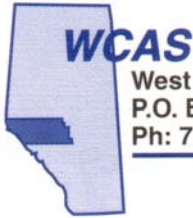




Epcor
Continuous Ambient Air Quality
Monitoring Program
Annual Summary for 2008

Prepared by:

West Central Airshed Society
Drayton Valley, Alberta



West Central Airshed Society
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February 20th, 2009

EPCOR
Mr. Ben Borys
10065 Jasper Avenue
Edmonton, Alberta
T5J 3B1

Dear Mr. Borys:

**Re: Annual Ambient Air Quality Monitoring Report. January – December 2008.
For EPCOR**

The West Central Airshed Society (WCAS) presents the 2008 Annual Report containing ambient air quality and meteorological information from the following site:

Network Station is AMS 910 Genesee
Identified as:

WCAS data collection and validation began March 1, 2004. The following is a list of the reported ambient air and meteorological parameters measured at the site location:

AMS 910 (Genesee)

SO₂, NO/ NO₂/ NO_x, Particulate Matter (2.5 microns), Wind Speed and Direction, Relative Humidity, External Temperature (10m and 2m), Delta Temperature, (2m – 10m), Global Solar Radiation, and Precipitation.

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

Sincerely,

Patrick Andersen
Environmental Specialist

West Central Airshed Society - Genesee (AMS 910)
 Annual Summary for 2008
 Percentage Frequency Distribution of Wind

Speed (kph)							
Direction	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	Totals
North	1.61	3.80	4.50	2.18	0.38	0.01	12.51
NorthEast	1.55	2.52	1.11	0.27	-	-	5.50
East	2.30	5.55	1.30	0.10	-	-	9.27
SouthEast	1.99	5.05	3.32	0.40	0.06	-	10.85
South	2.04	2.82	1.88	0.91	0.34	0.03	8.07
SouthWest	2.26	3.52	1.19	0.13	0.01	-	7.12
West	2.08	9.01	10.07	0.77	0.03	-	21.98
NorthWest	1.42	4.84	10.39	5.37	2.14	0.53	24.69
Totals	15.25	37.12	33.77	10.13	2.96	0.57	99.80

Percent Calm	0.20
Number of Data Values	8756
Hours in Time Period	8784

West Central Airshed Society - Genesee (AMS 910)
 Annual Summary for 2008
 SO2 (ppm)

Month	Number of Data	Operational Time (%)	Mean	Maximum 1-Hour Value	Number 1-Hour Violations	Maximum 24-Hour Value	Number 24-Hour Violations	Percent of Data in each Concentration Range					
								<=0.02	>0.02-0.06	>0.06-0.11	>0.11-0.17	>0.17-0.34	>0.34
January	710	100.0	1.7	17.6	0	4.0	0	100.0	-	-	-	-	-
February	661	99.6	1.8	13.6	0	4.7	0	100.0	-	-	-	-	-
March	710	100.0	1.4	36.8	0	7.5	0	99.6	0.4	-	-	-	-
April	686	100.0	1.1	31.8	0	6.5	0	99.3	0.7	-	-	-	-
May	709	100.0	1.3	33.2	0	5.8	0	99.6	0.4	-	-	-	-
June	687	100.0	1.3	23.9	0	5.0	0	99.7	0.3	-	-	-	-
July	710	100.0	1.5	42.8	0	6.9	0	99.2	0.9	-	-	-	-
August	701	99.6	1.3	24.8	0	5.1	0	99.9	0.1	-	-	-	-
September	669	97.5	1.0	27.2	0	3.8	0	99.6	0.5	-	-	-	-
October	710	100.0	1.5	78.3	0	14.0	0	98.6	1.3	0.1	-	-	-
November	685	99.7	1.0	19.6	0	3.3	0	100.0	-	-	-	-	-
December	709	100.0	0.3	6.9	0	2.9	0	100.0	-	-	-	-	-
Annual	8336	99.7	1.3	78.3	0	14.0	0	99.6	0.4	0.0	-	-	-

West Central Airshed Society - Genesee (AMS 910)
 Annual Summary for 2008
 O3 (ppm)

Month	Number of Data	Operational Time (%)	Mean	Maximum 1-Hour Value	Number 1-Hour Violations	Maximum 24-Hour Value
January	709	100.0	19.7	38.7	0	29.2
February	646	97.4	27.0	57.8	0	41.4
March	710	100.0	33.1	62.8	0	46.4
April	687	100.0	33.1	59.8	0	47.5
May	709	100.0	34.0	69.8	0	54.9
June	686	100.0	29.9	64.4	0	43.5
July	709	100.0	27.0	56.1	0	39.0
August	701	99.6	26.2	70.0	0	45.5
September	669	97.5	22.4	50.9	0	33.7
October	711	100.0	26.4	61.9	0	37.3
November	685	99.7	17.1	39.9	0	30.1
December	709	100.0	18.6	40.7	0	35.3
Annual	8320	99.5	26.2	70.3	0	54.9

West Central Airshed Society - Genesee (AMS 910)
 Annual Summary for 2008
 NO2 (ppm)

Month	Number of Data	Operational Time (%)	Mean	Maximum 1-Hour Value	Number 1-Hour Violations	Maximum 24-Hour Value	Number 24-Hour Violations	Percent of Data in each Concentration Range			
								<=0.05	>0.05-0.11	>0.11-0.21	>0.21
January	709	100.0	7.1	32.1	0	18.6	0	100.0	-	-	-
February	659	99.6	9.1	34.8	0	23.0	0	100.0	-	-	-
March	710	100.0	4.1	29.1	0	11.2	0	100.0	-	-	-
April	685	100.0	2.6	22.3	0	9.2	0	100.0	-	-	-
May	709	100.0	3.2	23.8	0	7.5	0	100.0	-	-	-
June	685	100.0	2.3	28.4	0	6.7	0	100.0	-	-	-
July	709	100.0	1.7	23.0	0	5.2	0	100.0	-	-	-
August	699	99.6	2.9	17.1	0	6.9	0	100.0	-	-	-
September	669	97.5	2.2	17.7	0	3.9	0	100.0	-	-	-
October	708	100.0	3.7	37.4	0	15.2	0	100.0	-	-	-
November	683	99.7	4.9	27.3	0	10.1	0	100.0	-	-	-
December	709	100.0	3.4	22.0	0	11.4	0	100.0	-	-	-
Annual	8323	99.7	3.9	37.4	0	23.0	0	100.0	-	-	-

West Central Airshed Society - Genesee (AMS 910)
 Annual Summary for 2008
 PM2.5 ($\mu\text{g}/\text{m}^3$)

Month	Number of Data	Operational Time (%)	Mean	Maximum 1-Hour Value	Number 1-Hour Violations	Maximum 24-Hour Value	Number 24-Hour Violations
January	741	6.6	100.0	37.8	0	27.5	0
February	684	5.3	98.1	81.0	0	22.4	0
March	740	3.2	99.9	16.0	0	12.4	0
April	715	3.5	99.2	15.8	0	8.5	0
May	732	5.7	99.9	25.7	0	13.8	0
June	711	3.8	98.6	19.5	0	9.2	0
July	741	3.8	100.0	52.6	0	13.5	0
August	732	4.3	99.1	39.5	0	13.8	0
September	698	2.9	97.5	16.3	0	7.0	0
October	737	3.7	98.9	34.2	0	10.9	0
November	719	2.9	99.7	50.7	0	7.3	0
December	740	3.6	100.0	17.0	0	8.4	0
Annual	8679	4.1	99.3	81.0	0	27.5	0

Summary Report

Continuous air quality/meteorological monitoring measurements

West Central Airshed Society

**EPCOR / Genesee
Station 910**

January to December 2008

Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Total	Min	Max	Percentile				
								P10	Q1	Median	Q3	P90
SO ₂ (ppb)	424	8335	99.7	1.2	-	0.0	78.3	0.5	0.7	1.1	1.5	2.1
O ₃ (ppb)	424	8319	99.5	26.2	-	0.0	70.0	5.4	14.2	21.9	27.6	30.8
NO (ppb)	436	8323	99.7	1.3	-	0.0	122.8	0.6	0.7	0.9	1.6	4.3
NO ₂ (ppb)	436	8323	99.7	4.0	-	0.0	37.4	2.5	3.8	5.6	9.9	14.4
NO _x (ppb)	436	8323	99.7	5.2	-	0.0	123.1	3.5	4.9	7.0	12.1	18.4
Particulate Matter 2.5 microns (μ/m ³)	40	8661	99.1	4.1	-	0.0	52.6	0.4	1.6	3.2	5.8	11.0
Wind Speed (kph)	0	8757	99.7	12.3	-	0.0	56.7	4.0	6.4	10.4	14.3	18.5
Temperature - 2m (°C)	0	8757	99.7	4.2	-	-37.0	33.8	-17.8	-14.7	-8.9	-3.7	-1.0
Temperature - 10m (°C)	0	8757	99.7	3.8	-	-39.0	34.4	-18.1	-15.1	-10.2	-4.8	-2.1
Delta Temperature (°C)	0	8757	99.7	-0.5	-	-9.5	3.8	-2.3	-1.5	-0.6	-0.1	0.2
Relative Humidity (%)	0	8757	99.7	67.2	-	1.9	96.8	60.9	67.4	77.1	83.7	87.7
Global Solar Radiation (W/m ²)	0	8757	99.7	147.0	-	-2.0	945.5	0.0	0.0	0.0	36.8	131.2
Precipitation (mm)	12	8745	99.7	-	41.832	0.0	5.5	0.0	0.0	0.0	0.0	0.0
Std Dev Wind Direction (deg)	0	8757	99.7	18.5	-	1.8	102.8	5.4	7.5	10.9	17.1	32.9
Std Dev Wind Speed (kph)	0	8757	99.7	2.9	-	0.0	15.0	1.0	1.4	2.0	2.8	4.0