82	97.15	
9-Oct	97.4	97.6	97.9	98.1	98.2	98.3	98.6	98.7	97.7	92.7	85.8	76.4	69.7	63.9	56.9	54.3	55.3	59.5	79.2	88.2	93.9	95.5	96.4	97.0	85.30	98.68	
10-Oct	97.3	97.2	98.1	98.1	98.1	98.0	98.1	97.5	88.6	76.7	61.6	49.7	36.0	25.9	22.3	22.8	25.8	37.8	49.0	42.7	35.3	34.5	44.9	52.1	62.00	98.14	
11-Oct	56.5	55.7	49.0	50.6	61.0	69.1	77.7	83.9	72.3	62.0	47.1	35.9	32.2	34.1	38.8	41.5	40.4	40.8	40.8	50.6	53.0	59.7	65.6	67.9	53.59	83.86	
12-Oct	68.5	68.1	63.1	62.9	63.9	62.0	64.7	66.4	61.2	56.1	46.1	35.2	31.0	30.6	28.1	36.2	36.0	44.5	48.2	45.2	52.3	66.9	77.2	76.1	53.77	77.15	
13-Oct	76.8	85.7	87.6	88.9	90.3	92.8	90.6	89.0	82.3	64.9	54.9	45.4	41.4	33.3	32.5	35.5	38.8	40.8	42.2	42.0	46.1	54.2	63.7	74.5	62.26	92.76	
14-Oct	80.1	79.9	79.5	79.0	76.4	79.8	83.1	81.3	78.1	64.9	61.4	53.8	53.1	57.4	58.5	46.3	42.9	44.8	63.8	78.9	83.0	85.1	89.0	88.1	70.34	89.03	
15-Oct	90.3	92.5	92.2	90.8	91.4	92.0	91.7	93.7	91.7	85.8	78.6	72.9	65.1	63.5	62.9	64.7	76.5	85.5	91.2	93.8	95.3	95.5	96.2	96.3	85.43	96.35	
16-Oct	96.3	95.7	93.0	92.1	92.3	93.4	95.9	97.4	97.6	96.5	95.5	92.5	85.0	81.0	78.9	79.2	81.3	83.2	89.0	94.9	96.9	97.4	98.2	98.4	91.73	98.38	
17-Oct	98.9	99.0	98.9	98.9	99.0	99.2	99.3	99.3	99.3	99.3	99.3	98.9	98.3	96.7	92.3	88.3	91.6	94.3	94.7	94.5	95.5	96.5	96.6	96.8	97.7	96.82	99.34
18-Oct	97.7	97.3	97.4	97.5	97.9	97.2	82.5	90.9	74.7	59.0	49.9	46.7	36.2	31.2	28.0	28.0	30.1	39.5	50.9	54.7	56.7	60.1	62.9	69.8	64.03	97.86	
19-Oct	77.8	82.5	85.5	90.7	90.1	88.6	89.3	91.9	91.2	88.6	86.2	80.7	77.8	74.6	66.8	63.6	60.1	63.4	82.4	91.2	93.0	93.8	94.8	90.5	83.14	94.83	
20-Oct	85.4	83.3	80.5	73.5	73.7	74.4	74.7	76.9	75.7	65.1	55.2	45.9	34.8	28.3	21.9	21.4	28.9	45.0	56.5	65.2	64.7	50.6	59.0	64.4	58.53	85.35	
21-Oct	73.0	78.3	77.7	73.3	74.3	76.1	77.1	80.2	81.6	78.3	70.3	59.9	47.2	40.9	33.8	32.9	42.3	59.1	69.7	71.9	77.3	77.3	77.2	79.9	67.07	81.61	
22-Oct	90.6	93.1	93.8	93.8	95.1	95.0	74.4	65.2	64.2	71.8	79.9	81.0	73.9	59.5	47.1	44.1	55.7	66.2	77.0	79.2	82.7	83.2	85.3	88.3	76.68	95.13	
23-Oct	89.3	92.0	93.3	95.1	96.3	96.9	96.3	97.0	94.1	88.9	80.8	61.8	49.5	34.6	28.7	30.8	40.7	47.0	42.3	55.4	56.5	60.2	67.6	80.2	69.80	97.00	
24-Oct	79.7	74.0	71.1	70.6	70.1	81.5	84.6	88.4	85.5	76.3	65.6	49.3	37.1	28.6	27.1	28.3	32.0	37.7	47.2	51.3	52.6	55.1	58.6	66.1	59.10	88.43	
25-Oct	70.5	75.1	76.3	80.1	83.3	86.2	86.6	86.1	81.1	69.6	68.9	60.3	55.4	52.7	48.5	50.7	52.0	53.1	54.9	58.6	59.8	61.3	66.8	70.1	67.00	86.56	
26-Oct	71.3	71.8	81.7	85.1	87.1	87.7	88.0	88.1	87.9	87.6	95.2	96.7	95.7	94.8	90.5	87.0	87.2	86.0	84.6	83.0	80.9	80.2	81.1	79.7	85.79	96.68	
27-Oct	79.1	78.4	76.1	76.9	79.8	79.5	81.8	81.9	84.6	75.0	67.7	64.1	58.9	54.2	48.0	48.5	50.5	63.9	78.7	82.0	83.4	84.2	86.9	90.7	73.12	90.74	
28-Oct	92.4	92.9	93.6	93.5	93.5	93.1	93.0	94.2	92.5	91.4	86.3	77.6	69.4	71.3	70.6	73.6	80.3	87.2	90.3	91.2	92.1	92.8	93.0	93.5	87.47	94.20	
29-Oct	93.9	94.2	94.5	95.6	96.9	97.8	98.3	98.6	98.6	98.4	96.0	92.5	90.1	89.3	85.9	83.5	87.2	92.7	95.0	95.2	95.2	95.5	95.2	96.1	93.99	98.64	
30-Oct	96.2	96.9	98.0	98.5	98.8	99.0	99.2	99.4	99.0	98.6	98.2	96.9	93.0	89.4	87.4	78.9	77.2	82.7	87.9	92.5	93.7	93.6	93.7	94.0	93.45	99.37	
31-Oct	94.9	96.5	96.9	97.0	97.4	98.5	98.8	98.8	98.7	98.2	97.2	94.7	90.5	88.4	84.3	81.7	80.6	77.1	71.0	68.2	72.5	72.2	73.6	87.2	88.12	98.84	
		85.27	85.97	85.93	85.91	86.63	87.48	87.28	87.62	83.70	77.03	71.43	65.04	59.18	56.34	52.92	51.96	54.97	60.50	67.46	72.47	74.44	76.19	79.71	83.03	Diurnal Average	
		98.90	98.95	98.89	98.91	99.00	99.20	99.29	99.37	99.34	99.29	98.91	98.31	96.67	94.83	90.51	91.57	94.34	94.71	94.97	95.47	96.93	97.39	98.22	98.38	Diurnal Maximum	



WCAS - Carrot Creek
Summary of Hourly Averages

Photosynthetically Active Radiation (PAR) - W/m2
October 2014

Maximum Value: 261.53 W/m2 on Oct 2 13:00																								Hours in Service: 744		
Maximum Daily Average: 73.53 W/m2 on Oct 2																								Hours of Data: 744		
Minimum Value: 0.1 W/m2 on Oct 28 03:00																								Hours of Missing Data: 0		
Maximum Diurnal Average: 147.51 W/m2 at hour 13																								Hours of Calibration: 0		
Monthly Average: 38.603 W/m2																								Percent Operational Time: 100.0		
Minimum Daily Average: 11.41 W/m2 on Oct 31																										
Minimum Diurnal Average: 0.44 W/m2 at hour 23																										
Percentiles: P₁ = 0.2 P₁₀ = 0.2 Q₁ = 0.5 Median = 0.7 Q₃ = 57.6 P₉₀ = 151.6 P₉₉ = 234.0																										
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	0.5	0.5	0.5	0.5	0.5	0.5	2.0	33.1	105.3	107.3	118.8	112.9	122.7	34.6	87.0	51.6	24.4	12.6	1.6	0.5	0.5	0.5	0.5	0.5	34.14	122.74
2-Oct	0.5	0.5	0.4	0.4	0.5	0.5	0.9	9.8	47.0	172.7	222.2	257.9	261.5	225.1	237.0	175.0	108.8	40.0	2.7	0.5	0.2	0.2	0.2	0.2	73.53	261.53
3-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.7	13.4	59.2	90.4	105.7	101.8	156.2	120.2	52.5	35.3	54.1	21.7	1.7	0.6	0.7	0.7	0.7	0.7	34.08	156.24
4-Oct	0.7	0.7	0.7	0.7	0.7	0.7	1.4	14.7	84.0	158.9	152.9	213.2	191.5	76.8	206.5	120.7	84.3	30.2	2.1	0.7	0.7	0.7	0.6	0.5	56.03	213.24
5-Oct	0.5	0.5	0.5	0.5	0.5	0.5	1.2	23.9	82.9	151.4	205.5	243.0	178.9	205.8	131.9	77.8	38.6	13.6	0.9	0.6	0.5	0.6	0.6	0.6	56.72	242.95
6-Oct	0.7	0.7	0.7	0.7	0.7	0.8	1.3	23.0	84.6	154.6	207.1	218.1	240.2	216.3	208.5	163.7	85.5	23.2	1.4	0.5	0.5	0.5	0.4	0.5	68.09	240.20
7-Oct	0.5	0.5	0.5	0.4	0.5	0.5	0.7	5.4	30.8	59.4	68.0	88.3	93.5	112.3	85.8	49.5	31.5	8.3	0.7	0.5	0.5	0.6	0.7	0.7	26.67	112.29
8-Oct	0.7	0.7	0.7	0.7	0.7	0.7	1.0	16.0	55.2	122.4	164.9	196.6	84.2	53.4	91.4	122.5	67.6	20.1	1.0	0.5	0.5	0.5	0.5	0.5	41.80	196.61
9-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.6	15.9	66.6	94.4	166.9	164.7	180.5	203.5	196.8	151.8	87.5	24.2	1.1	0.5	0.5	0.5	0.5	0.5	56.65	203.46
10-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.7	17.3	86.4	147.0	198.2	234.0	248.0	237.0	200.7	147.2	58.9	10.5	1.0	0.7	0.7	0.7	0.7	0.7	66.39	248.04
11-Oct	0.7	0.7	0.7	0.7	0.6	0.5	0.7	14.6	71.4	140.3	195.2	233.3	155.0	101.5	40.3	82.5	63.1	14.7	0.8	0.5	0.5	0.5	0.5	0.5	46.65	233.34
12-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.7	11.1	25.6	59.5	188.1	232.1	251.0	189.1	175.0	54.1	26.8	7.4	0.6	0.5	0.5	0.3	0.2	0.2	51.07	250.97
13-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.4	10.5	42.4	104.8	179.6	178.6	161.6	103.9	94.6	47.4	13.7	3.5	0.6	0.5	0.5	0.5	0.5	0.5	39.40	179.63
14-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.6	53.6	71.7	90.5	159.7	198.5	167.0	160.5	133.7	69.8	13.0	0.5	0.2	0.2	0.4	0.2	0.3	46.99	198.50
15-Oct	0.3	0.4	0.5	0.5	0.5	0.5	0.4	4.7	14.9	47.8	71.2	82.2	87.3	68.1	65.0	33.2	8.8	1.8	0.6	0.6	0.7	0.7	0.7	0.7	20.50	87.30
16-Oct	0.7	0.7	0.7	0.7	0.7	0.6	0.8	6.3	28.7	24.3	39.6	64.6	79.8	67.9	63.8	49.2	32.3	7.8	0.6	0.5	0.5	0.5	0.4	0.2	19.66	79.79
17-Oct	0.2	0.5	0.6	0.7	0.7	0.6	0.7	6.8	19.5	62.6	110.8	108.1	119.1	111.2	57.7	17.9	5.2	2.1	0.8	0.7	0.7	0.7	0.7	0.7	26.22	119.08
18-Oct	0.7	0.7	0.7	0.7	0.7	0.7	0.7	8.7	60.2	120.1	134.5	124.1	222.4	200.9	176.3	124.0	63.9	10.4	0.7	0.6	0.5	0.5	0.5	0.5	52.25	222.42
19-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.5	2.6	9.7	16.9	37.9	42.5	54.5	69.0	59.4	64.6	65.0	12.2	0.5	0.5	0.4	0.4	0.3	0.5	18.35	69.05
20-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.0	29.6	68.0	122.4	189.9	225.5	213.5	173.9	116.5	32.7	3.0	0.6	0.5	0.5	0.5	0.5	0.5	49.39	225.52
21-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.5	3.1	16.4	41.1	131.5	192.0	211.2	185.4	167.4	106.9	49.4	4.7	0.5	0.3	0.3	0.5	0.4	0.3	46.45	211.16
22-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.3	3.8	9.6	16.5	19.7	39.5	120.8	162.1	161.9	95.4	19.7	3.4	0.5	0.5	0.5	0.4	0.4	0.5	27.38	162.11
23-Oct	0.5	0.4	0.4	0.3	0.3	0.2	0.2	5.5	17.1	38.2	109.1	121.3	110.4	197.9	92.6	58.3	46.1	3.5	0.5	0.5	0.4	0.3	0.3	0.3	33.53	197.86
24-Oct	0.3	0.4	0.5	0.5	0.5	0.4	0.4	4.0	44.2	98.1	154.4	187.0	199.1	187.6	179.8	88.2	19.6	4.2	0.2	0.2	0.2	0.2	0.2	0.2	48.77	199.09
25-Oct	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.5	20.6	37.4	50.9	36.9	33.6	68.9	81.6	38.3	8.5	1.1	0.5	0.5	0.5	0.5	0.5	0.5	15.99	81.61
26-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.4	1.3	9.3	17.4	22.2	55.1	47.3	63.4	59.2	19.1	9.0	1.3	0.3	0.4	0.5	0.5	0.4	0.4	12.92	63.38
27-Oct	0.5	0.3	0.3	0.4	0.4	0.4	0.5	3.4	36.5	95.3	145.8	179.8	200.5	179.1	118.3	63.0	36.6	3.1	0.2	0.2	0.2	0.2	0.2	0.2	44.40	200.53
28-Oct	0.2	0.1	0.1	0.2	0.2	0.2	0.1	3.6	20.2	30.1	123.2	151.2	171.3	119.2	127.6	89.5	21.1	1.3	0.3	0.3	0.3	0.3	0.4	0.5	35.90	171.25
29-Oct	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.7	9.3	25.4	47.2	56.4	54.3	67.0	76.7	80.0	21.5	2.2	0.3	0.4	0.2	0.3	0.2	0.2	18.61	80.03
30-Oct	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.9	8.7	20.1	35.0	55.0	54.7	56.9	64.8	80.9	19.8	1.4	0.2	0.2	0.2	0.3	0.3	0.3	16.74	80.91
31-Oct	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.6	6.2	8.8	27.7	54.1	57.8	45.9	30.4	27.4	10.5	0.8	0.3	0.4	0.2	0.2	0.2	0.4	11.41	57.80
0.46 0.46 0.47 0.47 0.47 0.46 0.64 8.90 40.50 77.51 117.64 141.09 147.51 132.58 120.16 82.75 41.42 9.91 0.78 0.47 0.46 0.46 0.44 0.45																								Diurnal Average		
0.74 0.74 0.74 0.74 0.74 0.78 1.97 33.06 105.26 172.71 222.21 257.89 261.53 237.01 237.01 175.03 108.77 39.95 2.69 0.74 0.74 0.74 0.74 0.74																								Diurnal Maximum		



WCAS - Carrot Creek
Summary of Hourly Averages

Precipitation (PR) - mm
October 2014

Maximum Value: 0.10 mm on Oct 1 09:00 Maximum Daily Total: 0.10 mm on Oct 1 Minimum Value: 0.0 mm on Oct 1 01:00 Minimum Daily Total: 0.00 mm on Oct 2 Maximum Diurnal Total: 0.20 mm at hour 9 Minimum Diurnal Total: 0.00 mm at hour 1 Monthly Total: 0.400 mm Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0																								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 Total	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	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.10
2-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.10	0.10
4-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
5-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
6-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
7-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
8-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.10
11-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
14-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
16-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
17-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
18-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
19-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
20-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
21-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
23-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
24-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
26-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.10
27-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
28-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
29-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
31-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
																								Diurnal Average		
																								Diurnal Maximum		



WCAS - Carrot Creek
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2014

Maximum Value: 8.03 kph on Oct 24 16:00		Maximum Daily Average: 4.03 kph on Oct 2		Hours in Service: 744																							
Minimum Value: 0.6 kph on Oct 9 21:00		Minimum Daily Average: 1.51 kph on Oct 3		Hours of Data: 744																							
Maximum Diurnal Average: 3.70 kph at hour 15		Minimum Diurnal Average: 1.93 kph at hour 5		Hours of Missing Data: 0																							
Monthly Average: 2.458 kph		Percentiles: P ₁ = 0.8 P ₁₀ = 1.2 Q ₁ = 1.6 Median = 2.1 Q ₃ = 2.9 P ₉₀ = 4.2 P ₉₉ = 6.5		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1.7	1.2	1.5	1.5	1.9	1.9	2.0	2.4	2.9	2.4	2.3	2.5	5.4	5.0	5.8	4.5	5.9	5.1	3.2	4.6	6.1	7.0	5.8	4.2	3.62	6.98	
2-Oct	4.3	4.2	3.4	4.9	6.0	5.4	5.4	4.3	4.4	5.9	5.9	5.2	6.1	5.9	5.4	5.4	4.0	3.0	1.7	1.7	1.3	1.1	1.0	0.7	4.03	6.13	
3-Oct	1.4	1.0	1.0	0.9	0.7	1.3	0.9	1.4	1.5	1.0	1.5	2.0	2.0	2.8	3.1	1.2	1.2	1.9	2.0	1.8	1.4	1.3	1.5	1.6	1.51	3.05	
4-Oct	1.4	1.9	1.9	2.1	2.1	2.0	3.6	4.7	2.4	4.1	3.6	4.3	4.2	3.4	5.0	5.2	6.4	3.3	2.5	3.2	2.3	1.8	1.7	1.3	3.10	6.43	
5-Oct	1.6	1.4	1.1	1.6	1.8	1.7	1.6	1.0	1.8	1.8	2.1	4.0	3.1	3.5	3.1	2.1	1.5	1.1	1.1	1.6	1.3	1.3	1.6	1.8	1.86	4.01	
6-Oct	1.3	2.7	3.2	1.2	2.4	3.0	4.3	6.4	4.9	6.7	6.2	7.2	6.7	6.1	5.9	5.4	5.4	3.5	2.0	2.1	2.4	2.8	1.8	1.6	3.97	7.16	
7-Oct	2.4	1.5	2.0	1.4	1.2	1.5	1.4	2.6	1.9	1.5	1.2	1.3	1.3	1.2	1.5	1.6	1.1	0.9	1.1	1.0	1.6	2.4	2.6	2.4	1.61	2.64	
8-Oct	1.7	2.9	1.9	1.6	1.5	2.0	1.2	1.6	2.4	1.6	2.2	2.8	2.6	1.9	2.8	1.5	1.7	1.1	1.1	1.0	1.1	1.6	1.2	2.3	1.80	2.94	
9-Oct	2.1	1.6	3.3	2.8	1.8	1.8	1.8	1.4	1.3	1.7	1.9	1.9	1.4	1.8	1.9	2.2	1.4	1.3	1.4	1.4	0.6	0.9	1.2	0.9	1.67	3.34	
10-Oct	0.6	1.6	1.2	1.0	1.7	1.8	2.0	2.0	1.8	1.6	1.5	1.8	2.2	3.4	2.9	2.6	2.5	2.8	3.2	2.3	3.4	3.8	1.6	3.2	2.19	3.77	
11-Oct	7.9	5.1	4.2	5.1	2.4	2.2	1.4	1.2	3.3	3.0	4.2	5.3	5.6	5.5	3.2	3.2	5.5	4.0	2.6	1.7	1.9	1.7	0.9	1.3	3.43	7.87	
12-Oct	2.1	2.2	2.3	2.4	2.1	2.3	1.5	1.9	2.0	2.1	3.4	5.0	5.8	5.1	4.8	4.2	2.7	1.9	2.7	2.4	2.7	1.7	1.6	1.0	2.74	5.78	
13-Oct	2.2	1.4	1.1	1.0	1.2	1.4	2.2	1.5	1.1	1.9	2.1	2.0	2.1	3.3	3.3	3.3	3.3	2.6	3.7	2.4	2.7	2.0	1.8	2.4	2.16	3.66	
14-Oct	3.4	2.1	2.4	2.0	1.8	1.7	2.8	1.8	2.2	2.2	2.6	3.8	5.5	5.8	5.7	4.6	3.7	2.6	1.0	2.1	1.4	1.9	2.0	1.4	2.77	5.83	
15-Oct	1.4	1.8	1.9	1.5	1.0	1.7	1.8	2.6	2.1	2.6	1.9	2.2	2.6	2.7	4.2	3.2	2.8	2.5	1.5	2.1	1.7	1.0	1.2	1.2	2.06	4.18	
16-Oct	1.3	1.2	2.1	2.2	2.4	2.0	0.8	2.0	1.3	1.7	1.9	2.6	3.0	2.9	2.0	2.1	2.2	2.1	1.3	1.6	1.5	1.6	1.1	1.2	1.83	3.02	
17-Oct	1.6	1.4	3.3	1.2	1.4	1.5	1.2	1.5	1.5	2.1	2.1	2.3	2.4	2.0	1.6	2.6	2.3	2.0	1.9	1.2	1.5	2.3	2.2	1.9	1.88	3.27	
18-Oct	2.2	1.7	1.4	3.0	2.7	2.5	5.7	1.7	2.9	3.6	4.1	3.0	4.9	4.9	6.0	5.2	5.0	5.5	2.7	2.4	2.9	2.4	1.7	1.0	3.30	6.04	
19-Oct	1.6	2.5	1.9	1.6	1.8	3.6	1.5	2.1	1.9	1.7	1.8	2.4	2.0	2.2	3.5	1.3	1.3	1.9	1.5	1.7	1.5	0.9	1.5	2.7	1.93	3.63	
20-Oct	1.6	1.6	2.6	2.5	2.0	2.7	2.7	1.4	2.0	3.1	3.6	2.5	3.3	2.3	3.3	1.9	3.0	1.9	2.5	1.4	1.5	3.6	2.3	2.3	2.41	3.60	
21-Oct	3.0	2.2	1.3	2.0	1.5	2.3	1.9	1.8	2.3	1.6	1.8	1.7	2.6	3.2	2.9	2.7	2.5	1.9	1.4	1.1	1.6	3.9	4.7	1.6	2.22	4.74	
22-Oct	1.1	1.1	1.7	1.8	1.2	2.7	2.3	2.1	1.7	2.0	2.1	1.6	1.7	1.6	1.9	2.6	1.6	1.8	1.6	2.7	2.2	1.8	2.1	2.4	1.89	2.71	
23-Oct	1.3	2.2	1.7	1.8	2.0	2.0	1.8	2.1	3.7	2.6	2.3	2.8	5.9	6.3	5.9	6.6	2.0	2.9	3.5	1.5	1.4	2.3	2.6	4.9	3.01	6.60	
24-Oct	3.0	1.7	1.6	1.7	1.8	1.7	1.7	1.9	3.1	2.8	2.9	3.6	5.1	5.5	5.7	8.0	6.1	2.2	2.4	1.6	1.2	1.5	1.8	3.7	3.01	8.03	
25-Oct	2.4	2.3	1.2	0.9	1.1	1.9	0.9	1.8	2.3	1.7	3.0	3.6	3.7	4.3	5.3	4.5	4.1	3.9	3.2	2.5	3.1	2.7	2.5	2.0	2.71	5.34	
26-Oct	2.3	2.7	2.8	3.1	2.2	2.5	2.0	1.5	1.8	1.8	1.4	1.8	2.4	2.7	3.8	3.7	3.9	3.5	3.3	3.4	3.8	3.5	3.3	3.6	2.78	3.90	
27-Oct	3.8	4.8	4.4	4.1	2.7	2.4	1.9	1.3	1.9	2.0	2.9	3.4	3.8	3.5	3.4	3.4	1.7	1.1	1.6	1.4	0.8	0.6	1.1	0.8	2.46	4.81	
28-Oct	1.1	1.5	1.0	1.4	2.0	1.6	1.5	1.7	1.8	1.5	2.3	3.0	3.0	3.1	3.1	3.5	2.5	2.9	2.6	1.7	1.7	2.0	1.1	1.4	2.03	3.46	
29-Oct	1.7	1.2	1.1	1.3	1.4	1.1	1.4	1.9	1.2	1.8	2.0	2.6	1.5	1.8	2.4	2.2	1.4	1.2	1.7	1.3	2.0	2.1	1.9	1.1	1.64	2.56	
30-Oct	2.4	1.5	1.6	2.0	1.3	2.0	1.9	2.6	2.5	2.6	3.1	3.1	3.6	3.3	3.1	2.6	2.3	2.6	2.3	2.1	2.1	2.4	2.5	1.6	2.38	3.59	
31-Oct	1.8	2.6	1.4	1.7	3.2	2.4	2.3	1.6	1.8	2.7	2.5	1.5	1.3	4.1	2.1	1.6	2.8	2.2	2.1	1.3	1.7	2.0	3.0	2.3	2.17	4.07	
		2.19	2.10	2.06	2.04	1.93	2.15	2.11	2.13	2.24	2.43	2.67	2.99	3.46	3.58	3.70	3.38	3.02	2.49	2.14	1.95	2.02	2.19	2.03	2.00	Diurnal Average	
		7.87	5.06	4.43	5.13	6.01	5.39	5.67	6.42	4.87	6.65	6.22	7.16	6.74	6.30	6.04	8.03	6.43	5.55	3.66	4.60	6.05	6.98	5.83	4.94	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																											



WCAS - Carrot Creek
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2014

Maximum Value: 101.70 deg on Oct 3 08:00		Maximum Daily Average: 55.05 deg on Oct 3		Hours in Service: 744																							
Minimum Value: 4.5 deg on Oct 24 08:00		Minimum Daily Average: 12.23 deg on Oct 11		Hours of Data: 744																							
Maximum Diurnal Average: 38.95 deg at hour 8		Minimum Diurnal Average: 22.47 deg at hour 18		Hours of Missing Data: 0																							
Monthly Average: 30.356 deg		Percentiles: P ₁ = 6.2 P ₁₀ = 11.3 Q ₁ = 14.8 Median = 21.5 Q ₃ = 39.7 P ₉₀ = 68.9 P ₉₉ = 93.9		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	11.1	13.3	11.4	9.7	8.6	20.7	24.5	22.6	18.3	31.3	22.3	34.8	25.8	26.6	29.6	17.9	21.4	18.1	13.4	18.8	17.8	20.9	19.1	14.2	19.67	34.81	
2-Oct	14.2	17.8	15.0	14.4	13.8	15.1	14.7	14.6	15.3	15.5	17.1	18.2	21.3	24.3	22.6	24.1	21.0	26.2	56.8	42.6	15.1	17.8	9.1	18.4	20.21	56.77	
3-Oct	93.3	23.2	31.3	76.4	65.0	39.9	68.2	101.7	68.9	87.0	76.7	27.3	76.4	88.7	31.6	91.7	32.0	15.4	76.2	33.1	16.2	39.7	51.4	9.9	55.05	101.70	
4-Oct	13.5	15.8	25.9	20.2	19.1	9.7	88.7	41.6	9.1	11.1	9.7	10.2	11.8	12.1	16.5	17.9	22.4	19.0	17.5	17.9	13.7	17.3	18.4		20.05	88.74	
5-Oct	17.9	13.4	9.4	11.3	4.9	8.6	6.0	6.2	11.9	12.7	14.4	37.4	22.9	33.9	27.2	75.1	50.5	17.3	57.9	14.7	33.2	13.1	18.4	81.9	25.01	81.95	
6-Oct	78.4	91.2	8.6	10.9	30.1	11.0	34.1	21.5	17.7	20.8	21.2	18.3	20.9	21.7	22.9	24.9	24.6	22.6	21.5	24.8	23.1	46.2	20.1	16.3	27.22	91.23	
7-Oct	17.2	27.7	25.7	15.7	13.6	15.4	13.9	79.3	27.2	22.1	39.6	47.8	63.1	79.0	73.1	35.5	25.4	12.5	29.9	43.2	73.3	53.5	20.9	59.3	38.09	79.27	
8-Oct	16.3	19.2	12.3	16.2	11.4	15.8	34.0	50.5	25.7	79.3	32.0	26.5	19.1	17.1	62.4	72.8	19.9	29.2	13.1	32.8	17.2	64.4	80.0	91.9	35.79	91.90	
9-Oct	78.8	63.1	42.8	77.5	40.3	69.2	51.3	77.4	56.9	36.1	29.2	58.3	83.4	54.6	40.0	24.8	16.6	13.7	19.3	79.1	77.8	87.4	20.5	18.6	50.70	87.41	
10-Oct	16.0	17.9	15.3	19.1	10.2	20.2	21.8	63.1	25.5	34.9	77.5	43.4	42.9	49.5	24.1	20.5	15.9	40.6	39.7	16.5	12.9	14.8	17.0	26.2	28.57	77.47	
11-Oct	15.7	14.7	15.7	20.8	8.2	10.8	13.5	10.2	10.1	10.0	12.0	18.8	16.9	13.0	11.0	12.5	10.7	12.1	11.1	9.7	9.3	16.0	6.1	4.5	12.23	20.79	
12-Oct	5.8	7.8	8.2	8.0	9.4	6.6	6.8	6.2	8.9	8.1	11.6	14.2	18.1	19.0	19.2	13.6	10.5	17.2	21.3	12.1	20.2	19.0	14.8	11.4	12.41	21.29	
13-Oct	25.5	15.5	63.2	79.4	69.7	16.1	42.6	71.5	19.4	61.5	31.7	22.9	22.5	21.6	19.9	14.7	12.0	10.7	18.0	13.2	39.2	79.6	52.9	44.3	36.15	79.63	
14-Oct	51.6	17.0	26.1	18.0	56.3	98.1	34.2	40.7	41.6	27.5	12.1	21.9	19.6	19.5	20.0	20.2	20.5	61.6	48.3	13.1	14.2	25.7	23.1	61.3	33.00	98.07	
15-Oct	59.4	37.4	25.8	70.0	75.5	81.6	62.8	52.5	12.3	16.2	23.8	21.2	29.4	28.2	28.3	14.1	15.0	17.8	24.4	13.8	15.5	19.5	13.9	19.0	32.39	81.62	
16-Oct	17.6	16.3	13.3	15.7	13.4	20.9	25.2	54.5	44.6	33.2	18.2	26.3	22.1	62.2	31.6	30.5	17.4	18.7	28.2	26.8	23.1	67.2	24.1	94.1	31.05	94.13	
17-Oct	37.5	31.1	65.0	7.5	10.5	20.8	23.9	85.8	48.6	33.4	41.0	50.2	30.0	42.2	18.5	17.9	22.6	24.6	21.3	26.2	25.6	25.8	72.1	61.9	35.17	85.85	
18-Oct	89.2	61.0	79.7	71.9	72.9	97.1	25.7	24.9	42.3	14.8	10.3	10.8	10.2	12.7	11.1	10.2	8.5	16.4	14.8	15.0	14.5	46.2	35.7	32.5	34.52	97.05	
19-Oct	69.3	53.5	51.6	36.1	59.2	63.7	86.5	84.3	70.9	84.1	76.0	21.5	81.0	52.9	36.6	26.6	39.6	36.2	82.8	31.7	32.7	27.3	11.3	15.8	51.31	86.55	
20-Oct	16.6	27.0	9.8	21.1	23.4	22.0	47.5	43.4	26.3	18.7	75.2	23.4	28.3	22.0	35.1	82.1	49.6	34.3	54.2	63.3	32.2	26.4	19.3	73.1	36.43	82.11	
21-Oct	70.2	46.8	16.4	18.8	31.3	34.6	19.1	18.8	54.9	73.0	54.9	29.8	23.3	61.0	20.3	40.7	43.2	17.6	14.4	17.7	35.8	10.8	16.1	44.0	33.90	72.99	
22-Oct	22.3	34.6	81.5	40.0	31.7	48.3	16.7	31.9	24.3	61.4	70.9	55.4	66.6	54.9	100.3	45.7	98.3	64.6	27.0	44.9	52.2	71.2	70.1	79.5	53.92	100.25	
23-Oct	94.1	36.4	37.4	71.0	52.5	63.0	78.8	32.0	70.6	39.8	29.3	26.8	16.2	13.1	12.9	29.7	15.9	13.6	16.8	19.2	9.5	29.8	28.6	21.1	35.76	94.09	
24-Oct	15.8	9.8	10.9	11.0	6.4	7.8	8.7	4.5	7.8	11.9	11.6	10.9	10.7	12.8	11.7	21.8	19.4	25.3	17.2	11.3	9.6	8.9	23.3	64.0	14.71	64.05	
25-Oct	20.3	24.3	22.6	51.1	21.4	51.4	45.5	40.8	21.2	17.3	14.0	13.7	13.3	14.3	14.3	14.4	13.3	12.8	12.6	12.5	14.0	13.8	13.4	13.9	21.10	51.45	
26-Oct	17.2	14.5	17.0	19.3	29.9	13.9	28.2	18.7	23.7	19.5	18.0	13.1	12.9	15.1	14.5	14.6	13.5	14.9	13.3	13.6	13.7	12.7	11.6	13.6	16.54	29.87	
27-Oct	14.4	13.6	13.5	13.1	13.9	14.0	13.9	21.6	19.9	13.5	22.3	26.0	18.6	18.5	27.2	20.5	28.6	25.0	25.2	13.3	7.4	10.9	25.5	46.4	19.45	46.40	
28-Oct	54.9	49.7	25.2	18.2	73.6	43.5	57.9	20.6	48.4	15.9	16.9	28.3	22.1	18.9	18.8	16.0	15.4	14.5	25.1	16.4	18.2	19.8	49.7	54.1	30.92	73.61	
29-Oct	52.3	38.0	76.9	22.5	26.1	20.2	20.0	35.8	30.1	33.4	64.9	48.6	17.2	32.6	41.5	34.7	17.7	19.9	16.9	21.4	22.6	22.1	22.2	13.8	31.31	76.91	
30-Oct	32.9	25.1	13.8	23.9	18.3	35.5	19.6	13.2	13.5	15.1	18.0	17.3	16.8	18.8	14.1	23.7	23.8	11.8	14.5	11.6	13.5	15.2	19.7	14.2	18.50	35.53	
31-Oct	34.3	94.4	69.9	36.3	42.0	10.9	12.2	16.9	10.6	38.5	37.2	26.6	30.2	30.1	19.3	8.6	14.1	9.2	32.2	25.5	40.7	38.0	24.7	16.2	29.94	94.40	
		37.85	31.32	30.36	30.50	31.04	32.46	33.77	38.95	29.88	32.18	32.57	27.41	29.48	31.96	28.27	29.61	24.49	22.47	28.60	24.37	24.78	31.52	27.48	37.23	Diurnal Average	
		94.09	94.40	81.46	79.39	75.50	98.07	88.74	101.70	70.87	87.01	77.47	58.31	83.45	88.70	100.25	91.72	98.26	64.60	82.77	79.06	77.75	87.41	79.96	94.13	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																											

**STEEPER
STATION #905**

CONTINUOUS AIR MONITORING DATA

OCTOBER 2014

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Steeper Station 905												October 2014
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	24 Hour Average Max (ppm)
SO ₂ (ppb)	35	709	100.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.000
O ₃ (ppb)	36	708	100.0	31.1	0.0	48.6	18.8	25.5	32.4	37.3	41.3	0.044
NO (ppb)	37	707	100.0	0.1	0.0	14.1	0.0	0.0	0.0	0.0	0.0	-
NO ₂ (ppb)	37	707	100.0	0.9	0.0	11.1	0.0	0.0	0.3	1.0	2.0	0.004
NO _x (ppb)	37	707	100.0	0.7	0.0	17.9	0.0	0.0	0.0	0.2	1.7	-
CO (ppm)	36	708	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000
Particulate Matter 2.5 microns (μ/m ³)	5	739	100.0	0.9	0.0	5.6	0.0	0.0	0.5	1.5	2.5	2.88 ug/m3
Wind Speed (kph)	0	744	100.0	3.6	0.1	13.8	1.2	2.0	3.0	4.6	7.2	-
Temperature (°C)	0	744	100.0	5.3	-6.3	20.4	-2.1	0.7	5.3	9.2	12.5	-
Relative Humidity (%)	0	744	100.0	58.1	21.0	97.9	33.4	43.4	55.4	71.9	87.5	-
Std Dev Wind Direction (deg)	0	744	100.0	1.4	0.4	4.7	0.7	0.9	1.1	1.6	2.5	-
Std Dev Wind Speed (kph)	0	744	100.0	30.7	6.9	104.6	10.7	13.2	21.5	42.7	66.6	-



WCAS - Steeper
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
October 2014

Maximum Value: 1.13 ppb on Oct 9 17:00		Maximum Daily Average: 0.09 ppb on Oct 7		Hours in Service: 744																									
Minimum Value: 0.0 ppb on Oct 1 01:00		Minimum Daily Average: 0.00 ppb on Oct 1		Hours of Data: 709																									
Maximum Diurnal Average: 0.06 ppb at hour 15		Minimum Diurnal Average: 0.00 ppb at hour 1		Hours of Missing Data: 35																									
Monthly Average: 0.009 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.3		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	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	0.00			
3-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			
4-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			
5-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	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.77			
6-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			
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	1.0	0.0	0.0	0.0	0.0	0.4	0.5	0.2	0.1	0.0	0.0	0.09	1.04			
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	0.3	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.27			
9-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	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	1.13			
10-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			
11-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			
12-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			
13-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			
14-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			
15-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			
16-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.12			
17-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			
18-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			
19-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			
20-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			
21-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
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	0.00	0.00			
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	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
24-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			
25-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			
26-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			
27-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			
28-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	0.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.87			
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	0.00			
30-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			
31-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			
		0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.05	0.04	0.00	0.01	0.01	0.01	0.00	0.00		Diurnal Average				
		0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.26	1.13	0.87	0.04	0.39	0.46	0.16	0.08	0.00		Diurnal Maximum				
Z - zerospan		C - Calibration																											
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb				24-hr 48 ppb																							



WCAS - Steeper
Summary of Hourly Averages

Ozone (O₃) - ppb
October 2014

Maximum Value: 48.61 ppb on Oct 19 19:00		Maximum Daily Average: 43.59 ppb on Oct 19		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Oct 30 19:00		Minimum Daily Average: 12.57 ppb on Oct 30		Hours of Data: 708																							
Maximum Diurnal Average: 33.68 ppb at hour 16		Minimum Diurnal Average: 28.75 ppb at hour 23		Hours of Missing Data: 36																							
Monthly Average: 31.062 ppb		Percentiles: P ₁ = 4.8 P ₁₀ = 18.8 Q ₁ = 25.5 Median = 32.4 Q ₃ = 37.3 P ₉₀ = 41.3 P ₉₉ = 46.4		Hours of Calibration: 36																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	31.5	32.5	33.4	Z	34.9	35.6	36.4	36.8	35.7	36.7	35.4	40.4	41.2	41.8	40.2	34.9	34.5	35.5	33.2	29.6	26.9	24.1	22.0	21.6	33.69	41.80	
2-Oct	23.9	25.4	26.0	Z	23.2	23.1	23.5	23.6	25.0	25.3	25.6	26.0	26.7	27.3	27.3	27.9	28.5	25.5	24.6	25.3	24.2	20.8	17.9	16.8	24.49	28.53	
3-Oct	16.2	17.9	17.9	Z	23.9	29.9	27.2	29.4	29.6	33.8	32.7	31.2	29.5	31.6	33.0	32.4	32.4	31.6	30.4	30.4	30.2	29.5	26.8	28.5	28.52	33.79	
4-Oct	28.8	26.6	27.6	Z	25.2	26.0	28.7	27.6	26.7	29.2	34.2	38.0	40.2	40.1	39.1	39.3	38.8	37.0	34.4	35.1	36.3	35.3	34.9	34.7	33.21	40.23	
5-Oct	36.6	36.8	37.5	Z	39.4	40.0	38.9	38.1	35.2	35.3	35.6	37.5	39.0	36.3	36.2	41.6	43.9	41.5	40.5	40.9	39.2	38.0	38.7	36.9	38.41	43.85	
6-Oct	34.7	34.4	35.8	Z	38.3	37.8	36.9	35.4	32.4	33.4	35.7	41.4	43.8	43.6	44.5	44.5	44.8	42.5	44.2	42.7	40.5	39.6	38.5	38.5	39.30	44.84	
7-Oct	37.4	38.0	36.1	Z	32.4	32.3	32.2	32.1	28.2	27.8	36.9	39.8	39.1	36.0	35.8	34.8	35.1	33.2	31.4	30.2	28.7	24.6	17.5	20.9	32.20	39.85	
8-Oct	23.0	23.0	17.0	Z	14.4	13.8	13.8	12.3	17.1	21.2	25.8	29.6	27.5	30.2	30.8	30.4	29.5	28.5	27.7	26.0	25.2	21.3	19.7	18.6	22.89	30.76	
9-Oct	16.4	15.6	16.9	Z	16.2	15.5	17.0	16.9	17.8	15.1	14.5	18.8	25.0	33.1	32.1	30.7	28.7	28.3	29.3	25.6	20.8	20.6	21.6	22.4	21.69	33.14	
10-Oct	23.5	22.9	26.2	Z	23.8	29.2	30.3	30.7	33.6	35.2	35.0	38.0	38.4	39.3	40.1	40.2	37.5	41.0	41.7	40.1	38.2	35.8	34.4	34.4	34.33	41.69	
11-Oct	32.5	37.1	32.5	Z	26.3	28.2	31.1	31.1	31.0	33.3	36.8	39.4	38.9	37.7	36.3	35.4	34.8	34.9	32.0	31.1	29.1	32.2	33.4	34.0	33.44	39.40	
12-Oct	33.7	32.3	33.2	Z	35.2	35.2	35.3	33.9	33.2	34.3	36.5	37.1	37.2	36.6	36.8	36.4	35.7	34.1	33.4	34.5	35.3	36.0	35.7	34.8	35.07	37.21	
13-Oct	34.8	33.7	33.7	Z	33.3	33.9	34.4	31.5	32.9	32.8	34.2	35.1	34.8	36.1	31.8	30.3	30.1	36.2	35.1	35.3	36.4	36.0	37.7	37.3	34.23	37.66	
14-Oct	37.0	36.7	34.0	Z	31.0	30.3	33.0	32.8	34.0	33.2	34.0	31.1	37.8	38.9	34.6	36.1	36.0	33.9	36.3	41.0	46.1	42.1	33.2	34.6	35.55	46.15	
15-Oct	34.4	32.3	33.0	Z	33.4	33.5	33.6	28.8	27.3	24.6	24.3	28.9	23.9	22.0	19.8	23.8	32.0	29.1	27.6	24.7	23.8	22.6	21.1	20.3	27.16	34.39	
16-Oct	19.0	18.8	18.8	Z	12.0	10.5	10.7	7.7	9.4	13.0	15.7	22.9	30.8	21.7	21.5	19.8	17.9	25.2	33.9	34.9	31.8	31.3	29.8	30.3	21.18	34.91	
17-Oct	30.4	30.7	29.9	Z	32.5	35.3	30.1	31.6	37.9	31.4	32.6	36.0	33.1	37.7	40.2	41.1	39.6	38.4	38.8	36.0	33.9	37.6	40.0	40.5	35.45	41.06	
18-Oct	40.3	40.3	38.2	Z	41.6	41.9	41.3	41.9	42.5	40.3	42.4	42.9	44.0	45.2	44.7	44.9	44.6	44.4	44.6	46.1	43.4	44.3	40.8	39.4	42.61	46.07	
19-Oct	40.6	42.1	42.5	Z	43.2	43.4	45.1	44.3	38.7	39.4	37.7	34.7	37.9	44.6	46.5	47.1	46.2	47.7	48.6	48.1	46.0	46.8	46.8	44.6	43.59	48.61	
20-Oct	44.5	44.8	45.9	Z	44.3	41.9	42.1	44.0	41.8	42.2	39.8	44.5	44.8	42.7	44.3	46.0	45.1	45.5	44.1	44.1	42.9	40.1	36.0	38.9	43.06	45.96	
21-Oct	37.9	36.3	35.0	Z	29.9	33.9	30.4	28.5	28.6	29.5	C	C	C	C	C	39.6	40.1	39.4	38.8	38.3	37.1	37.3	38.4	38.2	35.40	40.07	
22-Oct	39.8	39.2	38.5	Z	37.7	38.5	38.0	37.7	35.0	33.8	31.5	31.8	35.9	35.2	38.0	38.3	37.1	36.9	36.3	38.3	38.4	36.8	33.9	31.4	36.43	39.82	
23-Oct	30.6	30.6	29.2	Z	27.5	28.1	31.1	36.1	42.2	41.7	40.3	39.9	40.2	40.4	40.1	39.7	38.9	38.8	38.2	37.3	34.2	31.2	35.1	37.8	36.04	42.22	
24-Oct	38.8	37.2	35.6	Z	33.0	34.6	31.8	28.9	26.0	24.8	26.4	34.8	37.7	37.7	37.6	37.0	37.1	35.5	34.7	36.0	36.6	35.8	35.6	35.3	34.28	38.77	
25-Oct	35.2	35.1	31.9	Z	32.3	32.1	31.3	27.9	27.1	26.6	28.2	29.4	29.5	30.7	31.9	31.7	31.0	29.0	28.8	28.2	25.9	23.0	20.8	19.5	29.00	35.17	
26-Oct	19.2	16.8	16.0	Z	12.9	15.7	18.1	18.5	16.3	16.7	18.4	17.6	15.7	16.2	16.7	16.4	18.8	19.6	20.4	20.9	20.3	19.2	19.8	22.0	17.92	22.02	
27-Oct	23.1	23.8	23.0	Z	23.6	22.5	23.4	21.9	21.1	20.3	22.3	26.5	31.1	33.1	31.8	31.8	31.6	31.8	32.3	31.4	30.6	29.8	22.4	25.0	26.70	33.05	
28-Oct	24.8	27.5	28.8	Z	27.9	28.3	31.0	29.6	27.4	27.3	22.6	25.5	27.5	20.6	23.8	25.2	25.5	15.3	13.0	11.5	8.9	7.7	4.9	7.0	21.37	31.05	
29-Oct	13.6	28.7	32.6	Z	31.1	31.9	32.9	29.1	27.1	24.6	25.9	22.8	28.2	29.3	25.7	25.3	16.8	25.1	27.7	31.3	27.1	23.7	25.6	23.1	26.49	32.93	
30-Oct	23.2	22.4	23.1	Z	23.8	23.4	25.7	24.1	23.9	24.8	20.8	8.0	6.3	6.8	8.0	7.3	5.2	1.6	0.0	0.6	2.6	4.5	1.5	1.5	12.57	25.75	
31-Oct	9.9	13.8	24.4	Z	35.0	34.4	35.1	32.3	31.6	28.1	29.5	24.3	21.1	26.3	32.9	34.3	32.9	23.7	27.1	28.4	29.9	30.0	26.9	23.1	27.60	35.14	
		29.52	30.11	30.13	--	29.65	30.35	30.67	29.84	29.56	29.54	30.37	31.79	32.89	33.28	33.40	33.68	33.25	32.60	32.55	32.37	31.31	30.25	28.75	28.77	Diurnal Average	
		44.50	44.77	45.94	--	44.34	43.42	45.10	44.26	42.54	42.20	42.36	44.46	44.79	45.16	46.53	47.10	46.20	47.71	48.61	48.05	46.15	46.76	46.81	44.56	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 82.5 ppb		24-hr -- ppb																							



WCAS - Steeper
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
October 2014

Maximum Value: 14.10 ppb on Oct 29 09:00		Maximum Daily Average: 1.86 ppb on Oct 30		Hours in Service: 744																									
Minimum Value: 0.0 ppb on Oct 1 01:00		Minimum Daily Average: 0.00 ppb on Oct 2		Hours of Data: 707																									
Maximum Diurnal Average: 0.70 ppb at hour 9		Minimum Diurnal Average: 0.00 ppb at hour 2		Hours of Missing Data: 37																									
Monthly Average: 0.130 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 4.6		Hours of Calibration: 37																									
				Percent Operational Time: 100.0																									
Day	Hourly Period Ending At																								Daily Average	Daily Maximum			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
1-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	1.31			
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	0.00			
3-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	0.1	0.0	0.00	0.05			
4-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			
5-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			
6-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			
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	4.2	0.0	0.18	4.20			
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	0.0	0.00	0.00			
9-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.29			
10-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	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.14			
11-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.13			
12-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			
13-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.43			
14-Oct	0.0	0.0	0.7	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	0.72			
15-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.50			
16-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			
17-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			
18-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			
19-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.33	7.53			
20-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			
21-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	0.00			
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	0.00	0.00			
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	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
24-Oct	0.0	0.0	0.0	Z	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	1.42			
25-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			
26-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			
27-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	11.4	0.0	0.50	11.43			
28-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	3.9	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.26	3.91			
29-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	14.1	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.64	14.10			
30-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	8.6	8.7	5.9	5.1	3.8	3.1	1.9	1.1	0.8	0.0	0.0	1.8	1.9	1.86	8.74				
31-Oct	0.2	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.23			
		0.01	0.00	0.02	--	0.00	0.00	0.00	0.70	0.00	0.06	0.36	0.31	0.34	0.21	0.14	0.11	0.06	0.04	0.03	0.00	0.00	0.56	0.06	Diurnal Average				
		0.23	0.00	0.72	--	0.00	0.00	0.00	14.10	0.00	1.31	8.60	8.74	5.90	5.09	3.78	3.08	1.88	1.11	0.82	0.00	0.01	11.43	1.93	Diurnal Maximum				
Z - zerospan		C - Calibration																											
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																							



WCAS - Steeper
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2014

Maximum Value: 11.08 ppb on Oct 28 23:00		Maximum Daily Average: 4.01 ppb on Oct 30		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Oct 1 01:00		Minimum Daily Average: 0.04 ppb on Oct 17		Hours of Data: 707																													
Maximum Diurnal Average: 1.69 ppb at hour 23		Minimum Diurnal Average: 0.45 ppb at hour 7		Hours of Missing Data: 37																													
Monthly Average: 0.871 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.3 Q ₃ = 1.0 P ₉₀ = 2.0 P ₉₉ = 8.6		Hours of Calibration: 37																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	1.0	0.0	0.0	0.0	0.1	0.4	0.3	0.1	0.1	0.3	0.4	0.5	0.7	0.5	0.21	1.02							
2-Oct	0.6	0.8	1.0	Z	1.0	0.5	0.5	0.5	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.4	0.3	0.5	0.9	0.5	0.3	0.2	0.2	0.41	0.98							
3-Oct	0.2	0.2	0.1	Z	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.2	0.3	0.0	0.1	0.0	0.0	0.0	0.1	2.1	0.2	0.20	2.10							
4-Oct	0.2	1.2	0.8	Z	0.1	0.1	0.3	0.2	0.6	0.1	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	0.17	1.24							
5-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	1.5	0.8	0.0	0.0	0.3	0.3	0.4	0.1	0.0	0.2	0.1	0.2	0.2	0.2	0.2	1.4	0.26	1.54							
6-Oct	1.0	0.4	0.4	Z	0.3	0.2	0.3	0.3	0.8	0.6	0.5	0.2	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.2	0.9	0.6	0.6	0.7	0.40	1.24							
7-Oct	1.0	0.6	0.2	Z	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.1	0.3	1.0	1.0	0.7	0.6	1.0	1.4	1.8	1.9	3.5	8.5	4.8	1.26	8.54							
8-Oct	2.7	2.0	1.3	Z	1.3	1.0	1.5	1.7	1.4	1.0	0.7	0.9	2.0	0.8	0.4	0.7	0.7	0.8	0.8	0.8	1.8	0.8	1.2	0.0	1.15	2.68							
9-Oct	0.0	0.0	0.0	Z	0.0	0.2	0.2	0.0	0.0	0.5	1.7	1.2	0.4	0.0	0.3	0.7	1.2	1.1	1.0	1.0	0.7	0.9	1.0	1.3	0.58	1.69							
10-Oct	1.1	0.7	0.8	Z	0.6	0.5	0.5	0.4	0.4	1.0	0.5	0.2	0.2	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.39	1.79							
11-Oct	0.0	0.0	0.0	Z	0.3	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	1.0	1.2	0.4	0.3	0.4	0.4	0.24	1.19							
12-Oct	0.4	1.2	0.8	Z	0.5	0.4	0.3	0.3	0.3	0.2	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	0.22	1.22							
13-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.3	0.2	0.2	0.3	0.4	0.3	0.2	0.2	0.2	0.14	0.71							
14-Oct	0.3	0.3	2.4	Z	0.5	0.4	0.4	0.4	0.6	0.3	0.3	0.2	0.1	0.2	0.3	0.2	0.5	1.4	0.7	0.2	0.0	0.0	0.0	0.0	0.42	2.37							
15-Oct	0.0	0.0	0.0	Z	0.6	0.8	0.6	1.0	0.1	0.9	1.2	0.9	1.6	4.6	3.5	3.0	1.0	0.9	1.3	1.8	1.4	1.2	1.2	1.6	1.27	4.60							
16-Oct	1.8	1.6	1.3	Z	0.9	0.8	1.4	2.9	0.9	1.0	0.5	0.2	0.6	1.3	3.5	1.2	1.5	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.97	3.49							
17-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	0.1	0.1	0.2	0.2	0.3	0.04	0.31							
18-Oct	0.4	0.4	0.6	Z	0.5	0.4	0.4	0.8	0.4	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.21	0.82							
19-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.3	0.21	3.65							
20-Oct	0.4	0.5	0.5	Z	0.5	0.4	0.4	0.3	0.3	0.2	0.1	0.1	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	0.2	0.34	1.33							
21-Oct	0.6	0.4	0.2	Z	0.8	0.4	0.0	0.0	0.0	0.0	C	C	C	C	C	C	1.4	0.8	0.7	0.7	0.7	0.8	0.7	0.7	--	1.43							
22-Oct	0.8	0.9	0.6	Z	0.4	0.4	0.3	0.4	0.5	0.6	0.7	1.0	0.1	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.2	0.8	1.8	0.49	1.76							
23-Oct	0.6	0.2	1.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.0	0.1	0.2	0.2	0.2	0.5	1.7	1.4	1.4	0.34	1.70							
24-Oct	1.8	1.5	0.6	Z	0.4	0.5	0.7	1.2	0.9	0.7	0.2	0.7	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.40	1.79							
25-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.2	2.2	2.0	2.0	1.5	1.3	1.2	1.1	1.2	1.9	2.4	3.5	3.9	3.8	5.2	3.5	2.6	2.7	1.83	5.23							
26-Oct	3.1	4.4	4.0	Z	7.1	6.6	3.8	3.3	3.9	2.6	1.9	2.0	2.4	1.9	1.7	2.0	1.6	1.7	0.9	0.4	0.3	0.2	0.3	0.3	2.45	7.10							
27-Oct	0.1	0.0	0.0	Z	0.0	1.0	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.2	1.7	1.5	1.0	1.5	1.4	1.0	6.7	0.9	0.86	6.65							
28-Oct	0.9	0.8	0.8	Z	0.6	0.4	0.4	0.6	0.8	0.8	0.9	1.7	2.7	6.1	5.6	4.1	4.1	6.8	6.7	7.3	9.2	9.1	11.1	10.0	3.97	11.08							
29-Oct	6.7	1.4	0.3	Z	0.3	0.1	0.1	0.6	2.8	1.4	1.2	2.3	0.2	0.3	2.3	2.1	6.0	2.8	1.1	0.3	1.8	1.4	0.5	0.7	1.59	6.69							
30-Oct	0.5	0.5	0.5	Z	0.5	0.4	0.3	0.4	0.6	0.5	0.4	5.3	4.7	3.7	4.3	4.3	6.3	8.5	9.7	9.5	8.8	7.4	7.5	7.7	4.01	9.73							
31-Oct	5.2	4.0	0.9	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.6	2.2	1.5	1.1	0.9	0.5	0.9	1.0	1.9	2.7	1.4	2.6	1.9	1.37	5.21							
		0.97	0.77	0.62	--	0.55	0.50	0.45	0.58	0.74	0.51	0.55	0.68	0.67	0.82	0.90	0.85	1.06	1.14	1.05	1.11	1.28	1.19	1.69	1.29	Diurnal Average							
		6.69	4.39	3.98	--	7.10	6.64	3.83	3.30	3.93	2.64	1.94	5.25	4.73	6.07	5.63	4.30	6.28	8.51	9.73	9.51	9.22	9.14	11.08	9.97	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb				24-hr 106 ppb																											



WCAS - Steeper
Summary of Hourly Averages

NOx (NO_x) - ppb
October 2014

Maximum Value: 17.93 ppb on Oct 27 23:00		Maximum Daily Average: 5.72 ppb on Oct 30		Hours in Service: 744																						
Minimum Value: 0.0 ppb on Oct 1 01:00		Minimum Daily Average: 0.00 ppb on Oct 17		Hours of Data: 707																						
Maximum Diurnal Average: 1.90 ppb at hour 23		Minimum Diurnal Average: 0.13 ppb at hour 7		Hours of Missing Data: 37																						
Monthly Average: 0.683 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.2 P ₉₀ = 1.7 P ₉₉ = 10.9		Hours of Calibration: 37																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	2.42
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	0.05
3-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	2.2	0.0	0.09	2.18
4-Oct	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.17
5-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.09	1.01
6-Oct	0.9	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	0.5	0.0	0.0	0.1	0.0	0.0	0.0	0.06	0.89	
7-Oct	0.3	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.1	0.4	0.8	0.8	2.4	12.8	4.4	0.99	12.83	
8-Oct	1.5	0.8	0.2	Z	0.1	0.0	0.4	0.7	0.5	0.2	0.0	0.2	1.7	0.1	0.0	0.0	0.0	0.0	0.1	1.0	0.1	1.3	0.0	0.38	1.66	
9-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	2.1	1.3	0.0	0.0	0.1	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.20	2.09	
10-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.9	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	0.13	2.02	
11-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.07	1.17	
12-Oct	0.0	0.2	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.20	
13-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	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	0.0	0.03	0.43	
14-Oct	0.0	0.0	3.3	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	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.17	3.30	
15-Oct	0.0	0.0	0.0	Z	0.0	0.2	0.0	0.3	0.0	0.3	0.7	0.4	1.0	5.2	3.2	2.5	0.1	0.0	0.3	0.9	0.4	0.2	0.1	0.5	0.72	5.19
16-Oct	0.6	0.4	0.1	Z	0.0	0.0	0.3	1.9	0.0	0.3	0.0	0.0	0.0	1.1	3.2	0.7	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.44	3.23	
17-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	
18-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	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.42	
19-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.49	11.17	
20-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	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.10	1.31	
21-Oct	0.0	0.0	0.0	Z	0.1	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	C	0.5	0.0	0.0	0.0	0.0	0.0	0.0	--	0.45	
22-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.11	1.36	
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	0.0	0.8	0.5	0.4	0.07	0.76	
24-Oct	0.9	0.5	0.0	Z	0.0	0.0	0.0	0.3	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	2.19	
25-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	1.6	1.4	1.6	1.0	0.9	1.2	1.0	0.9	1.5	1.7	2.8	3.1	3.0	4.4	2.7	1.8	1.8	1.42	4.42
26-Oct	2.2	3.7	3.0	Z	6.2	5.8	2.9	2.4	3.1	2.0	1.3	1.5	2.1	1.7	1.2	1.5	1.2	1.2	0.1	0.0	0.0	0.0	0.0	1.88	6.20	
27-Oct	0.0	0.0	0.0	Z	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	1.0	0.7	0.2	0.6	0.6	0.1	17.9	0.98	17.93	
28-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.4	1.6	3.3	10.1	6.9	4.7	3.7	6.2	6.0	6.6	8.5	8.4	10.8	9.3	3.75	10.77	
29-Oct	6.0	0.7	0.0	Z	0.0	0.0	0.0	0.0	16.1	0.9	0.7	2.7	0.0	0.0	2.2	1.8	6.3	2.0	0.3	0.0	0.9	0.5	0.0	1.80	16.13	
30-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9	13.6	9.6	9.5	8.1	9.4	10.5	11.0	10.5	8.7	7.5	9.4	5.72	13.92	
31-Oct	5.5	3.9	0.3	Z	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.3	2.1	1.1	0.5	0.1	0.0	0.1	0.2	1.1	1.9	0.6	1.7	1.1	0.99	5.55
		0.58	0.34	0.23	--	0.21	0.20	0.13	0.23	1.08	0.22	0.37	0.88	0.84	1.05	0.94	0.76	0.90	0.81	0.70	0.77	0.88	0.77	1.90	0.94	Diurnal Average
		6.03	3.89	3.30	--	6.20	5.75	2.94	2.43	16.13	2.04	2.42	13.92	13.55	10.10	9.45	8.12	9.43	10.52	10.98	10.49	8.66	8.44	17.93	9.80	Diurnal Maximum
Z - zerospan		C - Calibration																								
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																				



WCAS - Steeper
Summary of Hourly Averages

Carbon Monoxide (CO) - ppm
October 2014

Maximum Value: 0.04 ppm on Oct 21 11:00		Maximum Daily Average: 0.00 ppm on Oct 21		Hours in Service: 744																																														
Minimum Value: 0.0 ppm on Oct 1 01:00		Minimum Daily Average: 0.00 ppm on Oct 1		Hours of Data: 708																																														
Maximum Diurnal Average: 0.00 ppm at hour 11		Minimum Diurnal Average: 0.00 ppm at hour 1		Hours of Missing Data: 36																																														
Monthly Average: 0.000 ppm		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 0.0		Hours of Calibration: 36																																														
				Percent Operational Time: 100.0																																														
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																										
1-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	0.0	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	0.0	0.00	0.00																							
3-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	0.0	0.00	0.00																							
4-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	0.0	0.00	0.00																							
5-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	0.0	0.00	0.00																							
6-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	0.0	0.00	0.00																							
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	0.0	0.0	0.00	0.00																							
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	0.0	0.0	0.00	0.00																							
9-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	0.0	0.00	0.00																							
10-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	0.0	0.00	0.00																							
11-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	0.0	0.00	0.00																							
12-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	0.0	0.00	0.00																							
13-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	0.0	0.00	0.00																							
14-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	0.0	0.00	0.00																							
15-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	0.0	0.00	0.00																							
16-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	0.0	0.00	0.00																							
17-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	0.0	0.00	0.00																							
18-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	0.0	0.00	0.00																							
19-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	0.0	0.00	0.00																							
20-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	0.0	0.00	0.00																							
21-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.04																							
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	0.0	0.00	0.00																							
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	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00																							
24-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	0.0	0.00	0.00																							
25-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	0.0	0.00	0.00																							
26-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	0.0	0.00	0.00																							
27-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	0.0	0.00	0.00																							
28-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	0.0	0.00	0.00																							
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	0.0	0.00	0.00																							
30-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	0.0	0.00	0.00																							
31-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	0.0	0.00	0.00																							
																								0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Average		
																								0.00	0.00	0.00	--	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Diurnal Maximum	
Z - zerospan C - Calibration																																																		
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 13000 ppb 24-hr 5000 ppb																																																		



WCAS - Steeper
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
October 2014

Maximum Value: 5.58 µg/m ³ on Oct 26 11:00		Maximum Daily Average: 2.88 µg/m ³ on Oct 8		Hours in Service: 744																																													
Minimum Value: 0.0 µg/m ³ on Oct 1 01:00		Minimum Daily Average: 0.04 µg/m ³ on Oct 13		Hours of Data: 739																																													
Maximum Diurnal Average: 1.12 µg/m ³ at hour 11		Minimum Diurnal Average: 0.54 µg/m ³ at hour 4		Hours of Missing Data: 5																																													
Monthly Average: 0.893 µg/m ³		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.5 Q ₃ = 1.5 P ₉₀ = 2.5 P ₉₉ = 4.6		Hours of Calibration: 5																																													
				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	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.0	0.6	3.0	3.0	1.8	1.3	2.2	1.2	0.9	1.6	1.2	0.7	0.77	3.01																							
2-Oct	0.5	1.4	1.4	1.3	1.7	1.6	1.6	1.7	0.7	0.7	0.1	0.0	0.0	0.0	0.4	0.1	1.2	0.7	1.7	1.3	0.1	0.0	0.4	0.0	0.77	1.68																							
3-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.8	1.2	1.2	0.0	1.2	0.9	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.30	1.35																							
4-Oct	0.0	0.0	0.5	0.1	0.4	0.0	1.6	0.0	0.9	0.3	0.0	0.4	0.0	0.4	0.2	0.8	0.0	0.8	0.5	0.7	1.1	0.9	0.7	0.7	0.44	1.65																							
5-Oct	0.5	0.6	1.1	1.6	1.7	1.9	0.9	1.5	2.2	1.5	2.4	0.1	2.3	3.4	3.4	0.5	0.1	1.6	1.5	0.7	0.1	0.9	1.2	0.9	1.36	3.45																							
6-Oct	1.4	1.6	0.0	0.0	0.0	1.5	1.0	1.3	1.6	0.6	0.0	0.0	0.0	0.3	0.4	0.0	0.5	0.1	2.0	2.9	2.3	2.2	1.8	0.89	2.94																								
7-Oct	2.2	2.4	1.8	1.1	2.5	1.8	1.5	2.2	1.9	2.4	0.4	1.2	1.3	2.1	2.2	1.8	1.5	2.4	2.5	3.2	3.2	4.6	5.2	5.0	2.36	5.23																							
8-Oct	3.8	3.3	2.9	2.8	2.9	2.8	2.8	3.3	3.9	5.0	4.5	2.6	3.7	2.1	1.6	3.3	3.8	2.2	2.1	1.9	2.3	1.7	2.0	1.8	2.88	5.00																							
9-Oct	1.7	2.0	2.0	0.9	0.2	0.7	0.0	0.0	0.9	1.9	2.0	2.1	0.0	0.0	0.1	2.2	3.2	0.9	1.5	1.5	0.5	0.4	0.0	0.0	1.02	3.25																							
10-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4	0.0	0.7	1.1	0.13	1.06																							
11-Oct	2.3	2.0	0.1	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.8	0.0	1.1	0.0	0.6	0.1	0.0	0.3	0.2	0.6	0.38	2.25																							
12-Oct	0.1	1.1	0.3	0.1	0.5	0.2	0.0	0.8	1.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.1	0.1	0.23	1.13																							
13-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.04	0.48																							
14-Oct	0.9	0.2	0.4	0.5	0.0	0.7	1.1	1.1	1.7	2.0	1.1	2.1	0.0	2.4	2.9	0.9	0.3	2.2	0.4	0.0	2.0	0.4	0.0	0.0	0.97	2.87																							
15-Oct	0.0	0.5	0.5	0.1	0.1	0.9	0.2	1.4	1.3	2.0	2.7	2.8	3.5	2.9	4.0	2.9	1.9	1.2	1.6	1.7	1.0	1.0	0.3	0.3	1.45	4.03																							
16-Oct	0.4	0.1	0.4	0.0	0.0	0.4	1.1	1.9	1.6	2.2	2.4	0.6	0.3	2.1	2.4	2.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.86	2.44																							
17-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.3	0.3	0.0	0.3	0.0	0.2	0.0	0.1	0.1	0.5	0.13	1.33																							
18-Oct	0.0	0.0	0.0	0.0	0.7	0.1	1.3	1.2	0.8	0.4	1.6	0.4	0.5	1.2	0.1	0.9	0.8	1.1	0.8	1.1	1.2	0.3	0.0	0.3	0.62	1.59																							
19-Oct	0.0	0.8	0.3	0.3	0.0	0.4	0.1	0.0	0.2	0.0	0.3	1.4	0.0	0.0	0.0	0.4	1.2	0.0	0.1	0.0	1.2	1.2	1.2	0.7	0.41	1.35																							
20-Oct	0.5	1.1	1.0	0.7	1.7	0.5	1.4	1.0	1.6	1.5	1.9	0.2	0.1	1.1	0.6	0.8	0.0	0.0	0.0	0.0	1.4	1.1	2.5	2.1	0.94	2.51																							
21-Oct	0.5	2.6	1.1	0.8	1.8	0.9	0.8	1.1	1.1	1.1	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.62	2.64																							
22-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	0.7	0.8	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.18	1.07																							
23-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.8	0.9	0.3	0.6	0.2	0.1	0.9	0.6	0.7	1.0	0.0	0.7	2.6	1.6	0.49	2.55																							
24-Oct	2.3	2.5	2.0	0.7	0.1	0.0	0.8	1.2	1.2	0.9	1.4	0.1	0.0	0.0	0.1	0.1	0.4	0.1	0.0	0.3	0.0	0.1	0.0	0.1	0.60	2.54																							
25-Oct	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	0.7	1.2	0.5	1.8	2.3	1.0	1.8	0.46	2.29																							
26-Oct	2.7	2.0	3.1	2.9	2.9	3.7	3.8	4.0	4.4	4.6	5.6	5.0	3.4	2.7	2.3	2.8	2.2	2.3	1.9	0.7	0.4	0.5	0.5	0.6	2.72	5.58																							
27-Oct	0.8	0.7	0.7	0.4	0.6	1.7	1.8	1.0	0.8	0.7	0.3	0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.41	1.77																							
28-Oct	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.2	0.1	1.2	1.3	1.0	1.8	2.1	2.6	0.8	2.4	2.1	2.6	2.5	3.3	3.4	2.8	1.27	3.38																							
29-Oct	3.3	2.1	1.6	1.8	1.3	1.3	1.3	1.9	2.5	1.9	1.7	1.9	1.2	1.3	2.1	1.6	3.6	2.0	1.1	0.5	0.9	1.1	0.8	0.3	1.63	3.63																							
30-Oct	0.5	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.3	2.5	2.6	3.7	3.1	2.7	3.6	3.0	2.7	2.8	3.5	3.3	1.60	3.68																							
31-Oct	2.6	1.4	0.8	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.9	0.9	2.2	1.4	0.0	1.3	0.2	0.0	0.0	0.0	0.0	1.2	1.2	1.7	0.70	2.59																							
																								0.87	0.92	0.72	0.54	0.61	0.68	0.80	0.89	1.06	1.05	1.12	0.91	0.78	1.00	1.10	1.09	1.04	0.83	0.86	0.85	0.78	0.99	1.03	0.93	Diurnal Average	
																								3.82	3.33	3.08	2.91	2.94	3.68	3.84	4.04	4.43	5.00	5.58	5.05	3.73	3.45	4.03	3.68	3.78	2.70	3.61	3.24	3.22	4.60	5.23	5.00	Diurnal Maximum	
C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																																																	

**STEEPER
STATION #905**

METEOROLOGICAL DATA

OCTOBER 2014



WCAS - Steeper
Summary of Hourly Averages

External Temperature (ET) - C
October 2014

Maximum Value: 20.44 C on Oct 10 15:00		Maximum Daily Average: 12.29 C on Oct 6		Hours in Service: 744																							
Minimum Value: -6.3 C on Oct 28 01:00		Minimum Daily Average: -2.50 C on Oct 26		Hours of Data: 744																							
Maximum Diurnal Average: 9.98 C at hour 15		Minimum Diurnal Average: 2.53 C at hour 8		Hours of Missing Data: 0																							
Monthly Average: 5.270 C		Percentiles: P ₁ = -5.3 P ₁₀ = -2.1 Q ₁ = 0.7 Median = 5.3 Q ₃ = 9.2 P ₉₀ = 12.5 P ₉₉ = 18.5		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	3.0	3.1	3.0	2.9	2.5	2.5	2.6	2.5	3.4	6.7	7.6	9.3	9.7	10.1	9.4	3.1	0.5	-1.3	-0.9	-1.3	-2.1	-2.1	-2.1	-2.7	2.89	10.05	
2-Oct	-3.1	-3.5	-3.8	-4.2	-4.2	-4.6	-5.1	-5.2	-3.9	-1.3	0.4	1.5	3.3	4.8	5.5	5.6	6.0	2.4	0.6	-0.2	-1.6	-2.6	-3.8	-4.5	-0.89	6.01	
3-Oct	-5.3	-5.3	-5.9	-5.2	-4.7	-3.0	-2.8	-1.7	-0.3	3.1	4.9	6.2	7.6	7.5	8.7	9.9	10.3	10.7	10.5	10.0	9.4	9.7	10.2	10.2	3.94	10.71	
4-Oct	10.0	9.5	9.6	8.3	7.9	7.7	9.2	7.8	8.2	11.6	13.7	15.7	16.9	17.0	17.3	16.9	15.8	13.7	11.4	10.1	9.7	8.7	7.6	6.9	11.29	17.26	
5-Oct	7.2	7.2	7.5	7.2	7.7	7.8	7.6	7.8	9.0	11.4	13.4	15.2	16.6	15.9	16.1	18.7	17.8	14.3	13.1	12.7	12.0	11.8	12.2	11.9	11.75	18.75	
6-Oct	11.4	11.8	13.1	12.9	12.3	12.4	12.1	11.4	11.3	12.3	14.1	15.0	16.3	16.5	16.7	16.9	15.7	13.8	11.7	9.4	8.0	7.2	6.5	6.3	12.29	16.88	
7-Oct	5.7	5.3	4.6	4.2	3.6	3.9	3.9	4.2	4.2	5.9	8.9	9.2	9.4	9.2	8.8	7.8	7.3	6.7	5.9	5.6	5.3	4.6	4.1	3.7	5.92	9.38	
8-Oct	3.9	3.7	1.9	0.9	0.7	0.2	0.2	-0.1	1.4	4.7	7.6	9.6	8.5	9.7	11.5	10.5	9.5	8.1	6.9	6.1	6.1	5.0	4.5	4.0	5.22	11.53	
9-Oct	3.1	2.3	2.8	2.3	2.1	1.9	2.4	2.0	2.5	4.0	6.6	10.1	14.4	17.4	17.0	16.8	15.5	14.0	12.3	10.1	7.3	6.2	5.7	5.0	7.65	17.38	
10-Oct	4.6	3.1	4.6	4.1	2.8	5.4	6.1	6.3	7.7	12.2	15.1	18.5	19.7	20.1	20.4	18.5	16.4	16.6	14.8	13.9	13.1	12.0	11.3	10.5	11.57	20.44	
11-Oct	8.4	5.8	4.7	4.6	4.3	3.9	3.7	3.7	3.8	6.8	9.5	11.0	10.7	9.5	8.9	8.9	8.3	7.5	6.0	4.8	3.3	3.9	4.1	4.4	6.28	11.01	
12-Oct	4.8	4.9	4.7	4.0	4.3	3.8	3.3	2.9	4.1	6.5	9.0	10.2	11.0	10.9	10.9	10.8	10.3	8.1	5.9	5.2	5.4	5.4	5.4	5.0	6.53	11.03	
13-Oct	5.0	5.1	5.6	6.5	6.5	6.6	6.3	4.8	5.2	8.3	10.4	12.0	12.4	12.0	10.7	10.6	11.1	11.0	10.3	9.7	9.1	9.0	9.2	8.8	8.59	12.36	
14-Oct	8.6	8.4	7.3	6.9	5.5	4.2	5.3	5.0	5.8	9.2	9.9	9.0	11.6	10.1	7.3	8.5	6.9	6.2	5.8	5.6	5.2	4.2	1.8	0.6	6.61	11.56	
15-Oct	-0.1	-0.9	-0.5	0.0	0.3	0.4	0.5	-0.5	-0.4	-0.1	0.1	1.4	2.6	2.9	3.6	2.6	2.7	2.5	2.0	1.9	1.7	1.5	1.5	1.5	1.13	3.56	
16-Oct	1.4	1.4	1.2	0.4	-1.0	-1.6	-1.2	-1.6	-1.4	-0.3	2.4	7.3	10.4	8.8	7.5	6.5	6.7	6.9	5.6	3.8	1.6	0.8	-0.5	-0.3	2.69	10.43	
17-Oct	-0.1	-0.4	-0.7	-1.0	-0.2	0.7	-0.9	0.3	3.7	2.7	3.9	5.8	5.6	7.7	12.6	12.9	11.2	9.3	8.6	7.2	6.4	8.0	8.7	9.1	5.04	12.91	
18-Oct	9.0	8.8	7.5	8.7	9.2	8.9	7.7	8.4	8.7	9.8	12.3	14.0	13.9	13.6	13.3	13.2	13.1	11.0	9.5	9.3	7.1	7.8	6.2	6.4	9.89	14.01	
19-Oct	8.2	8.6	8.9	10.0	9.3	9.5	9.9	9.1	8.8	7.7	9.4	10.9	14.5	17.7	18.6	17.6	16.0	14.7	13.5	12.9	11.6	12.5	12.4	11.0	11.80	18.64	
20-Oct	10.7	10.4	10.1	8.8	8.1	6.8	6.9	8.1	7.1	9.3	13.1	16.6	16.6	15.8	16.2	15.3	13.5	12.3	10.8	10.2	10.3	9.8	7.6	6.4	10.86	16.63	
21-Oct	6.4	5.8	5.2	4.7	3.9	4.2	3.1	2.5	2.7	3.8	5.5	10.1	12.9	13.1	12.9	12.5	11.4	9.7	8.4	6.8	5.6	5.3	6.0	5.3	6.99	13.10	
22-Oct	6.1	6.2	5.1	5.8	5.1	6.5	6.1	6.2	4.4	5.6	7.2	10.4	12.5	13.7	14.1	12.8	9.8	9.0	8.0	8.3	7.9	6.8	5.4	5.5	7.85	14.06	
23-Oct	3.8	3.0	2.7	2.1	1.7	2.2	4.3	3.4	6.1	6.8	8.1	9.9	10.4	10.1	9.6	8.3	7.3	5.5	3.8	2.9	1.7	1.2	2.2	2.1	4.97	10.43	
24-Oct	0.9	0.4	-0.4	-0.8	-0.9	-1.5	-1.7	-1.6	-1.7	-1.4	0.9	3.9	5.1	5.7	6.0	6.0	4.8	2.6	0.5	0.8	1.0	0.2	0.1	-0.4	1.20	6.01	
25-Oct	-0.3	-0.1	-2.2	-3.5	-2.3	-2.0	-2.1	-2.2	-2.3	-1.9	-0.8	-0.2	1.7	3.2	4.5	4.4	3.5	2.5	2.1	1.6	0.9	-0.8	-1.8	-2.3	-0.01	4.54	
26-Oct	-2.3	-2.4	-2.6	-2.9	-3.1	-3.3	-3.5	-3.4	-3.1	-2.7	-2.1	-2.4	-2.2	-1.5	-1.4	-1.4	-1.5	-1.8	-2.0	-2.3	-2.6	-2.8	-3.2	-3.5	-2.50	-1.38	
27-Oct	-3.9	-4.0	-4.0	-4.0	-4.1	-4.3	-4.8	-4.9	-5.2	-4.5	-1.9	0.5	2.2	2.9	2.6	1.0	0.5	-0.8	-1.6	-1.9	-2.4	-2.9	-4.5	-5.6	-2.32	2.91	
28-Oct	-6.3	-6.0	-5.5	-5.9	-5.6	-4.6	-2.7	-3.0	-3.3	-2.4	0.0	2.9	5.4	5.0	3.7	5.2	5.1	1.1	-0.3	-1.1	-1.4	-1.5	-1.8	-1.7	-1.03	5.44	
29-Oct	-0.4	2.8	4.2	1.7	2.9	2.8	3.7	2.3	2.5	2.5	4.8	7.6	8.9	8.3	9.0	8.7	6.5	6.5	5.1	5.5	4.4	2.9	3.0	2.2	4.51	9.00	
30-Oct	1.7	0.5	0.0	-0.5	-0.8	-1.6	-1.0	-2.0	-2.1	-0.7	1.8	3.0	3.4	4.6	4.5	2.5	1.7	-0.3	-1.3	-1.3	-0.1	-0.6	-2.2	-2.5	0.27	4.56	
31-Oct	-1.4	-1.0	0.5	2.9	5.8	6.0	6.8	6.3	6.6	5.4	7.4	6.6	3.4	3.6	2.9	0.6	-0.3	-0.3	-0.5	-0.5	-0.8	-0.8	-0.9	-1.0	2.39	7.38	
		3.24	3.05	2.87	2.65	2.57	2.64	2.77	2.53	3.02	4.56	6.56	8.41	9.53	9.86	9.98	9.42	8.49	7.16	6.01	5.34	4.62	4.21	3.71	3.31	Diurnal Average	
		11.42	11.79	13.08	12.90	12.34	12.41	12.07	11.35	11.32	12.35	15.14	18.51	19.68	20.12	20.44	18.75	17.79	16.55	14.78	13.86	13.09	12.50	12.39	11.89	Diurnal Maximum	



WCAS - Steeper
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1 Spd	3.6	3.7	3.5	3.3	3.7	3.4	3.2	3.8	4.4	2.6	3.7	7.6	10.2	9.5	1.6	6.9	4.6	2.7	2.1	2.1	2.5	1.7	2.2	2.4	2.62	10.17	
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WNW	NE	NNE	W	W	NNW	W	W	NW	NNW	WSW	WSW		
2 Spd	2.2	2.2	2.1	1.6	1.8	1.8	1.9	3.1	3.0	2.1	1.6	2.0	1.8	2.2	1.1	0.9	2.0	4.2	1.8	0.9	1.5	2.0	2.6	3.5	1.02	4.18	
Dir	NW	WNW	NW	WNW	W	W	W	WSW	WSW	W	NNW	N	W	W	WNW	NNW	NNE	NE	ENE	E	SSW	SSW	SSW	SW	W	NE	
3 Spd	4.1	4.6	4.3	3.4	1.6	0.5	2.6	2.5	2.6	2.1	1.1	1.9	4.2	7.5	8.5	8.0	7.1	5.3	6.2	6.9	5.4	7.7	8.0	3.4	4.52	8.52	
Dir	SW	SW	SW	SSW	SSW	SSW	SW	SW	SW	SW	WSW	SSW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	
4 Spd	1.3	1.2	0.9	4.8	4.4	7.9	8.4	5.2	3.7	2.2	3.3	4.3	6.1	5.5	7.2	7.9	7.8	6.2	4.1	4.2	3.0	3.1	1.7	2.2	4.11	8.43	
Dir	ENE	E	E	WSW	WSW	SW	WSW	SW	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	WSW	WSW	
5 Spd	2.5	2.4	3.3	2.8	3.2	2.8	3.8	4.2	1.2	0.8	0.8	1.2	1.3	2.8	2.4	2.1	3.0	2.3	1.8	1.7	2.7	3.3	2.0	1.8	1.61	4.16	
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	NE	NW	NW	NNE	NE	NE	W	W	WSW	WSW	SW	SW	SW	WSW	SW	SW	SW	
6 Spd	5.1	3.9	3.9	6.2	5.2	5.8	4.4	3.1	1.6	2.3	2.6	3.0	4.8	5.7	7.4	6.4	5.3	4.0	1.6	3.7	0.6	0.9	1.2	1.8	2.81	7.39	
Dir	WSW	WSW	WSW	WSW	SW	WSW	WSW	WSW	NNW	NW	NW	WNW	W	WSW	WSW	WSW	WSW	WSW	WSW	N	NE	ENE	ENE	ESE	E	WSW	WSW
7 Spd	1.6	1.5	1.0	0.8	1.3	1.8	1.8	1.9	1.7	1.2	0.3	1.9	2.2	3.4	3.8	2.6	2.4	2.1	1.9	1.8	1.2	1.6	0.5	1.3	1.01	3.78	
Dir	E	E	S	SSE	SSW	SSW	S	S	S	S	SSE	ENE	NE	NE	NE	ENE	ENE	ENE	ENE	ESE	E	ENE	N	SSW	E	NE	
8 Spd	1.4	2.2	2.7	4.5	2.6	4.0	2.6	2.5	3.1	2.3	0.5	3.4	4.3	2.3	2.0	3.7	3.2	1.6	2.1	2.2	1.9	2.7	3.1	3.3	0.77	4.54	
Dir	SSW	S	SW	SW	SW	SW	SW	SW	SW	SW	ENE	NE	NE	ENE	E	ENE	ENE	E	E	ENE	E	SW	SW	SW	S	SW	
9 Spd	4.1	3.8	4.6	4.9	5.1	5.5	5.5	5.5	3.3	2.4	2.4	2.1	1.5	1.9	1.6	3.4	3.1	2.5	1.6	2.9	4.7	6.0	5.8	5.7	2.81	5.96	
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	SW	SW	SW	SW	NE	NE	ENE	E	ESE	SW	SW	SW	SW	SW	SW	SW	
10 Spd	5.4	4.3	4.4	4.6	4.5	4.0	3.6	4.0	3.8	3.5	4.4	3.2	7.9	8.9	9.3	9.9	5.5	6.2	7.6	5.9	9.5	8.6	5.4	6.9	5.80	9.90	
Dir	SW	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	
11 Spd	2.3	1.9	6.1	5.0	5.4	6.5	4.6	5.6	5.2	3.3	4.9	7.1	7.9	6.7	5.6	6.8	4.9	5.9	4.3	4.0	5.2	4.6	3.9	4.4	4.92	7.92	
Dir	W	NW	SW	WSW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	WSW	WSW	
12 Spd	4.8	3.7	3.6	4.1	4.3	4.0	4.9	6.0	7.0	6.8	7.3	8.8	9.0	9.3	9.8	8.9	8.2	6.3	5.7	4.0	3.4	4.3	4.6	4.7	5.90	9.76	
Dir	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	WSW	WSW	
13 Spd	5.3	5.2	5.3	5.6	4.9	2.3	1.4	2.0	1.5	1.4	3.4	2.5	0.7	0.7	2.3	2.9	3.1	2.3	2.8	3.9	7.3	5.4	5.2	5.5	2.63	7.35	
Dir	SW	SW	SW	SW	SW	WSW	S	SW	SSW	SSW	SW	SSW	WSW	WSW	ENE	ENE	E	SSW	E	SW	SW	SW	SW	SW	SW	SW	
14 Spd	3.8	2.7	3.0	1.5	2.0	3.8	3.0	1.8	2.5	1.1	2.5	2.9	5.6	4.1	2.5	1.3	2.3	1.4	1.0	1.5	1.4	2.0	3.2	3.8	1.71	5.64	
Dir	SW	SW	SW	SW	SSW	SSW	SSW	SSW	SSW	SW	WSW	W	WSW	WSW	NNE	NNE	NE	ENE	S	SSW	SW	SSE	SSW	SSW	SW	WSW	
15 Spd	4.4	5.2	4.9	4.8	3.2	2.8	2.1	3.0	1.4	0.9	0.9	1.6	0.4	0.7	1.8	2.5	2.4	2.1	2.6	2.0	2.3	2.6	2.4	2.1	0.99	5.18	
Dir	SSW	SSW	SSW	SSW	SSW	SW	SW	SW	WSW	NW	WSW	SW	SSE	WSW	ENE	ENE	E	ENE	E	E	E	E	E	E	S	SSW	
16 Spd	1.4	2.0	1.5	1.0	2.3	3.2	2.8	3.0	4.6	3.7	1.8	1.7	1.8	2.4	3.9	4.0	2.9	2.4	1.4	2.8	3.6	3.7	3.9	4.0	1.68	4.58	
Dir	ESE	SSE	SSE	SSW	SW	SW	SW	SW	SW	SSW	SW	WSW	NE	ENE	E	E	SW	SSW	SW	SSW	SSW	SSW	SW	SSW	SSW	SW	
17 Spd	4.9	4.3	4.3	4.5	3.3	2.7	3.1	2.8	2.8	2.7	3.3	1.3	3.2	2.4	3.8	8.2	8.7	6.0	4.4	3.1	5.2	6.1	7.5	4.2	4.15	8.70	
Dir	SSW	SW	SSW	SW	SSW	S	SSW	SSW	S	SSW	SSW	S	SW	SW	SW	SW	WSW	SW	SW	SW	SW	SW	SW	WSW	SW	WSW	
18 Spd	1.6	0.6	5.0	11.5	7.1	9.1	6.4	2.8	1.0	7.2	8.6	7.4	10.6	9.3	8.1	7.3	7.7	9.8	8.3	6.5	4.1	4.5	6.7	6.9	6.28	11.45	
Dir	W	WSW	SW	SW	SW	SW	WSW	ENE	SSW	SW	SW	SW	SW	WSW	WSW	WSW	SW	WSW	SW	SW	SW	SSW	SW	SW	SW	SW	
19 Spd	3.4	4.7	4.5	3.5	7.3	6.4	4.7	2.9	2.8	3.5	3.1	3.1	2.1	2.3	1.5	6.0	8.4	5.1	2.9	2.1	2.3	2.6	2.1	3.3	3.63	8.44	
Dir	SW	SW	SW	WSW	SW	SW	SW	SSW	S	SSW	SSW	SW	SW	WSW	W	WSW	WSW	SW	SW	SSW	SSW	SSW	SSW	SSW	SW	WSW	
20 Spd	4.4	3.5	1.2	2.1	3.0	4.4	3.5	2.3	3.1	2.4	2.0	2.7	3.7	7.0	10.7	8.3	7.1	6.0	4.7	0.9	2.7	2.0	4.2	2.4	2.89	10.70	
Dir	SW	SW	ESE	SSW	SSW	SSW	SW	SSW	SSW	SSW	SSW	SW	WSW	WSW	WSW	SW	SW	SW	SW	SW	ENE	NE	ENE	E	SW	WSW	
21 Spd	2.2	2.0	2.5	2.2	2.9	1.2	3.6	3.3	3.6	2.9	0.8	4.3	7.6	8.8	9.9	9.9	8.6	7.8	6.8	4.1	5.6	5.6	3.6	3.9	4.54	9.91	
Dir	SSE	SSW	SSW	SSW	SW	S	SSW	SW	SW	SSW	NE	SW	SW	WSW	WSW	SW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	WSW	
22 Spd	3.0	4.0	3.4	2.7	2.3	4.5	5.2	4.5	2.8	1.6	1.6	5.1	7.6	8.7	9.0	10.9	8.8	9.7	6.1	3.5	1.1	1.6	3.1	3.1	3.79	10.91	
Dir	SSW	SSW	SW	SSW	SSW	S	SSE	SSE	SSW	S	SSW	SW	WSW	WSW	SW	SW	SW	SW	WSW	W	ESE	ESE	E	E	SW	SW	



WCAS - Steeper
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	1.8	2.8	3.7	3.9	3.8	2.3	0.7	10.5	11.8	13.0	13.8	10.7	10.2	9.3	6.8	5.6	2.0	1.4	1.0	3.0	4.9	4.7	4.3	0.6	5.19	13.79
Dir	SSW	SSW	SSW	SW	SSW	SSW	SSW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	NW	NW	W	SW	SW	SW	SW	E	SW	WSW
24 Spd	4.1	1.1	1.4	2.5	2.9	4.7	3.1	3.6	4.0	4.6	6.0	8.2	8.8	9.4	8.8	9.0	10.2	7.3	3.1	2.6	4.3	4.5	5.1	5.2	4.58	10.15
Dir	ENE	NNE	NW	W	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	WSW	WSW
25 Spd	4.7	4.5	2.7	3.1	4.5	3.5	2.0	2.9	2.5	3.1	2.6	4.6	4.7	5.3	4.8	4.3	2.6	3.0	2.3	2.3	2.3	1.3	1.3	0.7	1.84	5.33
Dir	SSW	SSW	SSW	SSW	S	S	E	E	ENE	ENE	E	E	E	E	E	E	E	ENE	ENE	ENE	E	SW	WSW	W	ESE	E
26 Spd	1.1	1.1	1.1	1.2	1.4	1.7	2.3	0.1	1.1	1.5	1.5	2.3	2.2	1.9	2.3	2.3	2.9	2.3	2.5	2.6	2.5	2.1	2.0	2.3	1.53	2.89
Dir	WNW	WNW	NNW	NNE	NNE	NE	NE	WNW	W	WNW	NW	WNW	W	WNW	NW	NW	NW	NW	NNW	NNW	NNW	NNW	NW	NW	NW	NW
27 Spd	2.4	2.6	1.8	1.4	1.6	1.2	0.8	2.5	3.4	3.6	1.0	1.3	1.2	0.7	2.1	3.1	3.2	3.1	3.4	1.5	0.5	2.4	2.3	2.9	0.23	3.57
Dir	WNW	WNW	WNW	NW	NNW	NNW	W	SW	SW	SW	SW	N	N	N	NE	ENE	ENE	E	ESE	SE	SSW	S	SW	SW	WSW	SW
28 Spd	2.4	1.6	1.0	1.9	1.8	0.6	1.6	1.1	1.7	0.3	0.5	1.2	2.0	4.0	3.2	0.9	0.9	4.8	4.3	2.5	2.6	0.9	1.6	1.0	0.59	4.83
Dir	SW	SSW	S	SSW	SW	SW	ESE	SSE	SW	SSW	NW	N	NNE	NE	ENE	NNE	WNW	E	ENE	ENE	ENE	E	WSW	SW	E	ENE
29 Spd	2.3	0.6	2.0	2.3	2.6	2.1	0.5	1.2	3.3	2.0	2.2	0.5	1.0	0.9	1.4	1.1	1.3	2.6	2.3	1.8	1.4	2.6	2.4	1.5	1.19	3.34
Dir	SSW	SSW	ENE	SSW	SSW	SSW	SE	S	SSW	SSW	SSW	NNW	NW	WNW	NNE	NNE	ESE	SW	SW	SSW	SSW	SW	SW	SSW	SSW	SSW
30 Spd	4.0	4.5	4.7	4.5	4.1	4.8	3.5	3.0	3.5	3.3	0.2	2.8	3.4	4.1	3.8	4.1	4.2	2.8	0.9	1.4	1.5	0.9	1.0	0.4	1.16	4.77
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	SSW	WSW	NE	NE	ENE	ENE	ENE	E	E	SSE	SSW	SW	WSW	SW	SSW	S	SW
31 Spd	1.8	2.5	3.6	3.0	2.7	0.6	1.6	1.2	3.3	3.7	2.7	3.2	4.9	2.2	2.6	2.3	1.8	0.8	1.9	2.4	3.0	2.9	2.8	1.4	0.14	4.86
Dir	SSW	SSW	SSW	SSW	SSW	SSE	SSW	WNW	WSW	W	WNW	NE	ENE	ENE	NNE	SSW	SW	NE	ENE	ENE	ENE	ENE	NE	NNW	SE	ENE
Spd	2.37	2.40	2.65	3.25	3.13	3.19	2.66	2.75	2.92	2.50	2.39	2.27	3.03	3.04	2.34	2.50	2.26	2.24	1.67	1.55	2.06	2.46	2.40	2.31	Diurnal Average	
Dir	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	SW	SW	SW	SW	SW	SW	SW	Diurnal Maximum	
Spd	5.41	5.21	6.08	11.45	7.29	9.11	8.43	10.48	11.78	12.96	13.79	10.68	10.56	9.46	10.70	10.91	10.15	9.81	8.29	6.90	9.45	8.65	7.96	6.92	Diurnal Maximum	
Dir	219.19	224.55	232.80	235.46	225.77	231.69	239.55	227.57	226.73	233.56	238.52	239.99	235.35	246.25	237.55	230.60	247.87	238.53	234.29	234.68	239.37	236.97	233.13	242.48		
Maximum Speed Value: 13.8 kph on Oct 23 11:00																		Minimum Speed Value: 0.1 kph on Oct 26 08:00						Hours in Service: 744		
Maximum Daily Speed Average: 6.28 kph on Oct 18																		Minimum Daily Speed Average: 0.14 kph on Oct 7						Hours of Data: 744		
Maximum Diurnal Speed Average: 3.25 kph at hour 4																		Minimum Diurnal Speed Average: 1.55 kph at hour 20						Hours of Missing Data: 0		
Monthly Average Velocity: 2.471 kph 228.72 deg																		Speed Percentiles: P ₁ = 0.5 P ₁₀ = 1.2 Q ₁ = 2.0 Median = 3.0 Q ₃ = 4.6 P ₉₀ = 7.2 P ₉₉ = 10.7						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	19	0	0	0	0	0	19																			
NorthEast	60	1	0	0	0	0	61																			
East	69	1	0	0	0	0	70																			
SouthEast	12	0	0	0	0	0	12																			
South	51	1	0	0	0	0	52																			
SouthWest	288	126	4	0	0	0	418																			
West	49	23	0	0	0	0	72																			
NorthWest	40	0	0	0	0	0	40																			
Total	588	152	4	0	0	0	744																			



WCAS - Steeper
Summary of Hourly Averages

Relative Humidity (RH) - %
October 2014

Maximum Value: 97.90 % on Oct 16 07:00		Maximum Daily Average: 87.74 % on Oct 26		Hours in Service: 744																							
Minimum Value: 21.0 % on Oct 19 15:00		Minimum Daily Average: 36.72 % on Oct 19		Hours of Data: 744																							
Maximum Diurnal Average: 67.03 % at hour 4		Minimum Diurnal Average: 42.94 % at hour 14		Hours of Missing Data: 0																							
Monthly Average: 58.072 %		Percentiles: P ₁ = 24.8 P ₁₀ = 33.4 Q ₁ = 43.4 Median = 55.4 Q ₃ = 71.9 P ₉₀ = 87.5 P ₉₉ = 97.4		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	59.7	58.5	58.5	56.0	56.1	55.1	53.5	53.9	52.6	42.0	40.6	31.0	27.4	26.7	33.6	70.7	83.3	93.3	94.5	90.5	90.4	90.0	84.7	81.8	61.84	94.47	
2-Oct	79.8	80.3	81.6	84.9	86.0	87.9	89.3	88.3	73.6	57.0	48.8	44.6	40.1	37.0	35.6	34.2	33.9	48.0	56.2	58.2	64.8	71.9	78.1	81.3	64.22	89.25	
3-Oct	84.0	82.2	84.1	79.5	74.5	59.7	61.5	57.5	57.2	48.4	50.9	49.9	53.3	66.8	58.8	52.3	50.7	49.0	49.4	54.7	58.1	57.0	53.7	53.3	60.26	84.11	
4-Oct	53.2	56.1	55.1	61.3	63.6	64.2	58.4	63.9	62.9	51.4	43.6	36.5	32.6	32.3	32.0	32.4	34.5	42.1	50.8	53.5	53.1	55.9	59.4	61.5	50.44	64.21	
5-Oct	59.9	58.3	54.9	53.8	48.9	48.4	51.5	52.2	50.4	45.4	42.1	36.1	32.5	38.9	39.4	26.8	25.0	33.1	37.0	37.7	42.0	45.8	46.6	48.4	43.96	59.89	
6-Oct	53.2	56.6	53.6	54.5	56.5	56.8	59.8	63.6	63.6	54.7	43.3	32.7	27.1	26.0	23.4	22.2	22.2	25.4	27.1	28.9	32.5	35.6	38.2	39.8	41.55	63.59	
7-Oct	43.4	46.6	50.3	54.1	56.7	56.6	56.1	54.7	57.7	54.3	41.0	39.4	40.6	43.8	45.7	49.7	51.3	55.9	60.3	62.5	64.7	68.7	71.5	73.0	54.11	73.01	
8-Oct	72.2	72.8	82.3	86.6	86.6	88.4	88.6	90.2	84.9	70.6	62.2	57.2	62.9	59.8	53.6	58.1	63.2	69.0	73.8	77.4	77.4	81.8	84.0	86.2	74.57	90.16	
9-Oct	88.8	90.9	87.1	86.9	86.1	85.1	81.6	82.9	80.7	75.1	68.2	57.8	41.9	27.4	29.7	33.2	40.3	43.4	46.8	56.7	65.7	66.0	64.7	63.1	64.59	90.89	
10-Oct	62.9	68.1	60.2	61.6	67.0	55.4	52.1	50.6	47.3	36.9	34.0	27.8	26.1	24.9	22.9	24.6	28.1	26.0	28.3	32.2	36.6	42.4	46.2	50.9	42.21	68.12	
11-Oct	65.4	76.9	92.8	92.1	93.0	90.3	85.8	80.8	76.6	58.5	44.6	36.2	35.7	39.3	43.9	45.9	49.8	49.9	56.0	59.1	64.4	60.5	57.8	55.0	62.93	92.96	
12-Oct	52.3	53.0	53.2	55.0	50.8	52.2	52.9	54.6	52.0	45.4	34.3	31.2	29.6	29.9	29.0	28.8	31.0	37.5	44.2	44.7	43.1	42.5	43.1	49.3	43.32	55.01	
13-Oct	51.5	53.2	51.4	48.2	48.7	48.4	49.5	54.7	53.8	45.1	40.3	35.6	35.2	35.7	44.9	46.4	46.5	43.1	45.9	46.3	44.5	44.5	42.4	43.9	45.81	54.71	
14-Oct	45.0	45.5	50.0	52.2	58.3	62.7	57.8	59.3	55.7	47.9	46.9	53.0	39.2	44.3	66.7	62.4	67.7	71.6	68.9	60.2	45.6	58.1	76.4	71.3	56.94	76.40	
15-Oct	71.0	74.0	72.5	67.7	65.3	64.3	64.5	69.4	72.7	72.8	74.9	69.5	74.7	82.0	85.7	93.6	93.8	94.5	95.9	96.3	96.5	96.9	97.1	97.2	80.95	97.16	
16-Oct	97.2	97.2	97.0	96.6	97.2	97.8	97.9	97.8	97.7	94.3	86.0	64.0	46.6	62.9	70.2	75.7	76.8	64.6	55.8	56.9	63.8	64.7	69.5	67.4	78.98	97.90	
17-Oct	66.5	67.2	69.5	71.5	68.2	63.7	70.3	65.0	51.0	58.6	55.4	47.6	51.7	43.0	34.5	34.0	38.3	44.4	45.7	51.2	55.6	50.8	49.6	48.6	54.24	71.51	
18-Oct	48.3	48.9	54.0	50.2	44.9	44.4	47.7	44.6	44.0	43.2	35.8	31.7	31.5	30.7	31.0	30.8	30.4	35.1	39.7	38.7	45.5	43.2	49.9	50.0	41.43	54.00	
19-Oct	44.6	43.2	41.3	38.6	43.2	42.8	41.5	43.4	42.9	48.4	46.5	46.9	37.0	24.8	21.0	22.3	26.7	27.4	28.7	30.4	33.8	33.1	34.0	38.9	36.72	48.45	
20-Oct	39.4	39.3	39.1	42.9	45.5	50.5	49.8	45.1	48.8	43.3	35.9	28.0	28.6	31.8	30.8	30.9	35.7	40.2	43.2	42.3	42.6	47.6	62.5	68.7	42.19	68.69	
21-Oct	69.3	71.3	73.2	73.5	75.9	74.4	78.6	80.2	79.0	73.6	68.2	47.5	30.6	28.1	27.7	29.0	31.4	35.7	38.2	43.0	46.6	46.1	42.7	42.4	54.43	80.19	
22-Oct	38.1	39.1	41.6	37.8	41.1	38.6	41.7	41.2	47.6	44.9	43.8	37.2	29.5	27.2	25.0	26.6	35.2	36.2	39.7	36.3	36.5	39.8	46.2	49.6	38.36	49.55	
23-Oct	53.5	56.1	58.0	61.0	64.7	66.0	58.9	61.9	43.5	42.7	40.1	32.8	28.8	27.8	28.7	31.4	35.5	40.7	45.2	49.2	54.1	55.2	55.2	64.5	48.14	66.03	
24-Oct	82.7	87.1	94.5	96.5	97.0	97.2	97.2	97.2	96.9	95.4	85.4	58.7	42.3	34.4	31.9	32.1	33.4	43.7	51.3	46.4	43.4	47.4	48.2	48.8	66.22	97.21	
25-Oct	47.6	45.1	53.3	59.4	53.4	51.9	52.3	55.1	59.3	59.7	54.7	51.1	46.4	42.4	42.1	45.8	52.0	57.1	59.2	61.7	66.1	72.6	76.8	79.7	56.04	79.72	
26-Oct	80.4	81.8	83.9	86.0	87.8	89.1	90.2	90.3	89.8	88.8	85.6	92.0	94.9	91.3	87.1	87.3	86.0	88.7	89.8	87.8	86.3	87.7	87.4	85.6	87.74	94.93	
27-Oct	86.0	85.8	86.6	85.7	86.6	87.6	89.8	91.1	92.5	89.5	73.7	57.9	46.9	41.9	43.8	48.4	49.4	54.9	59.3	61.5	63.9	66.3	73.4	77.0	70.80	92.48	
28-Oct	78.5	73.4	68.3	69.9	69.0	65.7	58.7	63.7	65.1	63.0	58.9	49.4	41.7	45.5	48.0	45.3	46.0	61.1	67.8	72.6	75.3	76.5	78.0	77.2	63.27	78.46	
29-Oct	72.0	60.1	54.0	65.0	59.7	60.0	57.5	63.8	64.9	65.5	58.2	52.6	46.4	48.1	46.5	47.1	55.2	53.8	58.5	55.5	59.8	66.6	65.6	69.6	58.58	72.03	
30-Oct	71.8	76.6	78.1	79.7	80.7	83.4	79.6	82.8	79.5	71.9	65.0	66.0	64.1	60.7	61.6	71.4	75.7	84.4	88.4	88.6	82.1	81.9	89.4	90.9	77.26	90.88	
31-Oct	86.2	83.7	78.7	69.2	58.4	56.9	56.1	58.1	57.4	62.0	57.5	65.1	81.2	76.1	66.7	86.4	96.0	96.4	96.9	97.1	97.3	97.4	97.5	97.4	78.14	97.48	
		64.66	65.45	66.41	67.03	66.82	65.99	65.51	66.38	64.56	59.69	53.75	47.32	43.46	42.94	43.28	45.98	49.19	53.11	56.22	57.35	59.09	61.11	63.53	64.91	Diurnal Average	
		97.21	97.17	96.96	96.56	97.21	97.81	97.90	97.77	97.69	95.45	85.97	92.00	94.93	91.25	87.14	93.63	95.99	96.36	96.90	97.12	97.28	97.41	97.48	97.45	Diurnal Maximum	



WCAS - Steeper
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2014

Maximum Value: 4.68 kph on Oct 19 16:00		Maximum Daily Average: 2.23 kph on Oct 18		Hours in Service: 744																						
Minimum Value: 0.4 kph on Oct 7 19:00		Minimum Daily Average: 0.74 kph on Oct 7		Hours of Data: 744																						
Maximum Diurnal Average: 1.97 kph at hour 14		Minimum Diurnal Average: 1.10 kph at hour 23		Hours of Missing Data: 0																						
Monthly Average: 1.358 kph		Percentiles: P ₁ = 0.5 P ₁₀ = 0.7 Q ₁ = 0.9 Median = 1.1 Q ₃ = 1.6 P ₉₀ = 2.5 P ₉₉ = 3.8		Hours of Calibration: 0																						
				Percent Operational Time: 100.0																						
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1-Oct	0.7	0.6	0.6	0.7	0.8	0.7	1.0	0.9	1.2	1.2	1.7	3.8	4.1	4.2	2.8	2.5	2.8	2.4	1.6	1.5	1.4	1.2	1.6	1.6	1.73	4.15
2-Oct	1.8	1.7	1.7	1.3	1.2	1.0	1.1	1.2	1.2	1.4	1.6	1.4	1.6	1.5	1.5	1.3	1.8	1.4	0.7	0.6	0.8	0.7	0.6	0.8	1.24	1.83
3-Oct	0.9	0.9	0.8	0.8	1.0	0.7	0.7	1.0	1.0	1.0	1.2	0.9	0.8	2.1	2.6	2.4	2.0	1.5	1.8	2.2	1.5	2.0	2.3	1.8	1.42	2.63
4-Oct	0.8	0.7	1.0	1.6	1.4	3.2	3.1	1.2	1.8	1.2	1.9	2.5	3.1	3.3	3.0	3.2	2.9	2.3	1.1	1.2	0.6	0.6	0.8	0.8	1.80	3.26
5-Oct	0.7	0.4	0.6	0.7	0.6	0.6	0.8	0.8	1.2	0.8	0.7	1.2	1.2	1.7	1.2	1.6	1.8	1.1	1.1	0.6	1.0	1.1	1.1	0.7	0.96	1.76
6-Oct	2.0	1.8	2.3	1.6	1.3	1.9	1.6	1.4	1.1	1.8	1.8	2.6	2.7	3.6	3.6	2.9	2.2	1.9	1.2	1.0	0.7	0.7	0.8	0.6	1.80	3.57
7-Oct	0.6	0.6	0.6	0.9	0.7	0.7	0.8	0.8	0.7	0.7	0.9	1.0	0.9	1.2	1.1	0.8	0.6	0.5	0.4	0.8	0.6	0.4	0.7	0.6	0.74	1.17
8-Oct	0.7	1.0	0.9	1.1	1.1	1.0	0.8	0.8	0.8	0.7	0.9	1.2	1.1	1.4	0.8	1.2	1.3	0.7	0.9	1.3	1.1	0.8	0.6	0.8	0.96	1.44
9-Oct	0.8	1.0	1.0	1.1	1.2	1.1	1.1	1.1	0.8	1.7	0.8	0.6	0.9	1.3	1.3	1.2	1.1	0.6	1.0	0.9	1.2	1.4	1.4	1.4	1.08	1.75
10-Oct	1.2	1.1	1.1	0.9	0.9	0.8	0.7	0.7	1.1	1.3	1.1	1.6	2.5	2.9	3.0	3.0	1.7	1.7	2.6	1.8	3.2	2.0	1.5	2.2	1.69	3.19
11-Oct	1.7	1.7	3.0	2.5	1.4	1.5	1.8	1.0	0.9	1.2	1.8	2.9	2.8	2.3	1.8	2.1	1.5	1.7	1.3	0.8	0.9	0.8	0.7	0.7	1.62	3.05
12-Oct	1.1	0.9	0.6	1.1	1.3	1.0	0.8	1.4	1.9	1.9	2.5	2.7	2.9	2.8	2.9	2.8	2.6	1.5	1.1	0.9	2.0	1.6	1.3	1.2	1.69	2.89
13-Oct	0.9	1.1	1.3	1.6	1.3	2.1	1.6	1.3	0.7	0.9	1.4	1.4	1.0	0.8	0.9	0.8	1.0	2.0	1.0	3.0	1.9	1.6	1.5	1.2	1.35	2.99
14-Oct	1.7	1.1	0.9	1.1	1.0	1.8	1.3	1.2	0.9	1.3	1.5	1.6	2.1	2.5	1.4	0.9	1.3	1.1	1.2	0.9	0.8	1.5	1.0	0.8	1.29	2.52
15-Oct	1.0	1.1	1.0	1.2	1.2	0.8	0.7	0.7	1.2	0.9	0.8	0.7	0.8	0.6	0.8	0.6	0.8	0.6	0.9	0.8	0.7	0.7	0.7	1.0	0.85	1.24
16-Oct	0.9	1.2	1.1	0.9	0.6	0.9	1.6	1.0	1.0	0.7	0.9	0.8	1.1	1.9	1.0	0.8	0.8	1.4	1.1	0.5	0.8	0.9	1.0	0.9	1.00	1.85
17-Oct	1.1	1.0	0.8	1.0	1.2	0.7	0.9	0.8	0.8	0.9	1.0	1.1	0.9	1.4	2.6	2.8	2.8	1.7	1.3	1.1	1.9	1.6	1.9	2.4	1.40	2.83
18-Oct	1.1	1.0	3.8	2.8	2.7	2.3	2.3	0.9	1.6	3.2	2.6	2.2	3.0	3.0	2.3	2.5	2.4	2.3	3.3	2.4	1.6	1.2	1.2	1.6	2.23	3.83
19-Oct	2.5	2.4	1.6	2.0	1.7	1.9	2.1	1.2	1.3	0.7	1.1	0.9	1.0	1.1	1.3	4.7	2.6	2.7	0.9	0.8	1.1	1.7	1.2	1.3	1.66	4.68
20-Oct	1.7	1.8	1.1	1.0	0.9	1.2	0.8	1.1	1.1	1.4	0.8	1.1	1.4	2.6	3.0	2.3	2.0	1.9	1.4	1.8	1.6	1.9	0.8	0.8	1.49	3.02
21-Oct	0.9	1.0	1.1	1.1	0.7	1.0	0.8	1.3	1.0	1.0	1.2	3.1	2.2	2.3	2.5	2.8	2.3	2.1	1.5	1.4	1.3	1.2	1.5	1.4	1.53	3.06
22-Oct	1.2	2.1	1.1	1.2	2.3	1.8	2.3	2.7	1.2	1.1	1.3	1.1	2.7	2.7	3.3	2.9	2.2	2.5	2.6	2.3	1.1	1.1	0.8	0.9	1.85	3.32
23-Oct	0.9	0.9	1.2	2.1	1.1	1.1	2.0	2.8	2.8	3.8	3.8	3.3	3.4	3.3	2.2	1.8	1.2	1.2	0.5	1.7	1.4	1.4	1.5	1.96	3.85	
24-Oct	1.2	0.6	0.9	1.1	1.1	1.0	1.1	1.2	0.9	1.0	2.0	2.4	2.6	3.1	3.1	3.2	2.9	2.4	0.8	1.0	1.3	0.9	1.0	1.0	1.58	3.16
25-Oct	0.9	0.8	0.8	0.9	1.7	2.0	0.6	1.0	1.5	0.6	0.9	1.2	1.2	1.4	1.6	1.2	1.1	0.5	0.4	0.5	0.7	0.8	0.8	0.8	0.99	1.96
26-Oct	0.8	0.7	0.8	0.8	1.1	0.9	0.7	0.6	0.6	0.8	1.1	1.2	1.2	1.4	1.5	1.5	1.5	1.3	1.4	1.4	1.4	1.2	1.2	1.3	1.10	1.55
27-Oct	1.4	1.5	1.1	1.0	1.1	0.7	0.7	0.5	0.5	0.6	1.0	0.9	1.2	1.3	1.7	0.8	0.5	0.5	0.8	1.2	0.7	1.1	0.5	0.6	0.91	1.69
28-Oct	0.7	1.0	1.0	1.2	1.3	1.1	0.9	1.1	1.0	1.0	0.9	0.9	1.3	1.1	1.2	2.1	1.9	0.8	0.8	1.3	0.9	0.9	1.0	1.0	1.09	2.10
29-Oct	0.8	0.7	0.7	0.9	0.5	0.5	0.7	1.1	1.0	0.6	0.5	0.7	0.8	1.0	1.1	1.5	1.1	0.9	1.4	0.7	0.9	0.8	0.9	1.3	0.89	1.51
30-Oct	1.1	0.7	1.0	0.8	0.9	0.8	0.8	0.6	0.8	1.5	1.0	1.1	1.0	0.8	1.3	1.3	1.1	0.9	1.0	1.4	1.1	1.3	1.2	1.3	1.03	1.46
31-Oct	1.4	1.4	0.9	1.1	1.4	1.4	1.3	1.6	1.3	2.4	1.5	1.8	1.4	0.7	1.9	1.0	0.8	0.8	0.7	0.4	0.4	0.4	1.2	0.9	1.17	2.44
																								Diurnal Average		
																								Diurnal Maximum		
1.13 1.12 1.18 1.23 1.19 1.23 1.21 1.13 1.14 1.28 1.37 1.61 1.76 1.97 1.95 1.95 1.69 1.45 1.24 1.19 1.19 1.16 1.10 1.14																										
2.47 2.44 3.83 2.83 2.67 3.17 3.13 2.77 2.77 3.84 3.85 3.81 4.07 4.15 3.55 4.68 2.95 2.71 3.28 2.99 3.19 2.03 2.32 2.42																										
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																										



WCAS - Steeper
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2014

Maximum Value: 104.63 deg on Oct 28 06:00																								Maximum Daily Average: 54.93 deg on Oct 28																								Hours in Service: 744	
Minimum Value: 6.9 deg on Oct 31 21:00																								Minimum Daily Average: 14.59 deg on Oct 10																								Hours of Data: 744	
Maximum Diurnal Average: 45.39 deg at hour 11																								Minimum Diurnal Average: 24.63 deg at hour 17																								Hours of Missing Data: 0	
Monthly Average: 30.736 deg																								Percentiles: P ₁ = 8.1 P ₁₀ = 10.7 Q ₁ = 13.2 Median = 21.5 Q ₃ = 42.7 P ₉₀ = 66.6 P ₉₉ = 95.9																								Hours of Calibration: 0	
																																																Percent Operational Time: 100.0	
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	9.3	9.4	9.0	10.6	10.2	9.7	15.0	13.2	12.3	26.1	24.9	24.7	22.4	21.4	80.1	22.4	37.6	55.4	57.7	48.9	42.5	51.6	45.2	43.4	29.28	80.08																							
2-Oct	50.2	45.2	51.1	54.0	46.4	37.1	41.2	21.9	27.5	43.0	60.0	48.2	61.1	50.9	74.7	83.0	65.4	11.7	12.7	21.5	50.3	25.9	13.7	12.1	42.03	83.03																							
3-Oct	10.9	10.9	10.8	13.8	68.1	85.3	19.5	26.2	24.9	42.3	69.1	30.7	11.3	12.4	13.5	14.2	12.8	13.2	12.0	14.6	11.6	12.9	13.6	36.2	24.61	85.34																							
4-Oct	46.9	60.3	78.4	16.7	13.6	11.2	14.4	11.7	22.5	35.4	35.6	35.9	29.7	32.4	22.6	20.2	20.5	18.1	15.4	14.2	12.5	12.9	57.6	24.5	27.63	78.35																							
5-Oct	9.2	9.4	10.1	11.6	10.7	11.2	10.4	10.1	91.7	70.6	56.1	60.9	66.8	62.5	26.9	58.9	39.5	33.2	41.0	17.1	11.1	17.5	48.0	36.7	34.23	91.67																							
6-Oct	14.7	35.2	56.7	12.7	10.2	15.9	21.9	58.0	50.0	49.1	49.0	53.7	39.5	39.7	28.6	26.2	28.4	23.0	40.6	16.1	86.3	28.8	49.0	12.0	35.21	86.27																							
7-Oct	20.0	24.8	42.6	62.5	51.7	29.2	30.9	29.8	36.6	34.6	97.2	35.5	22.7	16.7	15.2	15.2	14.3	12.4	10.5	34.2	40.1	13.8	74.2	47.1	33.82	97.19																							
8-Oct	34.4	33.1	15.1	9.7	23.6	8.8	19.2	18.9	10.2	12.5	81.0	17.0	12.7	35.8	31.6	18.7	16.5	25.6	26.4	41.9	47.4	11.9	9.1	11.2	23.84	81.00																							
9-Oct	10.0	9.9	10.0	10.1	10.5	10.0	10.5	9.7	11.3	44.7	18.2	18.9	42.5	53.7	80.9	15.3	13.5	13.9	53.1	13.3	12.0	11.2	11.6	12.1	21.12	80.90																							
10-Oct	11.2	12.9	10.8	11.8	12.3	10.6	11.8	11.8	16.2	24.6	12.8	28.3	16.1	16.7	15.2	14.7	14.4	12.7	15.0	15.2	15.9	10.2	14.3	14.6	14.59	28.26																							
11-Oct	60.1	55.5	18.9	14.6	13.1	10.3	25.6	10.2	8.1	22.3	20.7	24.7	19.1	19.0	17.2	15.3	14.8	16.1	12.6	15.5	8.2	9.2	10.0	9.2	18.76	60.06																							
12-Oct	15.5	17.0	15.2	13.0	16.4	16.8	11.9	12.2	12.1	13.3	17.9	17.0	17.1	18.0	16.7	17.7	15.0	12.2	9.8	12.3	28.1	13.9	11.0	11.1	15.05	28.13																							
13-Oct	8.1	8.1	10.3	13.0	12.3	84.2	66.3	51.1	36.0	57.4	25.2	36.3	91.7	91.6	29.1	18.1	18.8	56.8	23.3	55.3	11.9	14.3	15.1	11.0	35.23	91.74																							
14-Oct	23.8	27.5	15.1	75.0	53.4	30.4	31.2	62.0	27.2	93.1	48.8	36.8	24.1	57.9	25.5	74.4	36.9	75.6	69.9	45.8	39.9	43.7	24.8	11.3	43.92	93.11																							
15-Oct	10.3	10.0	9.4	10.7	12.9	18.9	18.5	13.9	75.3	76.1	73.9	27.3	81.1	100.9	20.8	14.5	16.7	20.7	17.9	24.5	15.3	15.6	15.7	29.5	30.42	100.93																							
16-Oct	40.7	38.1	51.2	67.2	21.1	13.0	33.5	16.2	10.7	12.7	42.8	32.4	66.1	59.4	15.6	12.0	12.5	69.8	61.5	14.7	12.5	13.5	13.4	12.6	30.97	69.80																							
17-Oct	10.8	11.7	14.2	12.9	18.4	21.6	24.4	27.8	24.4	32.1	22.5	65.4	30.2	50.5	59.3	17.0	12.0	12.1	10.9	18.5	15.7	13.1	12.5	30.8	23.70	65.39																							
18-Oct	58.3	91.0	35.7	10.8	13.6	10.9	43.6	25.1	78.9	10.3	13.5	18.1	13.6	16.3	15.9	16.0	12.4	11.0	19.5	20.6	19.3	11.2	7.4	10.5	24.31	91.02																							
19-Oct	46.6	30.0	18.7	27.5	8.8	12.0	22.5	38.7	35.7	19.9	24.5	20.6	36.7	34.3	67.4	64.7	15.3	22.2	23.8	29.9	39.7	55.8	50.4	26.0	32.16	67.38																							
20-Oct	18.0	25.4	71.3	47.9	19.2	11.9	12.2	43.4	36.3	35.3	33.4	30.5	23.7	14.8	14.8	14.7	13.1	10.4	14.0	92.1	47.6	75.0	13.2	21.6	30.83	92.15																							
21-Oct	29.0	55.6	28.6	50.3	16.4	59.0	14.8	22.3	22.1	29.4	97.7	35.8	14.2	14.7	13.7	14.3	14.1	11.3	11.1	12.0	10.8	7.9	15.2	14.4	25.61	97.68																							
22-Oct	22.2	28.5	18.1	35.6	74.7	23.7	26.9	46.6	42.7	60.0	73.0	12.1	16.2	18.1	18.1	13.2	11.2	11.6	19.6	34.6	88.6	69.4	14.8	11.7	32.97	88.56																							
23-Oct	47.8	11.2	17.0	38.7	19.9	32.1	84.9	9.5	10.9	13.8	13.0	15.4	19.3	17.2	17.1	18.8	47.4	68.8	80.4	18.0	20.3	13.7	14.6	88.3	30.76	88.34																							
24-Oct	8.4	33.8	42.6	28.0	15.2	9.1	18.6	12.6	10.8	8.7	11.8	13.9	16.8	18.2	21.2	17.3	13.7	11.2	16.1	24.1	18.2	8.9	8.9	9.4	16.57	42.62																							
25-Oct	10.9	10.3	24.1	13.9	24.4	34.1	31.4	23.2	67.3	12.8	20.2	14.8	19.1	16.9	20.1	18.4	21.8	8.7	10.1	8.9	14.5	50.8	43.0	73.0	24.70	73.02																							
26-Oct	48.6	40.6	43.1	45.5	58.0	12.5	10.6	80.2	30.9	32.9	42.0	38.1	38.9	50.6	39.5	39.7	32.8	30.1	27.3	33.2	31.2	27.0	36.3	39.2	37.87	80.15																							
27-Oct	40.4	36.4	40.0	40.8	31.5	26.8	59.9	10.1	8.5	9.1	74.7	40.8	74.4	79.5	74.0	15.9	9.8	9.2	17.7	60.4	80.2	30.3	17.2	18.4	37.74	80.18																							
28-Oct	23.3	65.2	72.4	51.5	56.5	104.6	42.5	65.7	50.7	103.5	88.2	54.6	41.7	17.5	13.9	97.4	85.8	14.1	13.2	39.3	18.9	57.2	56.0	84.6	54.93	104.63																							
29-Oct	36.3	83.9	18.2	35.3	16.8	25.0	77.9	69.9	40.6	50.9	15.4	68.9	47.2	61.1	35.7	64.2	61.0	8.6	50.7	18.8	77.3	23.6	52.7	64.6	46.03	83.87																							
30-Oct	17.6	7.8	9.3	10.2	11.2	9.3	11.1	14.3	10.8	27.9	99.6	17.7	11.0	11.7	29.1	17.8	15.6	31.6	74.7	75.7	72.8	99.8	87.1	104.6	36.59	104.60																							
31-Oct	59.8	43.9	16.4	37.3	44.8	85.8	66.9	81.0	27.3	47.6	44.6	58.5	14.6	25.0	30.6	57.2	19.9	57.3	9.8	7.2	6.9	8.3	13.2	33.1	37.37	85.78																							
27.52 31.70 28.52 28.82 26.33 28.42 30.00 30.56 31.30 37.16 45.39 33.33 33.60 36.63 31.76 29.92 24.63 25.43 28.32 28.99 32.50 27.71 28.02 31.13																								Diurnal Average																									
60.06 91.02 78.35 74.98 74.68 104.63 84.94 81.01 91.67 103.49 99.57 68.91 91.74 100.93 80.90 97.45 85.77 75.64 80.39 92.15 88.56 99.77 87.05 104.60																								Diurnal Maximum																									
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																																																	

**WEYERHAEUSER – DRAYTON VALLEY
STATION #911**

CONTINUOUS AIR MONITORING DATA

OCTOBER 2014

West Central Airshed Society

Weyerhaeuser / Drayton Valley Station 911											October 2014	24 Hour Average Max ($\mu\text{g}/\text{m}^3$)
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Median	Q3	P90	
Particulate Matter 2.5 microns (μm^3)	0	742	99.7	5.4	0.0	24.6	1.8	2.6	4.3	7.1	10.6	16.2
Wind Speed (kph)	0	744	100.0	7.4	0.1	27.5	2.3	3.9	6.3	9.2	15.4	-
Temperature ($^{\circ}\text{C}$)	0	744	100.0	6.8	-4.8	21.9	-0.2	2.8	6.6	10.5	14.5	-
Std Dev Wind Direction (deg)	0	744	100.0	24.1	5.6	94.3	11.0	14.1	19.0	27.0	46.5	-
Std Dev Wind Speed (kph)	0	744	100.0	2.5	0.3	9.0	1.0	1.4	2.1	3.0	4.7	-



WCAS - Drayton Valley
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
October 2014

Maximum Value: 24.62 µg/m ³ on Oct 8 20:00		Maximum Daily Average: 16.19 µg/m ³ on Oct 29		Hours in Service: 744																																													
Minimum Value: 0.0 µg/m ³ on Oct 1 23:00		Minimum Daily Average: 2.27 µg/m ³ on Oct 11		Hours of Data: 742																																													
Maximum Diurnal Average: 7.75 µg/m ³ at hour 8		Minimum Diurnal Average: 3.47 µg/m ³ at hour 15		Hours of Missing Data: 2																																													
Monthly Average: 5.438 µg/m ³		Percentiles: P ₁ = 0.0 P ₁₀ = 1.8 Q ₁ = 2.6 Median = 4.3 Q ₃ = 7.1 P ₉₀ = 10.6 P ₉₉ = 19.5		Hours of Calibration: 0																																													
				Percent Operational Time: 99.7																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	3.4	4.4	5.1	5.0	3.5	4.5	4.0	4.9	6.9	7.8	4.6	3.6	UC	6.9	6.2	6.5	1.0	1.3	6.1	2.3	3.0	2.0	0.0	1.1	4.10	7.81																							
2-Oct	5.5	3.8	0.0	1.7	3.0	3.7	1.1	3.5	3.0	2.5	2.6	1.7	1.0	1.7	2.9	3.6	3.4	4.2	5.0	5.4	5.0	8.0	10.8	7.8	3.79	10.83																							
3-Oct	4.2	1.7	3.2	2.7	2.5	1.8	1.7	5.4	3.4	3.0	3.1	3.0	2.6	4.9	1.8	6.5	8.4	9.3	6.3	7.3	9.1	12.8	9.9	6.9	5.07	12.80																							
4-Oct	7.7	6.2	8.6	5.2	4.3	4.8	5.2	8.3	6.3	3.5	2.9	0.0	0.1	0.0	2.6	4.6	6.4	0.6	2.2	4.5	3.2	5.3	3.4	3.3	4.12	8.55																							
5-Oct	3.7	3.4	3.8	5.1	0.0	4.0	3.1	3.8	6.3	10.2	3.4	4.4	3.1	3.7	3.3	3.9	5.3	6.2	8.6	5.8	9.9	11.0	8.3	7.1	5.31	10.98																							
6-Oct	7.6	8.2	8.9	3.2	3.3	5.0	9.5	10.8	0.5	0.0	0.0	0.1	0.0	0.6	1.8	3.1	4.0	4.2	7.3	9.6	11.4	5.0	7.0	4.5	4.83	11.42																							
7-Oct	4.0	3.0	3.6	3.6	6.1	7.4	7.1	11.0	12.9	13.0	UC	0.0	4.1	4.2	4.6	4.5	4.8	4.7	6.3	7.8	5.5	4.9	4.3	4.2	5.72	13.01																							
8-Oct	4.7	4.8	4.5	4.3	3.4	3.4	3.5	3.6	4.1	5.3	5.3	5.4	5.1	4.9	4.5	3.3	1.9	2.4	4.3	24.6	14.0	11.9	4.9	5.4	5.81	24.62																							
9-Oct	7.0	5.6	5.9	5.3	8.1	7.2	9.4	11.2	8.2	6.5	5.2	4.5	3.4	3.8	3.4	3.2	3.9	5.1	5.3	9.3	14.9	11.9	14.0	15.2	7.40	15.18																							
10-Oct	11.6	10.4	9.7	8.8	8.2	9.7	8.1	10.7	7.5	7.0	5.2	3.8	2.9	2.6	2.0	1.9	2.4	3.3	5.9	9.2	5.8	5.1	4.8	4.8	6.30	11.58																							
11-Oct	4.9	6.3	2.5	2.1	2.0	2.4	2.4	2.7	2.0	3.0	1.5	1.4	1.4	1.5	1.4	1.3	1.4	1.7	1.9	2.2	2.4	2.1	2.0	1.9	2.27	6.34																							
12-Oct	2.1	2.2	2.1	1.8	2.0	2.2	2.0	2.7	2.0	2.2	2.0	1.9	2.4	1.9	1.8	1.8	1.9	2.7	6.1	6.0	3.5	2.5	3.4	3.4	2.60	6.11																							
13-Oct	3.6	2.5	2.4	2.5	2.2	3.0	2.0	2.8	3.3	2.1	3.5	1.5	1.2	1.2	1.3	1.5	1.5	1.8	2.0	2.6	2.6	2.5	3.9	4.2	2.39	4.15																							
14-Oct	3.7	3.6	3.8	4.8	4.2	5.6	11.8	23.3	18.4	18.1	8.4	4.9	3.9	3.8	4.2	4.2	3.7	3.9	6.2	10.1	16.2	6.8	6.7	8.5	7.87	23.34																							
15-Oct	6.7	5.2	5.4	6.6	3.7	7.6	5.9	5.0	2.9	4.0	4.0	3.6	3.4	3.1	2.2	2.2	2.1	2.6	3.2	3.3	2.2	2.1	2.5	3.6	3.88	7.64																							
16-Oct	3.2	2.8	2.7	3.5	3.4	3.7	4.1	4.8	5.9	5.2	4.5	3.8	3.5	3.6	4.2	4.7	4.3	5.1	6.6	7.9	9.1	8.9	9.2	9.3	5.17	9.31																							
17-Oct	7.8	9.7	11.3	5.7	4.1	4.7	5.7	5.8	5.4	4.7	3.2	2.2	1.4	1.1	1.2	1.5	1.6	1.9	2.8	7.2	3.7	3.4	3.0	5.1	4.33	11.25																							
18-Oct	5.5	4.8	5.4	3.8	3.5	3.8	4.3	4.7	3.7	3.0	2.3	3.0	1.8	1.8	1.8	2.2	2.9	3.7	8.0	19.5	8.4	17.1	5.9	19.8	5.86	19.78																							
19-Oct	5.4	11.2	24.0	5.7	3.5	3.8	3.2	4.6	3.4	4.0	3.2	2.7	2.3	2.8	2.5	3.1	7.7	7.6	9.1	7.2	9.2	10.0	9.1	14.7	6.67	24.00																							
20-Oct	8.1	6.0	9.1	6.9	4.0	4.4	6.2	10.0	9.2	10.3	12.2	6.8	10.5	7.6	4.7	3.4	4.6	11.3	11.9	7.7	13.5	11.4	4.4	3.0	7.80	13.51																							
21-Oct	2.4	2.7	4.7	5.7	3.3	4.8	12.1	10.7	10.5	8.4	4.3	5.3	6.5	4.9	3.0	2.7	2.4	3.2	4.5	8.7	13.1	10.6	9.0	7.5	6.28	13.12																							
22-Oct	7.0	8.5	5.8	6.2	4.9	5.6	5.7	7.1	12.4	3.9	4.5	5.1	5.1	4.7	5.4	5.0	5.4	6.4	9.6	8.6	4.7	2.3	1.9	3.8	5.81	12.44																							
23-Oct	3.1	9.5	9.7	7.7	6.1	9.6	12.6	9.4	7.5	5.5	3.0	2.0	2.1	2.4	2.9	5.2	3.1	3.6	5.9	4.0	1.9	2.4	4.2	10.8	5.60	12.59																							
24-Oct	2.5	1.4	1.5	1.6	1.5	2.1	2.3	7.2	2.4	2.4	1.7	1.8	1.9	2.3	2.8	2.4	2.1	1.7	2.4	2.8	3.2	10.3	6.6	2.5	2.90	10.32																							
25-Oct	2.3	2.6	2.9	4.3	3.8	5.8	4.3	7.7	2.2	2.2	2.6	2.3	1.9	1.9	1.7	1.7	2.2	2.4	2.3	2.5	2.1	2.3	2.3	3.2	2.90	7.67																							
26-Oct	3.6	3.6	3.9	4.6	5.2	4.2	3.7	5.6	6.9	6.4	7.1	6.2	4.6	3.7	2.7	2.1	2.0	2.1	1.7	1.4	1.3	1.2	1.1	1.4	3.60	7.14																							
27-Oct	1.6	1.6	1.8	1.9	1.9	1.8	2.0	2.6	2.7	2.0	2.0	1.9	1.8	1.7	1.8	2.4	2.0	3.7	12.5	8.3	7.3	5.9	4.0	2.6	3.23	12.49																							
28-Oct	3.8	4.5	5.5	7.7	8.8	7.6	10.8	11.8	10.3	8.2	7.6	6.6	5.6	5.9	6.0	5.2	5.3	6.7	8.2	6.8	6.6	6.4	6.5	8.4	7.11	11.75																							
29-Oct	9.7	10.1	11.7	17.3	19.0	18.6	19.7	18.0	18.1	21.7	21.0	19.0	15.1	13.7	14.0	12.8	12.6	14.3	16.6	16.3	19.6	16.7	16.4	16.3	16.19	21.71																							
30-Oct	15.5	13.7	12.8	9.8	9.1	9.5	11.7	12.8	13.1	8.4	6.8	6.2	6.4	3.7	3.1	3.0	3.5	3.8	4.1	3.8	3.9	4.5	4.6	5.7	7.47	15.49																							
31-Oct	8.0	7.6	7.9	8.2	8.0	9.3	8.3	7.9	8.8	10.6	8.6	7.9	6.7	6.1	6.1	5.1	3.8	3.1	2.6	2.6	2.9	2.4	2.3	2.5	6.15	10.62																							
																								5.48	5.53	6.13	5.27	4.73	5.53	6.24	7.75	6.78	6.30	4.88	3.96	3.73	3.64	3.47	3.69	3.79	4.34	5.99	7.27	7.07	6.76	5.70	6.40	Diurnal Average	
																								15.49	13.68	24.00	17.26	19.01	18.59	19.65	23.34	18.39	21.71	20.99	19.01	15.14	13.73	13.98	12.77	12.63	14.34	16.62	24.62	19.57	17.05	16.42	19.78	Diurnal Maximum	
UO - Unstable Operation Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																																																	

**WEYERHAEUSER – DRAYTON VALLEY
STATION #911**

METEOROLOGICAL DATA

OCTOBER 2014



WCAS - Drayton Valley
Summary of Hourly Averages

External Temperature (ET) - C
October 2014

Maximum Value: 21.91 C on Oct 10 17:00		Maximum Daily Average: 12.39 C on Oct 18		Hours in Service: 744																							
Minimum Value: -4.8 C on Oct 28 06:00		Minimum Daily Average: -0.69 C on Oct 28		Hours of Data: 744																							
Maximum Diurnal Average: 11.50 C at hour 15		Minimum Diurnal Average: 2.79 C at hour 8		Hours of Missing Data: 0																							
Monthly Average: 6.801 C		Percentiles: P₁ = -3.7 P₁₀ = -0.2 Q₁ = 2.8 Median = 6.6 Q₃ = 10.5 P₉₀ = 14.5 P₉₉ = 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	5.2	4.3	3.3	2.0	2.9	1.9	1.6	1.1	2.4	5.4	9.1	11.3	12.5	9.6	9.5	4.4	4.7	5.3	3.2	3.1	3.1	2.6	2.1	0.9	4.64	12.46	
2-Oct	-0.2	-1.1	-0.5	-0.5	-0.5	-0.3	-0.4	-0.4	-0.2	0.6	1.3	2.5	3.8	4.9	5.7	6.6	6.7	6.1	4.4	2.5	1.0	-0.5	-1.4	-1.2	1.62	6.66	
3-Oct	-2.0	-2.1	-3.1	-3.4	-3.2	-3.8	-3.7	-3.0	-1.6	0.2	2.3	3.5	5.0	6.4	9.3	10.5	11.0	10.4	9.7	8.7	8.7	8.1	9.9	10.3	3.67	10.99	
4-Oct	8.9	8.5	7.8	7.3	7.4	7.3	8.4	7.5	8.8	11.4	14.1	16.6	18.2	18.0	18.3	18.1	18.1	16.4	14.4	13.8	12.3	11.2	10.1		12.10	18.34	
5-Oct	9.5	9.6	9.2	8.7	8.0	6.5	5.3	4.9	6.1	9.4	13.3	14.9	16.2	16.6	17.3	17.5	16.4	15.4	14.4	13.7	12.5	11.7	11.3	11.0	11.64	17.51	
6-Oct	10.7	10.8	9.5	9.0	9.0	9.6	11.6	11.3	12.5	13.0	14.1	15.0	15.6	16.0	15.9	15.5	15.9	14.9	12.6	10.1	8.1	7.3	5.2	6.6	11.66	16.02	
7-Oct	7.4	6.8	6.8	6.6	6.2	5.7	5.8	5.1	5.5	6.3	9.4	10.8	11.1	11.3	11.3	11.1	11.0	10.5	10.1	9.8	9.5	8.6	8.1	7.5	8.43	11.28	
8-Oct	7.0	6.0	5.7	5.4	4.8	3.9	3.3	3.4	5.1	5.8	7.8	10.1	11.8	12.7	12.5	11.9	12.2	10.5	9.0	7.9	7.3	5.8	6.0	5.4	7.55	12.67	
9-Oct	4.7	4.6	4.6	3.4	1.7	3.2	2.5	1.8	3.0	5.8	7.9	9.7	11.7	14.2	16.2	17.5	17.3	16.5	14.7	12.9	10.6	10.2	8.7	7.6	8.79	17.46	
10-Oct	7.1	6.3	5.5	4.5	3.8	3.5	3.0	2.8	5.1	8.8	12.6	15.0	17.5	19.4	21.1	21.9	21.9	19.8	17.7	14.5	16.7	17.3	15.6	14.6	12.33	21.91	
11-Oct	14.0	12.7	11.9	11.3	10.9	10.5	9.6	9.5	10.9	12.1	13.3	15.5	16.2	16.0	15.7	15.1	14.3	13.2	11.3	11.1	10.1	10.1	9.7	9.6	12.27	16.25	
12-Oct	8.8	8.4	8.3	8.7	8.2	8.0	7.8	7.1	8.0	9.1	10.5	13.0	14.0	14.6	15.1	15.2	14.3	12.4	9.8	8.2	9.3	8.0	6.9	6.4	10.01	15.21	
13-Oct	4.5	4.7	3.7	3.2	2.7	2.5	2.2	1.2	3.4	6.7	10.3	11.9	13.8	14.5	15.0	14.6	14.0	13.4	12.9	12.5	12.0	11.4	11.1	10.3	8.86	14.98	
14-Oct	10.1	9.8	9.4	8.6	9.2	7.6	7.1	5.8	7.7	10.0	12.8	14.8	16.1	16.5	15.3	13.5	11.9	10.8	10.2	9.5	7.8	6.7	6.0	4.9	10.10	16.46	
15-Oct	4.9	3.9	4.4	3.7	4.2	4.4	4.9	4.2	5.9	4.8	5.2	6.2	6.5	6.4	5.3	5.2	5.0	4.9	4.7	4.6	4.1	4.0	4.0	4.0	4.81	6.48	
16-Oct	4.0	4.3	4.4	4.3	4.4	4.5	4.0	3.8	4.2	5.0	5.9	6.9	7.5	7.7	8.1	8.4	9.2	8.4	7.4	6.6	5.4	5.0	3.8	2.8	5.65	9.16	
17-Oct	2.8	2.1	0.6	-1.0	-1.5	-1.6	-0.8	-0.9	0.5	2.2	4.8	8.2	10.4	12.3	12.5	12.1	11.8	11.4	10.9	10.0	9.4	8.8	8.7	7.4	5.88	12.51	
18-Oct	7.5	8.2	7.8	8.5	9.0	9.1	7.3	7.5	11.5	14.1	15.5	17.0	18.1	18.9	20.0	19.3	18.9	16.6	14.3	11.5	10.8	9.7	9.2	7.1	12.39	20.02	
19-Oct	7.0	7.3	5.5	4.9	4.8	4.3	5.0	5.0	6.0	6.8	7.5	9.0	10.0	10.1	11.1	11.1	10.7	11.1	9.3	8.9	7.8	7.3	6.8	8.0	7.72	11.08	
20-Oct	8.0	6.9	6.5	6.7	6.9	6.6	7.1	7.7	7.4	9.5	10.4	10.9	13.4	15.7	18.2	19.8	19.1	16.8	13.9	14.6	13.3	13.2	13.0	12.2	11.58	19.76	
21-Oct	11.1	9.7	8.5	8.3	8.4	7.8	7.1	6.1	6.0	7.4	10.3	11.5	11.0	11.9	13.1	13.5	13.7	11.9	10.1	8.8	7.3	6.7	5.4	4.6	9.18	13.73	
22-Oct	3.9	3.1	2.9	2.4	2.7	2.2	2.4	2.6	4.2	6.8	9.4	10.3	10.9	12.4	15.8	16.8	16.6	14.6	12.8	11.5	11.2	10.6	10.3	8.8	8.54	16.75	
23-Oct	7.6	5.1	6.1	5.2	4.7	3.1	1.1	1.3	2.9	5.2	10.5	14.2	15.3	15.9	15.2	14.3	13.9	11.4	9.1	8.4	8.2	7.5	6.2	5.8	8.26	15.94	
24-Oct	5.6	5.7	5.3	5.1	4.9	4.8	3.6	2.9	3.1	4.9	7.0	8.5	10.0	10.6	10.3	10.6	10.0	8.5	6.8	5.4	5.1	4.5	3.2	2.0	6.19	10.64	
25-Oct	0.9	0.5	-0.6	-1.9	-0.8	-2.2	-1.4	-1.0	1.5	1.7	2.4	3.9	5.0	7.4	8.1	8.0	7.4	6.9	6.3	6.0	5.4	4.7	4.0	2.9	3.12	8.09	
26-Oct	2.4	2.2	1.9	2.0	1.8	1.4	0.4	-0.5	-0.1	0.4	0.7	0.2	0.6	1.1	1.7	2.0	1.9	1.9	1.5	0.9	0.5	0.5	0.1	0.1	1.06	2.45	
27-Oct	0.3	0.2	0.1	-0.2	-0.4	-0.6	-0.6	-1.3	-1.4	-0.2	0.9	2.1	2.9	3.4	4.1	3.7	3.4	1.8	0.3	-1.0	-1.7	-2.5	-2.5	-3.0	0.31	4.12	
28-Oct	-3.5	-4.1	-4.0	-3.7	-2.9	-4.8	-4.7	-4.6	-4.5	-2.9	-1.8	0.9	3.3	3.2	3.2	4.4	3.9	2.4	2.0	1.2	0.5	0.1	-0.1	-0.2	-0.69	4.40	
29-Oct	-0.1	-0.2	-0.4	-0.6	-0.7	-0.7	-0.8	-0.8	-0.8	-0.5	0.1	1.0	2.2	3.0	4.1	3.5	2.8	1.6	1.1	0.6	0.2	0.0	0.1	0.0	0.62	4.07	
30-Oct	-0.2	-0.6	-0.8	-1.9	-2.2	-2.9	-3.1	-3.0	-2.2	-2.0	-1.2	0.5	3.3	3.4	3.6	4.1	2.5	1.3	0.9	0.7	1.1	1.5	2.2	2.8	0.32	4.09	
31-Oct	3.2	1.9	1.3	1.1	0.3	-0.9	-1.1	-1.0	-0.7	-0.2	-0.1	0.4	1.5	3.3	4.2	4.9	5.2	4.9	4.4	4.3	4.2	4.2	4.1	3.9	2.22	5.17	
		5.19	4.69	4.24	3.79	3.70	3.25	3.04	2.79	3.83	5.33	7.21	8.84	10.12	10.89	11.50	11.46	11.15	10.12	8.79	7.79	7.20	6.63	6.09	5.59	Diurnal Average	
		13.98	12.67	11.94	11.26	10.95	10.49	11.63	11.34	12.48	14.08	15.53	16.97	18.14	19.38	21.12	21.89	21.91	19.80	17.73	14.57	16.68	17.29	15.56	14.64	Diurnal Maximum	



WCAS - Drayton Valley
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1 Spd	3.7	2.6	3.7	2.9	1.7	3.9	4.5	5.0	6.4	8.7	10.1	11.6	7.6	15.0	18.4	20.1	11.4	20.2	16.0	9.9	13.4	16.2	17.8	21.0	6.41	21.02	
Dir	W	SSW	S	S	WSW	S	S	S	S	SSW	SSW	SSW	WSW	NNW	NNW	NNW	WNW	WNW	NW	W	WNW	NW	NW	NW	WNW	NW	
2 Spd	18.5	10.9	16.5	18.0	14.5	17.3	15.7	18.8	17.2	23.8	21.4	22.1	23.5	21.8	20.2	17.8	16.7	12.4	7.0	2.1	1.4	0.1	2.1	2.7	13.65	23.80	
Dir	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NNW	NNW	N	NNE	NNW	SW	SSE	SSE	NW	NW	
3 Spd	3.9	4.2	5.3	5.9	7.0	5.7	5.3	6.2	8.5	11.4	12.9	11.1	9.2	9.2	11.0	9.2	8.3	9.1	9.3	8.0	5.7	3.6	8.2	5.7	7.20	12.88	
Dir	SSE	SSE	S	S	S	S	S	SSW	S	S	SSW	S	S	SSW	S	SW	SW	S	SSW	SSW	SSW	SSW	WSW	WSW	SSW	SSW	
4 Spd	1.8	0.8	2.3	2.9	3.6	3.4	2.3	2.9	4.5	6.5	7.1	8.8	11.3	18.5	22.1	15.5	14.8	9.7	8.5	4.8	7.0	6.3	4.8	2.7	4.83	22.09	
Dir	WSW	W	S	SSW	S	S	NNE	S	S	SSW	SSW	SW	W	WNW	NW	NW	WNW	NNW	NW	NW	NW	NW	NW	WNW	WNW	NW	
5 Spd	4.4	6.4	4.4	4.5	3.1	5.1	4.8	5.4	5.2	5.0	10.8	7.6	8.8	10.9	9.6	7.2	2.0	3.0	1.9	1.3	2.1	2.6	3.4	2.29	10.91		
Dir	WNW	WNW	W	WNW	WNW	S	SSE	S	S	S	W	WNW	WNW	NW	NW	NNW	NNW	ENE	NE	NE	SE	SSE	SSE	S	WNW	NW	
6 Spd	3.9	2.5	3.7	5.5	7.0	7.9	8.8	10.8	18.5	20.4	23.6	27.5	26.0	25.4	21.4	19.1	16.9	9.9	4.5	0.1	1.8	2.3	2.8	2.6	9.16	27.54	
Dir	SSW	WSW	SSW	S	SSW	SW	WNW	NW	NW	NNW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	N	N	NW	NW	S	WNW	NW	NW	
7 Spd	3.4	2.3	1.3	2.0	2.9	2.7	1.5	2.0	1.8	3.7	3.7	7.2	4.9	1.2	3.1	3.1	4.1	2.8	3.4	3.8	4.0	3.4	3.5	4.1	0.72	7.18	
Dir	WNW	SW	SW	SW	S	S	SSW	S	S	S	W	WNW	NW	N	SE	SE	SSE	SSE	E	E	ENE	ENE	E	E	SSE	WNW	
8 Spd	5.2	7.7	6.2	6.5	6.2	6.1	6.8	7.2	5.3	1.9	1.5	4.5	1.4	5.1	6.7	4.7	4.8	2.2	2.0	2.3	2.6	0.1	1.7	1.7	2.55	7.67	
Dir	E	ESE	ESE	ESE	ESE	E	E	ESE	SSE	SSE	S	SSW	WSW	NNW	N	NNE	NNE	NE	ENE	ENE	E	NNE	E	SSE	E	ESE	
9 Spd	0.8	1.2	2.8	2.7	2.6	2.6	1.5	3.1	7.2	7.6	5.1	5.4	7.0	4.0	7.7	9.2	8.2	4.4	7.2	6.1	4.3	4.9	4.5	5.2	3.98	9.24	
Dir	SSE	SSE	NNE	ENE	S	NNE	SSW	S	S	SSW	SSW	S	S	S	SSE	SSE	SE	ESE	SE	S	SSW	S	S	S	SSE	SSE	
10 Spd	7.0	7.1	7.4	7.1	6.7	5.7	7.4	6.3	7.5	8.3	7.9	8.6	9.0	9.2	9.4	9.6	8.4	8.2	7.5	6.6	8.9	10.0	6.6	4.3	6.12	10.02	
Dir	S	S	S	SSW	SSW	SSW	S	SSW	SSW	SSW	S	S	S	SSE	S	SSE	SSE	SE	SSE	SSW	WSW	WNW	WNW	NW	SSW	WNW	
11 Spd	1.2	14.3	19.2	11.5	11.5	6.3	7.6	6.0	10.3	10.0	11.3	15.7	21.9	17.3	18.2	16.7	15.5	9.2	5.1	11.4	7.6	9.6	9.2	10.9	10.34	21.91	
Dir	W	NW	NW	WNW	NW	SW	SSW	WSW	SW	SW	WSW	WNW	WNW	WNW	NW	WNW	WNW	WNW	W	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW
12 Spd	8.8	9.4	9.6	12.5	10.7	7.3	7.2	5.9	7.5	8.0	10.4	15.7	21.5	18.7	16.6	16.9	11.4	5.8	1.4	3.8	7.0	5.3	1.0	4.5	8.67	21.49	
Dir	W	WNW	WNW	WNW	WNW	W	W	WSW	W	W	WNW	WNW	NW	WNW	NW	WNW	NW	NW	W	WSW	W	WNW	SW	SSE	WNW	NW	
13 Spd	4.4	4.2	4.7	5.5	4.0	4.4	6.2	5.9	6.7	8.5	7.9	7.8	7.1	6.3	9.2	11.5	9.8	6.1	5.8	5.0	4.5	3.6	4.7	6.4	5.19	11.52	
Dir	SSE	S	S	S	S	SSW	S	S	S	SSW	SSW	SSE	S	SSE	SE	SE	SE	ESE	ESE	ENE	E	SSE	S	S	SSE	SE	
14 Spd	6.0	5.6	2.6	3.1	0.8	1.0	1.1	2.0	2.7	2.3	4.9	8.9	12.8	16.3	19.1	20.7	14.5	4.5	0.6	3.5	1.6	2.6	2.4	2.3	3.67	20.73	
Dir	SW	SW	SSW	SSW	NW	SSW	SSW	S	W	WSW	WNW	WNW	NW	NW	NNW	NNW	NNW	N	SW	NW	S	SSE	SSE	SSE	NW	NNW	
15 Spd	3.7	2.9	0.9	3.6	1.0	1.0	4.6	7.3	7.7	7.8	7.5	6.9	6.0	5.2	10.5	7.2	5.6	3.7	5.9	7.0	6.4	6.3	3.2	3.0	3.96	10.52	
Dir	S	SSE	SSE	SSE	SSE	S	SSE	SSE	SE	ENE	ENE	ENE	ENE	ESE	SE	ESE	E	ENE	NE	NE	ENE	ENE	ENE	E	E	SE	
16 Spd	4.1	6.5	5.9	5.1	4.7	6.5	7.1	6.7	5.8	7.4	10.3	11.1	10.6	9.4	8.8	7.1	5.8	4.6	5.9	7.0	2.8	4.2	2.5	2.2	6.05	11.10	
Dir	SE	SSE	S	S	SSE	SE	SSE	SSE	S	S	SSE	SE	SSE	SSE	SSE	SSE	SE	ESE	ESE	SE	SE	ESE	SSE	SE	SSE	SE	
17 Spd	3.3	1.8	4.0	5.3	5.4	4.2	8.3	6.1	7.4	7.8	6.6	7.9	10.0	11.3	11.5	8.2	7.4	4.8	3.5	5.2	7.0	6.4	5.0	5.5	5.90	11.53	
Dir	SSE	SSE	S	S	S	S	S	S	S	S	S	SSE	SE	SE	SSE	SSE	SE	SE	SE	S	SSW	SW	SW	SSW	S	SSE	
18 Spd	3.3	5.4	6.4	6.9	1.4	2.3	2.7	3.0	7.7	7.4	7.9	8.9	11.0	7.9	5.3	6.7	9.7	7.1	3.6	3.6	3.6	3.2	4.0	3.7	3.79	10.96	
Dir	SSW	SW	SSW	SSW	W	W	SSE	WSW	W	W	W	W	WNW	WNW	W	NW	NW	NW	NW	S	S	S	SSE	S	W	WNW	
19 Spd	4.6	4.6	4.0	5.9	6.6	6.7	6.1	5.9	8.2	6.9	9.6	8.8	11.1	9.1	7.5	3.9	3.2	2.5	1.8	1.0	0.9	3.5	4.4	3.7	5.11	11.07	
Dir	S	S	S	S	S	S	S	S	S	SSW	S	SSW	S	S	S	SSE	SSW	ENE	NE	ESE	S	S	S	S	S	S	S
20 Spd	5.2	5.7	6.1	5.1	6.9	7.4	5.6	5.5	4.5	3.8	4.6	5.8	2.0	2.3	5.4	5.5	5.0	2.2	2.7	5.1	3.3	4.7	2.5	10.2	2.59	10.23	
Dir	S	S	S	S	S	S	S	S	S	SSW	S	S	SSE	S	E	E	ENE	ESE	SSE	WSW	S	NW	WNW	NW	S	NW	
21 Spd	4.1	1.3	2.4	2.0	1.6	3.2	4.2	3.7	2.9	4.8	1.9	3.8	4.5	5.1	6.7	7.6	7.6	7.5	3.8	3.1	4.8	6.0	6.3	4.8	3.23	7.64	
Dir	N	NW	SSW	WSW	NW	NW	SW	S	SSW	SSW	WNW	SSW	SSW	S	S	S	SSE	SE	SSE	SSE	S	S	S	S	S	S	S
22 Spd	5.9	6.7	7.5	6.0	7.4	7.2	7.3	6.9	6.5	11.3	8.6	7.7	6.7	5.2	8.1	8.6	9.6	10.1	8.6	7.1	6.8	7.0	7.0	1.0	5.86	11.29	
Dir	S	S	S	S	S	S	S	S	S	S	S	S	S	SSE	S	SSW	SSW	SSW	SSW	SSW	SW	WSW	NW	NNW	WNW	SSW	S



WCAS - Drayton Valley
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	1.8	2.3	2.7	3.9	1.2	0.7	4.2	6.4	9.1	9.2	15.0	14.9	16.7	15.4	13.8	9.9	13.2	7.6	3.2	7.5	10.8	5.1	2.0	2.7	4.95	16.67	
Dir	NNW	SSE	SSE	SSE	S	SW	S	SSW	SSW	SSW	SW	SW	WSW	W	NW	WNW	NW	WNW	WNW	WNW	NW	NNW	NW	WSW	W	W	WSW
24 Spd	4.8	9.6	5.1	4.8	5.5	6.4	6.6	9.1	10.6	9.2	9.5	12.5	16.0	18.0	20.8	17.2	15.5	9.1	7.5	5.8	7.7	6.5	3.7	3.2	8.76	20.77	
Dir	WNW	WNW	NW	NW	W	W	WSW	WSW	SW	WSW	WSW	WNW	WNW	WNW	WNW	W	W	W	W	W	W	W	W	W	SW	W	WNW
25 Spd	2.9	3.6	2.9	3.6	3.9	2.9	2.3	0.9	7.2	6.5	7.0	6.6	8.9	15.8	14.5	15.1	14.2	11.0	8.6	5.7	6.2	6.3	7.5	8.9	6.17	15.79	
Dir	S	S	S	S	SSE	SSE	SSE	S	ESE	E	E	ESE	ESE	ESE	ESE	ESE	SE	ESE	ESE	E	E	E	NE	NE	ESE	ESE	
26 Spd	9.9	9.4	5.6	6.5	7.2	8.0	8.7	9.6	11.3	10.1	11.4	11.4	12.6	15.4	15.2	14.8	12.8	17.4	18.3	17.8	16.7	17.5	15.5	12.8	11.08	18.26	
Dir	NE	NE	NE	N	N	N	NNW	NW	NNW	NNW	NNW	NNW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	NW
27 Spd	14.5	15.4	16.8	16.7	18.1	16.0	14.8	9.1	9.0	10.8	12.1	15.6	13.7	12.9	11.5	8.6	6.5	2.3	0.8	2.2	1.5	3.5	4.4	5.6	8.53	18.06	
Dir	NW	NW	NW	NW	NW	NW	NW	WNW	WNW	NW	NW	NW	NNW	NNW	NNW	NW	N	NNE	ENE	SE	SSE	S	S	S	NW	NW	NW
28 Spd	4.8	4.3	5.9	5.5	4.9	7.2	7.6	6.1	5.1	4.1	4.0	5.2	5.7	6.4	6.5	6.6	5.7	3.3	4.7	6.1	5.5	5.9	3.9	5.2	3.65	7.59	
Dir	S	SSW	S	SSE	SE	ENE	ENE	E	ENE	E	E	E	E	ESE	E	E	E	NE	NE	NE	NNE	NE	N	N	E	E	ENE
29 Spd	4.3	3.7	4.5	5.7	5.2	1.7	3.3	1.8	4.4	0.7	0.9	2.9	1.5	3.4	5.4	6.7	5.7	5.2	5.1	6.1	7.5	7.8	4.5	3.5	3.24	7.83	
Dir	NNW	NNE	NNW	N	N	NNW	NE	NNW	N	NW	SE	S	SSW	NE	NE	NE	ENE	NE	NE	ENE	NE	NE	ENE	ENE	NE	NE	NE
30 Spd	4.8	3.8	5.0	7.0	7.7	8.4	7.1	5.8	8.6	11.2	11.0	10.3	12.3	16.9	17.1	16.4	16.4	11.7	14.2	12.7	15.9	13.8	10.5	9.6	9.57	17.08	
Dir	ENE	E	E	ENE	ENE	ENE	E	E	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SSE	SSE	SSE	SE	SE	SE	SE
31 Spd	4.8	3.9	5.3	4.4	3.0	2.4	6.4	7.4	7.4	5.9	7.2	9.2	7.5	6.9	5.0	9.5	10.2	11.1	8.6	4.8	2.6	4.9	4.5	10.3	5.54	11.11	
Dir	SE	N	NNE	NNE	NNW	NW	NW	WNW	WNW	WNW	NW	NW	WNW	NNW	NW	NW	NW	NW	NW	NW	NW	NNW	NW	WNW	NW	NW	NW
Spd	1.21	1.52	1.52	1.69	1.45	1.43	1.81	2.57	3.21	3.57	3.56	3.82	4.22	3.76	3.10	2.91	2.25	1.33	0.29	0.83	1.28	1.56	1.29	1.37	Diurnal Average		
Dir	WSW	WSW	WSW	SW	WSW	SW	SSW	SW	SW	SW	WSW	W	W	WNW	NW	NW	NW	NW	WNW	WSW	W	WNW	W	W	Diurnal Maximum		
Spd	18.54	15.36	19.22	17.97	18.06	17.31	15.66	18.82	18.47	23.80	23.62	27.54	25.96	25.44	22.09	20.73	16.86	20.17	18.26	17.82	16.73	17.53	17.85	21.02	Diurnal Maximum		
Dir	317.83	310.59	311.56	312.79	313.48	318.82	307.30	307.48	325.07	310.17	327.77	325.90	326.00	329.76	313.46	334.54	338.90	295.02	315.05	310.09	305.91	310.04	321.91	322.26			
Maximum Speed Value: 27.5 kph on Oct 6 12:00																		Minimum Speed Value: 0.1 kph on Oct 8 22:00						Hours in Service:		744	
Maximum Daily Speed Average: 13.65 kph on Oct 2																		Minimum Daily Speed Average: 0.72 kph on Oct 7						Hours of Data:		744	
Maximum Diurnal Speed Average: 4.22 kph at hour 13																		Minimum Diurnal Speed Average: 0.29 kph at hour 19						Hours of Missing Data:		0	
Monthly Average Velocity: 1.792 kph 261.82 deg																		Speed Percentiles: P ₁ = 0.8 P ₁₀ = 2.3 Q ₁ = 3.9 Median = 6.3 Q ₃ = 9.2 P ₉₀ = 15.4 P ₉₉ = 20.7						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	19	14	5	0	0	0	38																				
NorthEast	18	26	0	0	0	0	44																				
East	22	34	0	0	0	0	56																				
SouthEast	29	34	17	0	0	0	80																				
South	109	120	8	0	0	0	237																				
SouthWest	17	32	3	0	0	0	52																				
West	24	36	13	1	0	0	74																				
NorthWest	27	52	62	22	0	0	163																				
Total	265	348	108	23	0	0	744																				



WCAS - Drayton Valley
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2014

Maximum Value: 8.98 kph on Oct 11 02:00		Maximum Daily Average: 4.36 kph on Oct 2		Hours in Service: 744																							
Minimum Value: 0.3 kph on Oct 2 22:00		Minimum Daily Average: 1.44 kph on Oct 7		Hours of Data: 744																							
Maximum Diurnal Average: 3.96 kph at hour 15		Minimum Diurnal Average: 1.79 kph at hour 4		Hours of Missing Data: 0																							
Monthly Average: 2.480 kph		Percentiles: P ₁ = 0.7 P ₁₀ = 1.0 Q ₁ = 1.4 Median = 2.1 Q ₃ = 3.0 P ₉₀ = 4.7 P ₉₉ = 7.4		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	1.3	1.1	0.8	1.2	1.5	0.9	0.8	1.2	1.6	2.1	2.8	3.2	4.1	5.9	7.5	8.1	3.7	8.7	5.3	3.4	4.8	5.0	5.4	6.5	3.63	8.70	
2-Oct	6.5	2.9	5.5	4.8	4.3	5.0	5.4	5.6	5.0	6.4	6.5	6.3	6.6	6.1	5.8	5.2	5.0	4.3	2.9	1.3	1.3	0.3	1.2	0.5	4.36	6.64	
3-Oct	0.7	0.7	0.9	1.1	1.3	1.1	1.0	1.3	1.9	2.9	3.2	2.5	2.5	3.3	3.0	2.3	2.0	2.0	2.0	2.4	1.6	2.4	2.3	1.96	3.27		
4-Oct	1.7	0.8	1.6	1.5	0.9	1.0	2.1	2.0	1.4	1.4	2.1	2.8	4.9	7.2	6.8	5.0	5.3	3.9	3.0	1.7	1.9	1.4	1.4	0.9	2.61	7.19	
5-Oct	1.7	1.5	1.5	1.4	2.2	0.9	0.8	0.7	0.9	0.9	3.9	3.4	3.3	3.8	4.0	3.5	3.3	1.1	0.8	1.2	1.1	0.8	1.0	0.8	1.86	4.00	
6-Oct	1.7	2.5	1.9	1.8	2.3	2.0	2.6	4.8	5.5	6.4	7.5	8.6	7.5	7.1	6.8	6.4	5.4	4.7	2.1	1.6	1.4	1.3	1.9	1.4	3.96	8.60	
7-Oct	1.8	1.2	1.0	0.8	0.9	0.7	0.9	1.5	1.3	1.3	3.0	2.1	1.9	1.5	2.3	1.8	1.3	0.8	1.1	1.1	1.4	1.5	1.4	1.9	1.44	3.02	
8-Oct	2.6	2.9	2.6	2.8	2.6	2.2	2.2	2.6	2.3	1.6	2.0	2.6	1.8	3.0	3.4	2.1	2.1	1.8	1.0	1.4	1.4	1.0	1.6	1.5	2.13	3.37	
9-Oct	1.3	1.4	2.1	2.2	2.0	2.8	1.0	1.6	2.2	2.5	2.1	1.9	2.1	2.6	2.9	2.6	2.7	1.6	2.1	1.3	1.0	0.8	0.7	0.8	1.85	2.86	
10-Oct	1.3	1.1	1.4	0.9	1.0	1.2	1.1	0.8	1.8	2.1	2.0	2.5	2.6	2.6	2.7	2.7	2.3	3.0	2.8	1.5	3.6	2.8	3.1	1.4	2.01	3.57	
11-Oct	1.9	9.0	6.1	4.3	5.0	2.0	2.1	2.1	3.1	3.1	3.5	5.8	6.7	5.8	6.3	6.2	6.7	3.4	1.4	3.7	2.8	2.5	3.1	2.6	4.14	8.98	
12-Oct	2.8	3.5	4.0	3.4	3.3	2.4	2.5	1.8	2.9	2.8	3.7	5.4	6.7	6.1	5.5	5.0	3.8	3.3	1.1	2.1	2.2	1.6	1.6	1.2	3.28	6.65	
13-Oct	0.8	0.9	0.8	0.8	1.0	0.9	1.2	1.2	1.1	2.0	2.0	2.1	2.6	2.5	2.9	3.4	2.6	2.6	2.7	1.7	1.4	1.4	1.1	1.1	1.70	3.42	
14-Oct	1.1	1.3	1.9	1.3	2.0	2.1	1.7	1.7	2.3	1.6	2.5	4.0	3.7	4.8	5.7	5.9	6.7	2.8	0.8	1.2	1.2	1.3	1.3	1.0	2.50	6.74	
15-Oct	1.7	1.0	0.6	1.5	1.0	0.9	3.6	1.9	2.5	1.9	2.0	2.1	2.0	3.7	3.4	3.2	2.7	2.0	2.8	3.0	2.8	2.6	1.9	1.5	2.18	3.70	
16-Oct	1.7	1.7	1.7	1.1	1.2	1.9	1.8	1.6	1.3	1.9	2.7	2.8	3.3	3.2	2.6	2.5	1.7	1.7	1.7	1.8	0.8	1.2	1.6	1.7	1.89	3.33	
17-Oct	0.8	0.7	1.3	0.7	1.0	1.2	2.4	1.4	1.8	1.9	2.0	2.4	2.4	2.6	3.0	2.8	1.7	1.8	0.8	1.9	1.3	1.1	1.4	0.8	1.64	2.96	
18-Oct	2.0	1.3	1.1	1.4	2.6	2.8	3.3	2.4	2.3	2.6	3.0	3.9	3.6	2.9	3.4	2.9	3.3	3.5	1.2	1.1	1.3	1.9	1.0	1.3	2.33	3.95	
19-Oct	0.8	0.9	0.7	1.5	0.9	1.1	1.1	1.5	1.7	2.3	1.9	4.1	2.7	3.0	1.7	1.4	1.3	2.2	1.9	1.2	1.2	1.4	0.9	1.0	1.59	4.10	
20-Oct	0.8	0.9	1.2	1.2	1.2	1.6	0.9	1.3	1.1	1.4	1.3	1.5	1.7	1.7	1.8	1.9	1.8	1.5	1.8	2.2	1.2	2.6	2.1	4.0	1.62	4.04	
21-Oct	2.4	1.7	1.8	1.6	1.6	2.7	1.6	1.4	1.3	1.0	2.2	1.8	1.4	1.3	1.9	1.9	2.2	1.8	1.0	1.8	1.4	1.5	1.5	0.8	1.66	2.72	
22-Oct	1.7	1.1	1.3	0.9	1.5	1.1	1.3	1.8	3.5	3.3	2.4	2.4	2.2	3.8	2.8	3.6	2.9	2.5	1.7	1.6	2.2	1.7	2.0	1.4	2.10	3.80	
23-Oct	1.6	1.3	1.4	1.1	1.4	1.2	1.7	1.7	2.2	2.9	4.3	4.8	5.9	5.1	4.6	2.6	4.1	4.4	1.3	2.0	2.6	3.5	1.4	1.8	2.71	5.90	
24-Oct	1.6	4.4	1.5	1.5	1.9	1.9	1.8	2.7	2.9	2.8	3.3	5.1	5.5	5.8	6.1	6.1	6.1	3.3	2.2	1.7	2.3	2.2	1.5	0.9	3.13	6.12	
25-Oct	0.6	1.2	1.2	1.1	0.8	0.8	0.9	1.8	2.3	2.3	2.5	2.9	4.0	6.2	5.5	5.4	5.2	4.2	4.4	2.6	2.8	2.4	2.2	2.7	2.76	6.22	
26-Oct	2.9	3.3	2.1	2.8	2.6	2.8	2.4	2.5	2.8	3.1	3.2	3.1	3.7	4.3	4.0	4.1	3.6	4.9	4.8	4.6	5.0	4.6	3.9	3.6	3.52	4.98	
27-Oct	4.1	4.5	4.2	3.9	4.4	4.0	4.1	2.5	2.7	3.1	3.6	4.7	4.7	5.1	4.8	3.5	2.5	2.0	0.7	0.9	1.1	0.9	0.7	1.0	3.07	5.10	
28-Oct	0.9	0.9	1.4	1.8	2.3	1.5	1.4	1.5	1.1	1.7	2.0	2.3	2.6	2.3	2.8	2.8	2.7	1.5	2.4	1.6	1.9	2.0	1.6	2.1	1.88	2.81	
29-Oct	2.0	1.9	1.8	2.0	2.1	2.5	2.1	1.1	1.8	1.3	1.6	2.9	1.3	2.2	2.2	2.3	2.1	2.1	2.0	2.1	2.1	2.9	1.9	1.8	2.01	2.95	
30-Oct	1.9	1.9	1.4	1.0	1.3	1.5	2.0	1.9	3.1	3.2	3.0	3.7	4.0	4.1	4.3	4.4	3.8	4.4	3.7	3.2	3.9	3.6	2.3	2.1	2.90	4.41	
31-Oct	2.9	2.4	2.0	2.2	1.5	1.5	2.5	2.0	2.4	2.3	3.3	2.3	3.1	2.3	2.1	2.6	2.8	3.0	2.9	1.5	1.5	1.7	1.9	5.9	2.45	5.85	
		1.87	2.00	1.90	1.79	1.92	1.82	1.95	1.94	2.27	2.46	2.95	3.42	3.59	3.92	3.96	3.70	3.34	2.92	2.14	1.93	2.04	1.97	1.84	1.89	Diurnal Average	
		6.47	8.98	6.08	4.76	4.99	5.04	5.45	5.58	5.51	6.39	7.48	8.60	7.45	7.19	7.51	8.10	6.74	8.70	5.35	4.59	4.98	4.97	5.38	6.47	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																											



WCAS - Drayton Valley
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2014

Maximum Value: 94.27 deg on Oct 18 05:00		Maximum Daily Average: 43.22 deg on Oct 8		Hours in Service: 744																							
Minimum Value: 5.6 deg on Oct 10 05:00		Minimum Daily Average: 14.81 deg on Oct 10		Hours of Data: 744																							
Maximum Diurnal Average: 29.83 deg at hour 5		Minimum Diurnal Average: 19.05 deg at hour 17		Hours of Missing Data: 0																							
Monthly Average: 24.124 deg		Percentiles: P ₁ = 7.5 P ₁₀ = 11.0 Q ₁ = 14.1 Median = 19.0 Q ₃ = 27.0 P ₉₀ = 46.5 P ₉₉ = 82.2		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	18.4	28.2	9.9	36.8	52.0	8.8	10.8	9.4	13.6	13.6	17.1	20.6	43.0	28.3	27.6	20.3	22.9	18.2	16.4	20.7	19.4	15.9	18.3	17.1	21.13	52.03	
2-Oct	15.4	14.5	13.0	12.5	14.8	14.8	16.3	14.4	14.8	14.5	16.2	19.8	15.8	20.1	19.5	20.6	19.0	25.2	26.7	28.0	20.5	81.1	10.0	7.0	19.78	81.11	
3-Oct	11.3	7.8	8.1	8.7	11.6	8.7	13.3	11.3	11.0	12.8	16.2	14.5	15.1	16.9	15.6	19.5	15.9	12.5	11.3	11.2	49.6	47.4	14.1	36.0	16.68	49.62	
4-Oct	81.6	45.3	18.9	16.7	14.6	15.8	75.9	56.7	13.4	13.4	14.5	23.0	29.2	21.7	14.7	17.3	17.4	27.8	15.0	10.1	11.7	10.6	19.3	20.5	25.21	81.59	
5-Oct	17.8	12.3	17.2	19.0	45.9	9.2	7.9	8.0	11.9	11.0	55.8	20.2	36.9	35.5	25.6	22.3	23.3	46.9	14.6	30.7	45.2	8.4	28.5	9.0	23.47	55.83	
6-Oct	33.8	54.8	51.3	13.0	19.4	26.2	18.8	19.3	18.1	18.6	19.0	18.3	18.3	19.6	20.9	22.6	24.9	28.2	27.5	90.8	43.5	26.4	29.1	23.1	28.56	90.79	
7-Oct	20.5	35.3	52.2	20.9	12.6	18.1	34.2	46.7	67.6	14.0	28.3	18.1	21.3	73.2	39.1	32.4	17.3	13.1	22.4	15.1	27.2	27.7	34.7	26.3	29.93	73.20	
8-Oct	35.2	22.6	26.9	26.1	25.2	21.2	21.2	19.0	30.2	62.1	80.1	48.7	79.3	41.7	31.1	31.0	33.2	34.0	60.5	28.8	34.4	92.6	69.4	82.9	43.22	92.60	
9-Oct	61.3	36.3	48.4	52.6	60.9	60.0	47.6	15.4	11.8	22.5	21.2	22.5	19.6	36.1	22.8	20.1	18.6	19.6	16.9	14.4	9.0	11.7	7.6	7.5	27.67	61.27	
10-Oct	8.8	10.1	9.8	5.9	5.6	11.4	7.7	6.5	10.7	16.0	20.5	20.7	20.3	21.4	21.8	18.5	14.8	12.8	24.5	12.5	21.6	17.1	15.8	20.8	14.81	24.53	
11-Oct	72.5	52.7	14.7	23.2	21.6	27.9	19.5	13.8	14.7	17.0	20.5	22.6	16.2	23.3	17.3	18.7	16.0	15.8	15.4	13.3	13.2	14.0	14.5	12.7	21.29	72.45	
12-Oct	17.1	17.0	17.0	13.7	14.8	21.2	21.2	16.4	20.4	19.7	17.7	19.5	17.5	19.9	20.1	15.9	14.7	12.4	49.8	39.8	23.1	13.7	67.1	15.3	21.87	67.07	
13-Oct	11.7	11.4	21.2	12.7	10.9	16.9	12.3	11.0	11.3	14.2	17.6	23.3	23.1	25.8	18.6	14.2	14.3	25.6	26.3	19.5	28.9	17.1	18.1	11.1	17.37	28.95	
14-Oct	12.4	21.2	30.7	48.5	91.2	89.7	85.9	47.0	65.6	45.4	44.6	16.7	19.8	20.3	23.0	22.3	22.1	36.8	65.5	24.0	76.1	13.7	18.1	9.9	39.60	91.20	
15-Oct	12.1	18.3	15.0	16.7	45.2	67.9	45.4	13.4	27.2	14.9	13.9	20.3	16.5	37.5	17.3	26.3	25.2	24.6	19.3	18.8	23.2	24.1	20.9	24.0	24.51	67.90	
16-Oct	27.8	14.8	13.1	12.9	17.6	10.8	12.6	13.2	15.8	22.4	16.8	17.5	21.0	20.9	23.0	21.6	25.2	19.5	18.0	18.4	35.0	18.9	16.6	23.5	19.04	35.00	
17-Oct	18.7	27.2	16.3	8.7	11.0	14.4	11.7	11.3	13.1	12.8	18.7	23.1	16.8	14.7	15.7	13.1	11.3	23.0	25.2	11.0	11.2	11.3	20.1	20.2	15.86	27.15	
18-Oct	41.7	15.0	19.5	9.5	94.3	72.3	72.9	78.2	18.4	18.7	20.4	20.3	22.1	29.5	48.2	28.4	14.1	15.2	32.6	17.2	39.1	42.9	19.4	26.4	34.02	94.27	
19-Oct	10.7	15.8	12.5	9.5	9.2	10.2	8.8	20.1	9.7	12.4	9.3	12.2	14.5	12.8	13.7	21.5	18.0	69.0	73.8	71.2	70.4	30.9	12.1	9.1	23.23	73.76	
20-Oct	7.8	10.0	13.2	9.1	10.8	11.3	10.4	11.7	12.5	16.3	10.1	13.9	54.5	45.9	27.3	29.2	19.2	66.9	50.9	43.8	26.8	34.5	52.4	21.3	25.40	66.95	
21-Oct	32.8	81.5	39.7	58.0	78.3	46.4	24.5	24.3	27.0	17.2	75.4	31.7	16.4	20.4	22.6	19.6	21.8	10.8	6.2	25.4	18.4	8.8	8.3	8.6	30.17	81.51	
22-Oct	7.9	9.5	9.9	10.2	9.4	9.0	10.8	15.8	23.8	14.1	18.0	14.1	12.0	24.4	21.4	18.6	15.3	13.1	13.1	16.8	36.3	16.3	16.9	79.9	18.19	79.92	
23-Oct	80.6	23.0	29.4	21.7	65.0	72.7	15.1	19.1	12.2	17.9	16.1	18.0	23.1	23.2	15.8	13.5	13.8	23.8	22.7	10.4	14.2	51.8	57.4	44.1	29.36	80.65	
24-Oct	18.0	30.3	14.3	27.0	25.1	18.6	11.3	15.5	14.9	17.6	23.5	23.9	20.9	20.1	14.3	18.7	18.0	15.9	25.6	14.3	16.9	20.9	14.4	35.1	19.80	35.14	
25-Oct	15.7	13.8	10.1	18.2	7.7	11.8	20.4	51.1	19.4	21.4	20.0	25.3	24.5	22.1	23.8	22.7	18.7	19.2	25.5	24.9	25.1	21.6	18.1	17.4	20.76	51.12	
26-Oct	15.4	16.4	20.4	28.0	27.7	28.7	23.9	13.6	14.6	19.3	19.6	15.5	15.7	13.2	14.0	13.1	14.6	13.1	13.0	13.9	14.2	13.1	12.9	14.1	17.00	28.74	
27-Oct	14.0	13.1	12.6	11.8	12.3	12.9	12.8	14.1	15.3	20.5	18.1	19.9	25.1	29.2	28.2	23.7	26.7	20.6	54.9	29.3	14.7	10.4	6.9	10.6	19.07	54.85	
28-Oct	9.4	7.5	11.8	18.4	37.0	10.6	12.3	18.1	10.7	27.6	27.4	34.0	36.9	26.2	27.5	27.2	26.9	28.3	31.1	19.8	21.2	19.2	27.1	32.0	22.84	37.03	
29-Oct	29.2	26.6	31.5	25.5	27.6	72.6	34.4	46.2	29.8	89.8	81.6	76.8	74.6	44.8	27.5	22.0	20.4	18.2	16.9	17.1	15.1	14.8	25.0	30.6	37.45	89.78	
30-Oct	21.9	29.3	20.9	7.2	8.1	13.3	15.4	21.3	16.6	15.7	16.3	19.0	18.3	15.6	14.1	14.6	12.1	15.7	11.7	13.2	12.4	12.3	12.9	10.9	15.37	29.30	
31-Oct	68.6	30.9	30.2	33.3	37.0	37.5	17.3	13.9	15.7	20.7	33.3	19.2	20.0	21.6	32.8	15.2	14.9	14.9	13.4	16.6	37.9	22.9	21.8	14.6	25.18	68.58	
		27.43	24.27	21.28	20.51	29.83	28.10	24.28	22.45	19.73	21.75	26.70	23.01	26.08	26.64	22.74	20.79	19.05	23.90	27.31	23.90	27.59	24.90	23.48	23.28	Diurnal Average	
		81.59	81.51	52.25	58.00	94.27	89.70	85.86	78.25	67.57	89.78	81.62	76.82	79.30	73.20	48.24	32.35	33.17	69.04	73.76	90.79	76.08	92.60	69.43	82.87	Diurnal Maximum	
		,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																									

**WEYERHAEUSER - EDSON
STATION #912**

CONTINUOUS AIR MONITORING DATA

OCTOBER 2014

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

Weyerhaeuser / Edson Station 912												24 Hour AveRage Max (ppm)
October 2014												
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	
SO ₂ (ppb)	36	707	99.9	0.3	0.0	7.6	0.0	0.0	0.1	0.3	0.8	0.001
O ₃ (ppb)	37	706	99.9	17.1	0.1	45.0	1.9	6.5	16.0	26.2	34.7	0.035
NO (ppb)	40	703	99.9	4.9	0.0	79.6	0.0	0.2	1.0	5.3	14.7	-
NO ₂ (ppb)	40	703	99.9	7.6	0.6	28.1	1.4	3.4	6.8	10.9	14.8	0.015
NOx (ppb)	40	703	99.9	12.6	0.5	95.0	1.7	4.1	8.6	16.7	27.2	-
Particulate Matter 2.5 microns (μ/m ³)	7	737	100.0	2.8	0.0	13.8	0.0	0.9	2.2	3.8	6.1	6.1 ug/m3
Wind Speed (kph)	0	744	100.0	6.6	0.0	26.3	1.8	3.3	6.0	9.0	12.4	-
Temperature (°C)	0	744	100.0	5.3	-5.4	22.3	-0.9	0.9	4.4	8.7	13.4	-
Std Dev Wind Direction (deg)	0	744	100.0	29.6	5.8	105.6	10.7	14.2	23.0	37.8	61.6	-
Std Dev Wind Speed (kph)	0	744	100.0	2.6	0.0	9.2	1.4	1.8	2.3	3.0	4.4	-



WCAS - Edson
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
October 2014

Maximum Value: 79.64 ppb on Oct 19 11:00		Maximum Daily Average: 20.51 ppb on Oct 19		Hours in Service: 744																																													
Minimum Value: 0.0 ppb on Oct 2 01:00		Minimum Daily Average: 0.15 ppb on Oct 6		Hours of Data: 703																																													
Maximum Diurnal Average: 13.59 ppb at hour 10		Minimum Diurnal Average: 1.36 ppb at hour 19		Hours of Missing Data: 41																																													
Monthly Average: 4.929 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.2 Median = 1.0 Q ₃ = 5.3 P ₉₀ = 14.7 P ₉₉ = 49.0		Hours of Calibration: 40																																													
				Percent Operational Time: 99.9																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	1.7	0.1	0.1	Z	5.3	5.1	6.9	5.6	9.6	9.6	21.9	18.9	0.2	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.72	21.91																							
2-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.2	0.5	0.5	0.4	0.3	0.2	0.3	0.3	0.3	0.1	0.1	0.1	2.4	5.2	1.1	2.4	0.62	5.17																							
3-Oct	1.3	0.4	0.8	Z	7.5	7.8	21.3	66.4	45.1	51.4	19.0	15.9	9.9	10.2	8.1	5.4	11.3	9.9	14.9	14.4	15.2	6.0	0.2	0.1	14.90	66.37																							
4-Oct	4.6	15.6	18.7	Z	10.6	23.0	42.1	37.1	12.5	9.1	8.6	6.9	6.2	0.6	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.4	1.3	0.0	8.59	42.07																							
5-Oct	0.0	0.0	0.0	Z	0.0	0.4	1.0	14.8	13.4	22.3	16.7	6.5	2.3	0.4	0.1	0.5	0.6	0.3	0.0	0.4	0.2	0.3	0.0	0.0	3.49	22.34																							
6-Oct	0.0	0.3	0.7	Z	0.1	0.1	0.0	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.15	0.74																							
7-Oct	0.0	0.0	0.0	Z	0.2	2.9	5.9	27.4	3.6	26.0	36.1	27.9	12.1	1.3	0.6	2.0	2.5	0.2	0.0	0.0	0.0	0.0	0.1	0.3	6.49	36.12																							
8-Oct	0.3	0.1	0.0	Z	0.2	0.1	0.2	0.3	2.4	0.8	2.0	3.5	4.0	2.5	5.2	2.8	2.0	0.8	0.2	0.0	1.1	1.4	0.0	0.6	1.33	5.16																							
9-Oct	0.5	0.4	1.2	Z	17.8	13.7	32.3	23.1	20.0	30.8	29.6	22.9	14.4	6.0	4.8	2.3	1.8	1.3	0.3	0.2	0.0	0.2	3.1	2.7	9.98	32.27																							
10-Oct	3.9	4.5	5.6	Z	7.7	14.6	7.5	16.9	24.4	14.9	20.0	8.0	7.8	6.0	1.9	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	6.30	24.36																							
11-Oct	0.0	0.0	0.0	Z	0.0	0.0	0.0	0.9	1.9	2.1	0.9	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.27	2.10																							
12-Oct	0.0	1.4	0.0	Z	0.0	0.0	0.0	0.2	3.2	0.8	0.4	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	1.0	1.9	1.5	0.47	3.22																							
13-Oct	0.1	0.0	2.3	Z	0.1	3.6	18.8	30.2	29.3	10.0	14.2	5.7	1.4	2.1	2.3	4.7	1.4	0.0	0.0	0.1	0.0	0.0	0.0	0.0	5.50	30.22																							
14-Oct	0.0	0.1	0.0	Z	2.3	4.3	10.0	24.6	19.2	12.2	21.3	4.0	0.5	0.4	0.4	0.2	0.2	0.0	0.0	11.4	18.0	14.8	11.2	17.7	7.51	24.58																							
15-Oct	35.9	13.3	18.9	Z	3.2	0.5	0.1	0.4	1.0	2.1	2.2	2.9	3.8	1.3	M	1.3	0.8	0.1	0.6	1.2	0.0	0.0	0.0	0.2	4.08	35.92																							
16-Oct	1.2	0.7	0.2	Z	0.7	1.1	0.7	2.4	1.2	0.8	1.0	1.4	0.6	0.6	0.8	0.6	0.6	0.3	0.0	1.1	0.6	0.0	0.1	2.6	0.86	2.64																							
17-Oct	4.0	0.4	2.7	Z	3.0	2.5	5.3	7.5	11.6	24.1	13.9	5.8	6.6	7.5	19.7	12.5	8.3	18.4	15.4	15.2	17.0	23.5	12.6	21.3	11.26	24.12																							
18-Oct	17.3	14.8	7.1	Z	0.6	1.8	3.9	0.7	6.8	10.8	6.1	2.8	0.9	0.8	0.6	0.7	0.4	0.1	0.0	0.0	0.0	0.2	1.7	20.0	4.26	20.00																							
19-Oct	1.4	0.1	0.6	Z	6.4	20.4	42.5	47.3	62.1	69.5	79.6	59.4	19.0	14.6	13.2	8.8	1.9	0.3	0.1	0.0	5.6	2.1	11.4	5.5	20.51	79.64																							
20-Oct	2.7	1.6	3.9	Z	11.9	10.1	8.2	29.7	38.0	31.6	16.6	17.2	7.1	3.0	0.8	1.4	0.9	0.3	0.0	0.0	0.0	0.0	0.0	0.0	8.04	38.04																							
21-Oct	0.1	0.0	0.0	Z	0.0	0.6	0.7	1.1	4.1	6.6	12.6	10.1	6.5	2.5	0.4	0.4	0.2	0.0	0.0	4.4	0.0	0.1	0.0	0.4	2.21	12.64																							
22-Oct	0.1	0.1	10.5	Z	2.7	5.8	0.1	0.3	0.6	1.0	7.4	2.6	2.8	3.4	8.5	11.9	17.2	3.9	0.0	0.4	8.7	3.4	0.8	0.1	4.01	17.16																							
23-Oct	0.0	0.0	1.6	Z	1.3	3.9	4.6	49.9	C	C	C	C	C	C	C	C	C	0.2	0.1	0.1	0.1	0.1	0.1	1.8	--	49.85																							
24-Oct	0.5	0.5	0.5	Z	0.5	0.6	0.7	0.7	7.2	5.2	5.9	2.7	1.2	1.5	1.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.9	1.1	1.50	7.24																							
25-Oct	0.4	0.5	0.4	Z	13.1	5.6	3.1	1.1	5.2	22.6	32.5	6.9	6.0	2.1	2.2	2.3	1.0	0.8	0.8	0.7	0.7	0.9	0.7	0.7	4.79	32.48																							
26-Oct	0.7	0.7	0.8	Z	0.7	0.8	0.8	0.8	0.8	1.0	1.2	1.9	3.4	3.5	1.8	1.3	1.1	0.9	0.9	0.8	0.8	0.9	0.9	0.9	1.18	3.45																							
27-Oct	0.9	0.9	0.9	Z	0.8	0.7	0.7	0.9	4.0	7.2	4.2	1.9	1.3	1.1	1.1	0.9	0.8	0.8	1.0	0.9	0.7	1.1	1.2	1.4	1.53	7.16																							
28-Oct	0.8	1.5	0.6	Z	1.0	0.7	0.8	0.9	1.7	3.1	3.9	4.8	3.9	4.3	5.0	3.9	2.5	1.4	1.0	0.9	0.9	0.8	0.8	0.8	1.99	5.04																							
29-Oct	0.8	0.8	0.8	Z	0.9	0.8	1.3	2.5	3.2	7.9	5.5	7.0	7.5	6.8	7.9	6.3	4.8	3.7	4.2	2.1	1.1	1.7	1.0	1.0	3.47	7.94																							
30-Oct	0.9	1.4	2.4	Z	4.7	7.9	7.0	5.0	6.0	9.0	6.6	5.3	5.1	4.5	4.2	3.6	2.6	2.1	1.2	1.0	0.9	1.4	1.2	0.8	3.69	8.99																							
31-Oct	1.0	0.9	1.1	Z	0.6	0.7	1.1	5.6	8.8	14.7	13.0	21.3	22.9	8.6	7.8	5.1	4.1	1.6	0.7	0.8	0.7	0.7	0.7	0.8	5.36	22.86																							
																								2.61	1.96	2.65	--	3.35	4.52	7.34	13.04	11.59	13.59	13.46	9.17	5.27	3.20	3.45	2.69	2.28	1.56	1.36	1.83	2.44	2.16	1.71	2.74	Diurnal Average	
																								35.92	15.56	18.86	--	17.77	22.98	42.46	66.37	62.09	69.47	79.64	59.43	22.86	14.60	19.72	12.53	17.16	18.41	15.39	15.22	17.98	23.46	12.61	21.27	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Edson
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2014

Maximum Value: 28.05 ppb on Oct 22 21:00		Maximum Daily Average: 12.77 ppb on Oct 19		Hours in Service:	744																																												
Minimum Value: 0.6 ppb on Oct 11 02:00		Minimum Daily Average: 2.46 ppb on Oct 26		Hours of Data:	703																																												
Maximum Diurnal Average: 10.82 ppb at hour 8		Minimum Diurnal Average: 4.64 ppb at hour 15		Hours of Missing Data:	41																																												
Monthly Average: 7.640 ppb		Percentiles: P ₁ = 0.7 P ₁₀ = 1.4 Q ₁ = 3.4 Median = 6.8 Q ₃ = 10.9 P ₉₀ = 14.8 P ₉₉ = 22.4		Hours of Calibration:	40																																												
				Percent Operational Time:	99.9																																												
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	13.9	8.2	9.2	Z	12.4	11.2	10.9	8.0	8.2	7.5	14.8	14.3	1.3	0.9	0.9	0.9	1.5	1.3	1.2	1.7	1.2	0.7	0.7	0.8	5.73	14.77																							
2-Oct	1.1	1.5	0.9	Z	0.9	1.5	1.6	1.7	1.3	1.0	0.9	0.7	0.7	0.8	0.7	0.9	1.0	0.9	1.9	4.1	12.8	14.4	8.7	10.3	3.05	14.40																							
3-Oct	10.5	8.8	9.3	Z	11.2	11.9	12.4	17.0	15.6	16.9	15.6	12.9	8.8	14.2	14.2	10.9	14.9	13.8	14.1	11.0	9.7	9.6	6.5	4.3	11.92	17.02																							
4-Oct	5.6	10.1	9.5	Z	11.8	12.3	15.5	17.2	9.8	7.4	10.4	10.2	11.6	2.3	0.9	0.7	1.1	1.2	1.4	1.1	2.5	10.6	12.0	5.9	7.44	17.21																							
5-Oct	2.9	4.3	9.3	Z	9.6	9.8	11.6	14.8	10.2	12.5	11.0	7.3	5.0	1.5	1.0	2.8	4.3	4.6	3.0	5.1	11.6	9.6	9.0	5.0	7.21	14.79																							
6-Oct	4.2	6.8	8.4	Z	6.8	5.4	2.4	1.7	1.3	0.8	0.8	1.0	0.9	1.0	0.9	0.8	0.9	0.8	2.0	3.6	2.6	1.5	10.7	14.1	3.44	14.06																							
7-Oct	14.6	8.8	5.8	Z	9.0	16.9	17.5	22.4	13.4	19.8	19.7	19.9	13.8	5.0	3.8	4.9	7.7	8.3	11.9	10.6	4.7	2.4	1.6	4.2	10.72	22.42																							
8-Oct	3.8	3.0	2.9	Z	5.9	6.3	6.3	4.4	6.6	3.9	4.9	5.7	9.5	9.0	7.8	5.9	5.3	7.3	11.9	6.6	12.8	10.9	4.7	6.6	6.60	12.80																							
9-Oct	7.2	6.6	4.3	Z	9.1	7.7	9.6	10.0	9.8	9.6	11.1	13.8	12.3	7.2	7.2	5.3	5.6	8.0	9.1	8.1	6.3	7.7	9.4	9.4	8.45	13.76																							
10-Oct	7.8	6.2	7.9	Z	7.3	7.9	6.9	8.8	8.9	10.6	13.2	7.5	8.3	10.0	5.1	2.1	3.9	7.8	6.7	2.2	1.5	1.4	1.3	1.3	6.29	13.22																							
11-Oct	0.9	0.6	0.8	Z	3.8	5.6	7.5	9.4	8.4	5.1	2.5	0.8	0.8	1.3	1.7	1.0	0.9	0.9	1.4	2.6	4.1	6.6	3.3	7.0	3.35	9.39																							
12-Oct	8.1	15.6	7.1	Z	4.7	2.7	4.6	7.4	7.7	2.6	1.5	1.0	0.6	0.7	0.8	1.6	1.1	1.6	2.8	2.7	13.0	19.3	18.9	17.9	6.26	19.27																							
13-Oct	12.0	7.6	11.6	Z	6.4	8.0	11.0	11.3	11.3	9.2	11.6	7.0	3.4	5.1	4.8	10.6	6.7	4.5	3.2	6.2	5.1	4.4	3.4	3.1	7.29	12.03																							
14-Oct	3.4	5.9	6.1	Z	14.4	14.4	16.3	16.2	12.9	12.7	15.6	4.9	1.5	1.3	1.2	1.2	1.4	2.8	7.6	17.7	23.5	18.0	17.3	15.7	10.09	23.53																							
15-Oct	14.9	12.5	11.9	Z	10.3	6.5	6.8	6.9	6.7	6.5	6.4	6.0	7.6	6.0	M	8.3	9.0	6.2	6.3	4.8	6.2	6.3	7.3	6.8	7.74	14.93																							
16-Oct	6.9	4.7	3.4	Z	5.5	5.9	7.2	10.2	7.7	4.9	3.3	3.1	2.3	2.4	2.6	2.6	2.7	4.1	3.8	9.1	7.2	5.2	6.5	5.6	5.08	10.21																							
17-Oct	8.2	5.9	5.3	Z	3.2	5.2	8.9	10.3	8.3	9.8	6.8	4.3	5.4	6.9	12.4	10.1	8.0	8.5	8.4	7.3	7.1	6.2	4.6	5.5	7.25	12.36																							
18-Oct	7.5	7.6	9.1	Z	4.7	10.2	11.0	9.2	11.6	13.8	10.9	5.9	2.5	2.4	2.1	3.1	2.8	3.2	2.8	6.1	8.5	9.1	23.9	26.2	8.44	26.20																							
19-Oct	17.2	7.5	7.9	Z	12.3	15.0	15.7	14.8	16.9	16.2	16.0	16.4	15.1	14.2	13.6	9.1	6.5	6.8	8.3	6.8	15.8	11.1	15.8	14.6	12.77	17.19																							
20-Oct	14.4	13.7	14.0	Z	17.3	15.8	16.6	19.8	17.1	18.8	15.4	15.6	11.9	8.0	3.3	4.5	13.0	17.5	16.0	10.8	14.0	4.0	1.3	2.2	12.39	19.81																							
21-Oct	8.5	3.6	6.6	Z	5.7	19.0	17.3	21.4	17.8	15.0	19.8	15.5	9.5	5.6	1.8	2.3	2.3	3.8	4.5	12.8	15.2	15.5	11.9	12.1	10.77	21.44																							
22-Oct	10.1	11.1	13.8	Z	11.9	11.5	8.8	6.7	6.8	7.4	10.9	5.7	5.1	6.0	13.5	16.3	23.1	18.0	2.7	12.9	28.1	21.9	13.2	10.0	11.98	28.05																							
23-Oct	6.1	8.2	11.7	Z	12.3	14.6	14.0	16.3	C	C	C	C	C	C	C	C	C	2.3	2.8	4.6	4.8	6.1	3.1	12.4	--	16.32																							
24-Oct	12.1	6.6	5.0	Z	7.0	9.1	13.8	8.5	19.0	11.3	9.2	4.4	2.2	3.0	3.1	1.1	1.1	2.4	5.9	2.8	3.1	4.4	14.8	12.3	7.05	19.01																							
25-Oct	10.2	7.0	5.7	Z	16.4	14.8	15.8	11.1	11.3	17.8	22.4	13.7	8.9	3.4	2.9	4.0	5.7	8.8	10.1	7.6	10.2	8.6	3.5	3.2	9.70	22.41																							
26-Oct	2.7	2.3	1.9	Z	1.6	1.8	2.3	1.6	1.8	2.7	2.7	3.9	3.9	5.4	3.0	2.6	2.5	2.5	2.6	2.0	1.9	1.6	1.7	1.5	2.46	5.41																							
27-Oct	1.6	1.3	1.6	Z	1.5	2.4	6.7	9.9	14.5	11.2	5.7	2.2	1.5	1.2	1.3	1.4	1.3	3.3	6.8	12.9	10.0	17.1	9.2	14.6	6.06	17.15																							
28-Oct	7.6	7.0	4.9	Z	6.4	5.7	6.8	6.2	9.7	6.8	4.9	4.3	5.6	4.8	4.7	5.0	6.4	9.3	12.8	12.4	8.8	6.9	6.1	5.2	6.88	12.77																							
29-Oct	4.8	4.5	4.6	Z	4.2	5.2	8.6	9.2	8.6	8.8	6.2	6.5	6.0	5.4	5.1	5.7	6.8	8.4	10.5	9.6	7.4	7.9	6.5	6.5	6.84	10.47																							
30-Oct	6.7	9.5	12.8	Z	14.0	13.4	13.6	13.1	11.0	9.2	7.1	5.7	6.3	6.3	5.3	4.5	6.0	6.7	5.9	6.7	7.4	8.4	7.3	5.7	8.38	14.01																							
31-Oct	6.0	7.3	7.1	Z	5.6	5.1	6.0	9.8	11.0	9.8	7.7	8.0	7.1	5.6	8.9	11.4	13.7	12.7	4.4	2.7	3.0	3.4	3.3	2.7	7.05	13.74																							
																								7.80	6.91	7.11	--	8.17	9.13	10.13	10.82	10.18	9.66	9.62	7.60	5.98	4.90	4.64	4.73	5.58	6.07	6.22	6.94	8.71	8.42	7.97	8.16	Diurnal Average	
																								17.19	15.55	14.00	--	17.26	19.03	17.48	22.42	19.01	19.83	22.41	19.88	15.05	14.22	14.16	16.31	23.13	17.98	15.96	17.69	28.05	21.92	23.87	26.20	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 159 ppb 24-hr 106 ppb																																																	



WCAS - Edson
Summary of Hourly Averages

NOx (NO_x) - ppb
October 2014

Maximum Value: 95.02 ppb on Oct 19 11:00																						Maximum Daily Average: 33.18 ppb on Oct 19																						Hours in Service: 744					
Minimum Value: 0.5 ppb on Oct 11 02:00																						Minimum Daily Average: 3.62 ppb on Oct 11																						Hours of Data: 703					
Maximum Diurnal Average: 23.81 ppb at hour 8																						Minimum Diurnal Average: 7.43 ppb at hour 16																						Hours of Missing Data: 41					
Monthly Average: 12.579 ppb																						Percentiles: P ₁ = 0.8 P ₁₀ = 1.7 Q ₁ = 4.1 Median = 8.6 Q ₃ = 16.7 P ₉₀ = 27.2 P ₉₉ = 65.2																						Hours of Calibration: 40					
																																												Percent Operational Time: 99.9					
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	15.8	8.4	9.4	Z	17.8	16.3	17.8	13.6	17.8	17.1	36.5	33.0	1.5	0.9	1.0	0.9	1.5	1.3	1.2	1.7	1.2	0.7	0.6	0.7	9.43	36.51																							
2-Oct	1.1	1.4	0.9	Z	0.9	1.5	1.6	1.7	1.5	1.5	1.3	1.0	0.9	1.0	0.9	1.1	1.2	1.0	1.9	4.2	15.2	19.6	9.8	12.7	3.65	19.61																							
3-Oct	11.9	9.3	10.2	Z	18.6	19.7	33.6	82.9	60.4	68.0	34.5	28.7	18.7	24.5	22.3	16.4	26.2	23.7	29.0	25.2	24.8	15.7	6.8	4.5	26.77	82.93																							
4-Oct	10.3	25.5	28.1	Z	22.4	35.2	57.4	54.2	22.2	16.5	19.0	17.2	18.0	3.0	1.1	0.8	1.2	1.3	1.4	1.2	2.6	11.2	13.5	6.0	16.05	57.40																							
5-Oct	3.0	4.3	9.5	Z	9.7	10.4	12.8	29.6	23.6	34.7	27.6	13.9	7.3	2.0	1.1	3.4	5.0	4.9	3.0	5.5	12.0	10.0	9.1	5.1	10.76	34.75																							
6-Oct	4.3	7.1	9.2	Z	7.0	5.5	2.4	1.7	1.6	1.0	1.0	1.2	1.1	1.2	1.1	0.9	1.0	0.8	2.1	3.6	2.6	1.5	11.0	14.5	3.63	14.48																							
7-Oct	14.7	9.0	5.9	Z	9.2	20.0	23.6	49.8	17.1	45.8	55.7	47.6	25.8	6.4	4.5	7.0	10.2	8.7	12.0	10.7	4.7	2.4	1.6	4.4	17.26	55.70																							
8-Oct	4.1	3.0	3.0	Z	6.1	6.5	6.5	4.6	9.0	4.7	7.0	9.2	13.6	11.6	13.0	8.7	7.3	8.2	12.3	6.7	14.0	12.5	4.7	7.3	7.97	14.00																							
9-Oct	7.8	7.1	5.5	Z	26.8	21.3	41.7	32.9	29.7	40.2	40.5	36.5	26.6	13.1	12.0	7.6	7.4	9.3	9.5	8.5	6.3	8.0	12.5	12.2	18.39	41.71																							
10-Oct	11.6	10.6	13.5	Z	14.9	22.3	14.3	25.6	33.0	25.2	33.0	15.4	16.0	16.0	7.0	2.5	4.3	8.2	7.0	2.2	1.4	1.4	1.3	1.2	12.52	32.99																							
11-Oct	0.9	0.5	0.8	Z	3.8	5.7	7.5	10.4	10.4	7.3	3.4	0.9	0.8	1.3	1.8	1.1	1.0	0.9	1.4	2.6	4.1	6.6	3.2	7.0	3.62	10.38																							
12-Oct	8.1	17.1	7.0	Z	4.7	2.7	4.6	7.7	10.9	3.3	1.9	1.2	0.7	0.8	0.9	1.7	1.1	1.7	2.8	2.7	13.4	20.4	20.9	19.5	6.77	20.94																							
13-Oct	12.2	7.7	14.1	Z	6.7	11.7	29.7	41.3	40.5	19.3	25.7	12.7	4.9	7.1	7.1	15.4	8.2	4.6	3.2	6.3	5.2	4.4	3.4	3.2	12.80	41.26																							
14-Oct	3.4	6.0	6.1	Z	16.8	18.8	26.3	40.7	32.0	24.8	36.7	8.8	2.1	1.7	1.7	1.4	1.6	2.9	7.7	29.1	41.5	32.9	28.5	33.3	17.61	41.52																							
15-Oct	50.6	25.8	30.6	Z	13.6	7.1	7.0	7.4	7.7	8.7	8.6	8.9	11.4	7.3	M	9.7	9.9	6.4	6.9	6.0	6.2	6.3	7.4	7.1	11.84	50.63																							
16-Oct	8.2	5.4	3.7	Z	6.3	7.0	7.9	12.7	9.0	5.7	4.4	4.5	2.9	3.0	3.4	3.2	3.4	4.4	3.8	10.3	7.9	5.2	6.7	8.3	5.97	12.69																							
17-Oct	12.3	6.4	8.0	Z	6.2	7.7	14.3	17.8	19.9	33.7	20.6	10.1	11.9	14.4	31.9	22.5	16.2	26.7	23.6	22.3	23.9	29.5	17.0	26.6	18.42	33.72																							
18-Oct	24.5	22.2	16.1	Z	5.3	12.0	14.9	10.0	18.4	24.5	17.0	8.7	3.3	3.2	2.7	3.8	3.2	3.2	2.8	6.1	8.6	9.3	25.7	46.2	12.68	46.20																							
19-Oct	18.6	7.6	8.6	Z	18.7	35.2	57.9	61.8	78.7	85.3	95.0	75.5	34.0	28.7	26.7	17.9	8.5	7.1	8.5	6.9	21.4	13.3	27.1	20.2	33.18	95.02																							
20-Oct	17.2	15.5	18.0	Z	29.2	25.9	24.8	49.4	55.0	50.2	31.9	32.7	19.0	11.0	4.1	5.9	14.1	18.0	16.0	10.8	14.1	4.1	1.2	2.3	20.46	54.96																							
21-Oct	8.6	3.6	6.6	Z	5.8	19.8	18.2	22.7	22.0	21.6	32.4	25.6	16.0	8.1	2.2	2.7	2.6	3.8	4.5	17.3	15.4	15.8	11.9	12.6	13.04	32.40																							
22-Oct	10.2	11.4	24.3	Z	14.6	17.4	9.1	7.1	7.5	8.5	18.4	8.3	7.9	9.5	22.0	28.2	40.3	22.1	2.7	13.5	37.0	25.6	14.2	10.3	16.09	40.28																							
23-Oct	6.1	8.3	13.4	Z	13.8	18.7	18.9	66.2	C	C	C	C	C	C	C	C	C	2.9	3.5	5.4	5.7	7.0	4.0	14.5	--	66.17																							
24-Oct	12.7	7.1	5.5	Z	7.5	9.7	14.6	9.2	26.3	16.4	15.1	7.2	3.5	4.6	4.6	1.8	1.6	2.9	6.3	3.2	3.5	4.9	15.7	13.5	8.58	26.26																							
25-Oct	10.7	7.5	6.1	Z	29.4	20.4	19.0	12.1	16.8	40.3	54.8	20.6	14.6	5.5	5.1	6.3	6.7	9.6	10.8	8.3	11.0	9.6	4.2	4.0	14.49	54.84																							
26-Oct	3.4	3.1	2.7	Z	2.3	2.7	3.1	2.5	2.6	3.8	3.9	5.8	7.2	8.9	4.9	3.9	3.6	3.4	3.5	2.9	2.7	2.5	2.5	2.3	3.66	8.88																							
27-Oct	2.4	2.2	2.4	Z	2.3	3.4	7.7	10.8	18.5	18.3	9.9	4.1	2.8	2.3	2.4	2.5	2.2	4.0	7.8	13.8	10.7	18.3	10.5	16.0	7.61	18.50																							
28-Oct	8.4	8.6	5.6	Z	7.4	6.7	7.8	7.0	11.4	9.9	8.7	9.2	9.5	9.2	9.8	8.9	8.9	10.7	13.7	13.3	9.6	7.7	6.9	6.0	8.90	13.72																							
29-Oct	5.6	5.3	5.4	Z	5.1	6.5	10.0	11.6	11.8	16.7	11.6	13.5	13.5	12.1	13.0	12.0	11.5	12.1	14.6	11.7	8.5	9.6	7.5	7.4	10.29	16.69																							
30-Oct	7.6	10.8	15.1	Z	18.6	21.4	20.5	18.0	16.9	18.1	13.6	10.9	11.4	10.8	9.4	8.0	8.6	8.7	7.1	7.7	8.3	9.7	8.4	6.4	11.99	21.42																							
31-Oct	6.9	8.1	8.1	Z	6.5	5.8	7.1	15.4	19.7	24.4	20.7	29.2	29.9	14.2	16.7	16.4	17.7	14.2	5.1	3.4	3.7	4.1	4.0	3.5	12.38	29.87																							
																								10.43	8.90	9.78	--	11.55	13.71	17.50	23.81	21.73	23.18	23.02	16.74	11.23	8.11	8.08	7.43	7.88	7.67	7.60	8.80	11.20	10.63	9.73	10.92	Diurnal Average	
																								50.63	25.79	30.62	--	29.45	35.21	57.87	82.93	78.66	85.25	95.02	75.46	33.96	28.69	31.90	28.20	40.28	26.74	28.99	29.15	41.52	32.85	28.49	46.20	Diurnal Maximum	
Z - zerospan C - Calibration M - Maintenance																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ppb 24-hr --- ppb																																																	



WCAS - Edson
Summary of Hourly Averages

PM2.5 (PM_{2.5}) - µg/m³
October 2014

Maximum Value: 13.78 µg/m ³ on Oct 29 12:00		Maximum Daily Average: 9.77 µg/m ³ on Oct 29		Hours in Service: 744																																													
Minimum Value: 0.0 µg/m ³ on Oct 1 13:00		Minimum Daily Average: 0.63 µg/m ³ on Oct 11		Hours of Data: 737																																													
Maximum Diurnal Average: 4.01 µg/m ³ at hour 11		Minimum Diurnal Average: 2.22 µg/m ³ at hour 16		Hours of Missing Data: 7																																													
Monthly Average: 2.808 µg/m ³		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.9 Median = 2.2 Q ₃ = 3.8 P ₉₀ = 6.1 P ₉₉ = 11.7		Hours of Calibration: 7																																													
				Percent Operational Time: 100.0																																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24																									
1-Oct	1.9	1.6	1.8	2.8	2.1	1.5	0.9	0.8	1.2	1.7	4.8	5.7	0.0	1.5	0.0	0.0	1.0	1.9	1.0	2.2	1.2	0.9	1.4	1.0	1.64	5.72																							
2-Oct	1.2	0.8	0.8	1.0	0.7	0.8	0.8	0.8	1.1	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.1	0.3	1.4	1.9	2.3	4.5	2.2	1.9	0.98	4.53																							
3-Oct	0.6	1.2	1.9	1.9	0.3	1.0	3.3	5.1	4.5	6.2	6.1	3.4	2.4	2.8	2.8	2.6	3.5	2.8	6.6	8.3	6.0	5.3	1.7	0.7	3.37	8.32																							
4-Oct	2.2	2.6	3.0	2.6	1.8	3.0	3.3	2.8	1.9	2.0	3.4	4.4	3.0	0.0	0.0	0.0	0.0	0.0	1.4	0.8	1.4	2.5	4.0	3.4	2.06	4.37																							
5-Oct	1.3	1.2	2.9	2.7	2.4	2.2	1.8	3.2	2.5	3.9	5.4	3.5	4.3	0.2	0.7	2.2	5.3	2.9	1.9	1.6	2.1	4.2	3.0	4.7	2.74	5.39																							
6-Oct	3.1	3.6	2.2	4.6	4.5	4.6	0.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	1.4	1.7	1.8	1.2	1.4	2.4	2.4	1.56	4.62																								
7-Oct	2.9	2.5	1.9	2.2	2.9	3.7	4.4	7.2	4.5	10.8	9.9	8.4	8.0	4.1	3.1	1.6	3.3	2.7	2.9	5.8	3.7	3.0	1.9	2.5	4.33	10.79																							
8-Oct	2.2	1.8	2.3	1.9	2.2	2.7	2.8	3.3	3.0	3.7	4.3	5.3	7.3	6.3	5.9	4.0	3.6	3.0	4.3	2.9	3.4	5.8	2.8	1.8	3.61	7.27																							
9-Oct	1.8	2.2	2.3	4.0	4.1	3.1	4.5	4.0	4.4	6.0	5.6	5.8	5.2	6.4	9.2	7.3	5.4	4.1	3.5	3.0	2.3	3.3	2.4	5.5	4.39	9.23																							
10-Oct	3.2	3.3	3.4	3.5	2.3	3.0	1.9	3.9	2.9	2.9	5.3	1.7	5.3	11.6	8.7	0.0	1.2	3.1	0.1	0.3	0.5	0.0	0.0	1.6	2.90	11.62																							
11-Oct	1.3	0.0	0.0	1.4	0.0	0.0	0.4	2.2	1.6	0.0	0.0	0.0	0.0	0.2	0.4	0.0	0.0	0.0	0.6	1.0	0.7	2.5	1.0	1.9	0.63	2.52																							
12-Oct	1.9	3.3	2.6	1.4	0.9	0.1	0.4	1.4	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.8	0.2	1.5	3.3	3.5	3.1	1.12	3.54																							
13-Oct	0.8	0.8	1.9	0.6	1.2	1.3	2.0	4.9	6.9	1.8	2.7	2.7	1.1	0.0	0.5	1.8	0.1	0.4	0.0	0.0	0.7	0.0	1.3	0.8	1.43	6.87																							
14-Oct	1.5	1.5	1.0	2.6	2.9	3.6	4.5	6.7	6.1	5.9	10.7	3.0	1.4	1.6	0.1	0.0	0.0	1.5	1.6	3.3	5.2	4.0	3.3	4.4	3.19	10.69																							
15-Oct	5.6	3.0	4.4	1.7	0.6	1.3	0.8	1.8	1.3	1.0	0.8	1.2	3.8	5.1	5.3	3.8	3.6	5.8	2.5	2.6	2.5	2.7	2.3	2.1	2.73	5.81																							
16-Oct	2.9	1.5	2.7	2.4	2.5	1.7	2.2	2.8	1.6	1.1	1.7	2.0	1.8	1.3	1.9	2.0	2.5	2.5	2.4	3.6	2.1	1.7	3.6	3.3	2.25	3.62																							
17-Oct	4.0	2.9	2.9	1.6	1.2	0.0	0.0	0.2	1.0	8.9	5.5	1.8	1.9	4.8	7.3	4.7	4.9	8.1	4.1	3.9	4.6	3.8	2.5	4.1	3.54	8.94																							
18-Oct	4.8	3.2	2.8	1.6	0.2	0.6	1.1	1.3	1.3	3.0	2.9	1.5	0.0	0.3	0.4	0.7	0.8	0.9	1.5	3.3	4.3	2.9	6.0	5.6	2.13	6.04																							
19-Oct	3.1	2.8	2.9	2.9	3.3	3.3	5.5	5.9	7.5	7.2	8.3	8.3	3.7	2.8	5.4	3.7	0.6	1.3	1.3	1.2	3.6	6.8	5.4	3.8	4.18	8.31																							
20-Oct	3.8	4.6	3.6	4.1	3.6	3.8	3.7	5.9	7.0	6.7	5.4	6.7	4.8	1.4	0.2	0.9	4.3	3.5	2.6	2.6	3.4	3.4	0.0	0.0	3.58	6.98																							
21-Oct	0.0	1.1	0.6	0.5	1.6	2.4	2.0	2.4	2.8	3.6	5.6	4.9	1.7	0.2	0.0	0.0	0.0	0.9	1.3	1.3	3.1	2.5	0.8	0.5	1.66	5.59																							
22-Oct	0.5	1.0	2.4	2.4	1.3	1.2	1.0	0.4	1.9	1.8	2.3	0.8	0.3	1.8	5.9	7.5	9.9	3.3	0.0	1.8	4.3	3.4	3.0	1.3	2.48	9.93																							
23-Oct	0.6	1.9	1.2	3.1	2.0	3.9	2.6	7.6	C	C	C	C	C	C	C	6.3	2.4	0.0	0.0	1.0	1.2	0.7	1.6	3.7	--	7.60																							
24-Oct	2.9	1.8	1.2	1.0	1.2	2.1	1.8	1.5	3.5	2.2	2.3	1.2	0.0	1.1	0.9	0.7	0.9	1.0	1.5	1.4	1.0	2.0	3.6	3.4	1.68	3.58																							
25-Oct	2.7	1.7	0.0	0.0	2.9	0.8	1.5	0.0	0.7	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.4	1.3	1.9	1.3	3.0	0.85	3.02																							
26-Oct	2.0	2.5	4.0	2.9	3.6	3.9	4.3	3.2	3.6	3.6	3.8	4.3	4.3	4.1	2.6	2.5	2.4	1.5	1.1	0.8	0.5	0.3	0.5	0.6	2.62	4.34																							
27-Oct	0.3	1.0	1.0	0.7	0.5	0.2	1.1	1.1	3.3	2.7	0.4	0.0	0.0	0.0	0.0	0.0	0.2	0.5	1.0	1.7	2.9	2.8	0.5	4.3	1.09	4.35																							
28-Oct	0.6	0.0	0.2	0.3	0.2	0.4	0.5	0.8	0.8	1.2	0.9	1.4	0.7	1.9	1.7	3.1	4.7	6.2	8.7	7.7	7.4	7.6	7.9	8.1	3.04	8.66																							
29-Oct	8.6	8.9	9.3	7.9	8.0	10.3	12.4	11.8	12.1	11.3	10.7	13.8	13.5	9.4	8.9	7.7	8.2	10.2	9.0	7.1	7.1	9.2	9.8	9.0	9.77	13.78																							
30-Oct	8.7	11.3	10.5	12.3	12.0	11.4	10.4	7.3	6.3	5.6	6.1	5.8	5.0	4.3	4.3	2.5	2.5	3.1	4.2	2.9	1.9	0.7	2.3	2.3	5.99	12.32																							
31-Oct	1.8	3.0	3.6	2.7	2.3	2.5	2.8	5.6	7.3	7.7	5.3	5.0	4.9	3.5	2.6	2.8	3.1	1.9	0.0	0.0	0.4	0.6	1.8	0.9	3.00	7.71																							
																								2.55	2.55	2.62	2.62	2.43	2.60	2.76	3.46	3.48	3.79	4.01	3.43	2.81	2.56	2.64	2.22	2.42	2.44	2.25	2.47	2.70	3.03	2.71	2.96	Diurnal Average	
																								8.71	11.33	10.49	12.32	12.01	11.40	12.36	11.85	12.10	11.33	10.71	13.78	13.53	11.62	9.23	7.75	9.93	10.19	8.95	8.32	7.44	9.20	9.81	9.03	Diurnal Maximum	
C - Calibration																																																	
Alberta Ambient Air Quality Objectives (AAAQO): 1-hr 80 ul/m ³ 24-hr 30 ul/m ³																																																	

**WEYERHAEUSER - EDSON
STATION #912**

METEOROLOGICAL DATA

OCTOBER 2014



WCAS - Edson
Summary of Hourly Averages

External Temperature (ET) - C
October 2014

Maximum Value: 22.25 C on Oct 10 16:00		Maximum Daily Average: 11.99 C on Oct 6		Hours in Service: 744																							
Minimum Value: -5.4 C on Oct 28 07:00		Minimum Daily Average: -2.07 C on Oct 28		Hours of Data: 744																							
Maximum Diurnal Average: 10.79 C at hour 16		Minimum Diurnal Average: 1.38 C at hour 8		Hours of Missing Data: 0																							
Monthly Average: 5.257 C		Percentiles: P ₁ = -4.9 P ₁₀ = -0.9 Q ₁ = 0.9 Median = 4.4 Q ₃ = 8.7 P ₉₀ = 13.4 P ₉₉ = 19.7		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	2.0	2.4	1.5	0.5	-0.5	-0.4	-0.8	-0.7	1.0	3.1	5.9	8.2	10.0	4.7	5.7	5.8	6.0	5.0	3.5	2.8	2.7	1.9	1.1	0.6	2.99	9.96	
2-Oct	0.5	-0.1	0.2	0.1	-0.2	-0.4	-0.7	-0.8	-0.3	1.1	3.6	4.7	5.1	5.1	5.9	6.7	6.1	5.4	3.5	1.1	-0.6	-1.8	-1.7	-2.2	1.67	6.71	
3-Oct	-3.0	-4.6	-5.1	-5.0	-5.1	-5.3	-4.9	-3.9	-2.6	-1.2	0.1	1.1	3.7	4.6	4.6	4.5	5.2	5.4	4.4	4.4	4.7	5.6	6.0	6.1	0.83	6.09	
4-Oct	5.8	5.4	4.2	4.3	4.6	4.1	4.6	5.0	7.2	10.2	12.5	14.5	15.9	17.5	19.0	18.3	17.8	17.2	15.6	13.9	12.1	10.6	8.4	7.7	10.67	18.96	
5-Oct	5.4	3.9	4.6	5.4	4.4	3.4	2.3	2.1	3.8	6.7	9.9	14.8	16.4	17.6	17.7	17.3	16.9	15.5	14.1	13.0	12.6	12.3	11.8	10.1	10.09	17.71	
6-Oct	9.3	8.8	8.5	8.4	8.7	9.5	12.9	12.6	12.5	13.2	14.1	14.7	15.7	16.2	17.4	17.2	16.6	15.0	12.3	10.9	10.4	9.3	7.1	6.5	11.99	17.38	
7-Oct	6.2	6.2	5.4	5.0	4.2	3.5	3.4	3.7	4.3	4.9	6.1	7.7	9.8	11.3	11.9	11.8	11.6	10.8	10.2	9.8	8.5	7.8	7.2	6.9	7.43	11.90	
8-Oct	6.5	6.1	5.5	5.0	4.7	4.2	4.2	4.2	4.6	5.1	6.2	7.7	7.9	8.8	11.4	13.2	12.9	11.6	9.6	8.7	8.1	7.8	7.1	6.5	7.40	13.15	
9-Oct	4.7	3.7	3.0	3.2	2.4	2.0	1.7	1.7	2.2	2.7	4.9	7.4	11.0	13.5	15.6	16.1	16.4	13.8	12.0	11.4	10.6	7.6	5.9	4.4	7.41	16.37	
10-Oct	3.3	2.0	2.0	2.3	1.8	1.3	0.5	0.9	2.6	5.9	9.3	13.6	17.3	20.0	22.1	22.3	20.3	16.9	16.6	17.1	17.3	16.4	15.0	15.1	10.89	22.25	
11-Oct	12.1	10.9	11.0	10.0	9.3	8.7	7.3	6.9	7.1	10.1	12.9	14.7	14.5	13.3	12.8	13.9	14.1	12.9	10.6	8.4	6.2	5.5	5.0	3.8	10.08	14.68	
12-Oct	3.2	2.7	2.9	4.7	5.0	5.8	5.3	3.5	4.9	9.3	11.4	13.1	14.3	14.2	13.8	13.3	13.2	12.0	9.4	9.5	6.8	4.4	3.7	2.8	7.88	14.29	
13-Oct	2.2	0.8	0.1	-0.4	-1.0	-1.0	-1.4	-1.0	0.5	4.6	8.6	10.7	12.3	13.1	14.2	13.6	12.8	12.1	11.5	11.1	10.2	9.9	9.6	8.2	6.72	14.16	
14-Oct	6.5	5.5	5.6	5.3	5.5	5.3	5.3	4.1	5.0	6.7	8.7	13.0	13.6	12.7	11.6	11.4	12.0	10.8	8.4	5.8	4.5	3.4	1.5	0.7	7.20	13.59	
15-Oct	1.0	1.1	0.9	1.3	1.4	1.5	1.9	1.4	1.9	2.9	4.2	6.3	8.4	8.6	8.1	7.7	6.9	6.1	5.4	4.5	4.2	4.1	4.1	4.1	4.07	8.61	
16-Oct	4.1	4.2	4.1	4.0	4.0	4.2	4.5	4.4	4.6	4.9	5.0	5.3	5.6	5.8	6.1	6.7	7.5	6.4	4.9	4.7	4.2	3.0	3.1	3.6	4.78	7.51	
17-Oct	2.7	2.3	2.3	2.2	1.7	0.9	0.2	0.2	0.0	0.0	0.8	1.5	2.5	3.3	3.8	3.9	3.7	3.6	3.4	3.1	2.7	2.3	2.1	2.4	2.15	3.93	
18-Oct	3.2	3.4	4.6	5.3	4.4	4.9	3.2	2.9	4.8	7.8	10.8	14.7	17.6	18.2	17.9	17.7	16.8	15.1	12.5	10.0	8.1	6.4	6.3	3.9	9.18	18.23	
19-Oct	3.4	1.0	0.8	-0.4	-0.2	0.7	1.3	1.6	2.2	2.9	4.2	5.7	7.7	9.9	12.6	13.5	12.5	9.9	8.0	5.4	5.0	3.3	2.4	3.2	4.86	13.48	
20-Oct	4.0	4.7	4.1	3.7	3.6	3.3	3.1	3.0	2.6	4.8	7.9	12.8	17.3	19.8	21.4	21.6	18.2	16.8	15.2	14.4	12.7	12.9	11.3	9.8	10.38	21.64	
21-Oct	9.0	8.2	7.6	7.1	6.8	6.4	6.0	5.6	5.7	6.7	7.7	8.9	12.4	15.0	15.9	16.3	15.5	12.3	9.8	7.4	7.2	3.9	3.9	2.2	8.64	16.27	
22-Oct	0.2	-0.6	-0.7	-1.1	-1.4	-0.4	0.8	1.0	1.4	1.8	2.8	4.4	6.8	9.9	11.4	13.2	12.4	11.6	10.6	9.2	7.4	6.9	5.8	5.4	4.94	13.21	
23-Oct	5.6	4.8	3.6	2.9	2.1	0.7	-0.1	-1.2	-0.3	1.2	2.8	8.0	9.6	13.9	13.8	12.7	12.3	9.9	8.2	5.7	4.7	3.4	2.5	2.0	5.36	13.87	
24-Oct	2.7	2.9	3.8	3.3	2.8	1.6	0.7	-0.3	0.4	2.6	4.5	7.4	9.8	10.1	10.4	10.6	9.3	7.2	5.3	4.4	3.3	1.5	-0.5	-1.4	4.27	10.62	
25-Oct	-2.0	-2.8	-3.6	-4.0	-4.1	-4.8	-4.3	-3.2	-2.9	-2.2	-0.5	0.5	2.1	4.4	4.8	5.4	4.8	4.0	3.6	3.2	3.1	2.9	2.0	1.3	0.32	5.35	
26-Oct	1.0	1.1	0.7	0.5	0.4	0.3	0.3	0.2	-0.1	0.1	0.3	0.4	0.7	1.2	1.7	1.8	1.6	1.1	0.6	0.3	0.2	0.1	-0.4	-0.3	0.57	1.77	
27-Oct	-0.4	-0.4	-0.6	-0.8	-1.0	-2.0	-2.9	-3.3	-3.1	-1.3	0.6	2.4	3.7	4.5	4.7	4.4	3.8	2.0	0.4	-0.4	-1.4	-1.2	-1.9	-2.4	0.14	4.68	
28-Oct	-2.7	-3.5	-4.2	-4.8	-4.9	-5.0	-5.4	-5.0	-4.8	-4.2	-3.2	-0.8	-0.3	0.5	1.9	2.7	0.9	-0.4	-1.1	-1.2	-1.1	-1.1	-1.0	-1.0	-2.07	2.66	
29-Oct	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.1	-1.2	-1.1	-0.7	-0.2	0.9	2.3	3.5	4.3	4.6	3.2	2.2	1.6	1.0	0.5	0.4	0.3	0.2	0.63	4.59	
30-Oct	0.2	0.2	0.1	0.0	-0.3	-0.5	-0.7	-1.0	-1.1	-1.3	-1.4	-1.3	-1.0	-0.5	0.2	0.7	0.2	-0.5	-0.2	-0.6	-0.8	-0.9	-0.6	-0.4	-0.49	0.73	
31-Oct	-0.3	-0.3	-0.4	-0.5	-0.8	-0.8	-0.7	-0.8	-0.9	-0.7	-0.1	0.7	2.2	4.0	5.6	5.8	5.7	5.7	6.1	4.9	4.4	3.8	3.0	1.9	1.98	6.12	
		3.08	2.56	2.31	2.14	1.85	1.63	1.49	1.38	2.00	3.48	5.17	7.21	8.85	9.83	10.58	10.79	10.23	8.95	7.61	6.58	5.75	4.91	4.19	3.60	Diurnal Average	
		12.10	10.94	11.00	10.02	9.30	9.50	12.86	12.63	12.51	13.19	14.11	14.83	17.56	19.98	22.05	22.25	20.26	17.21	16.59	17.13	17.29	16.36	14.99	15.06	Diurnal Maximum	



WCAS - Edson
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

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	5.6	8.6	8.2	7.4	8.6	10.6	7.7	8.0	7.2	5.6	5.7	3.7	10.8	17.7	7.8	10.0	8.4	7.9	6.4	6.7	9.7	7.8	8.8	6.9	6.94	17.72
Dir	W	W	W	W	WSW	W	W	W	WSW	WSW	SW	SW	NNW	NNW	NW	WNW	W	NW	W	W	WNW	NW	NW	WNW	WNW	NNW
2 Spd	6.2	6.3	8.4	6.9	8.3	7.1	9.4	8.6	9.6	9.3	8.7	9.3	10.9	9.1	11.4	7.8	12.5	8.6	2.3	1.5	0.0	0.3	1.9	1.8	6.32	12.46
Dir	NW	NW	WNW	WNW	WNW	WNW	WNW	W	W	WNW	WNW	NW	NW	WNW	NNW	NW	NNW	NNW	N	NNW	W	W	WSW	W	NW	NNW
3 Spd	1.0	1.0	0.4	0.4	0.7	0.5	1.5	1.3	1.4	3.0	5.5	5.3	2.8	6.2	4.1	2.1	2.0	3.2	2.1	1.4	2.5	3.8	2.5	0.8	2.01	6.15
Dir	N	WSW	NNE	W	NNE	NW	WSW	S	SSW	WSW	SW	SW	SSW	SW	SW	SSW	WSW	SW	WSW	WSW	WSW	W	W	WSW	SW	SW
4 Spd	2.4	3.9	2.3	1.7	1.8	3.9	3.1	3.5	4.4	6.3	7.5	3.2	4.4	9.7	11.8	6.6	6.8	6.5	9.8	4.4	2.2	2.8	3.1	4.5	3.68	11.78
Dir	WSW	WSW	WSW	WSW	WSW	WSW	SW	WSW	WSW	SW	SW	SSW	SSW	W	W	NW	WNW	NW	NNW	NNW	NNW	W	W	W	W	W
5 Spd	4.5	4.8	6.5	8.3	9.8	10.3	8.5	8.4	8.8	9.6	6.4	3.5	3.1	7.7	7.7	5.8	6.9	6.3	6.0	2.9	2.5	2.5	2.4	3.4	2.61	10.30
Dir	W	WSW	W	W	W	W	WSW	WSW	WSW	SW	SW	SSE	SSW	NNW	N	NE	ENE	NE	NNE	NE	ESE	ENE	N	NW	W	W
6 Spd	8.7	0.6	7.2	5.9	3.1	5.9	5.4	4.7	9.9	10.4	8.4	10.8	10.2	9.5	9.6	11.9	9.9	8.6	10.7	2.9	5.1	5.8	3.8	4.4	6.04	11.92
Dir	N	SW	WSW	WSW	W	W	WNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	WNW	NW	NW	NW	N	WSW	NW	NNW	WSW	WSW	NW	NW
7 Spd	3.4	3.7	5.7	6.8	5.8	7.0	5.5	6.5	6.1	6.3	3.4	1.8	3.1	2.9	2.9	5.1	4.0	1.1	0.2	2.3	8.5	9.5	11.5	5.8	1.06	11.46
Dir	WSW	W	W	W	WSW	WSW	WSW	WSW	WSW	SW	SW	WSW	NE	NE	E	SE	S	SW	NNE	NNE	NNE	NE	NNE	ENE	WNW	NNE
8 Spd	8.7	9.5	11.6	13.1	12.5	12.6	10.9	8.7	4.3	2.4	3.5	6.5	5.8	4.7	2.6	2.9	3.4	4.2	2.2	6.3	2.1	1.5	5.8	6.4	3.90	13.09
Dir	NE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NNW	SW	SW	WSW	SSE	E	ESE	SSE	NE	NNE	ENE	NE	NNE	N	NNE	NNE	NNE
9 Spd	0.2	1.8	3.7	1.9	3.1	1.2	3.9	3.6	3.3	3.4	3.1	3.9	2.0	2.7	2.2	6.4	8.1	10.4	11.2	12.7	11.2	2.8	0.0	1.9	2.08	12.69
Dir	WNW	NNE	NE	W	W	NE	WSW	WSW	SW	SW	WSW	SW	S	NE	ENE	NE	NE	NNE	NNE	N	N	NNE	S	WSW	N	N
10 Spd	5.0	5.3	6.6	8.5	8.0	8.0	7.5	6.8	7.8	7.9	7.0	2.1	1.6	1.6	3.5	6.8	6.3	3.1	6.0	5.1	9.8	5.3	4.7	10.1	4.50	10.06
Dir	W	WSW	W	W	W	WSW	WSW	WSW	WSW	WSW	SW	SW	ENE	ENE	NE	NNE	NNE	W	WSW	W	W	W	WNW	W	W	W
11 Spd	17.5	15.7	7.9	9.0	7.6	8.1	6.3	6.2	7.5	12.4	16.0	19.5	16.5	11.4	9.1	15.6	12.1	10.9	6.5	3.9	3.5	1.0	3.0	1.5	9.18	19.46
Dir	WNW	WNW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	W	WSW	WSW	W	W	W	WSW	WSW	W	SSW	W	WSW
12 Spd	0.2	0.4	2.6	4.9	3.0	3.9	3.6	3.5	2.8	9.0	13.6	12.7	11.9	14.1	11.5	5.1	7.2	6.5	2.1	4.7	2.4	2.0	2.9	2.6	5.41	14.06
Dir	SSE	SSW	SW	W	WSW	W	WSW	WSW	WSW	W	W	W	W	W	W	WNW	W	WSW	W	WNW	WSW	WSW	WSW	W	W	W
13 Spd	3.9	2.1	0.4	0.6	0.3	3.2	2.1	0.8	4.3	5.6	1.9	5.9	8.8	11.1	12.4	10.0	11.2	11.2	14.7	9.8	6.0	10.2	9.8	4.0	3.61	14.71
Dir	W	W	NNW	W	WNW	WSW	SW	WSW	SW	SW	E	ENE	NE	NE	E	E	ENE	NE	NNE	NE	N	NNE	NNW	NNW	NE	NNE
14 Spd	3.3	5.6	5.3	6.4	5.7	2.9	6.9	5.9	6.4	5.4	7.9	10.4	11.4	14.5	11.5	6.9	5.1	1.9	0.4	1.0	2.1	2.1	2.2	1.2	4.85	14.52
Dir	WSW	W	W	WSW	WSW	SW	WSW	WSW	WSW	WSW	SW	W	NW	WNW	NW	NW	NW	WNW	WSW	WSW	W	W	WSW	WNW	W	WNW
15 Spd	1.1	1.5	0.8	4.6	4.4	7.9	18.1	16.8	14.0	12.2	14.3	13.4	11.4	10.4	9.1	4.4	6.0	8.8	8.2	13.4	9.0	8.1	8.3	8.7	6.58	18.13
Dir	WNW	NNE	WSW	NNE	NE	N	N	NNE	NNE	NE	NNE	NE	ESE	SE	SE	E	ESE	SE	ESE	ENE	NE	NE	NNE	NE	NE	N
16 Spd	6.0	9.0	6.4	4.4	5.1	5.6	7.3	5.1	4.7	4.6	5.0	5.9	4.8	6.1	7.3	7.2	10.7	9.9	10.2	7.0	5.1	5.2	8.3	4.3	4.61	10.71
Dir	E	SE	SE	SE	E	ENE	SE	SE	SE	SSE	SE	E	SSE	E	ENE	NE	NE	NE	NE	ENE	NNE	N	NNE	NNE	ENE	ENE
17 Spd	1.2	3.2	1.7	3.6	6.2	4.9	3.6	0.2	3.0	2.7	5.4	4.4	0.9	1.1	1.8	3.7	4.7	6.5	8.0	4.7	6.8	4.2	6.0	5.9	2.54	7.98
Dir	SSW	SW	SSW	S	S	S	SW	W	SSE	ENE	ENE	ENE	ENE	SW	S	S	SW	SW	WSW	WSW	WSW	SW	SW	WSW	SSW	SSW
18 Spd	4.4	3.9	7.4	8.0	6.2	5.5	3.0	7.6	9.2	9.7	9.5	9.6	15.5	22.7	26.3	20.6	21.4	15.8	9.8	6.8	4.4	5.0	1.7	1.6	9.74	26.33
Dir	WSW	WSW	WSW	WSW	WSW	W	WSW	W	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	WSW	W	WSW	W	SW	WSW	WSW
19 Spd	2.6	6.3	1.9	2.9	2.1	3.3	1.1	2.0	0.8	1.5	0.9	6.1	4.6	2.4	5.0	10.1	10.9	6.5	6.8	0.3	5.1	1.8	3.5	9.1	1.18	10.89
Dir	WSW	W	WSW	WSW	SW	WSW	NE	SW	S	WSW	SE	WSW	SW	S	ENE	NE	NE	N	N	WNW	W	SW	WSW	WSW	WNW	NE
20 Spd	10.0	8.6	9.8	6.1	8.2	9.1	9.1	8.6	8.8	9.9	10.2	8.1	2.4	3.9	5.4	6.1	4.9	4.3	3.3	6.0	3.5	7.4	3.3	2.8	5.89	10.17
Dir	W	WSW	WSW	SW	WSW	WSW	W	WSW	WSW	WSW	WSW	WSW	S	SW	SW	SSE	WSW	WSW	W	WSW	W	NNW	NW	W	WSW	WSW
21 Spd	5.5	5.5	6.1	4.9	3.9	6.1	7.7	6.1	7.6	5.0	4.1	4.5	5.2	5.6	8.0	8.2	8.0	2.4	2.6	1.0	2.5	3.4	2.3	1.0	4.71	8.22
Dir	W	W	WSW	WSW	WSW	WSW	WSW	W	WSW	WSW	SW	SSW	WSW	SW	W	WSW	WSW	W	W	SW	WSW	WSW	W	W	WSW	WSW
22 Spd	2.5	1.1	0.4	1.6	0.7	5.3	5.2	9.7	10.4	11.1	5.4	7.3	4.6	3.6	1.8	1.8	2.4	5.8	2.7	1.9	1.5	2.8	1.8	3.7	2.56	11.12
Dir	W	WSW	N	W	NNW	NNE	N	NNE	N	N	NNE	NNE	NNE	ENE	SSE	SE	NE	W	W	W	WSW	WSW	NE	NNE	N	N



WCAS - Edson
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
23 Spd	5.6	3.2	0.4	0.9	0.8	4.1	0.6	3.6	5.6	2.2	3.5	8.0	12.6	16.1	21.7	20.4	15.9	6.3	4.5	4.5	3.8	3.0	2.6	4.1	5.54	21.66	
Dir	NNE	N	S	WNW	NW	W	NNE	W	W	SW	SW	SW	SW	WSW	WSW	WSW	WSW	WNW	WNW	WSW	WSW	W	SW	WSW	WSW	WSW	
24 Spd	5.8	5.2	5.4	5.1	3.4	6.6	5.6	4.6	3.4	8.8	9.7	9.9	20.4	23.1	21.5	12.4	10.6	9.3	7.6	5.9	2.9	2.1	5.2	4.7	8.15	23.07	
Dir	WSW	W	W	WSW	WSW	WSW	WSW	W	WSW	WSW	SW	WSW	WSW	WSW	WSW	W	W	W	WSW	W	W	WSW	W	W	WSW	WSW	
25 Spd	6.4	2.6	1.4	4.2	1.4	1.2	5.3	10.3	13.2	14.2	16.0	16.0	17.0	21.3	22.3	20.3	20.2	17.0	16.3	18.0	17.7	16.5	17.1	14.3	11.41	22.34	
Dir	W	W	W	W	NNE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NE	ENE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	NNE	NE	ENE	
26 Spd	13.5	14.0	14.1	12.0	8.7	9.9	7.0	6.7	4.6	2.5	3.1	4.9	5.9	6.0	7.3	6.6	5.3	5.4	6.0	6.6	8.4	9.6	7.8	7.0	4.47	14.14	
Dir	NNE	NE	NNE	NE	NNE	NNE	NE	NNE	N	NW	WNW	WSW	WSW	W	WNW	WNW	NW	NW	WNW	WNW	WNW	WNW	W	WNW	NNW	NNE	
27 Spd	8.9	9.1	7.5	6.5	4.8	3.7	4.5	4.4	4.0	6.9	7.6	4.3	7.5	7.5	7.0	6.7	6.7	7.5	4.2	0.1	0.3	0.9	0.8	4.2	3.50	9.05	
Dir	W	W	W	W	W	W	W	W	SW	SW	WSW	W	WNW	WNW	NNW	NNW	NNE	NNE	NE	NW	SW	SSW	S	NE	WNW	W	
28 Spd	5.6	8.0	11.6	12.8	12.0	10.2	7.4	8.4	11.4	8.6	8.7	7.6	10.7	12.0	12.7	12.2	14.8	14.4	12.1	9.8	8.9	7.6	4.8	3.8	9.62	14.81	
Dir	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NNE	NE	NNE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	NNE	NNE	NNE	NNE	NE
29 Spd	2.3	2.1	0.5	2.9	4.8	3.7	5.4	5.2	1.2	0.1	2.8	1.6	2.0	5.6	6.4	8.4	9.8	10.4	10.4	12.6	12.1	10.7	9.5	8.9	5.64	12.55	
Dir	NNE	NE	NNE	N	NNE	NNE	NE	NE	NE	NNE	NE	NW	NE	ENE	NE	NE	NE	NNE	NE	NE	NE	NE	NE	NE	NE	NE	NE
30 Spd	7.8	7.6	8.6	7.2	6.1	8.1	8.3	10.9	11.7	12.5	12.6	12.7	13.1	12.9	13.2	14.8	10.3	9.9	12.6	16.0	14.3	15.4	13.6	10.6	10.90	16.01	
Dir	NE	NE	NE	ENE	ENE	ENE	ENE	NE	NE	NE	NE	NE	NE	NE	NE	NNE	NNE	N	N	NNE	NE	NE	NE	NE	NE	NE	NNE
31 Spd	7.9	5.7	2.0	2.3	2.3	1.4	5.0	9.2	11.2	8.0	3.5	6.8	6.2	8.0	10.2	7.7	6.3	2.3	0.9	7.7	3.0	2.7	4.8	3.2	3.28	11.24	
Dir	NE	NE	NE	N	N	NNW	WSW	WSW	WSW	WSW	SW	WSW	SW	SW	WSW	WSW	WSW	WSW	NW	NNW	WNW	N	W	NW	W	WSW	
Spd	2.62	2.34	2.28	2.61	2.06	2.47	2.54	2.46	2.51	3.01	2.34	2.42	2.42	2.95	2.69	2.34	2.74	3.06	3.41	2.81	2.76	2.74	2.70	2.05	Diurnal Average		
Dir	NW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	WNW	W	W	W	W	WNW	NNW	NW	NNW	NNW	N	N	NNW	N	NNW	NNW			
Spd	17.52	15.69	14.14	13.09	12.47	12.58	18.13	16.79	13.99	14.24	16.00	19.46	20.40	23.07	26.33	20.63	21.43	17.03	16.34	18.03	17.65	16.54	17.13	14.26	Diurnal Maximum		
Dir	286.18	283.23	32.71	19.65	31.14	24.29	355.41	13.53	28.65	25.28	247.19	253.12	246.30	241.65	248.08	244.46	244.50	40.96	40.43	42.42	41.23	37.29	36.59	32.61			
Maximum Speed Value: 26.3 kph on Oct 18 15:00																				Minimum Speed Value: 0.0 kph on Oct 9 23:00				Hours in Service: 744			
Maximum Daily Speed Average: 11.41 kph on Oct 25																				Minimum Daily Speed Average: 1.06 kph on Oct 3				Hours of Data: 744			
Maximum Diurnal Speed Average: 3.41 kph at hour 19																				Minimum Diurnal Speed Average: 2.05 kph at hour 24				Hours of Missing Data: 0			
Monthly Average Velocity: 2.255 kph 308.94 deg																				Speed Percentiles: P ₁ = 0.2 P ₁₀ = 1.8 Q ₁ = 3.3 Median = 6.0 Q ₃ = 9.0 P ₉₀ = 12.4 P ₉₉ = 21.4				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	25	34	15	0	0	0	74																				
NorthEast	39	68	47	2	0	0	156																				
East	6	12	3	2	0	0	23																				
SouthEast	12	9	0	0	0	0	21																				
South	23	2	0	0	0	0	25																				
SouthWest	66	57	6	8	0	0	137																				
West	105	126	15	2	0	0	248																				
NorthWest	22	33	5	0	0	0	60																				
Total	298	341	91	14	0	0	744																				



WCAS - Edson
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2014

Maximum Value: 9.24 kph on Oct 1 13:00		Maximum Daily Average: 3.95 kph on Oct 6		Hours in Service: 744																							
Minimum Value: 0.0 kph on Oct 29 10:00		Minimum Daily Average: 1.63 kph on Oct 3		Hours of Data: 744																							
Maximum Diurnal Average: 3.79 kph at hour 15		Minimum Diurnal Average: 2.00 kph at hour 5		Hours of Missing Data: 0																							
Monthly Average: 2.584 kph		Percentiles: P ₁ = 0.8 P ₁₀ = 1.4 Q ₁ = 1.8 Median = 2.3 Q ₃ = 3.0 P ₉₀ = 4.4 P ₉₉ = 6.6		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	1.6	1.9	1.9	1.5	2.2	2.1	1.9	2.3	2.3	2.1	1.9	2.3	9.2	6.8	6.5	6.1	5.0	5.0	3.9	3.3	5.4	5.2	5.7	4.4	3.77	9.24	
2-Oct	4.2	3.8	5.0	4.5	4.8	4.0	4.5	4.1	4.5	4.5	4.7	5.7	6.4	4.9	5.6	4.6	4.1	2.5	2.4	1.4	0.8	0.5	1.6	1.8	3.79	6.37	
3-Oct	1.6	1.3	1.1	0.8	1.3	1.5	1.6	1.3	1.5	1.6	2.0	1.7	2.4	1.7	1.4	1.8	2.2	1.8	1.7	2.3	2.1	1.7	1.6	1.2	1.63	2.39	
4-Oct	2.1	1.0	1.7	1.3	1.3	1.0	0.9	1.7	3.2	2.0	1.8	2.3	2.2	5.0	6.4	4.3	4.9	4.4	3.8	2.1	1.7	2.0	1.9	1.4	2.52	6.42	
5-Oct	1.4	1.1	1.4	1.9	1.9	2.4	2.0	2.0	2.4	2.6	1.9	2.0	2.3	5.6	3.5	1.8	2.3	1.8	1.2	2.7	2.6	2.7	1.6	3.2	2.27	5.63	
6-Oct	2.3	3.2	1.6	2.2	2.1	4.3	4.3	3.5	5.2	5.1	4.4	5.2	5.7	5.6	6.4	6.6	5.9	5.3	3.3	2.0	2.9	3.1	1.7	2.8	3.95	6.55	
7-Oct	1.6	1.9	1.5	1.6	1.4	1.9	1.4	4.0	2.0	1.4	2.7	1.7	1.9	2.0	2.3	2.2	2.1	2.2	0.8	2.1	4.2	1.8	2.6	3.2	2.09	4.15	
8-Oct	2.0	1.9	1.6	1.7	1.8	1.9	2.0	1.9	2.6	1.7	2.3	3.4	2.8	1.9	2.4	2.2	2.2	2.0	2.0	2.4	1.9	2.0	1.6	2.0	2.08	3.44	
9-Oct	1.7	2.3	2.3	2.4	1.4	1.8	2.6	2.1	1.5	1.5	1.8	1.7	2.2	2.1	2.3	1.7	1.6	1.9	1.2	1.0	2.8	3.1	1.4	1.7	1.92	3.08	
10-Oct	1.4	2.4	2.2	1.9	2.3	1.7	1.8	2.0	2.7	2.3	2.4	2.3	1.6	1.8	2.0	1.7	3.3	2.2	3.1	2.5	3.6	2.9	2.5	5.0	2.40	4.99	
11-Oct	7.4	7.8	4.0	2.9	2.4	2.1	1.8	1.7	2.7	2.7	4.4	6.8	6.0	4.6	3.5	6.4	4.7	4.7	2.8	1.7	1.5	1.4	1.9	1.6	3.65	7.84	
12-Oct	0.2	0.9	1.6	1.8	1.5	1.8	1.8	1.9	2.1	4.2	5.0	4.5	5.0	5.7	4.6	3.2	3.7	3.1	2.0	2.5	1.8	1.9	2.2	1.6	2.69	5.68	
13-Oct	1.1	2.1	2.0	1.1	1.4	1.6	1.7	2.4	1.3	2.5	1.5	3.7	2.3	2.4	3.6	3.4	2.3	1.7	3.1	2.5	3.2	1.5	2.3	4.7	2.31	4.68	
14-Oct	2.4	2.0	1.8	1.8	2.2	2.3	2.5	1.8	1.6	1.9	2.2	4.4	5.6	6.8	5.8	3.7	3.3	2.7	1.2	2.1	2.5	2.7	2.1	1.9	2.80	6.78	
15-Oct	2.4	2.2	2.1	3.1	1.4	3.5	2.9	2.5	2.9	2.1	2.6	3.1	3.2	3.1	3.1	1.7	2.2	2.3	2.9	3.5	1.2	1.1	1.1	1.6	2.40	3.54	
16-Oct	2.5	2.8	2.1	2.4	2.2	2.9	2.3	2.2	1.6	1.6	1.9	2.3	2.1	2.5	2.7	2.4	1.8	1.4	1.2	2.2	2.2	3.9	1.8	1.8	2.20	3.93	
17-Oct	1.5	1.3	1.6	1.4	1.1	2.3	1.8	0.6	1.6	1.9	1.8	2.4	1.2	1.6	1.7	1.7	1.8	1.6	2.3	3.0	2.3	2.2	2.1	1.6	1.76	2.97	
18-Oct	1.9	2.7	2.6	3.0	1.9	1.9	1.2	2.3	2.7	2.1	1.8	3.0	5.7	7.1	8.0	6.0	5.9	3.9	3.1	2.5	1.6	2.3	1.5	1.6	3.17	8.04	
19-Oct	1.5	2.1	2.2	1.8	2.3	3.0	2.1	2.0	1.4	1.9	1.7	2.6	2.6	2.4	4.7	1.9	1.8	3.5	3.5	0.7	2.6	1.8	2.1	2.9	2.30	4.72	
20-Oct	2.4	3.8	2.9	2.2	2.5	2.4	2.7	3.7	2.3	3.6	3.1	2.3	2.2	2.1	2.6	2.9	3.0	2.5	2.4	2.1	1.7	4.8	3.1	2.5	2.74	4.76	
21-Oct	2.2	1.6	1.5	1.5	2.0	1.6	1.4	1.8	2.1	2.9	1.4	2.2	2.5	2.9	3.1	3.0	3.0	2.0	2.0	1.7	2.2	2.1	1.7	1.8	2.09	3.08	
22-Oct	2.1	1.9	1.6	2.4	1.3	3.2	3.1	3.4	2.0	2.4	3.7	2.2	2.2	1.8	2.3	2.3	2.1	3.3	3.0	1.8	2.0	2.8	3.4	3.2	2.49	3.68	
23-Oct	3.0	2.8	1.5	1.9	1.8	2.3	2.2	3.3	2.6	2.2	1.8	2.6	2.7	6.3	6.5	4.4	5.5	4.6	2.8	1.8	1.6	1.6	2.4	4.4	3.02	6.46	
24-Oct	2.4	1.9	2.0	1.7	1.3	3.1	1.8	1.1	1.3	3.0	2.3	4.3	6.6	6.1	6.2	7.7	5.6	4.9	2.2	2.6	2.2	2.8	1.3	1.1	3.16	7.68	
25-Oct	1.7	2.0	1.8	2.9	1.8	2.0	3.1	4.9	2.1	2.5	3.0	2.7	2.6	4.6	4.3	4.2	4.0	2.8	2.6	2.9	3.0	2.9	2.8	2.6	2.90	4.87	
26-Oct	2.7	2.8	3.1	3.2	2.3	2.5	1.8	1.5	1.1	1.4	1.9	1.7	2.5	2.4	2.9	3.3	2.8	2.9	3.0	2.9	3.6	4.0	3.3	3.1	2.62	4.01	
27-Oct	3.4	3.5	3.0	2.5	2.4	1.3	1.8	2.1	2.0	1.6	2.1	3.6	4.1	4.2	3.8	2.8	1.4	1.0	2.9	0.4	0.7	1.4	1.2	2.3	2.32	4.23	
28-Oct	1.5	2.2	2.7	1.7	1.1	2.4	1.3	2.0	3.5	3.4	2.0	2.6	2.4	2.4	2.7	2.6	2.4	3.5	2.7	2.1	1.7	2.0	2.4	1.3	2.27	3.52	
29-Oct	1.5	1.7	1.0	1.9	3.1	1.2	1.4	2.5	2.0	0.0	3.2	1.8	1.9	2.0	1.5	2.0	2.6	1.8	1.6	2.3	2.3	2.2	1.9	1.7	1.88	3.23	
30-Oct	3.1	1.5	2.1	2.3	3.1	2.1	2.6	1.7	1.9	2.3	2.3	1.9	2.5	2.2	2.6	3.2	2.5	2.6	4.5	2.6	2.3	2.5	2.3	2.6	2.48	4.48	
31-Oct	1.7	1.5	2.2	2.4	2.4	1.8	3.0	2.9	2.7	3.7	2.6	1.5	2.1	2.0	2.4	1.4	1.8	2.7	3.4	3.7	2.9	2.4	2.8	2.4	2.43	3.73	
		2.21	2.33	2.12	2.12	2.00	2.26	2.18	2.35	2.30	2.41	2.52	2.92	3.39	3.63	3.79	3.32	3.16	2.85	2.53	2.25	2.35	2.42	2.18	2.42	Diurnal Average	
		7.41	7.84	4.96	4.46	4.84	4.34	4.53	4.87	5.20	5.06	4.96	6.81	9.24	7.13	8.04	7.68	5.90	5.26	4.48	3.72	5.42	5.24	5.69	4.99	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																											



WCAS - Edson
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2014

Maximum Value: 105.58 deg on Oct 9 01:00		Maximum Daily Average: 52.57 deg on Oct 22		Hours in Service: 744																							
Minimum Value: 5.8 deg on Oct 27 18:00		Minimum Daily Average: 11.46 deg on Oct 30		Hours of Data: 744																							
Maximum Diurnal Average: 34.68 deg at hour 22		Minimum Diurnal Average: 23.96 deg at hour 18		Hours of Missing Data: 0																							
Monthly Average: 29.614 deg		Percentiles: P ₁ = 8.1 P ₁₀ = 10.7 Q ₁ = 14.2 Median = 23.0 Q ₃ = 37.8 P ₉₀ = 61.6 P ₉₉ = 87.1		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	15.8	12.2	11.5	11.7	11.8	10.5	12.5	12.9	15.3	27.2	21.1	46.3	37.5	26.8	51.8	33.7	32.0	41.3	33.0	26.7	34.1	40.4	38.8	36.5	26.75	51.79	
2-Oct	39.4	35.4	31.4	33.2	30.9	33.0	27.7	25.3	26.0	28.8	36.6	39.8	36.7	37.1	32.2	37.7	23.7	18.8	42.5	51.2	73.6	29.1	18.3	44.7	34.71	73.59	
3-Oct	72.2	34.4	75.0	56.7	57.8	60.0	63.2	70.5	76.3	30.6	23.0	22.3	65.0	19.3	21.7	40.1	39.7	27.3	25.6	44.4	24.5	18.7	18.7	24.4	42.14	76.26	
4-Oct	21.9	15.9	27.0	27.7	19.8	17.9	25.4	27.3	51.5	18.1	13.7	51.8	28.9	31.3	29.7	40.9	37.6	34.5	26.4	24.5	41.3	48.6	56.7	10.3	30.36	56.70	
5-Oct	12.8	10.1	10.1	10.6	10.5	11.4	12.5	8.4	11.7	14.2	17.9	47.1	55.9	57.3	29.8	28.6	12.7	22.5	11.0	77.7	80.6	43.7	38.3	36.1	27.98	80.62	
6-Oct	17.1	85.8	10.0	18.4	35.2	31.6	37.9	40.1	33.5	28.5	31.8	29.5	34.1	34.7	37.9	33.5	36.7	34.9	22.5	48.7	36.0	55.3	32.0	26.4	34.68	85.79	
7-Oct	22.4	17.0	15.8	11.8	12.1	11.6	12.5	61.7	12.7	11.6	36.8	50.9	25.1	49.9	42.7	29.3	42.8	46.9	89.5	50.6	15.1	8.7	11.7	45.2	30.60	89.51	
8-Oct	17.8	9.8	13.6	8.5	7.8	8.7	9.7	13.8	31.1	55.0	58.4	29.9	28.6	33.1	61.1	52.5	47.9	18.6	39.2	15.8	53.5	47.8	20.1	32.7	29.79	61.07	
9-Oct	105.6	48.2	35.5	59.1	28.7	84.0	29.4	24.8	38.8	33.2	31.6	27.4	78.2	60.3	60.4	18.2	11.2	10.1	7.0	15.2	21.2	64.4	98.9	11.0	41.77	105.58	
10-Oct	11.1	12.7	13.7	12.0	12.6	11.2	11.8	16.8	15.3	18.2	20.5	66.0	53.3	64.8	45.1	13.4	37.8	41.2	32.3	24.5	19.1	25.3	27.1	20.3	26.09	65.98	
11-Oct	23.6	22.9	24.8	13.3	14.2	11.7	15.3	13.8	14.2	12.9	15.0	17.9	17.2	19.2	18.9	17.9	18.2	19.4	18.1	19.4	18.8	42.2	26.9	29.8	19.40	42.22	
12-Oct	38.7	68.7	22.8	17.9	32.3	22.1	25.6	25.4	55.9	21.1	18.7	21.6	26.1	20.4	19.9	26.2	21.3	16.2	35.6	31.2	35.6	61.3	38.7	28.1	30.48	68.69	
13-Oct	10.1	31.3	78.7	38.5	66.3	58.3	35.0	80.2	20.0	15.9	52.9	35.7	12.5	18.3	22.2	19.9	11.8	10.3	9.0	20.7	37.1	11.9	14.3	87.0	33.24	86.97	
14-Oct	44.8	25.7	13.9	18.4	23.6	52.2	26.4	19.3	16.6	24.5	15.3	28.0	33.8	26.7	32.3	32.1	34.0	41.7	85.4	89.3	71.5	53.2	42.2	75.7	38.60	89.28	
15-Oct	75.4	64.0	49.6	38.6	26.4	27.6	19.8	12.1	9.1	9.3	9.1	19.7	21.2	19.4	18.6	35.5	33.7	12.2	24.5	12.4	8.1	9.0	7.9	9.5	23.86	75.41	
16-Oct	29.8	16.8	17.4	23.3	26.5	25.2	15.4	17.7	20.5	21.8	32.2	33.0	31.7	36.8	22.4	22.0	12.1	8.5	6.5	34.4	47.9	26.4	12.2	31.4	23.83	47.89	
17-Oct	44.9	17.6	30.9	14.5	13.6	23.1	22.6	57.1	34.0	46.4	22.3	28.3	76.7	78.7	37.2	34.4	15.6	11.0	14.5	24.6	13.7	63.4	24.2	19.2	32.02	78.70	
18-Oct	18.6	29.8	18.4	15.0	14.2	15.4	28.2	12.0	13.1	10.4	9.7	13.4	18.5	13.7	12.8	12.6	12.2	10.9	14.0	18.4	20.5	50.9	64.9	46.1	20.56	64.91	
19-Oct	32.4	9.9	76.5	67.8	86.0	72.2	80.6	47.9	92.4	84.9	65.4	16.3	32.8	63.2	35.0	14.3	10.7	40.5	51.0	51.6	15.1	74.3	44.0	20.3	49.38	92.41	
20-Oct	12.0	29.5	20.3	19.8	17.8	15.2	10.1	26.9	12.0	24.2	20.3	20.6	67.2	39.3	36.9	32.6	28.3	19.7	24.1	18.1	19.4	32.4	40.9	60.6	27.01	67.17	
21-Oct	17.3	12.7	19.2	18.2	34.0	18.8	10.9	14.1	10.8	32.8	30.8	29.7	30.5	36.2	25.0	22.9	20.3	34.4	64.5	74.1	17.3	22.8	27.8	80.3	29.39	80.27	
22-Oct	71.2	87.1	92.1	68.1	70.6	26.3	51.8	18.1	18.2	18.2	32.7	19.1	60.4	41.6	57.4	62.2	55.5	25.7	71.1	66.0	80.2	73.4	64.5	30.0	52.57	92.07	
23-Oct	55.2	66.7	92.7	80.7	83.6	42.5	96.8	74.8	28.1	76.3	40.6	18.5	13.0	17.4	12.8	10.4	15.7	30.3	31.5	15.0	17.2	13.7	61.7	37.3	43.01	96.76	
24-Oct	25.7	16.9	18.3	18.7	21.8	23.6	17.9	11.6	19.5	17.6	17.1	21.7	15.4	13.4	13.9	36.4	22.2	16.6	12.1	18.4	20.3	15.9	11.4	21.4	18.65	36.44	
25-Oct	10.5	37.8	57.2	27.2	41.1	88.2	41.2	15.7	12.4	10.5	9.2	8.7	13.1	12.0	10.6	10.4	9.5	8.1	8.0	8.4	8.8	8.7	8.3	10.0	19.81	88.16	
26-Oct	8.2	11.0	12.1	12.6	13.3	14.5	11.5	10.7	16.6	25.1	31.2	14.2	11.9	16.4	20.5	25.2	35.4	31.4	28.1	24.6	22.2	21.3	22.1	22.8	19.28	35.35	
27-Oct	19.7	18.4	19.9	19.0	23.4	16.4	11.9	14.6	17.7	12.2	19.7	57.7	33.9	40.8	42.7	26.6	20.1	5.8	33.1	58.3	34.9	38.6	64.3	32.2	28.41	64.35	
28-Oct	16.8	10.6	13.6	10.0	12.1	12.5	12.7	15.8	11.6	27.6	17.3	18.2	14.6	13.4	13.3	14.6	9.9	11.7	9.5	10.4	12.2	12.8	26.5	20.6	14.51	27.56	
29-Oct	15.7	34.2	48.8	18.7	56.1	12.7	11.9	10.9	18.3	51.2	54.7	65.5	50.4	21.6	17.9	15.1	13.4	11.4	8.8	12.2	8.8	10.6	10.7	10.0	24.56	65.50	
30-Oct	12.7	8.5	10.1	11.3	16.9	10.4	12.4	9.5	9.3	12.0	10.9	10.5	9.6	11.7	10.7	12.3	16.8	17.7	16.3	9.0	8.2	9.2	9.0	9.9	11.46	17.71	
31-Oct	10.0	12.3	41.7	26.2	41.5	63.9	26.9	14.8	11.5	43.7	66.0	12.4	32.2	17.0	12.5	13.2	22.9	63.1	86.5	33.0	35.3	41.4	26.9	40.9	33.16	86.54	
		29.98	29.48	32.98	26.69	31.05	30.09	26.69	26.59	24.97	27.87	28.47	29.73	34.38	31.99	29.22	26.61	24.57	23.96	31.65	33.19	30.72	34.68	32.58	32.59	Diurnal Average	
		105.58	87.13	92.75	80.67	86.03	88.16	96.76	80.19	92.41	84.87	66.00	65.98	78.22	78.70	61.07	62.23	55.54	63.07	89.51	89.28	80.62	74.35	98.91	86.97	Diurnal Maximum	
		,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																									

**BRETON
STATION #913**

CONTINUOUS AIR MONITORING DATA

OCTOBER 2014

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

WCAS / Breton Station 913												October 2014
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	24 Hour Average Max (ppm)
SO ₂ (ppb)	35	709	100.0	0.1	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.002
O ₃ (ppb)	35	709	100.0	19.6	0.0	42.5	5.9	12.2	20.1	27.7	33.0	0.032
NO (ppb)	37	707	100.0	0.4	0.0	10.9	0.0	0.0	0.0	0.2	1.0	-
NO ₂ (ppb)	37	707	100.0	2.4	0.0	9.5	0.6	1.0	2.0	3.3	4.8	0.006
NO _x (ppb)	37	707	100.0	2.6	0.0	19.9	0.5	1.0	2.0	3.7	5.1	-
Wind Speed (kph)	0	744	100.0	7.9	0.0	32.6	0.9	3.0	6.0	12.2	16.6	-
Temperature (°C)	0	744	100.0	6.2	-6.6	22.8	-0.6	1.4	5.2	10.8	14.8	-
Relative Humidity (%)	0	744	100.0	64.7	17.6	94.0	33.8	46.8	69.1	82.9	89.9	-
Std Dev Wind Direction (deg)	0	744	100.0	28.4	8.1	101.5	11.9	14.3	18.7	33.1	69.1	-
Std Dev Wind Speed (kph)	0	744	100.0	2.7	0.0	9.2	1.1	1.5	2.2	3.5	4.9	-



WCAS - Breton
Summary of Hourly Averages

Sulphur Dioxide (SO₂) - ppb
October 2014

Maximum Value: 9.02 ppb on Oct 29 11:00		Maximum Daily Average: 1.92 ppb on Oct 29		Hours in Service: 744																										
Minimum Value: 0.0 ppb on Oct 1 01:00		Minimum Daily Average: 0.00 ppb on Oct 1		Hours of Data: 709																										
Maximum Diurnal Average: 0.48 ppb at hour 11		Minimum Diurnal Average: 0.00 ppb at hour 1		Hours of Missing Data: 35																										
Monthly Average: 0.096 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.0 P ₉₀ = 0.0 P ₉₉ = 4.1		Hours of Calibration: 35																										
				Percent Operational Time: 100.0																										
Day	Hourly Period Ending At																								Daily Average	Daily Maximum				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24						
1-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	0.0	0.00	0.00			
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	0.0	0.00	0.00			
3-Oct	0.0	0.0	Z	0.0	0.0	0.1	0.5	0.7	0.7	0.6	0.6	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.74			
4-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	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.09			
5-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	0.0	0.00	0.00			
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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00			
7-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	0.3	0.5	0.04	0.51				
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	0.0	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-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.21				
10-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	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.33				
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	0.0	0.0	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-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				
14-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.8	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15	1.80				
15-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.82				
16-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				
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	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.12				
18-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				
19-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				
20-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				
21-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	0.0	0.0	0.01	0.18				
22-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				
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	0.0	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				
24-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				
25-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.5	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.70				
26-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.7	0.9	0.2	3.3	4.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.46	4.26				
27-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				
28-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				
29-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	7.9	9.0	5.2	4.2	5.1	4.5	1.9	1.0	1.7	1.1	1.5	0.8	0.1	0.0	0.0	1.92	9.02				
30-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	C	C	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00				
31-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	0.3	0.0	0.0	0.0	0.01	0.29				
		0.00	0.00	--	0.00	0.00	0.00	0.04	0.05	0.03	0.38	0.48	0.31	0.19	0.19	0.17	0.10	0.04	0.05	0.04	0.05	0.03	0.01	0.01	0.02	Diurnal Average				
		0.00	0.00	--	0.00	0.00	0.12	0.74	0.94	0.71	7.90	9.02	5.25	4.18	5.08	4.54	1.92	1.05	1.68	1.09	1.54	0.77	0.18	0.34	0.51	Diurnal Maximum				
Z - zerospan		C - Calibration																												
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 172 ppb		24-hr 48 ppb																										



WCAS - Breton
Summary of Hourly Averages

Ozone (O₃) - ppb
October 2014

Maximum Value: 42.49 ppb on Oct 23 14:00		Maximum Daily Average: 32.16 ppb on Oct 11		Hours in Service: 744																									
Minimum Value: 0.0 ppb on Oct 9 04:00		Minimum Daily Average: 2.86 ppb on Oct 29		Hours of Data: 709																									
Maximum Diurnal Average: 29.19 ppb at hour 16		Minimum Diurnal Average: 11.99 ppb at hour 7		Hours of Missing Data: 35																									
Monthly Average: 19.614 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 5.9 Q ₁ = 12.2 Median = 20.1 Q ₃ = 27.7 P ₉₀ = 33.0 P ₉₉ = 39.5		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	14.1	10.6	Z	6.7	7.1	4.0	4.8	5.1	8.3	14.4	27.0	31.4	34.3	29.4	27.6	33.4	33.7	31.1	29.3	28.7	27.4	19.2	12.1	14.3	19.74	34.25			
2-Oct	16.8	16.9	Z	15.7	18.9	18.1	19.1	18.8	20.2	20.3	20.9	22.8	22.0	21.3	22.0	22.4	22.1	21.0	18.3	12.6	9.4	10.3	11.5	10.4	17.91	22.84			
3-Oct	7.4	8.9	Z	7.8	6.8	7.2	7.3	10.6	14.0	16.0	16.6	18.3	19.9	19.2	20.6	21.6	20.9	17.9	15.7	13.8	11.5	10.6	11.0	11.5	13.69	21.56			
4-Oct	13.6	11.1	Z	4.4	5.9	6.5	0.4	0.6	4.7	8.6	12.1	18.1	23.4	28.0	32.3	32.9	30.8	27.9	23.7	21.1	15.6	16.4	15.6	14.0	15.98	32.94			
5-Oct	16.2	17.7	Z	23.7	21.7	20.1	21.3	21.0	10.8	20.7	29.3	33.7	34.3	34.9	35.1	35.3	33.3	31.7	27.4	22.9	21.9	20.8	18.0	17.3	24.74	35.28			
6-Oct	14.7	15.6	Z	14.7	20.3	20.6	19.1	21.0	21.0	24.5	29.8	31.6	33.2	33.9	34.3	34.2	34.5	33.8	26.5	25.5	21.5	19.2	15.3	15.2	24.36	34.51			
7-Oct	16.4	15.5	Z	10.3	9.2	7.5	6.6	6.3	5.7	9.4	21.3	28.1	27.7	30.1	32.3	32.8	33.0	29.5	26.7	26.2	26.5	28.2	26.2	23.0	20.81	32.99			
8-Oct	25.9	25.9	Z	27.9	25.0	22.5	23.1	24.7	23.1	23.2	23.1	26.8	28.3	29.5	28.7	22.9	21.3	21.2	19.0	15.7	13.5	9.7	6.0	4.1	21.36	29.48			
9-Oct	4.5	2.9	Z	0.0	0.1	3.7	1.6	3.6	6.5	11.5	19.9	24.7	25.9	26.8	31.1	33.1	33.5	31.6	28.0	24.2	23.1	24.5	24.2	22.5	17.71	33.50			
10-Oct	21.4	19.1	Z	13.5	12.0	9.2	7.0	4.2	9.1	10.9	15.9	22.5	28.7	31.1	34.7	35.2	33.5	27.1	23.8	22.4	23.5	25.7	28.5	28.3	21.19	35.24			
11-Oct	26.0	24.4	Z	36.0	36.1	35.7	36.2	37.0	35.0	34.3	32.8	32.9	36.4	38.7	37.2	36.5	35.5	32.3	27.0	28.5	25.2	25.3	26.2	24.4	32.16	38.70			
12-Oct	27.4	27.0	Z	26.1	25.4	24.3	23.5	23.5	24.3	26.5	26.7	31.3	33.9	35.3	35.8	36.2	35.0	31.4	29.1	26.6	24.1	21.5	19.5	15.8	27.40	36.15			
13-Oct	13.6	17.4	Z	13.0	11.4	12.0	11.9	12.8	13.4	15.5	27.0	29.8	30.8	31.4	32.5	32.2	30.6	29.8	28.2	26.2	25.0	25.2	28.1	29.9	22.95	32.50			
14-Oct	30.5	29.8	Z	22.8	24.9	15.7	12.6	11.2	9.7	13.8	18.1	21.5	28.1	31.6	33.0	30.2	29.1	27.8	21.9	20.3	17.3	15.9	12.3	12.4	21.32	33.00			
15-Oct	10.1	9.0	Z	7.7	9.1	6.4	6.3	5.2	4.9	11.2	20.7	25.7	25.3	37.8	36.3	34.3	32.7	30.5	28.7	28.4	26.4	25.6	28.7	26.1	20.76	37.78			
16-Oct	21.6	13.6	Z	11.6	9.8	10.8	14.2	14.9	14.6	19.5	23.7	25.9	28.4	27.8	29.1	29.1	28.3	26.5	23.9	20.7	18.6	14.7	9.6	8.7	19.37	29.14			
17-Oct	12.3	12.0	Z	7.6	5.9	5.8	6.6	7.8	9.6	15.0	18.6	20.7	23.1	23.0	24.3	23.4	22.0	22.1	22.3	22.0	24.2	24.8	24.8	22.9	17.43	24.85			
18-Oct	20.0	16.1	Z	9.4	7.9	7.1	5.0	5.5	7.6	16.0	29.6	36.7	38.9	39.9	40.8	40.4	39.6	38.0	33.8	28.6	22.3	20.6	17.4	16.9	23.39	40.84			
19-Oct	16.0	15.2	Z	12.5	13.5	11.3	12.8	14.1	15.5	17.7	16.9	19.1	24.8	24.0	24.4	23.3	24.0	24.2	25.5	23.3	21.6	20.1	18.1	15.0	18.83	25.45			
20-Oct	16.4	17.2	Z	14.2	13.8	15.3	14.9	10.5	13.9	9.2	12.2	28.8	28.5	23.6	31.7	34.8	33.7	35.1	29.8	24.3	21.3	19.5	18.2	12.7	20.86	35.13			
21-Oct	26.2	23.5	Z	19.2	12.9	10.7	9.8	10.1	7.9	6.8	10.0	16.4	26.9	33.7	33.2	36.2	34.6	31.0	29.4	23.6	17.7	16.5	13.3	12.1	20.07	36.17			
22-Oct	8.9	9.1	Z	8.3	8.5	9.9	11.3	11.4	13.6	22.0	27.6	29.2	28.9	28.0	28.4	32.8	32.1	29.8	26.4	24.8	22.7	24.0	21.4	17.6	20.74	32.83			
23-Oct	14.4	12.8	Z	9.8	11.2	8.8	4.4	5.1	10.3	17.8	30.1	39.1	40.6	42.5	41.2	37.4	36.2	31.1	29.5	26.0	17.1	18.4	24.7	28.7	23.36	42.49			
24-Oct	29.7	29.1	Z	29.6	25.6	24.5	23.7	23.8	24.5	27.1	31.5	33.4	34.7	35.0	34.4	36.6	36.5	34.6	33.0	30.6	28.1	26.6	24.7	23.2	29.58	36.57			
25-Oct	20.5	19.6	Z	16.0	14.1	13.5	12.9	13.1	13.7	16.1	26.4	29.1	26.7	29.4	29.3	29.7	29.1	29.5	28.7	28.7	28.4	26.9	25.7	24.3	23.10	29.71			
26-Oct	22.3	20.3	Z	19.4	19.2	17.5	16.3	14.9	18.3	17.4	14.3	19.4	22.6	20.7	19.3	19.5	20.5	19.2	17.1	15.4	15.0	13.5	13.2	13.6	17.79	22.61			
27-Oct	13.6	13.9	Z	15.2	16.4	17.3	17.6	19.3	21.4	22.7	27.4	28.4	29.0	29.1	29.4	29.7	28.7	25.0	21.6	21.0	16.4	14.0	12.8	13.2	21.01	29.70			
28-Oct	16.0	15.8	Z	14.2	12.6	12.9	15.0	13.7	12.3	13.1	14.8	17.4	18.7	17.7	17.5	17.3	17.2	16.1	15.9	14.5	12.5	9.8	5.0	4.1	14.10	18.74			
29-Oct	2.7	2.5	Z	1.2	1.9	1.9	2.1	1.1	1.9	0.0	0.7	2.8	4.0	4.2	5.9	9.3	7.5	3.5	1.0	0.1	0.0	2.1	5.5	3.9	2.86	9.32			
30-Oct	3.6	3.9	Z	4.5	4.8	4.9	4.3	2.9	3.6	3.9	6.2	8.3	9.9	C	C	C	C	12.9	12.2	12.4	12.3	10.4	9.6	8.9	7.35	12.88			
31-Oct	8.2	8.5	Z	8.4	5.6	3.1	0.0	0.0	0.0	0.1	0.0	0.0	0.8	1.0	1.6	2.9	2.8	2.4	3.1	8.2	11.0	10.2	7.4	6.2	3.99	10.99			
		16.49	15.64	--	13.92	13.47	12.55	11.99	12.06	12.89	15.67	20.37	24.33	26.40	27.95	28.80	29.19	28.41	25.99	23.44	21.53	19.39	18.40	17.25	16.17	Diurnal Average			
		30.47	29.77	--	35.97	36.09	35.74	36.21	36.99	35.05	34.35	32.82	39.13	40.58	42.49	41.23	40.37	39.64	38.01	33.83	30.55	28.40	28.21	28.75	29.90	Diurnal Maximum			
Z - zerospan		C - Calibration																											
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 82.5 ppb		24-hr -- ppb																									



WCAS - Breton
Summary of Hourly Averages

Nitrogen Oxide (NO) - ppb
October 2014

Maximum Value: 10.95 ppb on Oct 29 11:00		Maximum Daily Average: 2.58 ppb on Oct 29		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Oct 1 01:00		Minimum Daily Average: 0.03 ppb on Oct 6		Hours of Data: 707																							
Maximum Diurnal Average: 1.43 ppb at hour 11		Minimum Diurnal Average: 0.01 ppb at hour 5		Hours of Missing Data: 37																							
Monthly Average: 0.370 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.0 Q ₁ = 0.0 Median = 0.0 Q ₃ = 0.2 P ₉₀ = 1.0 P ₉₉ = 7.4		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.5	1.7	1.8	0.2	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	0.19	1.78	
2-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.04	0.20	
3-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.5	0.8	1.0	0.9	0.6	0.6	0.8	0.7	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.32	1.04	
4-Oct	0.0	0.3	Z	0.0	0.0	0.0	8.0	1.1	0.4	0.7	0.7	0.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.52	8.02	
5-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.8	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	0.05	0.84	
6-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.03	0.20		
7-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	1.2	0.8	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	1.17	
8-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.5	0.4	0.4	0.3	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.50	
9-Oct	0.0	0.0	Z	1.2	0.0	0.3	0.9	1.1	1.2	1.7	1.5	1.0	0.9	1.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.49	1.68	
10-Oct	0.0	0.0	Z	0.0	0.0	0.0	3.3	2.8	1.4	2.8	1.8	0.8	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.59	3.26	
11-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.05	0.64	
12-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.40	
13-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.5	1.9	1.1	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	1.87	
14-Oct	0.0	0.0	Z	0.0	0.0	0.8	1.9	2.4	1.4	1.7	1.9	2.0	1.1	0.5	0.2	0.3	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.63	2.44	
15-Oct	0.0	0.0	Z	0.0	0.0	0.9	2.0	0.0	0.8	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	2.01	
16-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.37	
17-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.8	1.0	1.0	1.0	0.9	1.1	0.7	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.31	1.06	
18-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.2	0.8	0.8	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.85	
19-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.6	0.8	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.80	
20-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.1	0.1	2.0	4.8	1.2	0.8	1.3	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.50	4.77	
21-Oct	0.0	0.0	Z	0.0	0.0	0.2	0.3	2.0	0.2	0.4	0.5	1.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.22	1.99	
22-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.9	0.6	0.3	0.3	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.88	
23-Oct	0.0	0.0	Z	0.0	0.0	0.0	1.2	1.9	1.4	0.4	0.4	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.24	1.94	
24-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.29	
25-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.9	0.4	0.1	0.4	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.88	
26-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.3	0.2	1.0	1.6	0.5	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	1.62	
27-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.34	
28-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.5	1.6	1.6	1.4	1.4	0.9	0.8	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.46	1.64	
29-Oct	0.3	0.1	Z	0.1	0.3	1.2	0.3	0.3	1.7	10.1	10.9	7.4	7.6	8.0	6.8	2.6	1.2	0.3	0.0	0.0	0.2	0.0	0.0	0.0	2.58	10.95	
30-Oct	0.0	0.0	Z	0.0	0.0	0.0	0.0	0.0	0.8	1.7	2.2	2.4	2.2	C	C	C	C	C	C	0.0	0.0	0.0	0.0	0.0	--	2.41	
31-Oct	0.0	0.0	Z	0.0	0.0	1.3	10.3	3.1	2.2	3.0	8.1	5.8	3.5	2.7	2.4	2.4	2.1	1.8	1.6	0.3	0.4	0.4	1.2	0.1	2.30	10.32	
		0.01	0.01	--	0.04	0.01	0.15	0.91	0.53	0.62	1.27	1.43	0.96	0.72	0.60	0.46	0.28	0.18	0.08	0.06	0.02	0.04	0.01	0.07	0.03	Diurnal Average	
		0.32	0.26	--	1.18	0.30	1.32	10.32	3.12	2.18	10.07	10.95	7.37	7.62	7.97	6.82	2.60	2.14	1.83	1.58	0.34	0.41	0.39	1.17	0.64	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb				24-hr --- ppb																					



WCAS - Breton
Summary of Hourly Averages

Nitrogen Dioxide (NO₂) - ppb
October 2014

Maximum Value: 9.54 ppb on Oct 29 21:00		Maximum Daily Average: 5.81 ppb on Oct 29		Hours in Service: 744																													
Minimum Value: 0.0 ppb on Oct 2 01:00		Minimum Daily Average: 0.91 ppb on Oct 12		Hours of Data: 707																													
Maximum Diurnal Average: 3.13 ppb at hour 8		Minimum Diurnal Average: 1.42 ppb at hour 16		Hours of Missing Data: 37																													
Monthly Average: 2.360 ppb		Percentiles: P ₁ = 0.2 P ₁₀ = 0.6 Q ₁ = 1.0 Median = 2.0 Q ₃ = 3.3 P ₉₀ = 4.8 P ₉₉ = 7.9		Hours of Calibration: 37																													
				Percent Operational Time: 100.0																													
Day	Hourly Period Ending At																								Daily Average	Daily Maximum							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24									
1-Oct	1.0	0.9	Z	0.9	1.8	2.1	2.8	2.5	2.2	2.2	0.7	0.2	0.2	1.3	2.1	0.6	0.4	0.7	0.7	0.7	0.6	0.5	0.2	0.1	1.10	2.85							
2-Oct	0.0	0.0	Z	0.3	0.3	0.4	0.5	0.6	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.7	1.7	5.1	5.2	3.4	1.1	1.0	0.99	5.24							
3-Oct	1.4	1.5	Z	1.5	2.0	3.1	4.7	4.1	3.2	2.6	2.3	2.0	2.2	2.6	2.5	3.0	2.7	3.3	4.2	4.8	5.5	5.7	5.2	3.9	3.22	5.68							
4-Oct	2.4	1.7	Z	1.8	1.6	1.8	3.3	2.1	1.4	2.1	1.6	0.9	0.6	0.5	0.2	0.4	0.7	1.5	2.2	2.6	4.8	2.9	1.5	1.7	1.76	4.84							
5-Oct	1.8	1.8	Z	1.6	1.9	2.1	1.9	1.7	0.9	2.1	1.1	0.7	0.6	0.6	0.6	0.6	1.5	1.9	2.3	2.1	1.2	1.3	1.4	1.5	1.44	2.27							
6-Oct	2.3	2.6	Z	2.3	2.1	3.2	4.0	2.3	1.2	0.8	0.2	0.3	0.1	0.3	0.3	0.4	0.6	0.9	5.4	3.7	3.3	4.2	3.4	0.7	1.95	5.39							
7-Oct	0.7	0.7	Z	0.8	0.7	0.5	0.5	0.5	0.5	2.6	2.1	1.6	2.2	1.6	0.8	0.5	0.4	0.4	0.7	1.8	1.4	1.3	1.5	2.2	1.13	2.60							
8-Oct	1.8	1.2	Z	0.7	1.0	1.5	1.3	1.2	2.0	2.2	2.4	1.7	1.6	1.7	1.9	2.6	3.5	2.7	2.5	2.4	2.2	2.4	2.3	2.4	1.98	3.54							
9-Oct	2.5	2.7	Z	5.1	4.1	5.0	5.0	4.4	2.5	2.5	3.1	2.8	2.8	2.8	1.7	1.2	1.3	1.7	2.0	3.1	3.9	3.1	2.6	2.4	2.97	5.12							
10-Oct	2.5	2.7	Z	3.0	2.9	3.4	5.0	6.5	2.9	3.3	2.5	1.6	1.0	1.1	1.0	1.2	1.2	2.0	2.6	2.9	2.9	2.5	2.0	2.0	2.55	6.48							
11-Oct	2.1	1.9	Z	0.4	0.6	0.7	1.2	0.5	0.7	0.9	1.0	1.0	0.6	0.4	0.4	0.3	0.4	1.5	4.1	1.6	3.0	3.5	2.2	4.3	1.44	4.30							
12-Oct	1.2	0.6	Z	1.2	1.5	1.5	1.5	1.6	1.7	1.3	1.4	0.6	0.2	0.2	0.2	0.2	0.2	1.7	0.9	0.6	0.5	0.6	0.7	0.6	0.91	1.72							
13-Oct	0.8	1.5	Z	1.2	1.3	1.5	2.1	2.3	2.0	2.7	2.6	0.9	0.7	0.9	0.7	0.6	1.0	1.1	1.8	2.4	2.7	2.4	1.8	1.5	1.58	2.71							
14-Oct	1.5	1.4	Z	2.7	1.4	3.9	5.0	4.9	3.8	4.3	3.8	4.7	2.4	1.6	0.9	1.4	1.0	1.1	4.2	3.5	4.9	2.9	2.6	1.3	2.84	5.04							
15-Oct	1.4	1.3	Z	1.0	1.0	2.0	1.5	1.2	1.7	2.1	3.0	2.3	2.3	0.1	0.2	0.3	0.3	0.5	1.0	1.2	1.5	1.2	0.6	0.8	1.24	2.95							
16-Oct	0.8	0.4	Z	1.3	0.9	0.7	2.2	1.5	1.6	1.8	1.9	1.9	1.8	1.4	1.2	1.2	1.4	1.7	1.9	1.6	1.6	1.6	2.6	3.7	1.59	3.66							
17-Oct	3.9	4.1	Z	4.4	4.5	4.2	3.9	3.4	2.8	2.1	2.2	2.5	2.0	2.2	2.4	3.1	5.1	4.3	4.6	4.8	4.3	3.1	2.6	2.4	3.43	5.07							
18-Oct	3.1	2.0	Z	4.1	5.0	4.6	4.6	3.5	2.0	1.6	1.5	0.7	0.5	0.5	0.4	0.7	1.0	1.3	1.0	1.0	2.3	1.3	1.2	1.3	1.96	4.97							
19-Oct	1.5	1.8	Z	1.6	1.5	2.9	2.1	2.5	3.9	5.1	6.6	5.7	3.9	4.0	3.4	3.6	3.6	3.7	3.5	4.1	4.2	4.2	4.4	4.5	3.58	6.62							
20-Oct	4.4	3.2	Z	2.3	2.4	2.1	2.4	2.8	2.6	3.3	5.0	3.2	3.9	6.0	2.4	1.9	2.5	1.8	2.3	3.8	3.7	2.7	5.1	2.7	3.15	6.00							
21-Oct	2.0	2.1	Z	1.7	0.9	1.6	1.7	3.2	1.2	1.0	1.2	2.6	2.4	1.7	1.8	0.9	1.4	2.8	3.0	3.4	3.5	4.3	4.1	4.1	2.30	4.31							
22-Oct	4.4	4.8	Z	4.1	4.1	4.0	4.1	5.5	6.0	3.0	1.6	1.8	2.0	2.3	2.3	1.4	1.7	2.3	3.8	3.9	4.8	3.1	1.9	2.1	3.26	6.02							
23-Oct	2.0	2.6	Z	2.4	2.8	2.8	4.3	5.4	5.0	4.8	1.5	0.4	0.5	0.5	0.5	2.1	1.8	4.4	3.9	1.6	4.3	3.2	2.0	1.7	2.63	5.40							
24-Oct	1.3	0.9	Z	0.5	0.8	0.9	1.2	2.0	1.4	1.3	1.2	1.1	0.7	0.8	1.1	0.4	0.6	1.4	1.5	2.1	1.5	0.8	0.8	0.8	1.09	2.13							
25-Oct	0.9	1.2	Z	2.8	2.4	2.0	2.0	2.1	2.9	4.2	2.4	1.9	2.7	1.6	1.6	1.6	1.6	1.3	1.2	0.9	0.9	1.3	1.4	1.2	1.84	4.18							
26-Oct	1.0	0.9	Z	1.0	1.0	2.4	3.9	5.2	2.4	4.6	6.7	3.3	0.7	1.3	1.2	0.9	0.8	0.9	1.0	0.9	1.0	1.0	1.0	0.8	1.91	6.74							
27-Oct	0.9	1.0	Z	0.6	0.6	0.7	1.0	1.0	1.1	1.2	0.6	0.7	0.9	0.5	0.6	0.9	1.5	1.2	0.9	0.9	1.4	1.6	2.0	2.6	1.05	2.57							
28-Oct	3.9	4.2	Z	4.3	3.7	3.9	2.9	3.9	4.2	3.5	2.7	2.1	2.0	2.7	2.9	2.9	3.2	2.8	2.7	2.9	2.9	2.5	3.4	3.4	3.20	4.34							
29-Oct	3.1	3.0	Z	2.8	3.6	3.5	4.1	4.6	5.0	9.1	9.0	7.5	6.7	6.8	6.2	3.7	4.3	6.9	7.9	8.9	9.5	8.0	4.8	4.8	5.81	9.54							
30-Oct	5.2	4.6	Z	4.4	5.0	5.7	5.9	6.9	5.8	5.5	5.0	4.5	4.2	C	C	C	C	C	C	2.4	2.3	2.5	2.7	2.9	--	6.95							
31-Oct	3.3	3.5	Z	4.3	4.9	6.4	9.2	7.0	5.9	5.5	7.0	6.4	4.9	4.5	4.1	3.7	4.9	6.0	6.9	4.7	4.9	5.2	5.4	4.1	5.34	9.16							
		2.09	2.02	--	2.17	2.20	2.62	3.09	3.13	2.62	2.90	2.72	2.19	1.85	1.75	1.53	1.42	1.69	2.16	2.74	2.79	3.13	2.72	2.41	2.24	Diurnal Average							
		5.15	4.79	--	5.12	4.98	6.44	9.16	6.96	6.02	9.12	8.99	7.46	6.65	6.76	6.19	3.70	5.07	6.95	7.91	8.92	9.54	7.96	5.35	4.83	Diurnal Maximum							
Z - zerospan		C - Calibration																															
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr 159 ppb				24-hr 106 ppb																											



WCAS - Breton
Summary of Hourly Averages

NOx (NO_x) - ppb
October 2014

Maximum Value: 19.91 ppb on Oct 29 11:00		Maximum Daily Average: 8.36 ppb on Oct 29		Hours in Service: 744																							
Minimum Value: 0.0 ppb on Oct 2 00:00		Minimum Daily Average: 0.89 ppb on Oct 12		Hours of Data: 707																							
Maximum Diurnal Average: 4.10 ppb at hour 10		Minimum Diurnal Average: 1.65 ppb at hour 16		Hours of Missing Data: 37																							
Monthly Average: 2.609 ppb		Percentiles: P ₁ = 0.0 P ₁₀ = 0.5 Q ₁ = 1.0 Median = 2.0 Q ₃ = 3.7 P ₉₀ = 5.1 P ₉₉ = 14.0		Hours of Calibration: 37																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0.8	0.6	Z	0.7	1.6	2.0	2.7	3.0	3.9	3.9	0.9	0.2	0.1	1.3	2.2	0.5	0.3	0.6	0.5	0.6	0.4	0.2	0.0	0.0	1.18	3.94	
2-Oct	0.0	0.0	Z	0.0	0.2	0.3	0.5	0.6	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.3	0.6	1.5	5.3	5.4	3.3	0.9	0.8	0.97	5.40	
3-Oct	1.3	1.3	Z	1.4	1.9	3.0	4.6	4.5	3.7	3.4	3.3	2.9	2.9	3.2	3.3	3.7	3.3	3.5	4.1	4.7	5.4	5.6	5.1	3.8	3.48	5.57	
4-Oct	2.3	2.0	Z	1.7	1.6	1.7	11.3	3.1	1.8	2.8	2.3	1.4	0.9	0.5	0.1	0.3	0.6	1.4	2.0	2.4	4.9	2.7	1.2	1.4	2.19	11.25	
5-Oct	1.5	1.6	Z	1.3	1.7	1.8	1.7	1.6	1.1	3.0	1.3	0.7	0.6	0.4	0.4	0.5	1.4	1.7	2.0	1.8	1.0	1.0	1.2	1.3	1.34	2.97	
6-Oct	2.1	2.5	Z	2.1	2.0	3.1	4.1	2.4	1.4	1.1	0.2	0.3	0.1	0.2	0.3	0.4	0.7	0.8	5.5	3.6	3.4	4.2	3.4	0.6	1.92	5.52	
7-Oct	0.5	0.5	Z	0.7	0.5	0.4	0.4	0.4	0.5	3.8	2.9	1.9	2.4	1.7	0.7	0.4	0.2	0.2	0.4	1.5	1.2	1.1	1.3	1.9	1.11	3.77	
8-Oct	1.5	0.9	Z	0.4	0.8	1.3	1.1	1.0	2.2	2.7	3.0	2.1	2.0	2.0	2.1	2.9	3.8	2.7	2.3	2.1	2.0	2.2	2.1	2.2	1.97	3.83	
9-Oct	2.3	2.5	Z	6.3	4.0	5.3	5.8	5.4	3.6	4.2	4.5	3.7	3.7	3.8	2.0	1.3	1.3	1.5	1.8	2.9	3.7	2.9	2.4	2.2	3.36	6.27	
10-Oct	2.3	2.4	Z	2.8	2.7	3.2	8.2	9.2	4.2	6.1	4.3	2.4	1.2	1.3	1.1	1.2	1.2	1.8	2.3	2.6	2.6	2.2	1.8	1.7	3.00	9.23	
11-Oct	1.8	1.6	Z	0.2	0.4	0.5	1.0	0.3	0.5	0.9	1.1	1.2	0.6	0.4	0.3	0.2	0.2	1.5	3.9	1.4	2.9	3.4	2.1	4.9	1.37	4.91	
12-Oct	1.1	0.5	Z	1.1	1.5	1.5	1.5	1.6	2.1	1.6	1.7	0.8	0.3	0.2	0.3	0.1	0.2	1.6	0.8	0.4	0.3	0.5	0.5	0.4	0.89	2.09	
13-Oct	0.5	1.3	Z	1.0	1.2	1.4	1.9	2.2	2.5	4.6	3.7	1.1	0.8	0.9	0.6	0.4	0.7	0.8	1.5	2.1	2.4	2.1	1.5	1.2	1.59	4.56	
14-Oct	1.2	1.1	Z	2.5	1.2	4.8	6.9	7.3	5.2	6.0	5.7	6.8	3.5	2.1	1.2	1.6	1.1	1.1	4.2	3.5	5.1	2.8	2.7	1.2	3.41	7.32	
15-Oct	1.3	1.2	Z	0.9	0.9	2.9	3.5	1.1	2.6	2.4	3.2	2.4	2.3	0.0	0.0	0.0	0.1	0.2	0.7	0.9	1.1	0.9	0.3	0.5	1.28	3.53	
16-Oct	0.4	0.1	Z	1.0	0.5	0.5	2.2	1.2	1.7	2.2	2.3	2.2	2.0	1.5	1.2	1.2	1.3	1.6	1.7	1.4	1.4	1.4	2.4	3.5	1.51	3.50	
17-Oct	3.7	4.0	Z	4.3	4.4	4.1	3.8	3.5	3.6	3.0	3.2	3.5	2.8	3.2	3.1	3.3	5.2	4.2	4.5	4.6	4.1	2.9	2.4	2.2	3.65	5.21	
18-Oct	2.9	1.8	Z	3.9	4.9	4.5	4.4	3.7	2.7	2.4	1.9	0.7	0.5	0.4	0.3	0.6	0.8	1.1	0.8	0.7	2.2	1.0	0.9	1.0	1.92	4.89	
19-Oct	1.3	1.4	Z	1.3	1.3	2.6	1.8	2.3	4.1	5.3	7.3	6.5	4.2	4.2	3.4	3.6	3.5	3.6	3.4	3.9	4.0	4.0	4.2	4.4	3.55	7.27	
20-Oct	4.3	3.1	Z	2.1	2.3	2.0	2.3	2.9	2.7	5.2	9.8	4.4	4.7	7.3	2.8	2.2	2.6	1.7	2.1	3.9	3.6	2.5	5.6	2.7	3.59	9.79	
21-Oct	1.9	2.0	Z	1.6	0.9	1.8	2.0	5.2	1.3	1.4	1.7	3.6	3.0	1.7	1.8	0.8	1.4	2.7	2.7	3.2	3.2	4.1	3.9	3.8	2.42	5.22	
22-Oct	4.2	4.5	Z	3.9	3.9	3.9	3.9	5.4	6.9	3.7	1.9	2.2	2.2	2.4	2.4	1.4	1.6	2.2	3.6	3.7	4.8	3.0	1.7	2.0	3.28	6.94	
23-Oct	1.9	2.5	Z	2.3	2.7	2.7	5.5	7.4	6.4	5.2	1.9	0.5	0.6	0.5	0.5	2.2	1.8	4.3	3.7	1.4	4.5	3.1	1.9	1.6	2.83	7.35	
24-Oct	1.1	0.7	Z	0.3	0.7	0.8	1.1	1.9	1.4	1.5	1.5	1.4	0.9	0.9	1.2	0.4	0.6	1.3	1.2	1.9	1.3	0.6	0.6	0.6	1.04	1.94	
25-Oct	0.7	0.9	Z	2.5	2.3	1.8	1.8	1.9	3.1	5.1	2.8	2.0	3.1	2.0	1.9	1.7	1.5	1.2	1.0	0.7	0.8	1.2	1.3	1.1	1.85	5.08	
26-Oct	0.8	0.8	Z	0.9	0.9	2.4	3.7	5.4	2.6	5.6	8.4	3.8	0.7	1.6	1.4	1.1	0.7	0.8	0.9	0.9	0.8	0.9	0.8	0.5	2.02	8.37	
27-Oct	0.6	0.7	Z	0.3	0.5	0.7	0.9	1.0	1.3	1.5	0.7	0.8	0.9	0.5	0.5	1.0	1.5	0.9	0.6	0.7	1.2	1.4	1.7	2.4	0.96	2.37	
28-Oct	3.7	4.0	Z	4.2	3.5	3.8	2.8	3.8	4.7	5.2	4.3	3.6	3.4	3.7	3.6	4.0	3.7	2.8	2.6	2.8	2.8	2.4	3.9	3.5	3.59	5.17	
29-Oct	3.4	3.1	Z	3.0	3.9	4.7	4.4	4.9	6.7	19.2	19.9	14.8	14.3	14.7	13.0	6.3	5.5	7.3	7.8	8.8	9.7	7.7	4.5	4.6	8.36	19.91	
30-Oct	4.9	4.3	Z	3.8	4.2	4.7	4.7	5.5	5.0	5.3	4.9	4.4	3.7	C	C	C	C	C	C	C	3.6	3.3	3.2	3.2	3.2	--	5.50
31-Oct	3.3	3.2	Z	3.8	4.6	7.5	19.3	9.9	7.9	8.4	15.0	12.0	8.3	7.0	6.5	6.0	6.9	7.7	8.3	4.9	5.1	5.4	6.4	4.0	7.46	19.31	
		1.93	1.84	--	2.01	2.05	2.63	3.87	3.54	3.17	4.10	4.07	3.05	2.47	2.33	1.95	1.65	1.80	2.11	2.62	2.68	3.06	2.57	2.32	2.10	Diurnal Average	
		4.85	4.54	--	6.27	4.89	7.54	19.31	9.90	7.94	19.17	19.91	14.82	14.26	14.72	13.00	6.28	6.91	7.71	8.25	8.75	9.73	7.75	6.36	4.91	Diurnal Maximum	
Z - zerospan		C - Calibration																									
Alberta Ambient Air Quality Objectives (AAAQO):		1-hr --- ppb					24-hr --- ppb																				

**BRETON
STATION #913**

METEOROLOGICAL DATA

OCTOBER 2014



WCAS - Breton
Summary of Hourly Averages

External Temperature (ET) - C
October 2014

Maximum Value: 22.76 C on Oct 10 16:00		Maximum Daily Average: 12.61 C on Oct 10		Hours in Service: 744																							
Minimum Value: -6.6 C on Oct 3 05:00		Minimum Daily Average: -0.51 C on Oct 27		Hours of Data: 744																							
Maximum Diurnal Average: 11.98 C at hour 16		Minimum Diurnal Average: 1.74 C at hour 7		Hours of Missing Data: 0																							
Monthly Average: 6.189 C		Percentiles: P ₁ = -4.9 P ₁₀ = -0.6 Q ₁ = 1.4 Median = 5.2 Q ₃ = 10.8 P ₉₀ = 14.8 P ₉₉ = 20.2		Hours of Calibration: 0																							
				Percent Operational Time: 100.0																							
Day	Hourly Period Ending At																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1-Oct	0.1	-0.6	-1.3	-1.6	-1.6	-2.3	-2.0	-1.5	3.7	8.8	12.1	13.9	14.6	10.6	7.7	7.0	5.2	5.3	5.0	4.0	3.6	3.4	2.6	1.4	4.08	14.59	
2-Oct	0.2	-0.9	-1.2	-0.6	-0.3	-0.4	-0.4	-0.3	0.0	0.5	1.6	2.6	3.8	5.1	5.9	6.1	6.0	5.2	3.1	1.3	-2.1	-3.0	-4.0	-4.6	0.99	6.08	
3-Oct	-5.5	-5.5	-5.9	-6.1	-6.6	-5.7	-4.5	-2.7	0.5	3.0	4.8	6.6	8.0	8.8	10.5	11.3	11.5	10.6	9.3	8.3	7.9	7.7	8.0	8.0	3.43	11.52	
4-Oct	8.9	7.4	7.0	5.9	6.4	6.9	6.5	6.3	7.7	9.4	11.6	15.1	17.0	17.7	18.4	17.2	14.9	11.1	9.5	7.9	6.3	5.4	4.5	10.27	18.35		
5-Oct	4.3	4.5	5.5	5.8	5.7	4.2	5.1	4.5	7.9	11.8	14.1	15.2	16.1	16.5	16.8	17.1	16.0	14.8	11.8	10.8	10.3	9.9	9.1	9.0	10.28	17.08	
6-Oct	8.8	9.2	8.7	8.5	9.6	9.8	10.4	11.8	13.0	13.6	14.3	15.0	15.3	15.5	15.5	15.0	15.1	13.8	11.2	9.5	5.1	3.9	1.7	0.6	10.62	15.54	
7-Oct	0.7	2.2	2.3	1.4	0.3	-0.6	0.3	0.7	2.6	5.9	9.8	11.1	11.1	11.5	12.1	12.2	12.0	10.8	9.4	9.3	9.1	9.2	8.4	7.3	6.63	12.24	
8-Oct	6.6	6.2	5.8	5.5	4.7	4.0	3.4	3.4	5.5	7.7	8.8	11.3	12.7	14.1	14.0	12.7	12.0	11.2	7.3	5.2	3.9	2.6	1.7	1.3	7.15	14.08	
9-Oct	1.4	0.9	0.9	0.2	0.0	1.4	1.0	0.9	3.5	7.3	11.5	14.0	15.3	16.6	17.7	18.3	18.3	16.9	13.6	11.8	10.9	10.8	9.9	8.4	8.82	18.27	
10-Oct	8.0	6.9	5.3	3.8	3.5	2.5	2.2	1.8	5.7	10.2	14.4	18.2	20.9	21.7	22.5	22.8	22.1	19.4	16.1	14.3	13.8	14.9	16.2	15.2	12.61	22.76	
11-Oct	11.9	10.0	12.0	12.0	11.1	10.7	11.3	11.3	11.1	12.7	12.8	14.8	16.2	16.9	16.2	15.5	14.7	13.5	11.1	9.1	8.8	8.7	8.1	7.5	12.00	16.91	
12-Oct	6.3	6.0	7.3	7.7	7.9	7.7	7.4	7.8	9.2	10.5	10.8	12.9	14.1	14.7	15.3	15.5	15.2	12.9	8.3	5.9	4.2	2.3	1.1	0.1	8.79	15.54	
13-Oct	0.5	1.4	0.7	-0.7	-1.3	-1.0	-0.9	-0.5	3.2	7.3	12.5	14.6	15.9	16.1	15.8	15.4	14.6	14.0	13.7	13.0	12.7	12.8	12.9	13.0	8.58	16.12	
14-Oct	12.7	11.3	9.8	7.2	7.6	6.3	5.0	4.6	5.9	9.1	12.6	14.1	16.2	17.1	17.1	15.6	13.1	11.6	10.0	8.0	6.8	4.9	2.2	0.5	9.55	17.12	
15-Oct	0.3	0.6	0.8	0.6	1.0	0.3	1.1	0.9	2.1	4.6	7.3	7.9	7.1	6.0	5.8	5.6	5.4	5.2	5.0	4.9	4.8	4.5	4.4	4.5	3.77	7.86	
16-Oct	4.3	4.2	4.1	4.1	3.9	4.0	3.7	3.1	3.7	5.8	7.2	8.4	8.7	9.0	9.6	10.3	10.7	8.8	6.5	4.5	3.9	2.9	2.0	1.8	5.63	10.66	
17-Oct	2.5	2.6	2.1	1.8	1.5	1.2	1.3	1.5	3.4	6.9	8.5	10.1	11.9	12.8	13.6	13.0	12.3	11.4	11.2	11.3	12.1	11.5	10.7	9.1	7.68	13.62	
18-Oct	8.6	7.0	7.2	7.1	6.7	5.4	3.8	2.0	4.6	11.4	16.1	18.2	18.9	19.4	20.1	20.0	19.8	17.3	11.5	9.6	7.5	5.1	3.6	2.6	10.57	20.08	
19-Oct	2.1	1.7	1.0	0.5	0.3	0.0	0.2	1.3	4.1	6.3	8.1	10.0	12.0	12.4	12.8	12.4	12.6	12.5	12.7	11.8	10.8	9.2	7.5	5.1	6.97	12.76	
20-Oct	5.3	4.5	3.5	2.6	2.5	2.9	3.1	2.7	5.4	7.2	12.6	17.6	17.8	17.7	19.3	21.0	20.6	17.8	12.6	10.4	8.6	6.8	6.9	5.0	9.77	21.05	
21-Oct	10.0	7.8	5.2	5.1	4.1	3.5	2.1	1.8	1.7	3.0	5.9	9.6	11.8	13.1	13.1	13.9	14.3	13.5	9.6	7.0	4.7	4.0	2.7	2.3	7.07	14.29	
22-Oct	1.1	1.0	0.4	0.2	-0.1	0.1	0.3	0.4	2.7	7.0	11.0	13.3	13.9	13.6	14.8	16.2	16.4	14.4	13.9	12.9	11.2	9.9	7.2	4.0	7.73	16.41	
23-Oct	3.0	2.3	2.6	1.4	0.7	0.0	-1.5	-1.1	3.5	7.8	12.8	15.0	15.9	16.7	16.7	14.9	14.4	11.0	8.0	3.6	2.3	2.4	3.8	5.8	6.76	16.74	
24-Oct	5.8	5.9	5.4	4.4	3.7	3.5	3.4	3.2	3.1	5.4	7.4	8.7	10.0	10.5	10.1	11.3	10.8	8.8	6.3	4.8	1.7	0.8	-1.4	-2.3	5.46	11.29	
25-Oct	-3.3	-4.0	-4.4	-4.2	-4.8	-4.4	-3.7	-2.9	-1.7	0.0	3.8	4.9	5.8	7.8	8.3	8.3	7.9	7.2	6.8	6.6	5.9	5.2	4.3	3.1	2.20	8.31	
26-Oct	2.5	1.8	1.9	1.9	1.7	1.4	0.9	0.5	0.3	0.9	1.3	1.3	1.3	0.6	0.5	1.3	1.7	1.7	1.7	1.6	1.2	0.6	0.5	0.1	1.21	2.51	
27-Oct	-0.4	0.2	0.5	0.5	0.3	-0.1	-0.3	-0.6	-0.8	-0.6	0.3	1.3	1.7	2.0	2.5	2.6	2.4	-0.4	-2.8	-2.8	-3.9	-4.2	-4.7	-4.9	-0.51	2.64	
28-Oct	-4.2	-4.0	-4.5	-4.0	-5.0	-4.4	-3.6	-2.9	-2.2	-0.4	1.5	3.1	4.9	3.9	3.7	5.3	5.1	2.4	1.4	0.8	0.3	-1.0	-3.0	-3.0	-0.40	5.34	
29-Oct	-2.5	-2.0	-1.8	-2.0	-1.4	-1.2	-0.8	-0.7	-0.5	-0.1	0.4	1.2	1.9	3.8	4.7	5.8	4.2	1.2	0.2	0.2	0.2	0.9	1.0	0.5	0.55	5.79	
30-Oct	0.6	0.1	-0.8	-1.5	-1.9	-2.2	-1.6	-1.5	-1.2	-0.6	0.1	1.6	2.7	2.9	4.1	3.8	2.3	1.6	1.3	1.8	2.4	3.3	3.8	4.1	1.05	4.14	
31-Oct	4.6	4.7	4.6	4.4	2.9	2.0	0.8	0.2	-0.2	-0.1	0.3	0.9	1.2	1.7	2.2	2.9	3.4	3.5	3.8	3.8	3.9	3.0	3.2	3.5	2.55	4.73	
		3.39	3.01	2.74	2.32	2.04	1.79	1.74	1.81	3.48	5.88	8.28	10.08	11.12	11.51	11.82	11.98	11.52	10.09	8.08	6.85	5.83	5.13	4.38	3.66	Diurnal Average	
		12.72	11.29	12.01	11.96	11.14	10.70	11.30	11.82	13.04	13.55	16.13	18.21	20.92	21.75	22.50	22.76	22.12	19.36	16.09	14.30	13.82	14.86	16.23	15.23	Diurnal Maximum	



WCAS - Breton
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1 Spd	0.2	0.1	0.2	1.8	1.0	2.1	2.9	3.6	2.6	4.4	9.5	12.6	11.6	21.8	15.9	29.6	12.1	13.9	15.4	15.9	15.2	22.3	25.0	26.8	7.52	29.65	
Dir	E	E	SE	SE	SE	SE	SE	SE	SSE	S	SW	SW	W	N	N	N	NW	NW	NW	WNW	NW	NNW	NNW	NNW	NW	N	
2 Spd	24.1	19.0	11.1	13.3	17.9	15.7	17.4	15.2	19.9	21.3	24.7	24.7	25.4	24.4	23.5	24.0	21.9	17.1	9.3	5.3	0.2	1.4	2.4	3.3	15.12	25.38	
Dir	NNW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	N	N	NNW	SE	SSE	SE	NNW	NNW	
3 Spd	2.0	4.2	4.0	4.1	3.7	3.6	4.3	5.9	10.9	14.2	15.3	12.9	12.5	12.9	14.9	13.8	9.9	7.7	7.6	6.8	3.6	3.2	1.6	0.7	7.10	15.26	
Dir	SE	SE	SE	SE	SE	SE	SSE	SSE	S	S	S	S	S	S	S	S	SSW	S	SSE	SSE	SSE	SSE	SSE	W	S	S	
4 Spd	2.3	2.0	1.1	0.4	0.8	1.4	0.2	2.1	1.3	3.6	4.3	8.9	14.0	13.9	16.5	18.4	13.9	6.3	0.4	0.1	0.1	0.1	0.1	0.1	3.11	18.40	
Dir	N	SE	N	S	SSE	NE	ESE	SE	SSE	SW	SW	WNW	WNW	NW	NW	NNW	N	NNE	NE	SE	SSE	ESE	SE	E	NW	NNW	
5 Spd	0.1	0.1	0.2	0.1	0.2	0.5	0.9	0.1	0.1	6.7	12.2	16.6	14.4	10.9	12.3	13.1	10.1	5.6	5.9	0.9	2.6	2.8	3.8	3.2	3.84	16.59	
Dir	NNE	N	N	WNW	NNW	W	WNW	WNW	SE	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	NE	SE	SSE	SE	SSE	SE	NNW	NNW	
6 Spd	0.8	2.3	1.1	2.6	1.9	2.8	5.7	14.6	20.4	23.2	31.8	32.6	31.2	30.4	27.5	19.7	21.3	16.2	3.8	5.3	0.5	0.1	0.9	0.8	11.58	32.65	
Dir	SE	NW	S	SSE	SW	WSW	NW	NNW	NNW	NNW	N	N	N	N	N	N	N	N	N	NNW	NW	W	ENE	SE	N	N	
7 Spd	0.1	0.1	0.2	0.6	0.3	0.1	0.1	0.5	0.3	0.8	3.0	8.2	6.4	5.4	2.6	0.4	1.3	0.2	1.4	3.1	5.2	10.0	6.7	6.8	1.17	9.99	
Dir	ESE	N	NE	SSE	SE	SE	SE	S	NE	W	NW	NNW	N	NW	WNW	WNW	S	ESE	ESE	SE	ESE	ENE	E	E	NE	ENE	
8 Spd	9.3	6.8	6.3	6.3	5.6	4.4	5.6	11.4	11.0	13.2	6.3	8.4	8.3	3.9	7.9	11.5	8.5	6.8	2.6	0.7	1.8	2.5	2.5	3.0	2.69	13.20	
Dir	E	E	ESE	SE	SE	ESE	SE	SSE	SSE	S	SSW	SW	SSW	SSW	N	N	N	NE	NE	ESE	SE	SSE	SE	SSE	SE	S	
9 Spd	4.8	3.1	3.9	1.3	4.3	2.6	0.6	1.5	2.8	7.1	7.7	5.9	10.5	12.7	12.2	13.6	13.2	8.9	4.2	4.7	6.3	8.7	7.3	5.7	5.97	13.60	
Dir	SSE	SSE	SE	SE	SE	E	NNW	SE	SSE	SSE	SSW	SSW	S	SSE	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	
10 Spd	5.5	6.5	4.9	4.0	5.4	3.5	2.0	1.9	0.6	1.2	5.6	11.3	14.5	12.1	13.5	13.7	14.6	10.8	4.9	4.4	3.5	2.2	7.1	7.0	5.40	14.57	
Dir	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	SSE	SSW	SSW	S	S	SSW	SSW	S	S	SSE	SSE	SE	SSE	W	WNW	NW	S	S	
11 Spd	0.5	0.6	13.2	16.1	6.7	4.9	5.5	7.3	3.5	9.1	11.0	14.8	15.4	21.7	18.1	12.0	11.6	8.0	1.7	1.0	3.0	3.7	6.0	3.4	7.34	21.75	
Dir	SSE	N	NNW	NW	NW	WSW	WNW	WSW	SSW	WSW	WSW	WNW	NW	NW	NW	WNW	NW	NW	WSW	WNW	NNW	NW	NW	NW	NW	NW	
12 Spd	1.2	1.6	6.2	7.0	6.3	3.6	6.1	4.1	7.9	15.2	12.5	22.1	23.3	23.4	19.9	18.4	13.5	6.5	0.7	2.9	3.8	0.4	0.1	2.4	7.59	23.37	
Dir	NW	NW	WNW	NW	WNW	WNW	WNW	W	WNW	NW	NW	NW	NW	NW	NW	NNW	NNW	N	SSE	SE	SE	SSE	SE	SE	NW	NW	
13 Spd	3.8	5.6	5.4	4.2	3.3	6.0	6.0	5.2	3.7	3.2	10.8	10.0	12.2	14.4	13.9	11.2	7.7	8.1	10.5	13.2	13.7	8.9	8.4	6.4	7.72	14.43	
Dir	SSE	SE	SE	SE	SE	SE	SE	SE	SE	S	SSW	S	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	S	S	SSW	SSE	S	
14 Spd	5.6	0.9	1.3	2.1	3.3	0.7	1.3	1.9	0.8	0.7	6.0	8.2	9.9	15.4	18.2	24.4	22.6	14.9	4.7	0.8	1.4	3.4	1.7	2.3	4.45	24.36	
Dir	SW	SSE	W	SE	SE	SE	SSE	SSE	SE	NW	NNW	NW	NNW	NNW	N	N	N	N	NNW	N	WNW	SE	SE	SE	N	N	
15 Spd	4.5	3.3	2.2	3.8	2.6	1.6	3.1	2.6	2.2	3.1	3.9	9.8	7.2	9.7	11.4	12.6	9.4	8.7	7.4	9.1	10.9	12.3	10.1	2.2	5.28	12.57	
Dir	SE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SE	SE	E	E	E	ENE	E	ENE	NE	NE	ENE	SSE	E	E	
16 Spd	0.1	0.1	0.1	0.1	0.1	2.4	2.5	1.7	5.6	9.1	11.0	12.5	15.9	16.1	13.6	14.4	10.2	6.1	4.2	3.2	4.6	4.8	4.1	5.9	5.97	16.14	
Dir	SE	S	S	SSE	SSE	SE	SE	SSE	SSE	SSE	SSE	SSE	S	S	S	S	SSE	SSE	SE	SE	SE	SE	SE	SSE	SSE	S	
17 Spd	7.6	7.1	8.5	6.6	7.9	7.7	7.5	6.4	6.7	10.7	13.9	14.2	15.3	18.9	19.5	14.0	12.2	5.6	6.0	6.1	7.8	4.7	3.1	0.5	8.77	19.52	
Dir	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	S	SSE	SSE	S	S	S	S	SSE	SE	SE	SSE	SSW	SSW	SSW	W	S	S	
18 Spd	2.1	1.6	6.3	6.0	5.0	2.9	3.1	2.9	3.2	3.5	7.9	13.9	15.9	13.6	11.5	8.8	5.9	3.0	0.9	4.0	4.5	3.0	4.3	5.3	0.88	15.94	
Dir	WNW	SE	SE	SE	SE	SE	SSE	SE	SE	SSE	W	WNW	NW	NW	WNW	NNW	NNE	N	N	SE	SE	SSE	SE	SE	WNW	NW	
19 Spd	6.0	6.9	5.2	3.5	4.6	4.8	4.8	5.5	6.1	9.5	6.1	8.1	12.0	10.8	7.3	10.2	6.6	7.9	8.3	9.4	8.4	5.3	5.0	3.9	6.80	12.05	
Dir	SE	SE	SSE	SSE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	S	S	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SSE	SE	SE	SSE	S	
20 Spd	5.2	4.1	3.4	5.1	4.8	6.1	5.7	4.5	3.7	0.3	0.7	2.3	6.3	4.0	7.5	9.9	7.8	4.5	2.2	1.0	1.1	1.9	3.4	3.4	2.31	9.91	
Dir	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	WSW	W	NNW	N	ENE	NE	ENE	ESE	E	NNW	SE	SE	NNW	SE	ESE	NE	
21 Spd	9.7	3.7	0.9	1.1	1.7	0.9	1.8	0.0	0.8	1.2	0.4	0.1	3.9	2.4	3.2	4.2	4.4	3.3	4.0	5.5	4.6	5.2	4.8	4.7	1.37	9.66	
Dir	NNW	NW	SE	WNW	SE	NNE	SSE	ESE	SE	SE	SSE	SSE	S	SW	WSW	SSW	S	SSE	SE	SE	SE	SE	SE	SE	SSE	NNW	
22 Spd	4.1	4.6	4.7	5.1	4.9	5.5	6.0	6.3	12.0	13.2	15.2	18.5	18.4	15.6	15.0	16.8	11.9	9.7	9.7	3.4	1.6	0.7	0.8	2.0	8.01	18.49	
Dir	SE	SE	SE	SE	SE	SE	SE	SSE	SSE	SSE	SSE	S	S	S	S	S	S	S	S	SSW	SSW	W	SSE	NE	SSE	S	S



WCAS - Breton
Summary of Hourly Averages

Wind Speed (WS) - kph
October 2014

Day	Hourly Period Ending At (MST)																								Daily Average	Daily Maximum
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
23 Spd	4.0	4.1	2.3	1.6	1.9	5.2	2.8	0.6	3.2	4.4	13.9	23.6	22.7	23.7	17.7	11.4	9.6	2.6	1.7	0.1	2.7	1.4	1.2	8.8	4.10	23.69
Dir	SSE	SE	SSE	SE	ESE	SSE	SE	SSW	S	SW	WSW	W	W	W	NW	NNW	N	N	N	SE	NW	SSW	N	NNW	W	W
24 Spd	7.7	7.2	11.5	1.5	0.5	0.2	2.3	2.0	1.9	1.5	9.9	11.9	14.9	16.5	11.7	19.8	18.3	9.3	2.1	3.9	1.9	1.1	3.6	1.8	5.44	19.84
Dir	NW	NNW	NW	NW	W	SSW	SW	SW	SSW	SE	W	WNW	WNW	NW	NW	NW	NW	WNW	WNW	NNW	SSE	SSE	SE	SE	NW	NW
25 Spd	2.2	3.3	4.7	5.5	4.5	6.2	5.8	5.5	6.1	5.7	11.2	16.7	14.7	17.1	14.9	14.8	13.9	13.9	14.3	11.0	9.4	7.9	7.6	12.1	9.27	17.06
Dir	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SSE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	ESE	E	SE	SE
26 Spd	14.0	15.7	10.6	5.9	10.2	9.8	11.8	8.6	9.1	12.6	13.0	17.1	18.1	14.1	9.7	12.0	14.1	12.2	16.9	21.8	19.3	16.1	15.8	16.3	11.57	21.82
Dir	ENE	ENE	E	NE	NNE	N	N	NNW	N	N	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	NW	NNW	NNW	NNW	NW	NNW	N	NNW
27 Spd	14.8	15.2	16.1	16.3	16.8	16.7	15.4	13.5	12.7	11.9	16.4	16.0	14.4	13.5	13.7	10.2	6.4	1.9	2.7	4.3	4.0	5.5	5.1	5.2	8.63	16.84
Dir	NW	NNW	NW	NNW	NW	NW	NNW	NNW	NNW	NNW	NNW	NNW	NNW	N	N	N	NNE	E	SE	SE	SE	SE	SE	SE	NNW	NW
28 Spd	5.3	5.1	4.8	6.1	5.6	7.5	9.3	11.1	14.6	12.5	14.7	17.1	16.2	12.4	14.2	9.9	7.0	6.6	5.4	6.6	4.4	2.4	3.3	0.5	7.60	17.05
Dir	SE	SE	SSE	SSE	SSE	SE	SSE	SSE	SSE	SSE	S	SSE	SSE	S	SSE	SSE	SE	E	ESE	E	E	E	NE	NNE	SSE	SSE
29 Spd	2.2	1.4	0.5	2.7	3.2	4.9	1.3	0.6	3.4	4.6	1.2	3.0	1.8	0.8	5.3	8.4	11.0	7.1	3.9	4.3	3.9	4.9	5.2	7.2	1.71	11.04
Dir	NW	NW	N	WNW	NNW	NW	NNW	SSW	NNW	NNW	ENE	S	SW	E	NNE	NE	NE	ENE	ESE	E	E	ESE	SE	SSE	ENE	ENE
30 Spd	5.2	6.6	8.2	6.4	6.1	10.0	12.9	12.8	19.7	16.9	18.4	17.3	19.7	22.3	21.2	20.8	21.3	21.8	19.2	21.7	27.3	27.0	19.5	16.6	16.46	27.27
Dir	SE	SSE	SSE	SSE	SE	SSE	SSE	SSE	S	S	S	SSE	SSE	SSE	SSE	SSE	S	S	S	S	S	S	SSE	SSE	SSE	S
31 Spd	14.7	12.6	7.7	4.8	6.1	5.4	1.1	5.9	5.4	6.5	6.5	10.6	11.1	8.3	8.4	6.5	7.6	6.9	7.9	9.2	6.1	1.6	3.6	4.4	4.04	14.73
Dir	S	S	SE	NNE	NNW	NNW	NW	NNW	NNW	NW	NW	NNW	NW	NW	NNW	WNW	NW	NNW	NNW	NNW	NNW	NNW	NW	NW	NW	S
Spd	0.83	1.22	0.92	0.57	0.59	0.77	0.84	1.05	1.40	1.67	3.16	3.71	3.70	3.40	2.51	2.76	2.17	1.23	1.42	1.53	1.99	1.83	1.08	0.79	Diurnal Average	
Dir	ESE	ESE	SE	ESE	ESE	SE	SSE	SSE	S	SW	WSW	W	W	WNW	NW	NNW	N	ENE	SE	SE	SSE	SE	ESE	SE	Diurnal Maximum	
Spd	24.10	19.03	16.09	16.33	17.88	16.66	17.36	15.21	20.37	23.24	31.75	32.65	31.21	30.36	27.48	29.65	22.56	21.84	19.16	21.82	27.27	26.98	24.96	26.81	Diurnal Maximum	
Dir	330.80	333.04	326.16	329.43	331.58	325.40	330.27	330.54	343.74	343.11	349.32	349.21	355.35	356.51	353.47	355.14	355.52	171.36	168.83	329.18	174.07	171.43	343.61	339.30	Diurnal Maximum	
Maximum Speed Value: 32.6 kph on Oct 6 12:00																		Minimum Speed Value: 0.0 kph on Oct 21 08:00						Hours in Service:		744
Maximum Daily Speed Average: 16.46 kph on Oct 30																		Minimum Daily Speed Average: 0.88 kph on Oct 7						Hours of Data:		744
Maximum Diurnal Speed Average: 3.71 kph at hour 12																		Minimum Diurnal Speed Average: 0.57 kph at hour 4						Hours of Missing Data:		0
Monthly Average Velocity: 0.323 kph 218.45 deg																		Speed Percentiles: P ₁ = 0.1 P ₁₀ = 0.9 Q ₁ = 3.0 Median = 6.0 Q ₃ = 12.2 P ₉₀ = 16.6 P ₉₉ = 27.1						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	23	26	26	13	5	0	93																			
NorthEast	9	11	3	0	0	0	23																			
East	16	16	4	0	0	0	36																			
SouthEast	163	90	13	0	0	0	266																			
South	32	29	59	13	0	0	133																			
SouthWest	15	7	3	0	0	0	25																			
West	21	7	5	3	0	0	36																			
NorthWest	32	31	52	17	0	0	132																			
Total	311	217	165	46	5	0	744																			



WCAS - Breton
Summary of Hourly Averages

Relative Humidity (RH) - %
October 2014

Maximum Value: 94.04 % on Oct 1 07:00 Maximum Daily Average: 87.61 % on Oct 31 Minimum Value: 17.6 % on Oct 10 15:00 Minimum Daily Average: 42.80 % on Oct 11 Maximum Diurnal Average: 81.18 % at hour 6 Minimum Diurnal Average: 43.90 % at hour 16 Monthly Average: 64.655 % Percentiles: P ₁ = 21.0 P ₁₀ = 33.8 Q ₁ = 46.8 Median = 69.1 Q ₃ = 82.9 P ₉₀ = 89.9 P ₉₉ = 93.0																								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	90.9	92.1	92.8	93.3	93.8	93.8	94.0	94.0	80.8	61.7	42.1	32.8	26.4	45.3	64.3	62.3	72.0	66.0	66.7	74.4	73.3	70.0	63.9	61.7	71.20	94.04
2-Oct	66.3	83.9	89.7	82.2	74.7	75.6	72.5	72.7	66.9	62.7	56.3	50.5	43.8	39.0	34.8	33.5	34.0	36.9	44.4	51.0	65.2	71.0	75.7	77.4	60.86	89.66
3-Oct	80.3	80.1	81.8	82.7	83.8	80.7	76.3	70.0	61.4	50.7	46.0	41.7	36.8	36.4	33.1	31.2	32.8	40.1	46.9	52.2	55.9	57.5	57.6	62.4	57.43	83.78
4-Oct	70.6	80.0	82.0	85.5	85.7	88.2	89.6	91.2	91.4	85.4	75.8	55.8	43.7	39.3	37.9	34.5	40.7	50.5	63.6	70.7	76.4	82.5	86.5	86.3	70.58	91.42
5-Oct	87.3	81.8	76.6	77.2	75.2	83.7	78.6	80.9	70.0	59.2	50.0	43.7	42.0	41.1	40.0	38.9	41.2	45.4	58.8	63.1	65.6	67.5	70.5	71.5	62.90	87.34
6-Oct	73.1	73.7	81.1	84.3	76.2	74.7	73.5	74.1	67.4	57.2	45.2	39.7	36.0	33.8	32.9	33.4	32.7	35.9	43.3	48.8	64.5	70.1	77.6	81.0	58.77	84.28
7-Oct	83.0	77.1	76.7	77.8	85.5	88.1	87.0	85.9	85.9	75.2	54.8	47.5	47.3	44.4	42.2	41.6	42.3	49.8	55.4	54.7	58.4	56.6	62.2	74.3	64.74	88.14
8-Oct	82.1	85.4	85.3	80.8	77.0	75.3	76.4	73.6	65.7	56.4	53.1	45.8	42.0	39.2	42.4	52.0	54.7	58.6	71.5	79.6	84.4	88.8	91.1	91.3	68.86	91.34
9-Oct	91.9	92.2	92.7	92.6	93.3	91.6	89.4	90.9	82.3	70.7	56.6	48.2	44.9	41.6	37.7	35.7	35.5	40.2	51.7	59.7	62.1	59.7	61.6	67.0	66.24	93.29
10-Oct	69.1	73.2	78.6	85.5	86.1	89.5	91.2	92.0	82.1	63.1	46.0	29.9	21.4	19.5	17.6	17.6	18.4	26.0	33.9	41.1	42.1	37.1	31.4	33.9	51.10	91.96
11-Oct	44.2	51.7	51.0	50.0	50.8	54.5	49.0	50.2	53.3	47.9	50.6	40.4	29.4	22.1	24.3	26.7	26.8	30.2	37.5	44.8	47.1	45.7	49.0	50.1	42.80	54.46
12-Oct	54.6	56.7	53.0	51.7	51.0	52.8	54.3	52.9	48.1	43.2	42.1	32.8	28.2	25.1	24.0	23.2	24.6	30.4	43.4	52.7	58.7	65.6	69.5	74.5	46.38	74.48
13-Oct	74.2	68.5	71.0	78.5	83.1	83.8	80.9	78.4	65.6	53.8	31.1	27.6	25.7	25.0	25.7	27.1	30.5	33.1	34.9	38.3	40.9	42.3	40.7	38.3	49.96	83.81
14-Oct	37.0	39.8	44.0	53.8	53.2	60.3	65.8	68.1	67.5	56.2	46.9	41.1	33.8	32.4	32.5	41.1	49.7	49.6	55.8	63.1	68.8	75.8	84.3	88.1	54.53	88.06
15-Oct	89.9	88.2	88.4	88.5	87.7	88.7	90.0	90.7	89.6	84.9	74.4	68.5	74.3	77.1	84.2	84.2	84.0	87.2	90.0	90.4	91.2	91.6	88.9	88.3	85.86	91.64
16-Oct	90.0	91.1	92.0	92.0	92.4	92.6	92.5	92.7	91.6	85.2	80.7	75.1	69.1	67.7	64.3	61.5	60.6	67.0	75.7	82.6	86.8	89.1	91.0	91.9	82.30	92.75
17-Oct	90.2	90.0	91.0	92.0	92.1	91.5	90.5	88.6	81.3	69.1	58.0	51.3	44.7	43.9	41.2	43.5	46.2	48.8	47.8	46.8	41.9	43.7	46.2	52.9	63.89	92.12
18-Oct	55.6	65.3	67.4	70.0	71.4	75.9	81.8	87.2	79.6	55.1	35.7	27.3	24.4	23.0	21.0	22.3	23.8	27.3	41.9	50.4	58.1	66.2	71.8	74.9	53.23	87.21
19-Oct	75.9	76.6	79.7	82.8	83.0	81.0	80.8	78.2	69.1	63.6	58.8	53.0	43.8	43.4	43.8	45.5	43.6	44.6	43.6	47.0	50.8	56.4	61.2	70.5	61.53	82.96
20-Oct	68.5	68.3	70.5	74.7	75.1	74.6	73.8	76.0	68.9	70.4	55.8	31.6	33.8	38.9	32.2	27.1	28.2	31.7	48.0	55.9	62.6	68.9	67.8	73.7	57.38	76.01
21-Oct	58.1	66.1	75.7	78.2	81.7	84.8	87.7	89.4	90.2	87.9	82.7	70.0	57.8	50.3	50.5	46.3	45.7	48.3	61.0	70.9	78.2	81.3	84.8	87.7	71.47	90.18
22-Oct	88.8	91.0	90.4	88.7	87.0	83.8	78.3	77.7	71.9	55.4	40.2	32.2	31.7	32.7	32.4	26.6	26.6	31.7	34.1	36.9	41.3	43.6	52.4	64.5	55.82	90.97
23-Oct	69.2	72.1	74.0	77.4	79.3	83.4	86.3	86.5	71.3	55.3	38.1	27.9	23.8	18.6	19.1	23.3	23.2	29.0	35.5	51.1	57.9	59.2	55.6	46.3	52.65	86.46
24-Oct	50.0	53.5	61.0	70.3	74.9	75.6	71.7	75.1	77.6	69.0	59.1	47.8	37.1	31.1	28.7	21.9	20.8	23.6	27.8	31.7	42.6	46.5	56.3	59.8	50.56	77.59
25-Oct	65.4	68.5	71.1	70.7	74.9	78.9	79.0	77.8	77.0	71.8	56.0	46.6	46.3	39.9	39.5	37.8	39.3	43.1	45.2	44.7	46.9	50.8	55.3	62.0	57.86	79.04
26-Oct	66.9	68.8	69.0	69.6	70.9	71.4	71.3	73.0	76.1	77.9	79.2	79.6	80.5	89.4	93.2	90.1	84.8	84.0	85.2	82.0	81.6	82.0	81.7	79.3	78.64	93.21
27-Oct	80.9	78.9	77.8	76.8	78.8	82.9	83.7	81.5	79.1	76.5	70.3	65.5	62.3	60.5	57.7	55.8	56.2	66.7	75.9	78.7	82.4	85.1	87.7	88.2	74.58	88.16
28-Oct	84.8	84.2	85.9	85.1	88.5	88.5	86.1	84.8	84.3	78.5	70.3	60.5	53.3	56.7	57.7	53.5	54.6	67.5	71.3	73.7	76.1	80.1	87.1	88.8	75.08	88.81
29-Oct	86.6	86.3	86.4	88.1	88.8	90.4	92.0	92.0	92.2	92.2	90.6	86.9	83.5	75.2	69.9	64.4	71.8	81.1	86.6	87.9	87.7	86.3	85.3	87.6	85.00	92.22
30-Oct	87.6	88.2	89.9	90.4	91.2	91.9	92.9	93.3	92.3	91.4	87.2	81.0	75.2	75.5	70.5	71.0	77.8	81.0	81.8	82.6	84.5	85.0	83.6	82.1	84.49	93.34
31-Oct	79.3	77.6	77.6	77.6	83.6	88.0	90.8	92.7	93.7	93.7	93.1	91.6	91.1	89.7	88.9	87.1	86.3	87.6	88.3	89.0	86.8	87.8	90.7	90.0	87.61	93.71
73.95 75.84 77.54 78.99 79.71 81.18 80.90 81.04 76.58 68.42 58.93 50.77 46.26 45.09 44.66 43.90 45.47 49.77 56.37 61.18 65.19 67.54 69.97 72.47																								Diurnal Average		
91.86 92.19 92.83 93.34 93.80 93.84 94.04 94.00 93.71 93.71 93.14 91.61 91.15 89.74 93.21 90.07 86.29 87.60 90.04 90.36 91.20 91.64 91.09 91.94																								Diurnal Maximum		



WCAS - Breton
Summary of Hourly Standard Deviations

Wind Speed (WS) - kph
October 2014

Maximum Value: 9.18 kph on Oct 1 14:00		Maximum Daily Average: 4.73 kph on Oct 30		Hours in Service: 744																							
Minimum Value: 0.0 kph on Oct 5 00:00		Minimum Daily Average: 1.47 kph on Oct 7		Hours of Data: 744																							
Maximum Diurnal Average: 4.31 kph at hour 14		Minimum Diurnal Average: 1.61 kph at hour 5		Hours of Missing Data: 0																							
Monthly Average: 2.658 kph		Percentiles: P ₁ = 0.0 P ₁₀ = 1.1 Q ₁ = 1.5 Median = 2.2 Q ₃ = 3.5 P ₉₀ = 4.9 P ₉₉ = 7.0		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	0.0	0.0	0.0	1.3	1.2	1.6	1.2	1.0	1.7	1.9	3.7	4.3	4.7	9.2	7.2	6.8	5.5	5.2	4.7	4.8	3.7	6.4	6.6	6.8	3.73	9.18	
2-Oct	5.7	5.2	2.9	3.6	4.3	3.6	4.4	3.8	5.8	5.3	5.7	6.3	6.4	5.5	5.7	5.9	4.6	3.8	1.9	1.6	0.7	1.5	1.3	0.8	4.01	6.43	
3-Oct	2.1	1.2	1.3	1.3	1.0	0.9	1.4	2.2	3.4	3.6	3.0	2.8	2.7	2.9	3.1	3.4	2.6	1.2	2.6	2.2	1.9	1.2	1.5	1.3	2.12	3.61	
4-Oct	2.7	1.6	2.2	1.0	1.2	2.2	1.4	2.1	1.6	1.4	1.7	4.1	4.3	5.8	4.7	6.2	2.9	3.3	1.4	0.0	0.3	0.0	0.0	0.0	2.18	6.20	
5-Oct	0.0	0.0	0.0	0.0	0.2	1.0	1.1	0.0	0.0	3.6	3.3	3.9	3.8	3.6	3.2	3.7	2.4	1.8	3.0	1.3	1.6	1.3	1.7	1.4	1.76	3.95	
6-Oct	1.5	2.9	2.0	1.8	1.4	1.7	3.7	8.1	5.3	6.3	7.6	7.3	6.9	7.7	6.8	5.6	4.4	4.5	3.0	2.3	0.9	0.4	1.7	1.2	3.96	8.14	
7-Oct	0.5	0.3	0.4	1.4	0.5	0.0	0.4	1.0	0.8	1.3	2.7	2.1	2.0	1.7	2.2	1.1	1.7	0.0	1.9	1.2	2.5	1.7	5.0	2.9	1.47	4.96	
8-Oct	2.9	4.5	2.5	2.6	2.2	1.7	2.5	3.1	3.3	3.4	2.8	2.9	3.0	3.8	3.7	2.1	2.1	1.8	1.5	1.3	1.2	1.6	1.8	1.7	2.51	4.50	
9-Oct	2.1	1.9	1.7	1.8	1.3	2.5	2.8	2.0	1.5	2.4	3.5	3.5	3.3	3.9	3.9	3.0	2.8	2.7	1.7	1.5	1.6	1.8	2.2	1.4	2.38	3.92	
10-Oct	1.3	1.8	1.7	2.4	1.3	1.2	1.8	1.5	1.2	1.6	3.1	2.8	3.8	3.8	4.0	3.1	3.3	3.2	1.4	1.9	1.5	2.2	2.3	1.9	2.25	4.01	
11-Oct	1.3	1.6	4.8	6.7	3.4	3.1	2.6	3.5	2.3	6.1	4.0	4.6	4.7	5.6	7.0	4.9	4.4	3.6	1.3	1.4	1.8	1.7	2.1	1.1	3.48	6.96	
12-Oct	1.6	2.1	2.4	1.7	1.3	2.2	2.0	2.1	4.2	3.8	3.5	6.3	6.8	6.5	5.6	5.2	3.9	2.8	1.5	1.8	1.7	1.0	0.1	2.0	3.00	6.80	
13-Oct	1.8	1.3	1.0	1.2	1.1	1.1	1.2	1.1	1.2	2.5	3.0	2.7	3.6	3.6	3.0	3.7	3.6	2.7	3.4	3.5	4.0	2.7	2.6	2.5	2.42	3.99	
14-Oct	2.5	2.0	2.1	2.3	2.0	1.5	1.6	1.6	1.5	2.4	3.1	2.4	2.9	3.8	4.8	5.3	5.5	4.3	1.9	1.6	2.1	2.0	1.9	2.5	2.64	5.51	
15-Oct	1.7	1.9	2.1	1.8	1.3	1.8	1.1	1.5	1.7	1.8	1.9	3.5	3.3	4.1	3.7	3.7	3.2	1.7	1.8	2.3	1.9	2.7	3.9	2.4	2.35	4.12	
16-Oct	0.0	0.2	0.0	0.0	0.0	1.2	1.3	1.5	2.3	2.9	3.2	3.4	4.5	4.0	3.2	4.0	3.7	1.8	1.0	1.8	1.2	1.3	0.9	2.2	1.91	4.50	
17-Oct	1.5	1.7	1.6	1.8	1.7	1.8	2.1	2.0	1.7	3.3	2.8	3.4	4.6	4.8	4.8	4.1	4.0	1.7	1.8	1.7	2.4	1.4	2.0	1.6	2.51	4.82	
18-Oct	2.1	1.7	1.4	1.4	1.9	1.7	1.9	2.2	1.4	1.3	4.8	3.7	3.5	3.8	3.9	2.6	2.0	1.1	1.3	2.8	1.8	2.0	1.8	1.4	2.23	4.77	
19-Oct	1.4	1.6	1.2	1.6	1.1	1.0	1.5	2.1	2.0	2.9	3.2	3.1	2.6	3.2	2.6	3.7	3.2	2.5	3.1	4.1	1.8	2.0	1.6	1.6	2.27	4.07	
20-Oct	1.8	1.7	1.8	1.9	1.3	1.3	2.0	0.8	1.7	1.3	1.4	1.9	2.3	2.5	1.8	2.2	2.1	1.6	1.7	4.0	2.1	1.1	4.7	2.9	2.00	4.68	
21-Oct	6.3	1.9	1.8	2.3	2.1	2.6	2.0	0.1	1.6	1.3	1.0	1.2	1.9	1.4	1.4	1.8	1.4	0.9	0.9	1.3	1.2	0.9	0.8	1.2	1.64	6.30	
22-Oct	1.2	1.3	1.2	1.1	1.1	0.9	1.4	2.1	3.7	4.5	6.7	4.5	4.2	3.8	3.3	3.8	3.7	2.1	3.2	2.5	2.0	2.3	1.9	2.2	2.70	6.71	
23-Oct	1.3	2.0	2.1	1.9	2.2	1.1	2.0	1.9	3.0	2.4	5.9	7.7	6.6	6.1	6.5	3.1	1.5	3.1	2.6	0.0	2.5	1.9	2.7	2.7	3.03	7.75	
24-Oct	4.5	3.3	4.8	2.1	0.8	0.6	1.1	1.2	1.9	2.4	3.3	3.9	5.0	4.9	3.4	4.9	6.2	3.4	2.3	2.3	2.0	1.6	0.9	1.3	2.85	6.16	
25-Oct	1.4	0.8	1.2	1.2	1.1	1.4	1.5	1.5	1.7	1.5	5.1	5.5	5.8	6.4	6.1	5.8	5.7	5.5	5.4	4.9	3.6	3.4	2.7	2.0	3.38	6.40	
26-Oct	2.9	2.4	4.8	2.2	2.3	2.0	2.2	1.5	1.8	3.1	3.0	3.5	4.0	3.2	1.8	2.8	2.9	2.6	4.3	4.4	4.3	3.6	3.4	4.6	3.07	4.79	
27-Oct	3.1	3.1	3.6	3.7	3.9	3.3	3.3	2.8	2.5	4.5	3.5	3.8	3.1	2.8	3.3	4.1	1.4	1.4	1.3	1.0	1.5	1.3	0.8	1.1	2.68	4.48	
28-Oct	1.2	1.1	1.7	1.5	1.4	1.9	2.4	2.7	2.9	3.2	3.4	4.6	4.5	4.0	3.8	3.7	3.0	2.0	2.3	2.3	2.3	2.2	4.1	1.5	2.65	4.63	
29-Oct	1.9	2.0	1.2	2.3	1.4	2.2	2.4	1.5	2.3	1.3	2.7	2.7	2.6	1.8	2.9	2.3	1.9	3.1	1.9	2.7	1.9	1.9	1.7	1.8	2.10	3.10	
30-Oct	1.7	1.5	2.4	3.1	1.7	2.7	2.4	3.6	3.4	3.7	4.6	5.2	6.7	6.7	6.9	7.0	6.9	6.1	5.5	8.7	6.3	6.5	4.8	5.1	4.73	8.73	
31-Oct	4.1	4.3	2.8	2.5	1.9	3.1	1.9	2.2	1.6	1.9	2.3	4.2	2.6	3.0	3.7	1.8	1.8	1.8	1.6	1.7	1.9	1.8	0.8	2.4	2.41	4.26	
		2.07	1.90	1.97	1.98	1.61	1.78	1.95	2.08	2.29	2.86	3.53	3.93	4.09	4.31	4.13	3.92	3.37	2.69	2.35	2.42	2.13	2.04	2.28	2.11	Diurnal Average	
		6.30	5.21	4.79	6.67	4.35	3.64	4.44	8.14	5.84	6.30	7.62	7.75	6.86	9.18	7.17	7.03	6.91	6.11	5.48	8.73	6.27	6.51	6.60	6.77	Diurnal Maximum	
,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m^3 24-hr 100 ul/m^3																											



WCAS - Breton
Summary of Hourly Standard Deviations

Wind Direction (WD) - deg
October 2014

Maximum Value: 101.52 deg on Oct 22 22:00		Maximum Daily Average: 51.38 deg on Oct 4		Hours in Service: 744																							
Minimum Value: 8.1 deg on Oct 22 06:00		Minimum Daily Average: 12.47 deg on Oct 26		Hours of Data: 744																							
Maximum Diurnal Average: 38.44 deg at hour 2		Minimum Diurnal Average: 17.27 deg at hour 17		Hours of Missing Data: 0																							
Monthly Average: 28.420 deg		Percentiles: P ₁ = 9.5 P ₁₀ = 11.9 Q ₁ = 14.3 Median = 18.7 Q ₃ = 33.1 P ₉₀ = 69.1 P ₉₉ = 95.6		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	33.2	50.5	35.2	35.1	63.5	33.0	22.2	14.6	22.2	20.3	26.7	27.6	30.2	23.4	23.1	19.3	24.5	22.3	19.4	14.7	13.9	14.9	12.4	14.9	25.72	63.53	
2-Oct	12.2	11.7	12.7	12.2	11.7	11.9	11.2	11.8	13.4	14.3	14.1	14.0	18.1	17.3	19.3	18.1	16.1	17.4	11.1	10.9	91.4	54.1	16.6	12.8	18.94	91.40	
3-Oct	28.1	19.5	16.2	13.4	13.1	14.4	20.2	15.7	13.1	13.5	13.5	16.6	15.5	13.0	14.4	15.2	16.6	14.1	17.2	18.9	16.6	21.0	20.5	74.1	18.93	74.14	
4-Oct	73.3	69.6	85.5	65.1	46.3	85.0	94.5	78.0	48.8	21.2	22.4	28.0	18.0	19.1	15.9	20.9	17.6	17.3	88.8	73.8	85.8	59.7	69.8	28.3	51.38	94.53	
5-Oct	50.3	51.7	22.0	50.7	35.7	58.4	25.1	62.4	47.4	23.1	17.2	15.9	22.3	28.6	15.8	17.1	12.9	26.0	20.7	57.1	35.1	22.8	19.8	20.1	31.60	62.40	
6-Oct	91.7	71.5	82.6	39.1	35.7	21.5	34.0	16.5	12.8	13.6	17.5	15.8	22.1	20.8	17.6	15.9	18.6	18.2	22.1	46.6	91.8	97.0	75.6	42.3	39.20	96.98	
7-Oct	68.7	80.4	54.4	90.4	21.7	16.5	47.0	42.5	77.3	58.6	34.6	19.0	17.1	25.2	56.3	76.1	32.6	34.7	28.8	23.0	19.5	15.9	43.6	21.1	41.88	90.35	
8-Oct	14.6	48.5	23.6	21.2	22.3	18.1	20.9	13.1	13.4	18.7	28.4	28.2	22.8	71.5	14.9	15.9	9.8	17.7	65.4	77.7	39.1	29.9	26.3	23.6	28.56	77.67	
9-Oct	15.7	21.5	27.1	40.4	13.6	74.6	99.0	78.6	19.8	12.0	40.8	43.9	22.1	21.1	21.7	17.1	13.0	12.7	16.2	16.3	16.0	12.2	13.6	13.0	28.41	99.00	
10-Oct	14.0	13.4	14.5	17.9	11.9	15.1	49.7	55.9	45.0	60.8	31.9	17.4	19.8	24.6	21.0	15.9	15.9	10.4	16.3	23.0	26.5	61.7	21.9	12.4	25.70	61.70	
11-Oct	78.6	76.7	11.0	13.7	29.4	46.0	48.6	39.4	27.3	29.3	23.9	17.9	22.0	16.7	24.9	23.6	13.8	15.0	36.5	93.5	28.3	25.9	23.3	28.9	33.09	93.55	
12-Oct	43.8	81.3	20.4	11.6	10.8	22.2	19.1	31.2	19.3	12.7	14.6	16.5	18.6	17.4	16.4	16.6	18.9	15.4	86.8	14.9	22.1	74.3	69.0	30.7	29.36	86.75	
13-Oct	24.4	11.4	10.5	13.0	20.0	9.9	11.5	14.7	17.9	30.6	14.5	20.2	17.3	17.2	14.1	20.0	20.9	18.4	17.6	12.7	12.2	16.8	19.2	26.6	17.15	30.58	
14-Oct	22.8	82.5	81.0	45.9	34.3	88.7	43.6	73.2	75.7	100.2	36.0	14.6	21.4	17.6	16.0	19.1	18.1	13.0	29.4	86.1	86.6	25.2	30.5	69.3	47.12	100.19	
15-Oct	28.0	16.4	43.3	23.3	22.7	32.3	30.9	19.4	26.7	25.3	28.3	18.2	23.1	22.5	16.5	14.8	14.4	11.1	10.7	13.0	10.1	9.1	27.0	72.6	23.32	72.61	
16-Oct	55.8	42.3	50.3	65.4	43.7	16.9	36.8	27.7	15.4	17.0	14.9	17.3	13.8	14.3	18.1	17.3	21.3	13.7	15.3	29.9	15.4	14.9	13.4	15.0	25.24	65.38	
17-Oct	9.0	11.0	10.4	12.7	11.7	13.1	15.5	21.8	15.6	13.0	14.0	11.9	16.2	14.6	14.7	15.0	14.6	14.2	13.9	17.8	14.4	19.1	20.1	100.3	18.10	100.27	
18-Oct	55.5	84.1	10.6	11.0	19.1	21.0	42.0	43.2	23.2	24.6	42.6	17.9	17.7	20.2	23.5	22.5	20.4	13.0	73.2	11.9	36.7	51.6	19.6	12.5	29.89	84.14	
19-Oct	17.2	16.3	11.1	24.1	14.8	13.2	17.4	18.1	25.0	21.8	22.1	17.0	11.9	13.7	18.5	15.3	21.8	13.4	16.2	13.9	9.7	17.1	17.9	13.2	16.68	24.95	
20-Oct	15.2	18.5	34.4	19.3	9.9	11.6	11.3	13.7	15.7	80.5	92.5	40.1	12.5	30.6	15.2	12.4	24.0	18.7	69.6	98.5	76.8	41.8	72.5	47.1	36.77	98.47	
21-Oct	55.6	68.2	99.2	77.9	57.7	73.8	59.8	93.8	67.5	67.6	85.4	86.0	33.0	51.5	33.2	33.2	14.4	17.5	13.8	12.4	12.1	8.8	11.0	14.5	47.83	99.21	
22-Oct	12.2	16.6	14.3	10.2	13.4	8.1	11.7	17.7	17.2	14.1	22.2	14.8	13.1	14.0	13.6	13.8	13.3	10.6	17.5	58.2	69.5	101.5	95.5	47.8	26.71	101.52	
23-Oct	26.5	30.9	58.1	64.4	31.6	16.8	38.1	82.6	79.3	40.0	19.7	17.0	16.2	16.6	19.1	23.2	10.8	42.1	42.3	54.8	57.6	60.2	73.4	18.1	39.14	82.57	
24-Oct	29.6	27.8	21.8	56.5	47.9	45.6	22.1	29.9	48.7	75.9	21.0	21.8	21.6	20.3	16.1	14.2	14.8	11.5	47.3	36.5	34.7	24.0	13.4	18.3	30.07	75.93	
25-Oct	15.3	16.1	12.0	12.3	11.6	11.9	12.6	15.7	14.1	14.1	17.6	18.4	20.6	20.0	21.7	20.4	22.5	21.1	18.7	21.4	19.6	21.3	20.5	8.4	16.99	22.53	
26-Oct	12.8	11.9	19.5	18.0	15.6	11.7	15.2	13.4	11.9	12.7	15.6	12.1	11.0	11.3	10.7	11.1	10.1	10.6	10.4	10.4	10.2	10.4	10.9	11.8	12.47	19.45	
27-Oct	10.7	10.5	10.9	11.2	11.4	10.3	10.6	9.9	9.8	13.8	12.5	12.8	16.3	16.3	15.2	15.7	16.5	51.1	35.7	16.1	20.0	11.9	8.5	11.1	15.36	51.08	
28-Oct	11.7	12.4	15.7	16.1	14.1	14.4	15.7	12.7	9.5	10.6	15.5	13.1	15.7	14.7	12.7	21.3	30.5	16.5	38.3	19.5	20.5	29.8	67.3	83.0	22.15	83.04	
29-Oct	56.8	86.8	62.4	71.6	42.4	28.5	90.8	81.9	45.4	26.0	90.3	81.2	74.7	78.4	33.5	19.5	10.1	33.5	29.3	21.1	28.3	22.2	17.5	13.9	47.75	90.78	
30-Oct	18.3	15.3	14.7	16.9	13.9	12.0	8.6	13.0	9.6	12.9	12.0	16.5	16.5	14.4	15.5	16.7	14.3	13.9	14.3	15.7	12.4	10.7	12.5	12.5	13.88	18.30	
31-Oct	12.7	16.0	17.7	48.3	23.1	42.9	55.3	12.5	11.4	15.5	19.8	17.7	12.5	15.9	18.3	15.5	12.5	17.1	10.3	10.3	15.3	61.4	19.6	18.0	21.64	61.42	
		32.71	38.44	32.35	33.19	24.99	29.01	33.57	34.67	29.01	29.50	28.46	23.53	20.44	23.32	19.59	19.76	17.27	18.79	30.74	33.24	33.81	33.79	31.69	30.20	Diurnal Average	
		91.66	86.77	99.21	90.35	63.53	88.71	99.00	93.76	79.29	100.19	92.51	85.97	74.72	78.37	56.33	76.15	32.57	51.08	88.79	98.47	91.80	101.52	95.46	100.27	Diurnal Maximum	
		,Alberta Ambient Air Quality Objectives (AAAQO): 1-hr --- ul/m ³ 24-hr 100 ul/m ³																									

**BRETON
BIO-MONITORING STATION**

PASSIVE MONITORING DATA

2014

Breton Agricultural Plot - Passive Monitoring - Summer 2014 - SO2 concentration in ppb.

Sampling period	Concentration			
	Sample #1	Sample #2	Average	Standard deviation
05/23/2014 - 08/05/2014	0.4	0.3	0.4	0.07
08/05/2014 - 09/01/2014	0.3	Missing	0.3	
09/01/2014 - 09/30/2014	0.9	Missing	0.9	

Breton Agricultural Plot - Passive Monitoring - Summer 2014 - NO2 concentration in ppb.

Sampling period	Concentration			
	Sample #1	Sample #2	Average	Standard deviation
05/23/2014 - 08/05/2014	0.6	0.5	0.6	0.07
08/05/2014 - 09/01/2014	1.1	Missing	1.1	
09/01/2014 - 09/30/2014	0.7	Missing	0.7	

Breton Agricultural Plot - Passive Monitoring - Summer 2014 - O3 concentration in ppb.

Sampling period	Concentration			
	Sample #1	Sample #2	Average	Standard deviation
05/23/2014 - 08/05/2014	22.4	23.3	22.9	0.64
08/05/2014 - 09/01/2014	17.7	Missing	17.7	
09/01/2014 - 09/30/2014	21.0	Missing	21.0	

WEST CENTRAL AIRSHED SOCIETY

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

**END OF REPORT
OCTOBER 2014**