

**Quarterly Ambient Air Quality
Monitoring Report for the Durham
York Energy Centre – January to
March 2014**

Durham York Energy Centre



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Sign-off Sheet

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QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

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QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Executive Summary

The Regional Municipalities of Durham and York are constructing the Durham York Energy Centre (DYEC) which is an Energy from Waste (EFW) Facility intended to provide a long-term, sustainable solution to manage municipal solid waste remaining after diversion from the Regions.

The Ambient Air Quality Monitoring Plan - Durham York Residual Waste Study (Stantec, May 8, 2012), was developed based on the Regional Council's mandate to provide ambient air quality monitoring in the area of the DYEC for a three year period. An ambient air quality monitoring and reporting program was also a requirement laid out in the Provincial Minister's Notice of Approval to Proceed with the Undertaking, detailed in Condition 11 of the Notice of Approval (MOE, 2010). The air monitoring plan was also developed to satisfy the conditions of the Environmental Compliance Approval and the environmental mitigation and commitments set out in the Environmental Assessment (Jacques Whitford, 2009). The predominantly downwind station is located along Rundle Road, south of Baseline Road. The predominantly upwind station is sited at the Courtice Water Pollution Control Plant (WPCP). Since May 2013, the two stations have measured the following air contaminants:

- Sulphur Dioxide (SO₂);
- Nitrogen Oxides (NO_x);
- Particulate Matter smaller than 2.5 microns (PM_{2.5});
- Metals in total suspended particulate matter (TSP);
- Polycyclic Aromatic Hydrocarbons (PAHs); and,
- Dioxins and Furans.

Meteorological data is also measured at the two stations. The predominantly downwind Rundle Road station measures horizontal wind speed, wind direction, atmospheric temperature, relative humidity and rainfall. The predominantly upwind Courtice station measures atmospheric temperature, relative humidity, rainfall and barometric pressure. Wind speed and wind direction data at the predominantly upwind location are available from the Courtice Water Pollution Control Plant.

This quarterly report provides a summary of the ambient air quality data collected at these two stations for the period January to March 2014 (Calendar Quarter 1). During this quarter, a few minor instrumentation issues were encountered with well above acceptable data recovery rates for all measured air quality parameters. Additional details on instrumentation issues are presented in Section 3.2 of this report.

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The following observations and conclusions were made from a review of the measured ambient air quality monitoring data:

1. Measured levels of NO₂, SO₂ and PM_{2.5} were below the applicable O.Reg. 419/05 criteria or human health risk assessment (HHRA) health-based standards presented in Table 2.2 of this report;
2. Since the Canada Wide Standard (CWS) for PM_{2.5} is based on a 98th percentile level over 3 years, whereas the PM_{2.5} measurement period at both stations for this quarterly report was three months, there is insufficient data collected to determine with any certainty if exceedances of the CWS would occur. Therefore no comparison of the measured PM_{2.5} data to the CWS was conducted for this report, as it would not be scientifically accurate or representative.
3. The maximum measured concentrations of TSP and all metals with MOE air quality criteria were well below their applicable criteria (as presented in Table 2.3 in this report);
4. The maximum measured concentrations of all PAHs with MOE air quality criteria were well below their applicable criteria shown in Table 2.4, with the exception of the 24-hour benzo(a)pyrene concentration in two samples measured at the Courtice WPCP Station and four samples measured at the Rundle Road Station, which exceeded the applicable Ontario Ambient Air Quality Criteria between 19% to 476%. The measurements were however, well below the MOE Schedule 6 Upper Risk Threshold, the MOE O. Reg. 419 24-hour average guideline, and the HHRA health based standard (all shown in Table 2.4). Details of these measurements are provided in Section 4.2.6;
5. The maximum measured toxic equivalent dioxin and furan concentration was below the applicable criteria presented in Table 2.4; and,
6. In summary, all monitored contaminants were below their applicable MOE criteria during the monitoring period between January and March 2014, with the exception of benzo(a)pyrene. All measured levels of all monitored contaminants were below their applicable HHRA health-based standards.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Abbreviations

AAQC	Ambient Air Quality Criteria
CAC	Criteria Air Contaminants
D/Fs	Dioxins and Furans
DYEC	Durham York Energy Centre
EFW	Energy from Waste
MOE	Ontario Ministry of the Environment
SO ₂	Sulphur Dioxide
NO _x	Nitrogen Oxides
PAH	Polycyclic aromatic hydrocarbons
Particulate	A particle of a solid or liquid that is suspended in air.
PCB	Polychlorinated biphenyl
PCDD/PCDF	Polychlorinated dibenzo-p-dioxins and dibenzofurans
PM	Particulate Matter
PM _{2.5}	Particulate Matter smaller than 2.5 microns
TEQ	Toxic equivalent quotient
TEQs	Toxic Equivalents
TSP	Total Suspended Particulate
WPCP	Water Pollution Control Plant

Elements

Cd	Cadmium
Hg	Mercury
Pb	Lead
Al	Aluminum
As	Arsenic
Be	Beryllium
Cr	Chromium
Cu	Copper
Mn	Manganese
Ni	Nickel
Si	Silver
Tl	Thallium
Sn	Tin
V	Vanadium
Zn	Zinc

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Miscellaneous

°C	temperature in degrees Celsius
N/A	not available
%	percent
ppm (part per million)	mg/L, µg/mL, ng/µL
ppb (part per billion)	µg/L, ng/mL, pg/µL
ppt (part per trillion)	ng/L, pg/mL, fg/µL
min	minimum
max	maximum
µg/m ³	microgram per cubic metre

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Introduction
June 23, 2014

1.0 INTRODUCTION

1.1 BACKGROUND AND OBJECTIVES

The Regional Municipalities of Durham and York are constructing the Durham York Energy Centre (DYEC) which is an Energy from Waste (EFW) Facility intended to provide a long-term, sustainable solution to manage municipal solid waste remaining after diversion from the Regions. The site location of the DYEC is shown in Figure 1-1.

A monitoring plan, Ambient Air Quality Monitoring Plan - Durham York Residual Waste Study (Stantec, May 8, 2012), was developed based on the Regional Council's mandate to provide ambient air quality monitoring in the area of the DYEC for a three year period.

The purposes of the ambient air quality monitoring program are to:

1. Quantify any measureable ground level concentrations resulting from emissions from the DYEC cumulative to local air quality, including validating the predicted concentrations from the dispersion modelling conducted in the Environmental Assessment (Jacques Whitford, 2009);
2. Monitor concentration levels of EFW-related air contaminants in nearby residential areas; and,
3. Quantify background ambient levels of air contaminants in the area.

Two monitoring stations in the vicinity of the DYEC were set up in April 2013. Since May 2013, the two stations have measured the following air contaminants:

- Sulphur Dioxide (SO₂);
- Nitrogen Oxides (NO_x);
- Particulate Matter smaller than 2.5 microns (PM_{2.5});
- Metals in Total Suspended Particulate matter (TSP);
- Polycyclic Aromatic Hydrocarbons (PAHs); and,
- Dioxins and Furans.

This quarterly report provides a summary of the ambient air quality data collected at these two stations for the period January to March 2014.

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1.2 LOCATIONS OF AMBIENT AIR QUALITY MONITORING STATIONS

The selection of sites for the monitoring stations was done in consultation with the Ontario Ministry of Environment (MOE) and Durham/York representatives based on the results of air quality modelling done in support of the environmental assessment for the project, the locations of nearby sensitive receptors, and general MOE siting criteria. Two monitoring stations (one predominantly downwind and one predominantly upwind) were chosen for the ambient air quality program. The final locations of the monitoring stations were influenced by the availability of electrical power, accessibility of each location, and security. Details of the siting requirements are detailed in the Monitoring Plan.

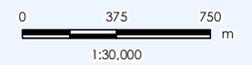
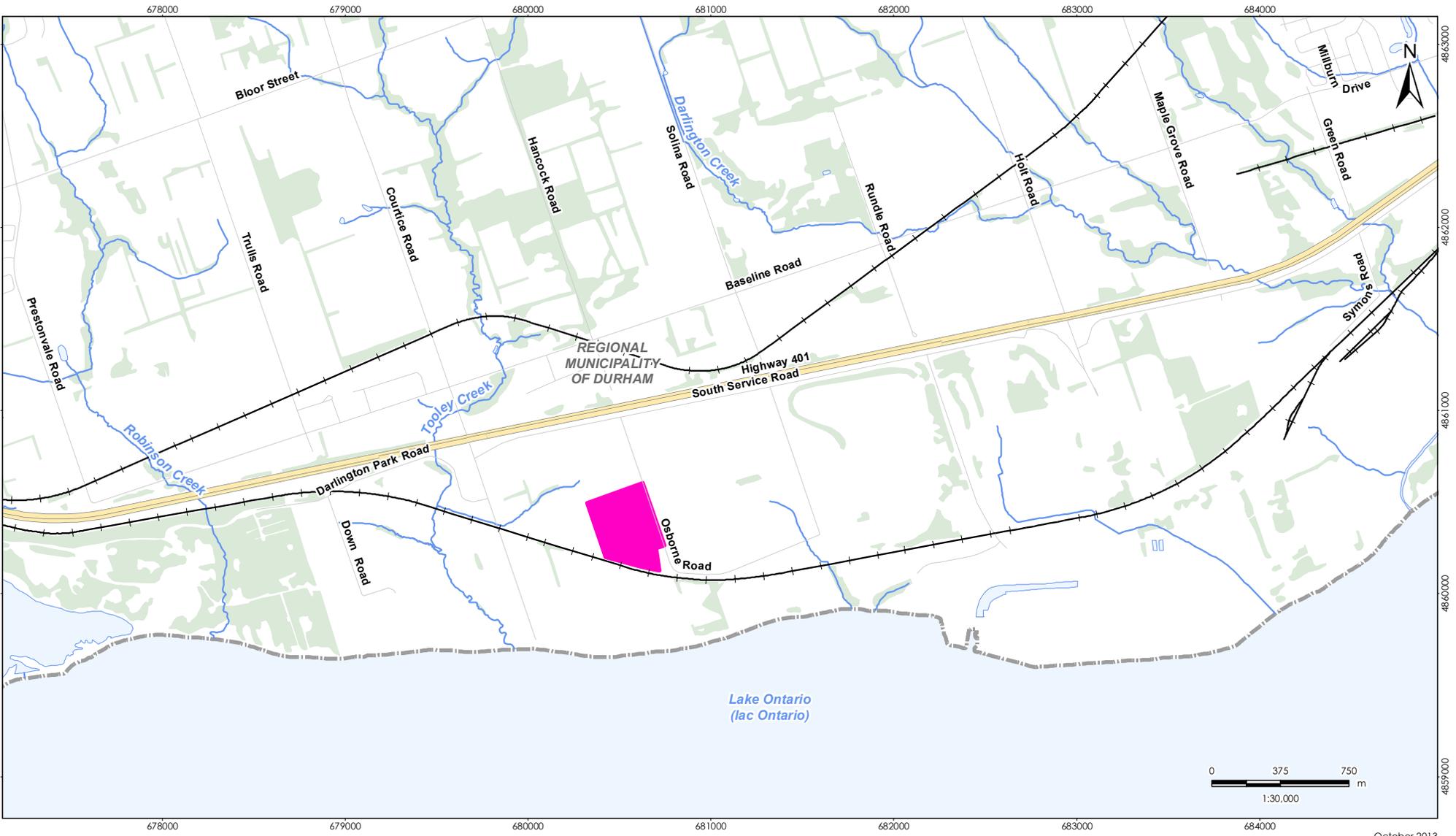
The selected downwind location is sited northeast of the DYEC in the vicinity of residential receptors predominantly downwind of the DYEC in this direction, and falls in the area where maximum annual concentrations are predicted to occur. The predominantly downwind station is located along Rundle Road, south of Baseline Road. Its location is shown in Figure 1-2. The monitoring station measures all the air contaminants listed in Section 1.1 and meteorological data. This station is referred to as the Rundle Road Station.

The upwind station is sited at the Courtice Water Pollution Control Plant (WPCP), located to the southwest of the DYEC in order to measure background air quality in the predominantly upwind direction. The location is presented in Figure 1-2. This monitoring station measures the air contaminants presented in Section 1.1, as well as meteorological data, with the exception of wind speed and wind direction, which are measured by and available from the Courtice Water Pollution Control Plant.

A third fence line station, which will measure metals and total particulate matter will be installed prior to full operation of the DYEC in 2014 and run for a one-year period.

Photographs of the Rundle Road and Courtice WPCP ambient air quality monitoring stations are shown in Figures 1-3 and 1-4 respectively.

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October 2013
160950528



- Legend**
- Durham York Energy Centre Site
 - Railway
 - Road
 - Highway
 - Watercourse
 - Waterbody
 - Wooded Area

- Notes**
- Coordinate System: NAD 1983 UTM Zone 17N
 - Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

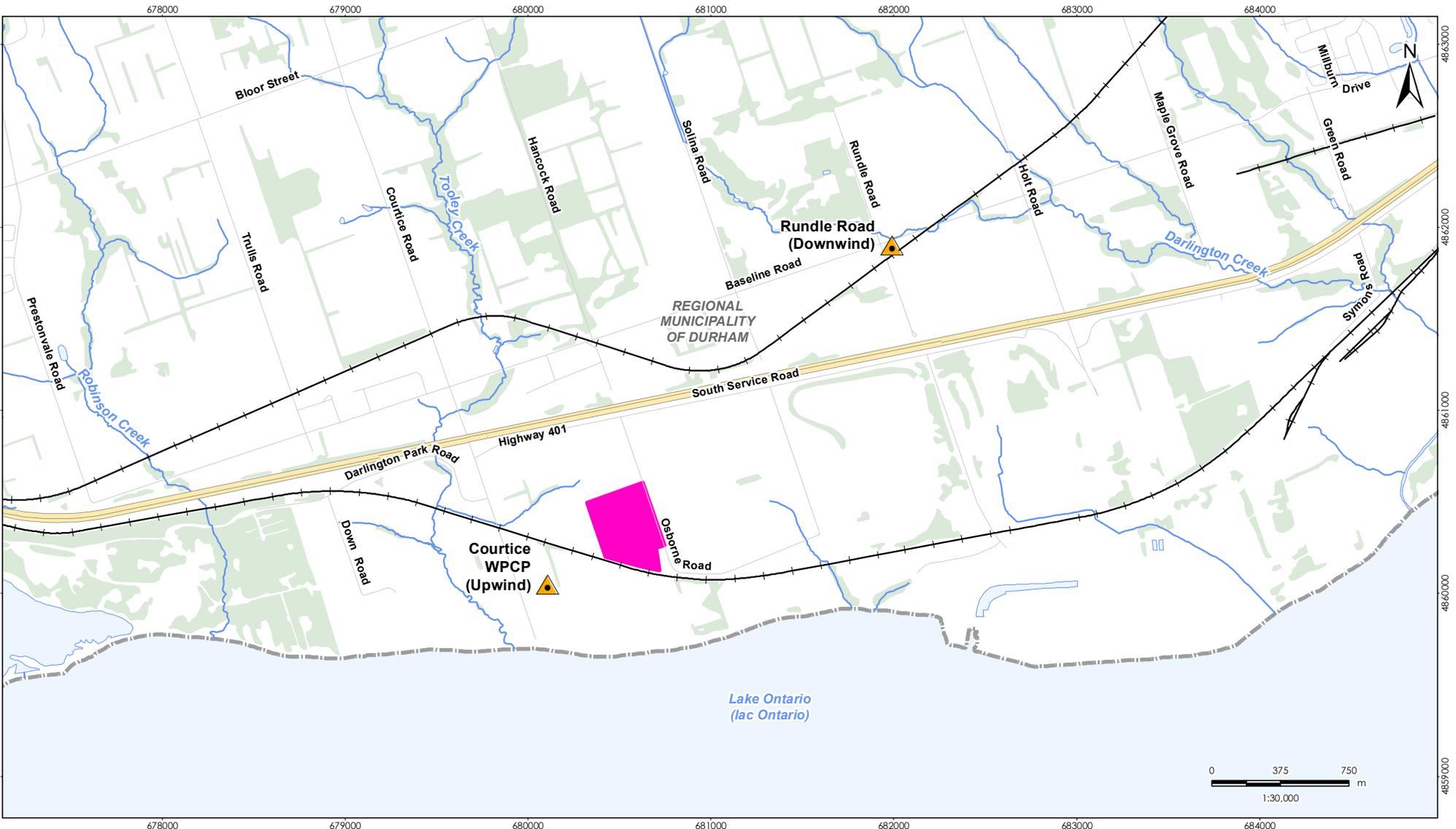


Client/Project
 The Region of Durham
 Durham York Energy Centre

Figure No.
1-1

Title
Site Location Plan

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 Revised: 2013-10-28 by: scs



- Legend**
- Station Location
 - Durham York Energy Centre Site
 - Railway
 - Road
 - Highway
 - Watercourse
 - Waterbody
 - Wooded Area

- Notes**
1. Coordinate System: NAD 1983 UTM Zone 17N
 2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.

Client/Project
 The Region of Durham
 Durham York Energy Centre

Figure No.
1-2

Title
Locations of Ambient Monitoring Stations

October 2013
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QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Introduction
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Figure 1-3 View of Rundle Road Ambient Air Quality Monitoring Station



Figure 1-4 View of Courtice WPCP Ambient Air Quality Monitoring Station



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Key Components Assessed
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2.0 KEY COMPONENTS ASSESSED

2.1 METEOROLOGY

The following meteorological parameters are measured at the Rundle Road and Courtice WPCP monitoring stations.

Table 2-1 Summary of Meteorological Parameters Measured at Each Station

Courtice WPCP (Upwind) Ambient Air Quality Monitoring Station	Rundle Road (Downwind) Ambient Air Quality Monitoring Station
Wind Speed and Direction @ 20-m	Wind Speed and Direction @10-m
Ambient Temperature @ 2-m	Ambient Temperature @ 2-m
Relative Humidity	Relative Humidity
Rainfall	Rainfall
Barometric Pressure	

2.2 AIR QUALITY CONTAMINANTS OF CONCERN

The ambient air quality monitoring program for the DYEC includes the following contaminants specified in the Ambient Air Quality Monitoring Plan:

- Nitrogen Oxides (NO_x);
- Sulphur Dioxide (SO₂);
- Particulate Matter smaller than 2.5 microns (PM_{2.5});
- Total Suspended Particulate (TSP) matter and metals;
- Polycyclic Aromatic Hydrocarbons (PAHs); and,
- Dioxins and Furans (D/Fs).

The following are lists of the specific metals, PAHs, and dioxins and furans being measured. Rationales for the choice of contaminants being monitored are provided in the Ambient Air Quality Monitoring Plan.

Metals:

- Aluminum (Al)
- Antimony (Sb)
- Arsenic (As)
- Barium (Ba)
- Beryllium (Be)
- Bismuth (Bi)
- Boron (B)
- Cadmium (Cd)
- Cobalt (Co)
- Copper (Cu)
- Chromium (Cr) (Total)
- Iron (Fe)
- Lead (Pb)
- Magnesium (Mg)
- Manganese (Mn)
- Mercury (Hg)
- Molybdenum (Mo)
- Nickel (Ni)

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- Phosphorus (Ph)
- Selenium (Se)
- Silver (Ag)
- Strontium (Sr)
- Thallium (Tl)
- Tin (Sn)
- Titanium (Ti)
- Uranium (U)
- Vanadium (V)
- Zinc (Zn)
- Zirconium (Zr)

Polycyclic Aromatic Hydrocarbons:

- 1-Methylnaphthalene
- 2-Methylnaphthalene
- Acenaphthene
- Acenaphthylene
- Anthracene
- Benzo(a)anthracene
- Benzo(a)fluorene
- Benzo(a)pyrene
- Benzo(b)fluorene
- Benzo(b)fluoranthene
- Benzo(e)pyrene
- Benzo(g,h,i)perylene
- Benzo(k)fluoranthene
- Biphenol
- Chrysene
- Dibenz(a,h)anthracene
- Dibenz(a,c)anthracene
- Fluoranthene
- Indeno(1,2,3-cd)pyrene
- Naphthalene
- Perylene
- Phenanthrene
- Pyrene
- Tetralin
- o-Terphenyl
- Total PAHs

Dioxins and furans:

- 2,3,7,8-Tetra CDD
- 1,2,3,7,8-Penta CDD
- 1,2,3,4,7,8-Hexa CDD
- 1,2,3,6,7,8-Hexa CDD
- 1,2,3,7,8,9-Hexa CDD
- 1,2,3,4,6,7,8-Hepta CDD
- Octa CDD
- Total Tetra CDD
- Total Penta CDD
- Total Hexa CDD
- Total Hepta CDD
- 2,3,7,8-Tetra CDF
- 1,2,3,7,8-Penta CDF
- 2,3,4,7,8-Penta CDF
- 1,2,3,4,7,8-Hexa CDF
- 1,2,3,6,7,8-Hexa CDF
- 2,3,4,6,7,8-Hexa CDF
- 1,2,3,7,8,9-Hexa CDF
- 1,2,3,4,6,7,8-Hepta CDF
- 1,2,3,4,7,8,9-Hepta CDF
- Octa CDF
- Total Tetra CDF
- Total Penta CDF
- Total Hexa CDF
- Total Hepta CDF
- Total toxic equivalency (I-TEQ)

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Key Components Assessed
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2.3 AIR QUALITY CRITERIA

Two sets of standards were used for comparison to the air quality data as specified in the Ambient Air Monitoring Plan. The first set of standards is the limits reported in O.Reg.419/05 (Schedules 3 and 6). These are compliance based standards used throughout the province of Ontario. However, not all chemicals have O.Reg.419/05 criteria, or in some instances updated health-based standards were used in the human health risk assessment (HHRA) conducted in support of the Environmental Assessment (July 31, 2009) - December 10, 2009). These health-based values, which were reported in Table 7-2 (Summary of Inhalation TRVs and Inhalation Benchmarks Selected for CACs) and Table 7-3 (Inhalation TRVs and Inhalation Benchmarks for Selected COPCs) of the HHRA (Stantec, 2009) were used as the second set of standards.

The currently applicable Canada-Wide Standard (CWS) for PM_{2.5} of 30 µg/m³ (98th percentile averaged over 3 consecutive years), is noted in Table 2-2. New Canadian Ambient Air Quality Standards (CAAQS) are being proposed as objectives to replace the existing CWS. The proposed CAAQS for PM_{2.5} would be 28 µg/m³ by 2015 and 27 µg/m³ by 2020.

A summary of the relevant air quality criteria is presented in Tables 2-2 to 2-4 for CACs, metals and PAHs/dioxins and furans respectively.

Table 2-2 Summary of Air Quality Criteria for CACs

Contaminant	CAS	O. Reg 419/05 – Schedule 3/AAQC			HHRA Health-Based Standards		
		1-Hour (µg/m ³)	24-Hour (µg/m ³)	Other time Period (µg/m ³)	1-Hour (µg/m ³)	24-Hour (µg/m ³)	Annual (µg/m ³)
Sulphur dioxide	7446095	690	275		690	275	29
Nitrogen oxides ^A	10102-44-0	400	200		400	200	60

Contaminant	CAS	Canada-Wide Standard			HHRA Health-Based Standards		
		1-Hour (µg/m ³)	24-Hour (µg/m ³)	Other time Period (µg/m ³)	1-Hour (µg/m ³)	24-Hour (µg/m ³)	Other time Period (µg/m ³)
PM _{2.5}	N/A		30 ^B			30	

Notes:

- A. The Schedule 3 standards for NO_x are based on health effects of NO₂, as NO₂ has adverse health effects at much lower concentrations than NO. Therefore the standard was compared to NO₂ in this report. However, as per the current April 2012 version of O. Reg. 419 Summary of Standards and Guidelines, the standard was also compared to the monitored NO_x.
- B. CCME (2000), Canada-Wide Standards for Respirable Particulate Matter and Ozone, effective by 2010. The Respirable Particulate Matter Objective is referenced to the 98th percentile over 3 consecutive years.

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Key Components Assessed
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Table 2-3 Summary of Air Quality Criteria for Metals

Contaminant	CAS	O. Reg 419/05 – Schedule 3/AAQC			HHRA Health-Based Standards		
		1-Hour (µg/m ³)	24-Hour (µg/m ³)	Other time Period (µg/m ³)	1-Hour (µg/m ³)	24-Hour (µg/m ³)	Annual (µg/m ³)
Total Particulate	NA		120			120	60
Aluminum	7429-90-5		4.8				
Antimony	7440-36-0		25		5	25	0.2
Arsenic	7440-38-2		0.3		0.2	0.3	0.015 ^A 0.0043 ^B
Barium	7440-39-3		10		5	10	1
Beryllium	7440-41-7		0.01		0.02	0.01	0.007 ^A 0.0024 ^B
Bismuth	7440-69-9	-					
Boron	7440-42-8		120		50		5
Cadmium	7440-43-9		0.025	0.005; annual	0.1	0.025	0.005 ^A 0.0098 ^B
Chromium (Total)	7440-47-3		0.5		1		60
Cobalt	7440-48-4		0.1		0.2	0.1	0.1
Copper	8440-50-8		50				
Iron	15438-31-0		4				
Lead	7439-92-1		0.5	0.2; 30-day	1.5	0.5	0.5
Magnesium	7439-95-4	-					
Manganese	7439-96-5		0.4				
Mercury	7439-97-6		2		0.6	2	0.3
Molybdenum	7439-87-7		120				
Nickel	7440-02-0		0.2	0.04; annual	6		0.05
Phosphorus	7723-14-0						6.4 x 10 ⁷
Selenium	7782-49-2		10		2	10	0.2
Silver	7440-22-4		1		0.1	1	0.01
Strontium	7440-24-6		120				
Thallium	7440-28-0				1		0.1
Tin	7440-31-5		10		20	10	2

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Key Components Assessed
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Table 2-2 Summary of Air Quality Criteria for CACs

Contaminant	CAS	O. Reg 419/05 – Schedule 3/AAQC			HHRA Health-Based Standards		
		1-Hour (µg/m ³)	24-Hour (µg/m ³)	Other time Period (µg/m ³)	1-Hour (µg/m ³)	24-Hour (µg/m ³)	Annual (µg/m ³)
Titanium	7440-32-6		120				
Vanadium	7440-62-2		2		0.5	1	1
Uranium	7440-61-1		1.5	0.03; annual			
Zinc	7440-66-6		120		50		5
Zirconium	7440-67-7		20				

Notes:

- A. Annual Average
- B. Carcinogenic Annual Average

Table 2-4 Summary of Air Quality Criteria for PAHs and D/Fs

Contaminant	CAS	O. Reg 419/05 – Schedule 3 / AAQC			HHRA Health-Based Standards			
		1-Hour (ng/m ³)	24-Hour (ng/m ³)	Other time Period (ng/m ³)	1-Hour (ng/m ³)	24-Hour (ng/m ³)	Annual (ng/m ³)	Toxic Equivalency Factor Annual ^{A, G} (ng/m ³) ⁻¹
1-Methylnaphthalene	90-12-0		12,000				3,000	
2-Methylnaphthalene	91-57-6		10,000				3,000	
Acenaphthene	83-32-9				1,000			1
Acenaphthylene	208-96-8		3,500		1,000			10
Anthracene	120-12-7		200		500		50	
Benzo(a)anthracene	56-55-3				500			100
Benzo(b)fluoranthene	205-99-2				500			100
Benzo(k)fluoranthene	207-08-9				500			100
Benzo(a)fluorene	238-84-6				500		50	
Benzo(b)fluorene	243-17-4				500		50	
Benzo (g,h,i) perylene	191-24-2				500			100

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Key Components Assessed
June 23, 2014

Table 2-4 Summary of Air Quality Criteria for PAHs and D/Fs

Contaminant	CAS	O. Reg 419/05 – Schedule 3 / AAQC			HHRA Health-Based Standards				
		1-Hour (ng/m ³)	24-Hour (ng/m ³)	Other time Period (ng/m ³)	1-Hour (ng/m ³)	24-Hour (ng/m ³)	Annual (ng/m ³)	Toxic Equivalency Factor Annual ^{A, G} (ng/m ³) ⁻¹	
Benzo(a)pyrene	50-32-8		0.05 ^B 5 ^C 1.1 ^D	0.01; annual		1	87 ^A		
Benzo(e)pyrene	192-97-2				500			10	
Biphenyl	92-52-4						224,000		
Chrysene	218-01-9	-							-
Dibenzo(a,c)anthracene	215-58-7							100	
Dibenzo(a,h)anthracene	53-70-3				500			1,000	
Fluoranthene	206-44-0				500			1	
Indeno(1,2,3-cd)pyrene	193-39-5				500			100	
Naphthalene	91-20-3		22,500			22,500	3,000		
o-Terphenyl	84-15-1				50,000		5,000		
Perylene	198-55-0				500			1	
Phenanthrene	85-01-8				500			1	
Pyrene	129-00-0				500			1	
Tetralin	119-64-2	-							-
Dioxins and Furans Total Toxic Equivalency ^e	NA		0.1 (pg TEQ/m ³) ^F 1 (pg TEQ/m ³) ^C						

Notes:

- A. Carcinogenic Annual Average. Units in (ng/m³)⁻¹.
- B. Ontario Ambient Air Quality Criteria - The standard for benzo(a)pyrene (B(a)P) is for B(a)P as a surrogate for PAHs.
- C. O. Reg. 419 Schedule 6 Upper Risk Thresholds
- D. O. Reg. 419 24 Hour Guideline
- E. Application of the air standard for dioxins, furans, and dioxin-like PCBs requires the calculation of the total toxicity equivalent (TEQ) concentration contributed by all dioxin-like compounds in the mixture. TEQ is calculated using the methodology as per the O. Reg.419 Summary of Standards and Guidelines, and the corresponding WHO₂₀₀₅ toxic equivalency factors (TEFs).
- F. Ontario Ambient Air Quality Criteria
- G. Toxic Equivalency Factors (TEFs) are shown as benzo(a)pyrene equivalents.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Instrumentation Summary
June 23, 2014

3.0 INSTRUMENTATION SUMMARY

3.1 INSTRUMENTATION

The measurement program at the monitoring sites includes both continuous and non-continuous monitors to sample air contaminant concentrations. The monitors were set up in April 2013, and monitoring started in May 2013.

Monitoring for respirable particulate matter (PM_{2.5}), nitrogen oxides (NO_x) and sulphur dioxide (SO₂) are conducted on a continuous basis. A summary of the continuous monitors and a brief description of their principle of operation are provided in Table 3-1 below.

Table 3-1 Summary of Continuous Ambient Air Quality Monitors

Contaminant	Monitor	Principle of Operation	Range	Time Interval
PM _{2.5}	Thermo Sharp 5030 Synchronized Hybrid Ambient Real-time Particulate Monitor	Light Scattering Photometry / Beta Attenuation - Consists of a carbon14 source, detector and light scattering Nephelometer in a rack-mountable enclosure. The Thermo Sharp utilizes a continuous (non-step wise) hybrid mass measurement and a combination of beta attenuation and light scattering technology. The unit's filter tape is automatically advanced based upon a user defined frequency or particulate loading.	0-10 mg/m ³	1 minute
NO, NO ₂ , NO _x	API Model 200E Chemiluminescence Analyzer	Chemiluminescence - Uses a chemiluminescence detection principle and microprocessor technology for ambient continuous emissions monitoring (CEM). Measurements are automatically compensated for temperature and pressure changes.	0 – 1000 ppb	1 second

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Instrumentation Summary
June 23, 2014

Table 3-1 Summary of Continuous Ambient Air Quality Monitors

Contaminant	Monitor	Principle of Operation	Range	Time Interval
SO ₂	Teledyne Monitor Labs Sulphur Dioxide Analyzer Model T100	Pulsed Florescence - SO ₂ levels are measured based on the principle that SO ₂ has a strong ultraviolet (UV) absorption at a wavelength between 200 and 240 nanometres (nm). The absorption of photons at these wavelengths results in the emission of fluorescence photons at a higher wavelength. The amount of fluorescence measured is directly proportional to the concentration of SO ₂ .	0 – 1000 ppb	1 second

Monitoring for metals in total suspended particulates (TSP), polycyclic aromatic hydrocarbons (PAHs) and dioxins and furans are conducted at both the Courtice WPCP (predominantly upwind) and Rundle Road (predominantly downwind) monitoring stations with non-continuous monitors, per the methodology and analyses described in the ambient air monitoring plan (Stantec, 2012) as presented in Table 3-2.

Table 3-2 Summary of Non-Continuous Ambient Air Quality Monitors

Contaminant	Sampler	Filter Media	Lab Analysis	Sampling Schedule
TSP and metals	Tisch Environmental TE-5170 mass-flow high volume sampler	Pre-weighed, conditioned Teflon coated glass fibre filters	Weighed for particulate loading and analysed using the Atomic Emission Spectroscopy / Inductively Coupled Plasma (AES/ICP) technique to determine metals content	24 hour sample taken every 6 days
PAHs	Tisch Environmental TE-1000 mass-flow high volume air sampler	Dual chambered sampling module with a Teflon-coated glass fibre filter and a Poly-Urethane Foam (PUF) cartridge	Gas Chromatography / Mass Spectrometry (GC/MS)	24 hour sample taken every 12 days
Dioxins / Furans				24 hour sample taken every 24 days

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Instrumentation Summary
June 23, 2014

The predominantly downwind Rundle Road station measures horizontal wind speed, wind direction, atmospheric temperature, relative humidity and rainfall. The predominantly upwind Courtice station measures atmospheric temperature, relative humidity, rainfall and barometric pressure. Wind speed and wind direction data at the predominantly upwind location are available from the Courtice Water Pollution Control Plant. The meteorological sensors at the Rundle Road station are mounted on an external 10-m aluminum tower and are logged using a digital data acquisition system (DAS). The meteorological equipment includes the following:

Table 3-3 Summary of Meteorological Equipment

Parameter	Equipment
Wind Speed/Wind Direction	Met One Instruments Inc. Model 034B
Temperature	Campbell Scientific Model HMP60
Relative Humidity	Campbell Scientific Model HMP60
Atmospheric Pressure	Campbell Scientific Model CS106
Rainfall	Texas Electronic TE525M

A Campbell Scientific CRX1000 station data acquisition system is used to collect continuous instrument monitoring data and status codes from the ambient air quality monitors. Continuous station data is maintained in the data loggers, and data is viewed locally using a laptop and the relevant DAS software applications. Remote data transmission is accomplished by the periodic transmission of collected station air quality data via cellular phone.

3.2 INSTRUMENTATION ISSUES

A few minor instrumentation issues were encountered during this quarter including a loose cable and modem connection going off-line. A summary of operational issues for each measurement parameter during the monitoring period is presented in Tables 3-4 and 3-5.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Instrumentation Summary
June 23, 2014

Table 3-4 Summary of Instrument Issues at Courtice WPCP Station (Upwind)

Parameter	Issues	Time Frame	Remedial Action
SO ₂	None		
NO _x	None		
PM _{2.5}	A cable from the monitor to the data logger came loose.	Jan 11 to Jan 12, 2014	Re-connected and secured cable. Data during this period was downloaded directly from the monitor.
	Zero offset on PM _{2.5} monitor required adjustment.	Jan 12 to Jan 17, 2014	Offset adjustment carried out. Data during this period was downloaded directly from the monitor.
	Snow/ice accumulated in the head of the monitor and later melted, causing water build-up.	Mar 20 to Mar 24	Removed unit to dry out. Unit was cleaned, checked and re-installed. Visual checks of the monitor heads for snow/ice accumulation implemented on a weekly basis.
TSP/Metals Hi-Vol.	TSP hi-vol failed due to a motor brush not being secured properly during maintenance.	Feb 16, 2014	Secured motor brush and re-calibrated unit.
PAH/ D/F Hi-Vol	None		
Rain gauge	Top of the rain gauge was missing. Suspected to have been blown away by strong winds.	Jan 10, to Feb 3, 2014	Several attempts were made to locate the rain gauge top in the nearby field after the snow melted, however, it was not found. A new top was ordered, re-installed, and secured.

Table 3-5 Summary of Instrument Issues at Rundle Road (Downwind)

Parameter	Issues	Time Frame	Remedial Action
SO ₂	None		
NO _x	None		
PM _{2.5}	None		
TSP/Metals Hi-Vol.	Unit blown over by strong winds.	Mar 17, 2014	Unit secured with tie-downs. As a precautionary measure, all other hi-vols were secured as well.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Instrumentation Summary
June 23, 2014

Table 3-5 Summary of Instrument Issues at Rundle Road (Downwind)

Parameter	Issues	Time Frame	Remedial Action
PAH/ D/F Hi-Vol	PAH / D/F hi-vol did not start due to a power trip.	Jan 11, 2014	Reset power and set hi-vol to run on Jan 14 to replace missed sample.
Other – Modem	Modem connection off-line	January 17, 2014	Re-started modem.

3.3 INSTRUMENTATION RECOVERY RATES

Data recovery rates for each continuous monitor at the two monitoring stations during Quarter 1 (January to March 2014) are presented in Tables 3-6 and 3-7.

Table 3-6 Summary of Data Recovery Rates for the Courtice WPCP Station (Upwind) – January to March 2014

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO ₂	2149	99.5%
NO _x	2150	99.5%
PM _{2.5}	2057	95.2%
Temperature	2158	99.9%
Rainfall	1558	72.1%
Relative Humidity	2158	99.9%
Pressure	2158	99.9%
Wind Speed/Direction	2160	100.0%
TSP/Metals	14 ^A	93%
PAHs	7 ^A	100%
Dioxins and Furans	4 ^A	100%

Note:

A. Number of filters/24-hour average samples.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Instrumentation Summary
June 23, 2014

Table 3-7 Summary of Data Recovery Rates for the Rundle Road Station (Downwind) – January to March 2014

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO ₂	2144	99.3%
NO _x	2144	99.3%
PM _{2.5}	2146	99.4%
Temperature	2151	99.6%
Rainfall	2151	99.6%
Relative Humidity	2151	99.6%
Wind Speed/Direction	2151	99.6%
TSP/Metals	15 ^A	100%
PAHs	7 ^A	100%
Dioxins and Furans	4 ^A	100%

Note:

A. Number of filters/24-hour average samples.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

4.0 SUMMARY OF AMBIENT MEASUREMENTS

The following sections provide summaries of the validated data and the validation done on each parameter.

4.1 METEOROLOGICAL DATA

A summary of the maximum, minimum, arithmetic mean, and standard deviation of the hourly average meteorological parameters measured at the two monitoring stations for the January to March 2014 period are presented in Table 4-1.

Table 4-1 Summary of Hourly Meteorological Measurements – January to March 2014

Parameter		Courtice WPCP (Upwind)	Rundle Road (Downwind)	Units
Temperature	Max	7.9	7.5	C
	Min	-24.8	-25.7	C
	Mean (January)	-7.6	-8.2	C
	Mean (February)	-7.1	-7.7	C
	Mean (March)	-3.8	-4.3	C
	Mean (Period)	-6.1	-6.7	C
	Standard Deviation	6.8	7.0	C
Rainfall	Max	4.1	4.7	mm
	Min	0.0	0.0	mm
	Mean (January)	0.06	0.04	mm
	Mean (February)	0.03	0.04	mm
	Mean (March)	0.02	0.02	mm
	Mean (Period)	0.03	0.03	mm
	Standard Deviation	0.23	0.26	mm
Relative Humidity	Max	100.0	100.0	%
	Min	34.2	33.7	%
	Mean (January)	71.6	72.2	%
	Mean (February)	70.2	72.1	%
	Mean (March)	65.4	67.1	%
	Mean (Period)	69.0	70.4	%
	Standard Deviation	13.8	14.3	%

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

Table 4-1 Summary of Hourly Meteorological Measurements – January to March 2014

Parameter		Courtice WPCP (Upwind)	Rundle Road (Downwind)	Units
Pressure ^A	Max	30.3	-	in Hg
	Min	28.9	-	in Hg
	Mean (January)	29.6	-	in Hg
	Mean (February)	29.7	-	in Hg
	Mean (March)	29.7	-	in Hg
	Mean (Period)	29.7	-	in Hg
	Standard Deviation	0.3	-	in Hg
Wind Speed ^B	Max	58.6	44.8	km/hr
	Min	0.2	0.0	km/hr
	Mean (January)	17.6	15.6	km/hr
	Mean (February)	14.5	12.4	km/hr
	Mean (March)	14.6	12.4	km/hr
	Mean (Period)	15.6	13.5	km/hr
	Standard Deviation	8.7	8.2	km/hr

Notes:

A. Pressure is not measured at the Rundle Road Station.

B. Wind speed at Courtice WPCP Station measured at 20-m and at Rundle Road Station at 10-m.

At the Courtice WPCP Station (located near Lake Ontario), wind data were measured and provided by the Courtice Water Pollution Control Plant on a 20-m tower, while at the Rundle Road Station they are measured on a 10-m tower.

Wind roses showing the directionality and speed at each location are presented in Figure 4-1. The length of the radial barbs gives the total percent frequency of winds from the indicated direction, while portions of the barbs of different widths indicate the frequency associated with each wind speed category.

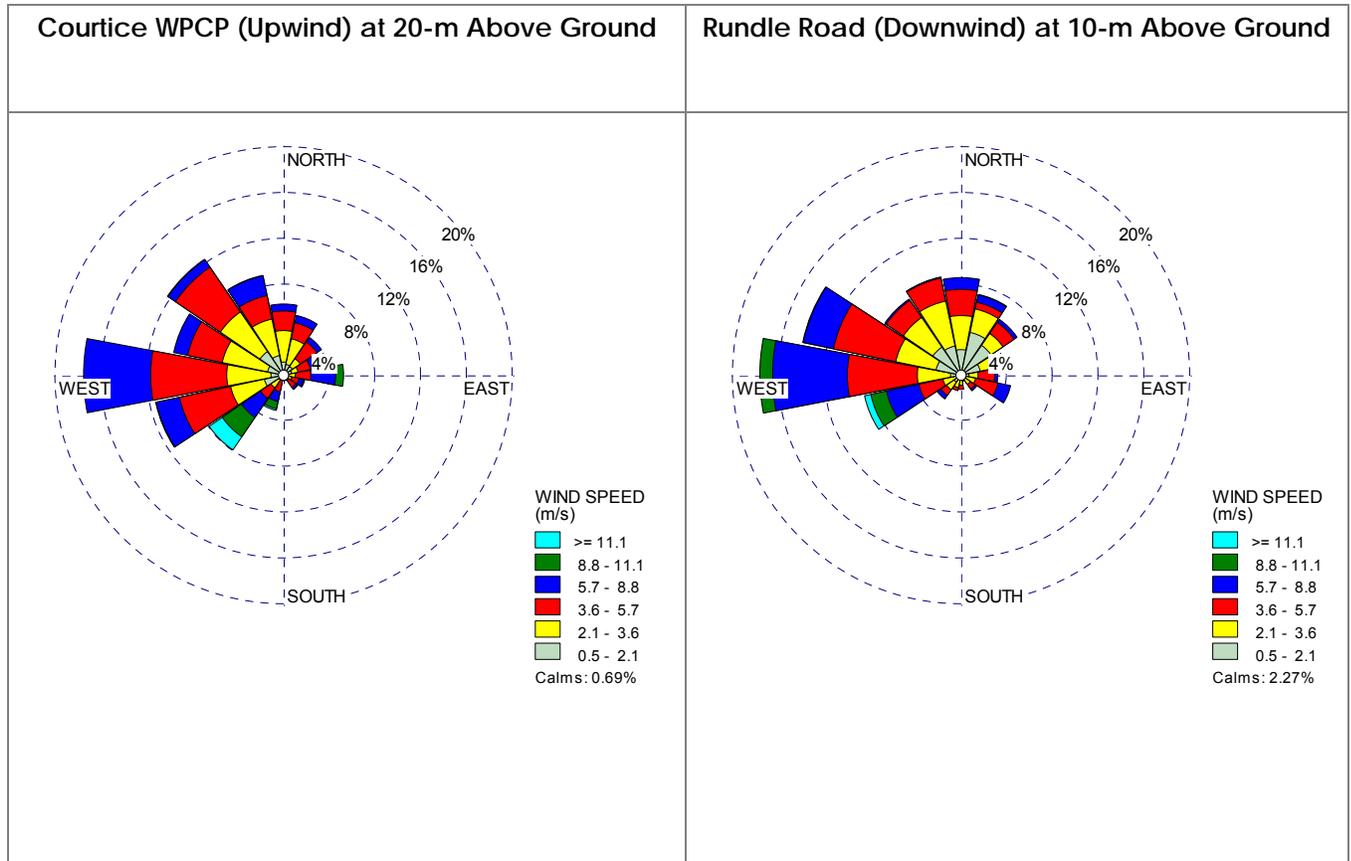
Winds over the three-month period at the Courtice WPCP Station occurred predominantly from west-southwesterly to northwesterly directions. Wind contribution from the south was low. Higher wind speeds occurred from the southwest and east directions, and lower wind speeds from the northwest direction.

At the Rundle Road Station, the wind rose showed predominant winds occurring from the westerly directions. Higher wind speeds are noted occurring from the west-southwest and west directions, with lower wind speeds from the northeast.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

Figure 4-1 Wind Roses for January to March 2014



4.2 CAC AMBIENT AIR QUALITY MEASUREMENTS

A summary of the maximum, minimum, arithmetic mean and standard deviation of the CAC pollutant concentrations measured at each station are presented in Table 4-2. Also presented in this table is the number of exceedances of the relevant Ontario ambient air quality criteria (AAQC) or health-based standard for each contaminant (if any occurred). All monitored contaminants were below their applicable criteria during the period between January and March, 2014..

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

Nitric oxide (NO) has no regulatory criteria as discussed in Section 4.2.2 below. There are both hourly and daily AAQCs as well as Reg. 419 Schedule 3 criteria for NO_x which are based on health effects of NO₂. As specified in the MOE's listing of AAQCs (MOE, 2012a) the AAQC were compared to measured NO₂ concentrations in this report. However, as per the current April 2012 version of O. Reg. 419 Summary of Standards and Guidelines, the Schedule 3 criterion for NO_x (MOE, 2012b) was compared to the monitored NO_x levels.

A comparison of the maximum measured data to their respective air quality criteria is presented graphically in Figure 4-2.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2014

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)
SO ₂	1	250	690	Maximum	15.2	42.2	8.6	24.7
				Minimum	0.0	0.0	0.0	0.0
				Mean (January)	1.0	2.8	0.5	1.5
				Mean (February)	1.0	2.9	0.4	1.1
				Mean (March)	0.8	2.2	0.7	1.9
				Mean (Period)	0.9	2.6	0.5	1.5
				Standard Deviation	1.5	4.5	0.7	2.0
	# of Exceedances	0	0	0	0			
	24	100	275	Maximum	5.2	15.9	2.8	8.1
				Minimum	0.0	0.0	0.0	0.0
				Mean (January)	1.0	2.8	0.5	1.5
				Mean (February)	1.0	2.9	0.4	1.1
				Mean (March)	0.7	2.2	0.7	1.9
				Mean (Period)	0.9	2.6	0.5	1.5
Standard Deviation				0.8	2.5	0.5	1.3	
# of Exceedances	0	0	0	0				
PM _{2.5}	24	N/A	30 ^A	Maximum	-	43.2	-	41.3
				Minimum	-	2.5	-	2.1
				Mean (January)	-	8.5	-	9.1
				Mean (February)	-	12.6	-	12.2
				Mean (March)	-	10.9	-	9.4
				Mean (Period)	-	10.6	-	10.2
				Standard Deviation	-	7.0	-	6.6
				# of Exceedances	-	N/A	-	N/A

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2014

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)
NO ₂	1	200 ^B	400 ^B	Maximum	52.7	108.6	45.7	97.6
				Minimum	0.6	1.1	0.0	0.0
				Mean (January)	8.9	18.8	7.6	15.9
				Mean (February)	13.5	28.6	8.3	17.5
				Mean (March)	9.5	19.7	7.2	14.8
				Mean (Period)	10.5	22.1	7.7	16.0
				Standard Deviation	10.0	21.2	7.1	14.9
				# of Exceedances	0	0	0	0
	24	100 ^B	200 ^B	Maximum	31.7	68.8	28.0	60.4
				Minimum	2.0	4.1	0.0	0.0
				Mean (January)	8.8	18.6	7.5	15.8
				Mean (February)	13.7	28.9	8.3	17.5
				Mean (March)	9.3	19.3	7.2	14.8
				Mean (Period)	10.5	22.0	7.6	16.0
Standard Deviation				6.3	13.4	5.1	10.7	
# of Exceedances				0	0	0	0	

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2014

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)
NO _x	1	NA	NA	Maximum	79.1	108.3	38.2	53.5
				Minimum	0.1	0.2	0.1	0.2
				Mean (January)	3.4	4.6	2.3	3.2
				Mean (February)	4.7	6.6	2.1	2.8
				Mean (March)	3.0	4.1	1.8	2.5
				Mean (Period)	3.7	5.0	2.1	2.8
				Standard Deviation	7.4	10.2	3.4	4.6
	# of Exceedances	N/A	N/A	N/A	N/A			
	24	NA	NA	Maximum	21.7	30.3	11.2	15.8
				Minimum	0.5	0.6	0.4	0.5
				Mean (January)	3.4	4.7	2.4	3.2
				Mean (February)	4.7	6.5	2.0	2.8
				Mean (March)	2.9	4.0	1.9	2.5
				Mean (Period)	3.6	5.0	2.1	2.8
Standard Deviation				4.0	5.6	1.6	2.2	
# of Exceedances	N/A	N/A	N/A	N/A				

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2014

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)
NO _x	1	200 ^B	400 ^B	Maximum	122.2	256.7	68.2	146.2
				Minimum	1.2	2.6	0.0	0.0
				Mean (January)	12.0	25.4	9.4	19.7
				Mean (February)	17.8	37.8	9.9	20.8
				Mean (March)	11.8	24.7	8.4	17.4
				Mean (Period)	13.8	29.0	9.2	19.2
				Standard Deviation	16.0	34.0	9.3	19.5
	# of Exceedances	0	0	0	0			
	24	100 ^B	200 ^B	Maximum	52.1	112.5	38.6	83.4
				Minimum	2.7	5.6	0.0	0.0
				Mean (January)	11.9	25.4	9.5	19.9
				Mean (February)	18.0	38.0	9.8	20.7
				Mean (March)	11.6	24.2	8.5	17.5
				Mean (Period)	13.7	28.8	9.2	19.3
Standard Deviation				9.9	21.2	6.5	13.6	
# of Exceedances	0	0	0	0				

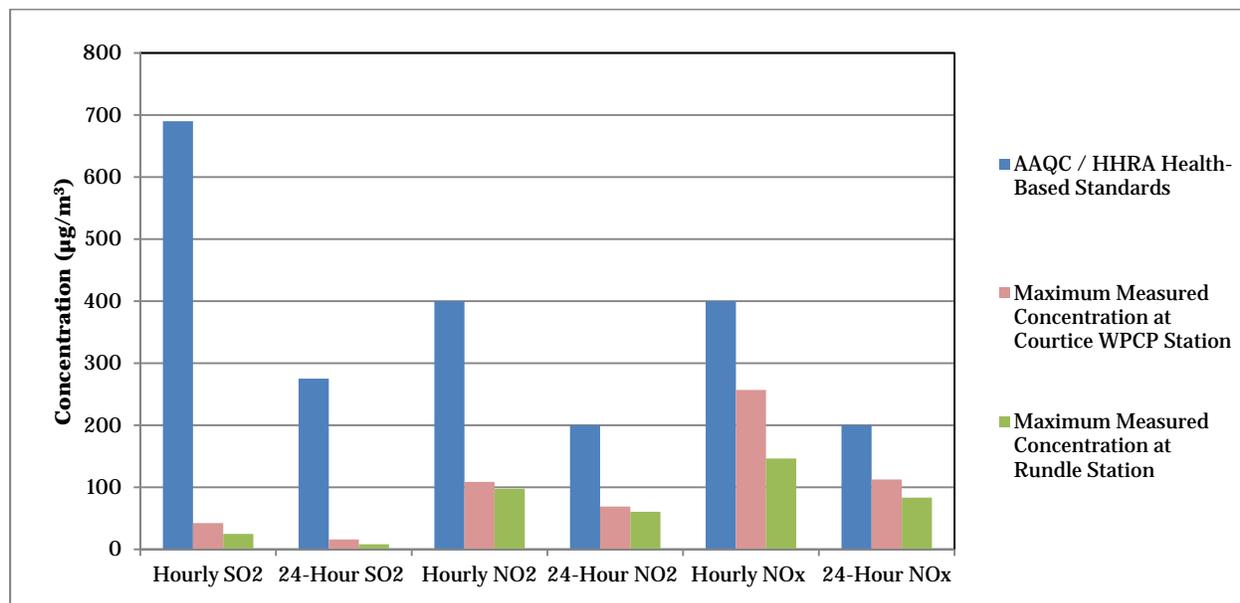
Note:

- A. Canada-Wide Standards for Respirable Particulate Matter. The Respirable Particulate Matter Objective is referenced to the 98th percentile over 3 consecutive years.
- B. As per current version (April 2012) of Reg 419 Summary of Standards and Guidelines, the air standard for NO_x is compared to a monitored NO_x concentration, although the Reg419 Schedule 3 standard for NO_x is based on health effects of NO₂.
- C. NO has no regulatory criteria.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Summary of Ambient Measurements
June 23, 2014

Figure 4-2 Comparison of NO₂ / NO_x and SO₂ Ambient Air Quality Monitoring Data to Applicable Criteria



Detailed discussion for each measured contaminant is presented in the following sections.

4.2.1 Sulphur Dioxide (SO₂)

Data summaries are presented in Appendix A for sulphur dioxide for each station and month as well as time history plots of the hourly and 24-hour average SO₂ concentrations. For the hourly and 24-hour averages, the Ontario AAQCs of 690 µg/m³ and 275 µg/m³ are shown as blue lines on each plot. As shown in these figures, measured ambient SO₂ concentrations at both stations were well below the criteria.

The maximum hourly and 24-hour average concentrations measured at the Courtice WPCP station during January to March 2014 were 42 and 16 µg/m³ respectively, which are both 6% of the applicable 1-hour and 24-hour ambient air quality criteria.

The maximum hourly and 24-hour average concentrations measured at the Rundle Road station during this quarter were 25 and 8 µg/m³ respectively, which are 4% and 3% of the applicable 1-hour and 24-hour ambient air quality criteria.

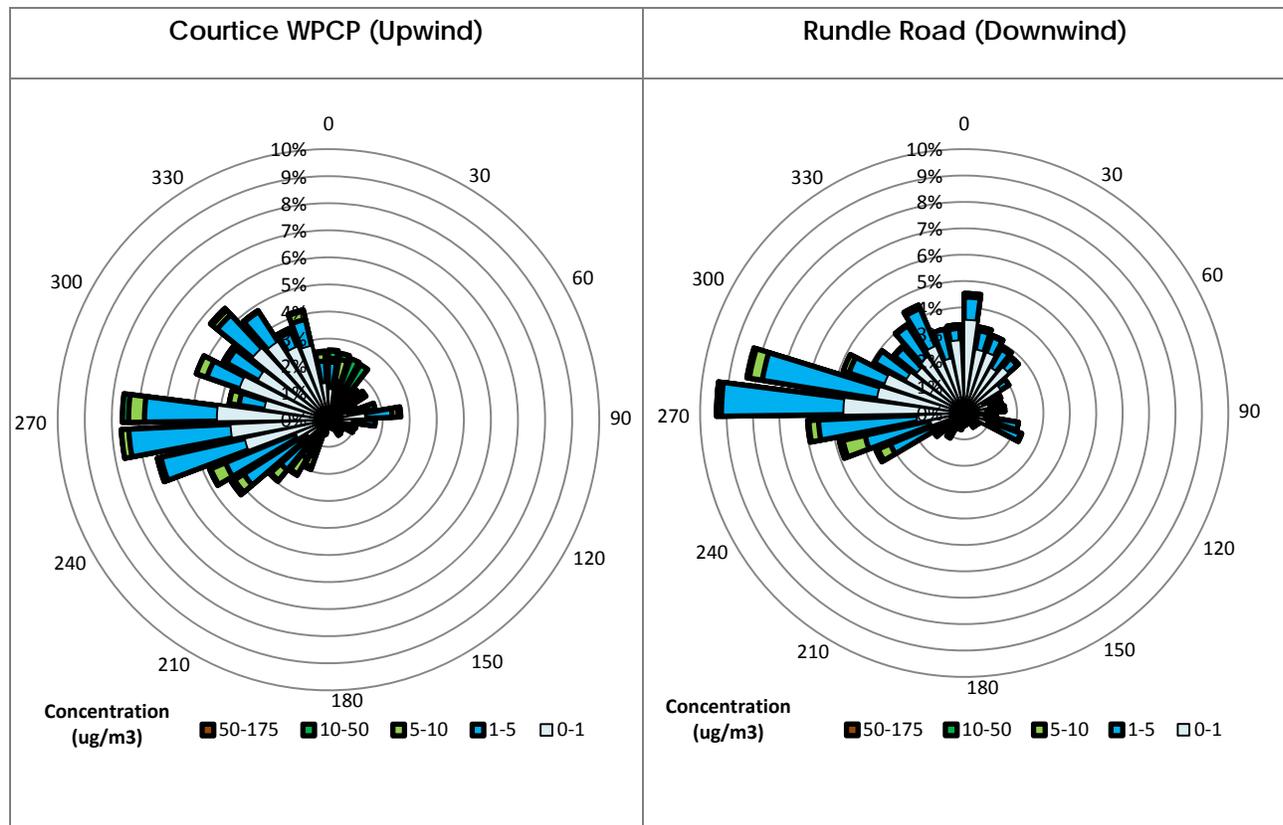
Pollution roses of hourly average SO₂ concentrations measured at the Courtice WPCP Station and Rundle Road Station are presented in Figure 4-3. The pollution rose plots present measured hourly average contaminant concentrations versus measured wind direction (over 10° wind sectors).

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For the Courtice WPCP Station, higher hourly concentrations were measured when winds were blowing from the northeast. For the Rundle Road station, the maximum measured hourly concentration occurred for westerly winds.

Figure 4-3 Pollution Roses for Measured Hourly Average SO₂ Concentrations – January to March 2014



4.2.2 Nitrogen Dioxide (NO₂)

Nitrogen oxides (NO_x) are almost entirely made up of nitric oxide (NO) and nitrogen dioxide (NO₂). Together, they are often referred to as NO_x. Most NO₂ in the atmosphere is formed by the oxidation of NO, which is emitted directly by combustion processes, particularly those at high temperature and pressure. Exposure to both NO and NO₂ can result in adverse health effects to an exposed population. NO₂ is the regulated form of NO_x. Similar to other jurisdictions (e.g., Alberta Environment, World Health Organization), the O. Reg. 419/05 Schedule 3 standards for NO_x are based on health effects of NO₂, as health effects are seen at much lower concentrations of NO₂ than NO. In this report, because NO₂ is the regulated form of NO_x, the AAQC were compared to measured NO₂ concentrations (as per MOE 2012a). However, as per the current April 2012 version of O. Reg. 419 Summary of Standards and Guidelines, the Schedule

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3 NO_x criteria were also compared to the monitored NO_x concentrations (see Section 4.2.3 below).

Data summaries are presented in Appendix B for nitrogen dioxide for each station and month as well as time history plots of the hourly and 24-hour average NO₂ concentrations. For the hourly and 24-hour averages, the Ontario AAQCs of 400 µg/m³ and 200 µg/m³ are shown as blue lines on each plot. As shown in these figures, measured ambient NO₂ concentrations at both stations were well below the criteria.

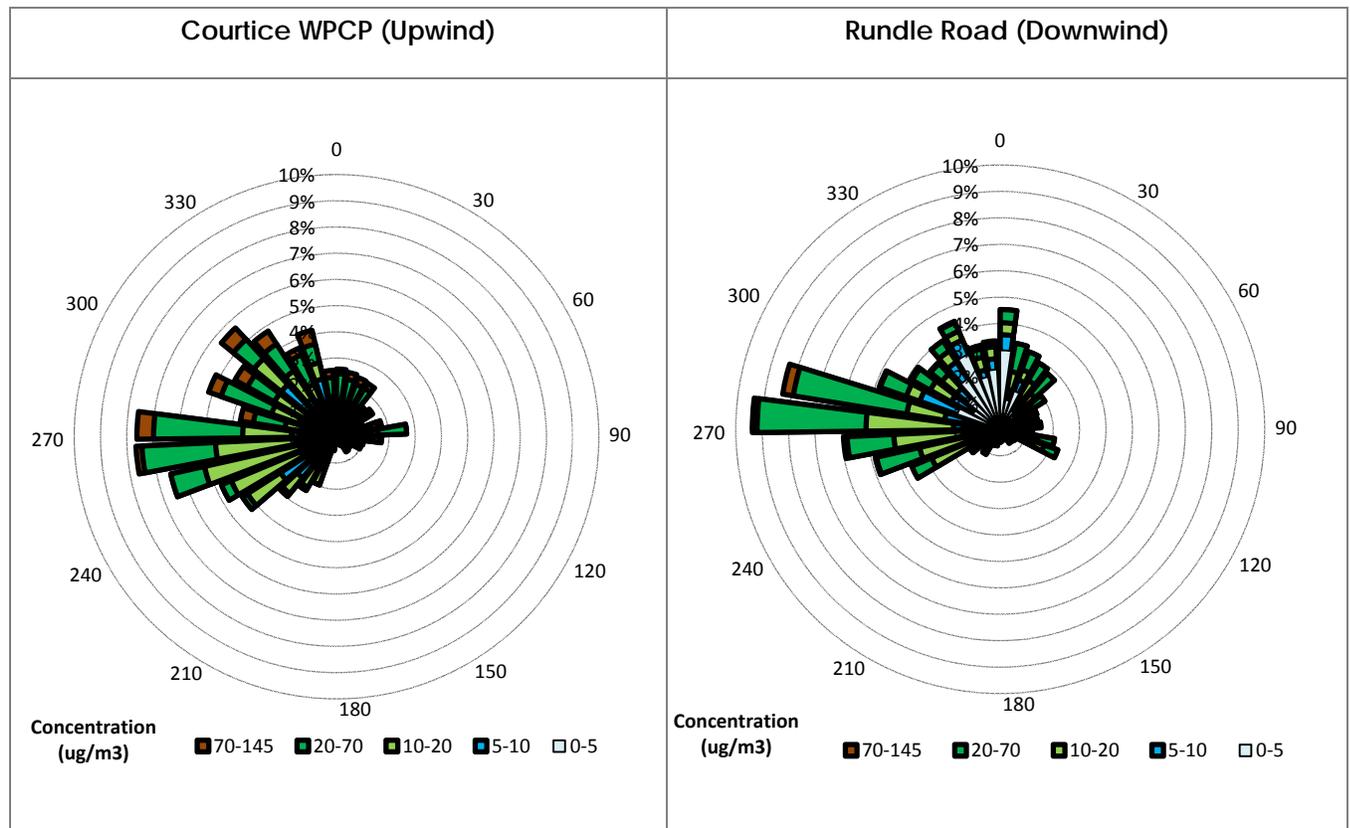
The maximum hourly and 24-hour average NO₂ concentrations measured at the Courtice WPCP station during this quarter were 109 and 69 µg/m³ respectively, which are 27% and 34% of the applicable 1-hour and 24-hour ambient air quality criteria. At the Rundle Road station, the maximum measured hourly and 24-hour average concentrations were 98 and 60 µg/m³, which are 24% and 30% of the applicable 1-hour and 24-hour ambient air quality criteria.

Pollution roses of measured hourly average NO₂ concentrations are presented in Figure 4-4. The measured hourly average concentrations for the Courtice WPCP Station were higher for winds that occurred for westerly and northerly directions. For the Rundle Road Station, higher measured hourly average concentrations occurred for winds blowing from the west relative to other directions.

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Figure 4-4 Pollution Roses for Measured Hourly Average NO₂ Concentrations – January to March 2014



4.2.3 Nitrogen Oxides (NO_x)

Data summaries are presented in Appendix C for nitrogen oxides for each station and month as well as time history plots of the hourly and 24-hour average NO_x concentrations. For the hourly and 24-hour averages, the Ontario Schedule 3 criteria of 400 µg/m³ and 200 µg/m³ are shown as blue lines on each plot. As shown in these figures, the maximum measured ambient hourly and 24-hour average NO_x concentrations at the Courtice WPCP station were below the criteria during this quarter. The measured concentrations at the Rundle Road station were also well below the criteria.

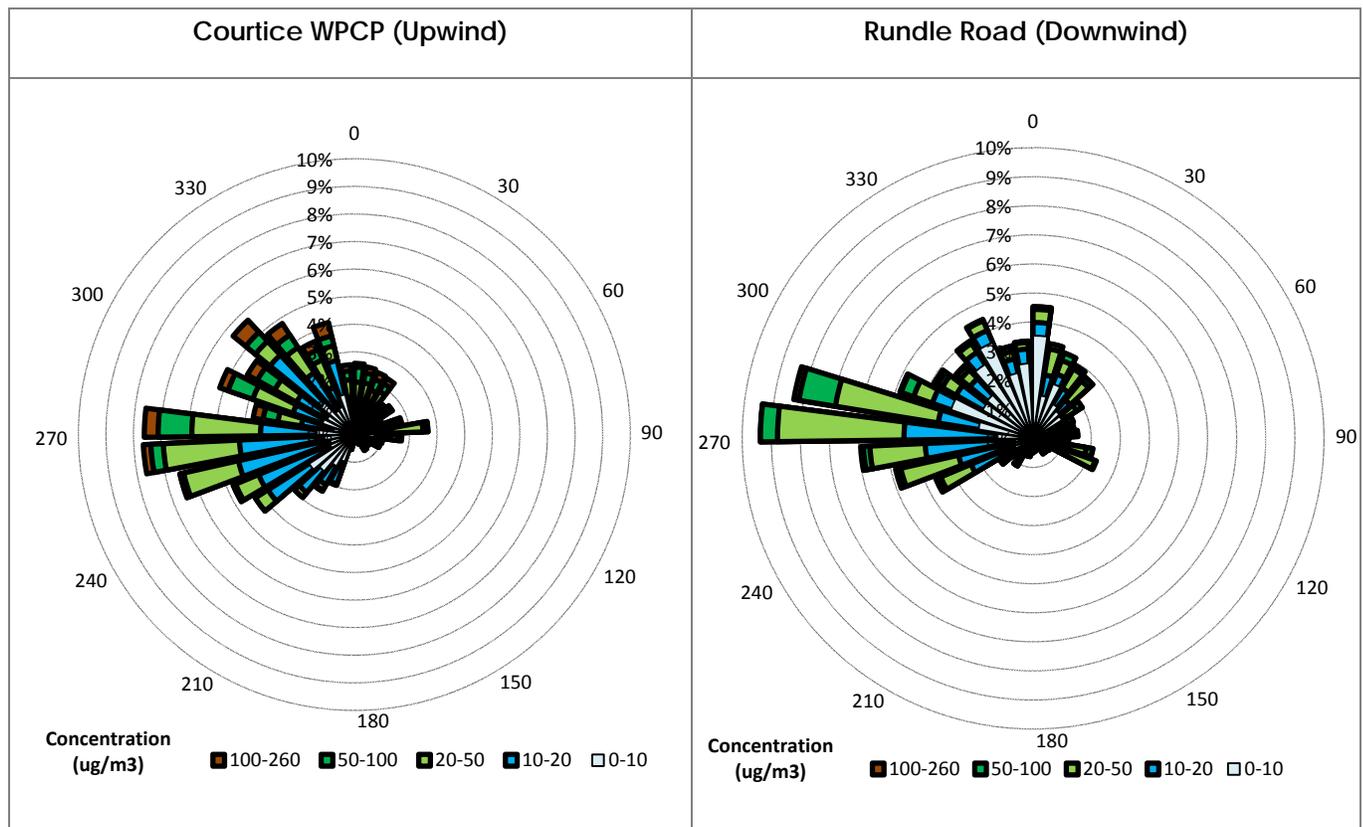
As indicated above and in Table 4-2, the maximum hourly NO_x concentration measured at the Courtice WPCP station was 257 µg/m³, which is 64% of the 1-hour ambient criteria. The 24-hour average NO_x concentration measured at this station was 113 µg/m³, which is 56% of the applicable 24-hour air quality criteria. At the Rundle Road Station, the maximum hourly and 24-hour average concentrations measured during this quarter were 146 and 83 µg/m³, which are 37% and 42% of the applicable air quality criteria.

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Pollution roses of measured hourly average NO_x concentrations for the Courtice WPCP Station and the Rundle Road Station are presented in Figure 4-5. In Figure 4-5, higher measured hourly average NO_x concentrations at the Courtice WPCP occurred for winds blowing from westerly to northerly directions. At the Rundle Road Station, the maximum measured hourly average concentration occurred for westerly winds.

Figure 4-5 Pollution Roses for Measured Hourly Average NO_x Concentrations – January to March 2014



4.2.4 Particulate Matter Smaller than 2.5 Microns (PM_{2.5})

Data summaries and time history plots of measured 24-hour average concentrations are presented in Appendix D for PM_{2.5} for the Courtice WPCP and Rundle Road stations.

The maximum measured 24-hour average PM_{2.5} concentrations at the Courtice WPCP and the Rundle Road stations were 43 µg/m³ and 41 µg/m³ during this quarter. It should be noted that since an exceedance of the CWS for PM_{2.5} requires the average of the 98th percentile levels in each of three consecutive years to be greater than 30 µg/m³, whereas the PM_{2.5} measurement period at both stations in the report was three months, there is insufficient data in a quarter to

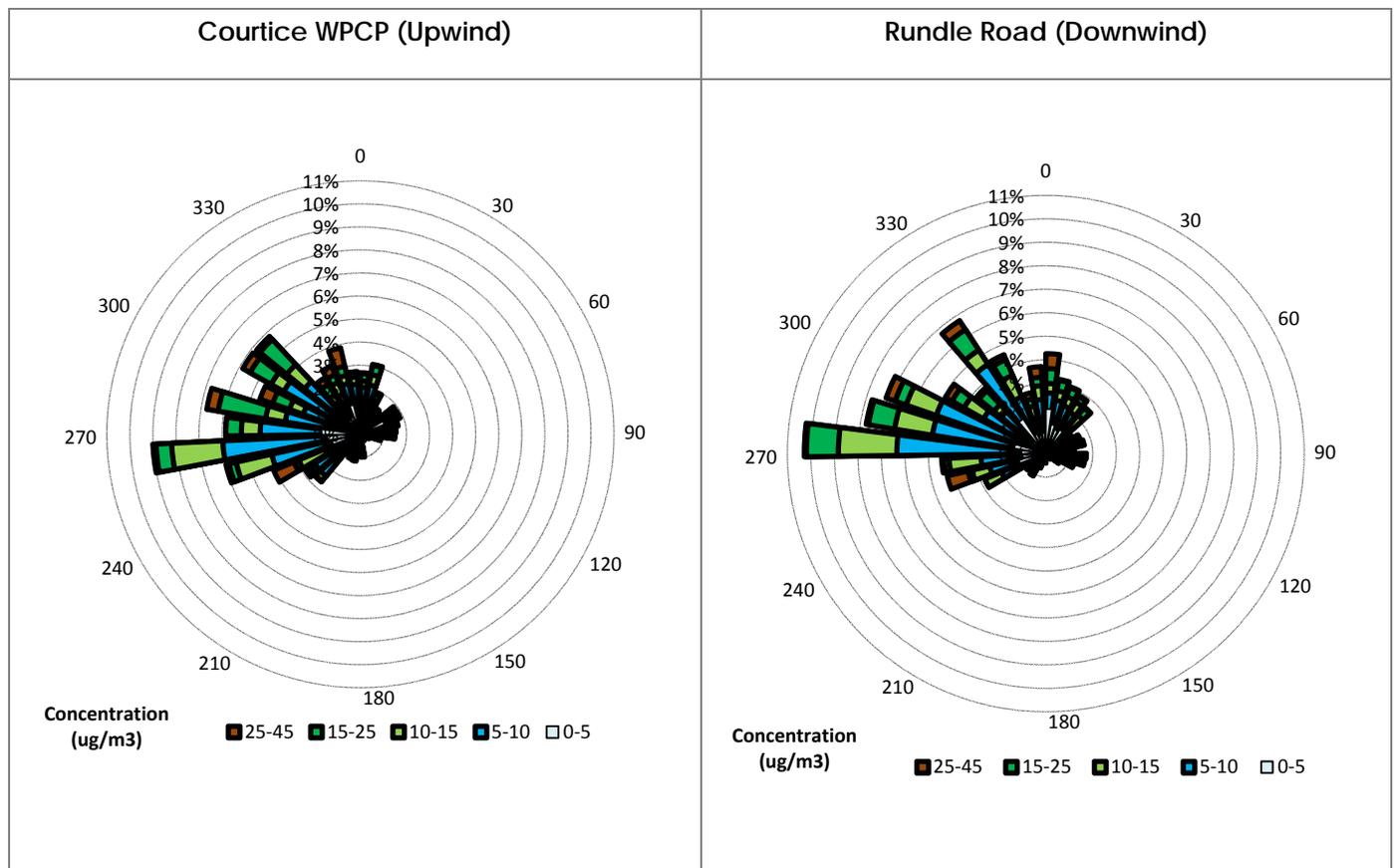
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determine with any certainty if exceedances of the CWS would occur. Discussion of PM_{2.5} measurements with respect to the CWS will be provided in the 2014 annual report, at which time sufficient data will have been collected to make preliminary comparisons.

Pollution roses showing the measured 24-hour average ambient PM_{2.5} concentrations versus direction are shown in Figure 4-6 for both monitoring stations. The maximum measured concentration occurred for northerly winds for the Courtice WPCP Station. For the Rundle Road Station, the maximum measured 24-hour average concentration occurred for northerly winds.

Figure 4-6 Pollution Roses for Measured 24-Hour Average PM_{2.5} Concentrations – January to March 2014



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4.2.5 Ambient TSP / Metals Concentrations

A summary of the maximum and minimum ambient TSP and metals concentrations (for a daily averaging period) are presented in Table 4-3. A detailed summary of the concentrations measured for each sample is presented in Appendix F.

The maximum measured concentrations of TSP and all metals with MOE air quality criteria were well below their applicable 24-hour criteria (shown in Table 4-3 below) at both stations.

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Table 4-3 Summary of Measured Ambient TSP/Metals Concentrations

Contaminant	Units	MOE Criteria	HHRA Health Based Standard	Courtice WPCP (Upwind)			Rundle Road (Downwind)		
				Max	Min	No. of Exceedances	Max	Min	No. of Exceedances
Particulate	µg/m ³	120	120	48	3	0	37	8	0
Total Mercury (Hg)	µg/m ³	2	2	1.82E-05	4.56E-06	0	2.94E-05	4.03E-06	0
Aluminum (Al)	µg/m ³	4.8	-	2.74E-01	1.57E-02	0	1.45E-01	1.39E-02	0
Antimony (Sb)	µg/m ³	25	25	6.29E-03	2.12E-03	0	3.25E-03	1.96E-03	0
Arsenic (As)	µg/m ³	0.3	0.3	3.77E-03	1.27E-03	0	1.95E-03	1.18E-03	0
Barium (Ba)	µg/m ³	10	10	8.78E-03	1.36E-03	0	7.09E-03	1.57E-03	0
Beryllium (Be)	µg/m ³	0.01	0.01	6.29E-04	2.12E-04	0	3.25E-04	1.96E-04	0
Bismuth (Bi)	µg/m ³	-	-	3.77E-03	1.27E-03	-	1.95E-03	1.18E-03	-
Boron (B)	µg/m ³	120	-	5.61E-03	1.27E-03	0	4.23E-03	1.18E-03	0
Cadmium (Cd)	µg/m ³	0.025	0.025	1.26E-03	4.25E-04	0	6.49E-04	3.92E-04	0
Chromium (Cr)	µg/m ³	0.5	-	3.44E-03	1.06E-03	0	3.23E-03	9.80E-04	0
Cobalt (Co)	µg/m ³	0.1	0.1	1.26E-03	4.25E-04	0	6.49E-04	3.92E-04	0
Copper (Cu)	µg/m ³	50	-	5.95E-02	9.36E-03	0	1.93E-01	2.60E-02	0
Iron (Fe)	µg/m ³	4	-	8.49E-01	5.54E-02	0	6.21E-01	6.77E-02	0
Lead (Pb)	µg/m ³	0.5	0.5	5.50E-03	6.37E-04	0	7.34E-03	6.63E-04	0
Magnesium (Mg)	µg/m ³	-	-	3.87E-01	1.57E-02	-	2.83E-01	1.39E-02	-
Manganese (Mn)	µg/m ³	0.4	-	2.79E-02	1.60E-03	0	2.60E-02	1.79E-03	0
Molybdenum (Mo)	µg/m ³	120	-	2.36E-03	6.37E-04	0	2.76E-03	5.88E-04	0
Nickel (Ni)	µg/m ³	0.2	-	1.89E-03	6.37E-04	0	2.33E-03	5.88E-04	0

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Table 4-3 Summary of Measured Ambient TSP/Metals Concentrations

Contaminant	Units	MOE Criteria	HHRA Health Based Standard	Courtice WPCP (Upwind)			Rundle Road (Downwind)		
				Max	Min	No. of Exceedances	Max	Min	No. of Exceedances
Phosphorus (P)	µg/m ³	-	-	1.05E-01	5.31E-03	-	3.37E-02	5.04E-03	-
Selenium (Se)	µg/m ³	10	10	6.29E-03	2.12E-03	0	3.25E-03	1.96E-03	0
Silver (Ag)	µg/m ³	1	1	3.15E-03	1.06E-03	0	1.62E-03	9.80E-04	0
Strontium (Sr)	µg/m ³	120	-	1.23E-02	7.51E-04	0	6.81E-03	7.91E-04	0
Thallium (Tl)	µg/m ³	-	-	6.29E-03	2.12E-03	-	3.25E-03	1.96E-03	-
Tin (Sn)	µg/m ³	10	10	6.29E-03	2.12E-03	0	3.25E-03	1.96E-03	0
Titanium (Ti)	µg/m ³	120	-	1.60E-02	2.12E-03	0	7.71E-03	2.02E-03	0
Vanadium (V)	µg/m ³	2	1	3.15E-03	1.06E-03	0	1.62E-03	9.80E-04	0
Zinc (Zn)	µg/m ³	120	-	1.14E-01	8.78E-03	0	1.24E-01	6.24E-03	0
Zirconium (Zr)	µg/m ³	20	-	3.15E-03	1.06E-03	0	1.62E-03	9.80E-04	0
Total Uranium (U)	µg/m ³	1.5	-	2.83E-04	9.56E-05	0	1.46E-04	8.82E-05	0

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4.2.6 Ambient PAH Concentrations

A summary of the maximum and minimum ambient PAH concentrations (for a daily averaging period) are presented in Table 4-4. In this summary both individual PAHs as well as a total PAH concentration are reported. A detailed summary of the concentrations measured for each sample is presented in Appendix F.

The maximum measured concentrations of all PAHs with MOE air quality criteria were well below their applicable 24-hour criteria, with the exception of six (6) measurements of benzo(a)pyrene (B(a)P) collected at the two monitoring stations.

The current Ontario 24-hour B(a)P AAQC was introduced in 2011 and levels above this recently enacted AAQC are commonly measured throughout Ontario. B(a)P measurement data available from the National Air Pollutant Surveillance (NAPS) network for Ontario in 2012 (for Windsor, Toronto and Hamilton), all had maximum levels above the AAQC (varying between 716% -2920% of the criteria). In 2011, NAPS data available for seven Ontario stations (Windsor, Toronto, Etobicoke, Hamilton, Simcoe, Pt. Petrie and Burnt Island) showed exceedances at six of the seven stations, with only the remote Burnt Island Ontario station reporting a maximum level below the MOE AAQC. In 2010, all of these stations, including the Burnt Island station, measured B(a)P levels above the AAQC.

Benzo(a)pyrene (B(a)P) is a byproduct of a wide variety of natural and man-made combustion processes (including motor vehicles, natural gas, wood, refuse, oil, forest fires, etc) and is widely present in the environment (including being present in soil and water).

The benzo(a)pyrene level in two (2) samples collected at the Courtice WPCP Station on February 4, and March 24, 2014 exceeded the Ontario AAQC by 165% and 19%, respectively. Four (4) samples collected at the Rundle Road station during this quarter exceeded the Ontario AAQC by between 34% and 476%. These samples were collected on January 14, February 8, February 28, and March 24, 2014. All samples were however, well below the MOE Schedule 6 Upper Risk Threshold, the MOE O. Reg. 419 24-hour average guideline, and the HHRA health based standard. A summary of the wind directions and potential source contributions for these measurements is presented in Table 4-5.

Based on the air quality assessments completed during the Environmental Assessment Study and the Environmental Compliance Approval application for the DYEC, the facility will not be a significant contributor of B(a)P. Therefore, ambient B(a)P levels are not expected to be substantially impacted by the operation of the DYEC.

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Table 4-4 Summary of Measured Ambient PAH Concentrations

Contaminant	Units	MOE Criteria	HHRA Health Based Standard	Courtice WPCP (Upwind)			Rundle Road (Downwind)		
				Max	Min	No. of Exceedances	Max	Min	No. of Exceedances
Benzo(a)pyrene	ng/m ³	0.05 ^A 5 ^B 1.1 ^C	1	1.32E-01	1.13E-02	2 0 0	2.88E-01	2.31E-02	4 0 0
1-Methylnaphthalene	ng/m ³	12,000	-	8.17E+00	1.64E+00	0	1.08E+01	1.60E+00	0
2-Methylnaphthalene	ng/m ³	10,000	-	1.11E+01	2.75E+00	0	1.87E+01	2.52E+00	0
Acenaphthene	ng/m ³	-	-	2.75E+00	3.28E-01	-	1.95E+00	1.53E-01	-
Acenaphthylene	ng/m ³	3500	-	3.84E-01	1.09E-01	0	2.04E+00	1.11E-01	0
Anthracene	ng/m ³	200	-	1.12E+00	7.73E-02	0	7.41E-01	7.69E-02	0
Benzo(a)anthracene	ng/m ³	-	-	1.58E-01	7.73E-02	-	1.53E-01	7.69E-02	-
Benzo(a)fluorene	ng/m ³	-	-	3.15E-01	1.55E-01	-	3.06E-01	1.54E-01	-
Benzo(b)fluoranthene	ng/m ³	-	-	5.91E-01	7.73E-02	-	6.84E-01	7.69E-02	-
Benzo(b)fluorene	ng/m ³	-	-	3.15E-01	1.55E-01	-	3.06E-01	1.54E-01	-
Benzo(e)pyrene	ng/m ³	-	-	3.15E-01	1.55E-01	-	3.06E-01	1.54E-01	-
Benzo(g,h,i)perylene	ng/m ³	-	-	1.58E-01	7.73E-02	-	3.13E-01	7.69E-02	-
Benzo(k)fluoranthene	ng/m ³	-	-	1.58E-01	7.73E-02	-	1.53E-01	7.69E-02	-
Biphenyl	ng/m ³	-	-	4.47E+00	9.59E-01	-	5.84E+00	1.19E+00	-
Chrysene	ng/m ³	-	-	5.32E-01	7.73E-02	-	6.55E-01	7.69E-02	-
Dibenz(a,h)anthracene ^D	ng/m ³	-	-	1.58E-01	7.73E-02	-	2.40E-01	7.69E-02	-
Dibenzo(a,c)anthracene + Picene ^D	ng/m ³	-	-	3.15E-01	1.43E-01	-	3.06E-01	1.54E-01	-
Fluoranthene	ng/m ³	-	-	3.99E+00	1.53E-01	-	2.96E+00	3.63E-01	-

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Table 4-4 Summary of Measured Ambient PAH Concentrations

Contaminant	Units	MOE Criteria	HHRA Health Based Standard	Courtice WPCP (Upwind)			Rundle Road (Downwind)		
				Max	Min	No. of Exceedances	Max	Min	No. of Exceedances
Indeno (1,2,3-cd)pyrene	ng/m ³	-	-	1.58E-01	7.73E-02	-	2.85E-01	7.69E-02	-
Naphthalene	ng/m ³	22,500	22,500	3.87E+01	1.16E+01	0	9.26E+01	1.09E+01	0
o-Terphenyl	ng/m ³	-	-	3.15E-01	1.55E-01	-	3.06E-01	1.54E-01	-
Perylene	ng/m ³	-	-	3.15E-01	1.55E-01	-	3.06E-01	1.54E-01	-
Phenanthrene	ng/m ³	-	-	8.27E+00	1.01E+00	-	8.86E+00	1.38E+00	-
Pyrene	ng/m ³	-	-	2.54E+00	7.73E-02	-	1.88E+00	1.53E-01	-
Tetralin	ng/m ³	-	-	2.53E+01	1.33E+00	-	3.99E+00	6.46E-01	-
Total PAH ^E	ng/m ³	-	-	95.0	22.0	-	153.9	23.1	-

Notes:

- A. Ontario Ambient Air Quality Criteria. The standard for benzo(a)pyrene (B(a)P) is for B(a)P as a surrogate for PAHs.
- B. O. Reg. 419 Schedule 6 Upper Risk Thresholds.
- C. O. Reg. 419 24 Hour Guideline
- D. Based on laboratory analyses, dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene. Picene elutes after dibenz(a,h)anthracene
- E. The reported total PAH is the sum of all analysed PAH species.

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Table 4-5 Source Contribution Analysis – Quarter 1 2014 B(a)P Exceedances

Date	Station	% above the MOE B(a)P Criterion	Wind Direction	Potential Source Contributions
January 14, 2014	Rundle Road	42%	Northwest	Land use in this wind direction is mainly agricultural.
February 4, 2014	Courtice WPCP	165%	North	Land use in this direction is primarily agricultural with Highway 401 and a CN rail line also located to the north.
February 8, 2014	Rundle Road	476%	Northwest	Land use in this wind direction is mainly agricultural.
February 28, 2014	Rundle Road	34%	Northwest	Land use in this wind direction is mainly agricultural.
March 24, 2014	Courtice WPCP	19%	West/Northwest	Land use in this direction is primarily agricultural at Courtice and a mix of agricultural and commercial at Rundle.
	Rundle Road	102%	West/Northwest	

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4.2.7 Ambient Dioxin and Furan Concentrations

A summary of the maximum and minimum ambient D/F concentrations (for a daily averaging period) are presented in Table 4-6. In this summary, both individual dioxin and furan concentrations (pg/m^3) as well as the total toxic equivalency concentration (TEQ) are reported. A detailed summary of the concentrations measured for each sample is presented in Appendix G.

The maximum measured toxic equivalent dioxin and furan concentrations at both stations were below the applicable 24-hour criteria AAQC of $0.1 \text{ pg TEQ}/\text{m}^3$ (as shown in Table 4-6).

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Table 4-6 Summary of Measured Ambient Dioxin and Furan Concentrations

Contaminant	Units	MOE Criteria	HHRA Health Based Standard	Courtice WPCP (Upwind)			Rundle Road (Downwind)		
				Max	Min	No. of Exceedances	Max	Min	No. of Exceedances
2,3,7,8-Tetra CDD *	pg/m ³			1.05E-02	5.91E-03		3.75E-02	5.38E-03	
1,2,3,7,8-Penta CDD	pg/m ³			7.25E-03	6.30E-03		1.27E-02	6.27E-03	
1,2,3,4,7,8-Hexa CDD	pg/m ³			1.38E-02	6.35E-03		6.69E-03	6.13E-03	
1,2,3,6,7,8-Hexa CDD	pg/m ³			1.55E-02	6.65E-03		2.63E-02	6.13E-03	
1,2,3,7,8,9-Hexa CDD	pg/m ³			2.24E-02	5.61E-03		3.63E-02	5.58E-03	
1,2,3,4,6,7,8-Hepta CDD	pg/m ³			1.38E-01	6.00E-03		2.53E-01	7.53E-02	
Octa CDD	pg/m ³			6.23E-01	2.28E-01		5.17E-01	2.52E-01	
Total Tetra CDD	pg/m ³			3.00E-02	8.27E-03		3.20E-02	6.13E-03	
Total Penta CDD	pg/m ³			2.78E-02	1.36E-02		2.62E-02	1.49E-02	
Total Hexa CDD	pg/m ³			9.95E-02	3.75E-02		1.60E-01	1.21E-02	
Total Hepta CDD	pg/m ³			3.34E-01	7.48E-02		2.53E-01	1.49E-01	
2,3,7,8-Tetra CDF **	pg/m ³			4.19E-02	6.45E-03		5.10E-02	6.34E-03	
1,2,3,7,8-Penta CDF	pg/m ³			1.66E-02	6.30E-03	N/A	1.23E-02	4.94E-03	N/A
2,3,4,7,8-Penta CDF	pg/m ³			1.81E-02	6.30E-03		1.54E-02	4.94E-03	
1,2,3,4,7,8-Hexa CDF	pg/m ³			2.04E-02	6.15E-03		2.06E-02	6.20E-03	
1,2,3,6,7,8-Hexa CDF	pg/m ³			1.66E-02	5.85E-03		6.34E-03	5.41E-03	
2,3,4,6,7,8-Hexa CDF	pg/m ³			1.55E-02	6.15E-03		6.64E-03	5.82E-03	
1,2,3,7,8,9-Hexa CDF	pg/m ³			9.89E-03	5.91E-03		6.49E-03	5.67E-03	
1,2,3,4,6,7,8-Hepta CDF	pg/m ³			2.98E-02	6.15E-03		3.34E-02	6.19E-03	
1,2,3,4,7,8,9-Hepta CDF	pg/m ³			1.75E-02	6.20E-03		6.94E-03	5.82E-03	
Octa CDF	pg/m ³			3.07E-02	1.36E-02		3.69E-02	6.19E-03	
Total Tetra CDF	pg/m ³			1.54E-01	6.45E-03		1.84E-01	6.34E-03	
Total Penta CDF	pg/m ³			4.93E-02	6.30E-03		6.84E-02	6.04E-03	
Total Hexa CDF	pg/m ³			6.65E-02	6.00E-03		3.39E-02	6.04E-03	
Total Hepta CDF	pg/m ³			4.76E-02	6.45E-03		3.34E-02	6.49E-03	
TOTAL TOXIC EQUIVALENCY ^A	pg TEQ/m ³	0.1 ^B 1 ^C	-	0.038	0.021	0 0	0.065	0.021	0 0

Note:

A. Total Toxicity Equivalent (TEQ) concentration contributed by all dioxins, furans and dioxin-like PCBs calculated as per O. Reg. 419 methodology using corresponding WHO₂₀₀₅ toxic equivalency factors (TEFs) and a value of half the minimum detection limit (MDL) substituted for concentrations less than the MDL.

B. Ontario Ambient Air Quality Criteria

C. O. Reg. 419 Schedule 6 Upper Risk Thresholds

* CDD - Chloro Dibenzo-p-Dioxin, ** CDF - Chloro Dibenzo-p-Furan



QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Conclusions
June 23, 2014

5.0 CONCLUSIONS

This quarterly report provides a summary of the ambient air quality data collected at the two monitoring stations located predominantly upwind and downwind in the vicinity of the DYEC for the period January to March 2014. The following observations and conclusions were made from a review of the measured ambient air quality monitoring data:

1. Measured levels of NO₂, SO₂ and PM_{2.5} were below the applicable O.Reg. 419/05 criteria or human health risk assessment (HHRA) health-based standards presented in Table 2.2 of this report;
2. Since the Canada Wide Standard (CWS) for PM_{2.5} is based on a 98th percentile level over 3 years, whereas the PM_{2.5} measurement period at both stations for this quarterly report was three months, there is insufficient data collected to determine with any certainty if exceedances of the CWS would occur. Therefore no comparison of the measured PM_{2.5} data to the CWS was conducted for this report, as it would not be scientifically accurate or representative.
3. The maximum measured concentrations of TSP and all metals with MOE air quality criteria were well below their applicable criteria (as presented in Table 2.3 in this report);
4. The maximum measured concentrations of all PAHs with MOE air quality criteria were well below their applicable criteria shown in Table 2.4, with the exception of the 24-hour benzo(a)pyrene concentration in two samples measured at the Courtice WPCP Station and four samples measured at the Rundle Road Station, which exceeded the applicable Ontario Ambient Air Quality Criteria by between 19% to 476%. The measurements were however, well below the MOE Schedule 6 Upper Risk Threshold, the MOE O. Reg. 419 24-hour average guideline, and the HHRA health based standard.;
5. The maximum measured toxic equivalent dioxin and furan concentration was below the applicable criteria presented in Table 2.4.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

References
June 23, 2014

6.0 REFERENCES

Canadian Council of Ministers of the Environment (CCME), (2007). Guidance Document on Achievement Determination. Canada-Wide Standards for Particulate Matter and Ozone. Revised (PN1391)(978-1-896997-74-2 PDF)

Jacques Whitford, (2009). Final Environmental Assessment, December 4, 2009

Ontario Minister of the Environment (MOE), (2010). Environmental Assessment Act, Section 9. Notice of Approval to Proceed with the Undertaking. Re: The Amended Environmental Assessment for Durham and York Residual Waste Study (EA File No: 04-EA-02-08)

Ontario Ministry of the Environment (MOE), (2012a). Standards Development Branch, Ontario's Ambient Air Quality Criteria, April 2012. (PIBs 6570e01)

Ontario Ministry of the Environment (MOE), (2012b). Standards Development Branch, Summary of Standards and Guidelines to support Ontario Regulation 419/05 – Air Pollution – Local Air Quality (including Schedule 6 of O. Reg 419/05 on Upper Risk Thresholds), April 2012 (PIBs 6569e01)

Stantec Consulting Limited, (2009). Final Environmental Assessment, Appendix C12: Site Specific Human Health and Ecological Risk Assessment Technical Study Report, December 4, 2009.

Stantec Consulting Limited, (2012). Ambient Air Quality Monitoring Plan – Durham York Residual Waste Study, May 8, 2012.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Appendix A SO₂ Data Summaries and Time History Plots
June 23, 2014

Appendix A SO₂ DATA SUMMARIES AND TIME HISTORY PLOTS

Figure A-1 Time History Plots of Measured Hourly Average and 24-Hour Average SO₂ Concentrations- Courtice (WPCP) Station

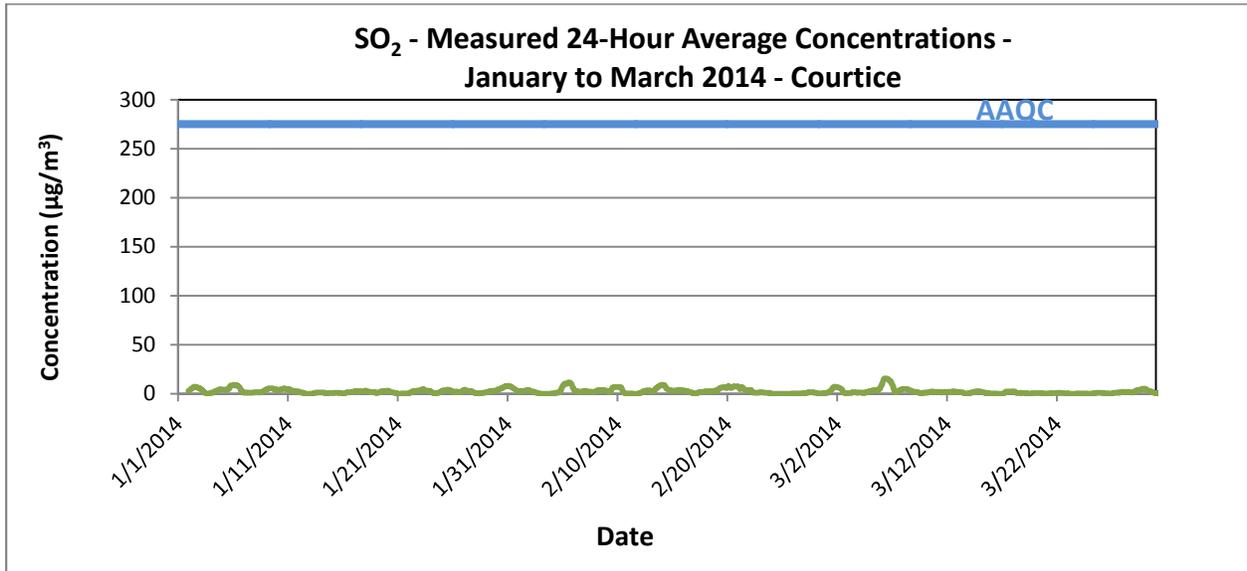
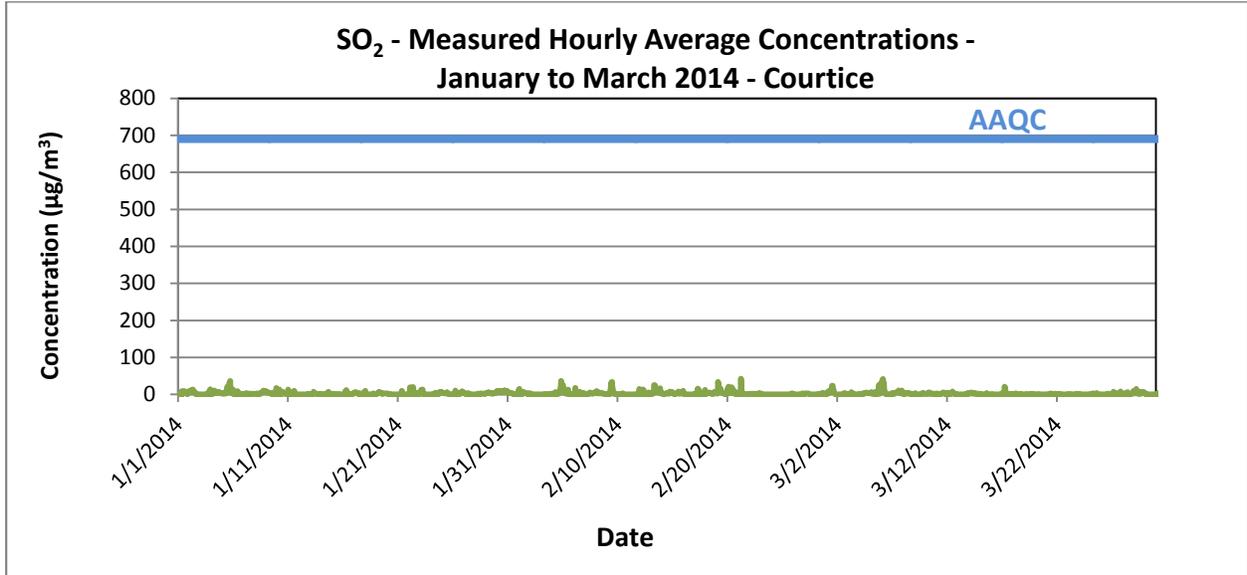
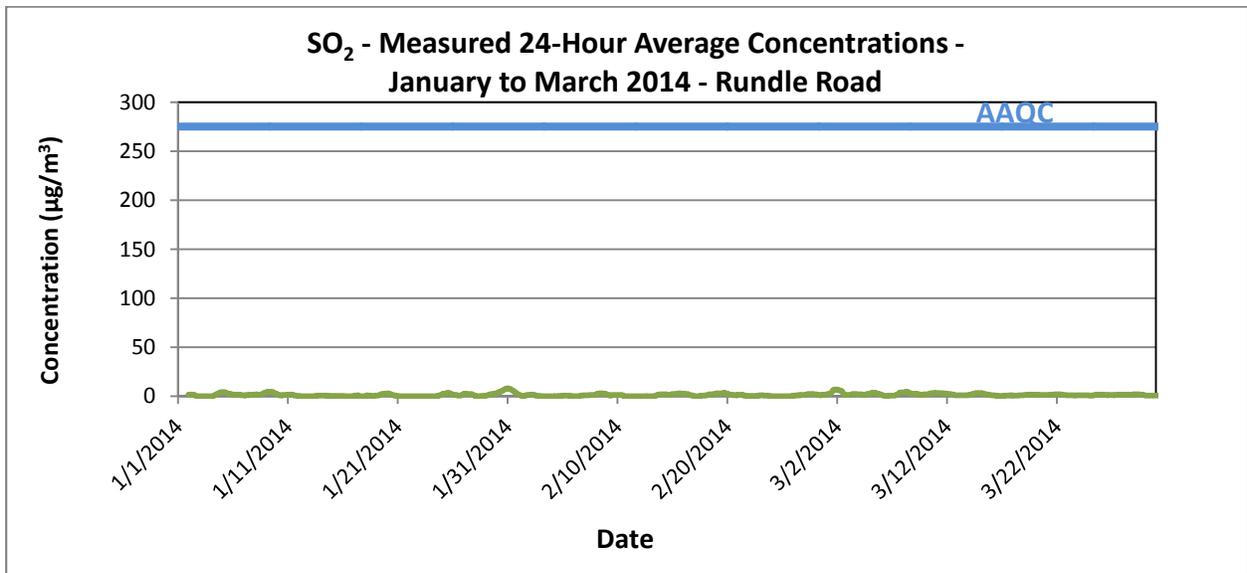
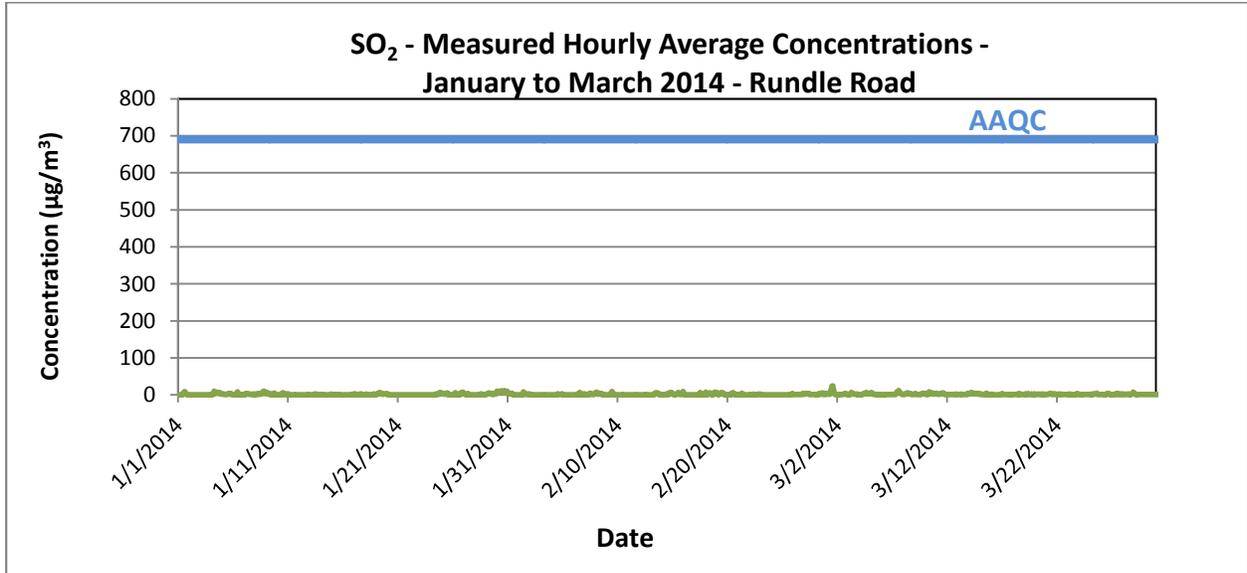


Figure A-2 Time History Plots of Measured Hourly Average and 24-Hour Average SO₂ Concentrations- Rundle Road Station



SO2 - COURTICE
January 2014
(ug/m3)

Day	Hour																								Count	Maximum	Minimum	Average	Hrs>690	Days>275	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	1.1	0.6	3.1	3.3	5.8	8.8	6.2	6.1	6.5	2.5	6.9	2.8	0.7	4.1	3.5	24	9.0	0.0	3.0	0	0	
2	8.7	7.8	6.8	8.1	8.2	11.1	11.5	11.1	13.1	13.1	8.9	8.4	7.4	5.8	1.4	4.1	2.0	1.9	0.7	0.5	0.2	0.2	0.0	0.0	24	13.1	0.0	5.9	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	0.0	0.0	0.0	0.0	0.0	5.8	0.0	1.7	0.0	13.8	2.9	24	13.8	0.0	1.0	0	0	
4	0.6	1.4	2.4	2.3	1.6	2.2	3.9	11.0	7.3	6.0	3.7	4.2	4.9	6.9	5.3	5.4	5.0	4.8	5.5	4.6	5.4	3.4	3.8	3.5	24	11.0	0.6	4.4	0	0	
5	2.6	1.9	1.8	2.1	1.9	1.8	2.6	3.4	8.3	2.6	5.5	5.6	21.2	10.1	5.6	7.7	30.0	29.3	36.4	7.9	4.6	6.0	3.8	4.6	24	36.4	1.8	8.6	0	0	
6	13.1	4.2	0.4	0.5	0.3	1.4	0.7	0.4	0.3	2.4	9.0	4.6	0.9	0.2	0.0	0.0	0.0	2.1	1.1	0.1	1.3	1.0	0.0	0.0	24	13.1	0.0	1.8	0	0	
7	0.0	0.0	0.0	0.6	3.2	1.8	2.5	2.9	2.1	2.0	1.4	1.9	1.9	1.5	1.6	1.1	1.1	1.3	1.8	1.8	1.8	1.7	1.2	1.2	24	3.2	0.0	1.5	0	0	
8	1.2	1.0	1.3	2.1	3.0	1.7	1.1	1.1	1.8	1.3	1.5	2.7	2.3	3.4	4.3	4.3	5.4	8.1	9.7	10.7	9.6	6.4	5.4	7.0	24	10.7	1.0	4.0	0	0	
9	9.0	9.0	5.6	5.1	5.9	5.5	4.4	4.0	3.7	3.9	3.5	5.5	2.0	1.9	2.3	0.3	1.1	2.3	3.1	5.6	4.1	3.3	1.2	6.4	17.1	24	17.1	0.3	4.6	0	0
10	4.0	1.7	1.0	1.0	7.6	13.0	8.3	6.2	7.0	A	A	7.3	6.9	5.4	5.0	4.1	2.6	2.0	1.9	1.1	1.3	1.1	1.0	0.8	22	13.0	0.8	4.1	0	0	
11	5.2	13.1	6.2	0.6	0.2	1.6	0.4	0.0	4.6	3.4	1.8	4.1	2.8	3.1	9.4	1.4	0.4	0.6	0.4	0.3	0.2	0.5	0.4	0.5	24	13.1	0.0	2.6	0	0	
12	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.6	0.7	0.5	0.2	24	1.6	0.0	0.2	0	0	
13	0.0	0.0	0.0	0.0	0.4	1.0	1.4	3.3	7.1	2.0	2.2	1.9	1.9	1.8	1.9	2.0	1.6	1.0	0.8	0.7	0.4	0.0	0.0	0.0	24	7.1	0.0	1.3	0	0	
14	0.0	1.9	0.9	0.3	0.3	0.3	0.2	0.2	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	7.1	0.0	1.9	1.2	0.0	0.8	1.8	1.4	24	7.1	0.0	0.9	0	0	
15	1.7	0.8	0.5	0.0	0.2	1.9	1.5	1.1	0.2	0.0	0.0	0.0	0.7	0.3	1.0	0.8	1.0	0.8	0.2	0.0	0.0	0.0	0.0	0.0	24	1.9	0.0	0.5	0	0	
16	0.0	0.0	0.0	0.0	0.0	2.4	9.5	11.0	6.7	7.8	2.3	1.3	1.2	0.3	0.0	0.0	0.0	0.3	0.7	1.7	0.0	1.7	1.8	2.5	24	11.0	0.0	2.1	0	0	
17	2.6	3.6	3.1	5.9	5.9	5.3	4.2	3.2	3.6	2.8	2.7	1.7	0.4	2.5	2.8	2.5	1.5	1.5	1.1	1.1	1.4	3.6	4.3	0.4	24	5.9	0.4	2.8	0	0	
18	7.5	10.1	1.0	2.8	2.3	1.1	1.0	0.0	0.0	0.0	0.3	0.4	0.4	0.3	0.1	0.0	0.0	0.8	1.2	2.8	2.3	1.5	2.0	1.4	24	10.1	0.0	1.6	0	0	
19	1.0	0.4	1.2	2.3	3.1	3.1	3.4	7.6	6.5	5.0	4.8	4.2	3.7	1.8	2.6	1.7	2.1	2.7	2.9	2.5	2.7	2.8	2.8	2.6	24	7.6	0.4	3.1	0	0	
20	2.8	3.0	2.7	0.9	0.0	0.0	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.0	0.0	0.4	0	0	
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	C	C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	22	10.0	0.0	0.5	0	0	
22	0.3	0.7	0.9	19.4	4.9	0.3	0.6	0.4	5.3	19.7	15.0	2.5	0.5	0.5	0.3	0.5	0.0	0.0	4.3	3.7	0.0	0.0	1.5	2.4	24	19.7	0.0	3.5	0	0	
23	1.6	5.7	8.4	11.8	7.0	13.3	13.2	5.9	0.6	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	13.3	0.0	2.9	0	0	
24	0.0	0.0	0.0	0.0	0.1	0.0	0.8	1.8	1.3	3.1	4.2	2.0	2.7	2.5	2.7	3.8	3.7	0.0	1.9	3.6	7.2	6.9	6.5	6.9	24	7.2	0.0	2.6	0	0	
25	5.5	4.4	3.6	3.8	3.8	3.4	3.1	3.1	3.2	3.5	4.2	5.6	6.5	4.9	0.8	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	24	6.5	0.0	2.5	0	0	
26	0.0	0.0	0.0	0.6	4.7	8.9	10.3	6.7	1.8	1.2	0.4	0.9	3.1	3.8	2.1	0.9	0.9	2.5	4.0	6.5	8.3	6.7	7.6	6.3	24	10.3	0.0	3.7	0	0	
27	3.9	3.8	3.5	2.9	1.9	0.7	0.4	0.5	0.5	2.3	3.6	0.7	1.1	1.1	1.0	0.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.9	0.0	1.2	0	0	
28	0.0	0.0	0.3	0.0	0.0	1.0	1.4	2.0	1.7	1.1	1.1	1.9	1.9	2.4	3.1	2.2	2.1	1.8	2.0	2.3	1.7	1.0	1.0	2.1	24	3.1	0.0	1.4	0	0	
29	2.5	3.6	2.7	3.3	3.6	4.6	5.9	5.7	4.8	3.8	3.2	3.7	3.7	3.3	2.2	1.9	2.3	2.6	2.8	3.3	3.6	3.3	3.5	4.3	24	5.9	1.9	3.5	0	0	
30	8.3	9.6	8.4	6.7	7.7	7.8	9.0	10.1	9.7	9.7	9.7	8.7	9.2	6.9	6.2	7.1	9.5	11.5	7.3	8.1	6.7	6.1	5.5	9.8	24	11.5	5.5	8.3	0	0	
31	9.2	7.5	5.9	4.3	4.9	3.8	3.8	3.5	3.8	3.7	3.8	2.5	0.7	0.6	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	1.3	3.9	24	9.2	0.0	2.7	0	0	
Count	31	31	31	31	31	31	31	31	31	30	29	30	31	31	31	31	31	31	31	31	31	31	31	31	740	31	29	30.8			
Maximum	13.1	13.1	8.4	19.4	8.2	13.3	13.2	11.1	13.1	19.7	15.0	8.7	21.2	10.1	9.4	7.7	30.0	29.3	36.4	10.7	9.6	6.9	13.8	17.1	24	36.4	6.9	14.9			
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	1.6	0.0	0.0			
Average	3.0	3.1	2.2	2.8	2.7	3.2	3.4	3.5	3.7	3.8	3.2	2.7	2.9	2.5	2.2	2.0	2.8	2.8	3.3	2.5	2.2	1.8	2.6	2.8	24	10	0	3			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		0.0		0.0		0.4		1.0		1.7		2.4		3.4		4.9		7.3		9.5		14.5		36.4						36.4	
Notes	C - Calibration / Span Cycle		NA - No Data Available				T - Test			A - MOE Audit			M - Equipment Malfunction / Down																		

SO2 - COURTICE
February 2014
(ug/m3)

Day	Hour	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>690	Days>275	
1		11.1	8.5	14.9	0.5	4.4	5.9	0.4	0.8	0.5	2.1	5.4	6.9	3.5	3.6	3.3	2.6	3.5	3.7	2.8	1.5	1.8	1.2	1.8	3.5	24	14.9	0.4	3.9	0	0	
2		1.8	0.8	1.4	1.8	1.8	1.0	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	0.0	0.0	0.0	24	1.8	0.0	0.4	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	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0	1.0	0.8	1.7	1.0	24	1.7	0.0	0.3	0	0	
4		2.4	0.5	0.0	0.9	0.0	0.0	4.9	1.3	2.9	5.9	1.6	0.6	1.0	1.5	2.7	3.3	2.7	2.6	6.1	13.3	19.8	36.3	29.7	21.1	24	36.3	0.0	6.7	0	0	
5		24.3	25.1	17.3	16.1	8.6	4.1	2.7	3.3	2.2	3.1	5.6	12.1	12.8	7.7	0.6	1.4	1.2	0.5	0.4	0.4	0.4	0.0	0.0	0.0	24	25.1	0.0	6.2	0	0	
6		0.0	1.3	0.6	0.0	17.4	0.2	0.4	2.0	1.3	1.5	4.6	3.5	1.0	4.7	7.3	5.1	1.4	0.0	1.4	3.2	3.6	3.9	2.3	2.0	24	17.4	0.0	2.9	0	0	
7		3.0	2.2	0.4	0.0	0.0	0.2	0.1	0.2	0.3	2.2	4.0	3.8	5.4	4.7	3.7	2.2	1.8	2.1	2.0	2.2	2.6	4.0	4.7	6.2	24	6.2	0.0	2.4	0	0	
8		6.5	8.0	8.6	4.8	3.8	3.2	2.9	3.6	5.3	4.8	2.5	2.7	2.8	2.8	4.5	2.8	2.0	1.6	1.9	1.8	1.5	1.4	1.1	0.5	24	8.6	0.5	3.4	0	0	
9		0.9	0.8	0.4	0.1	0.0	0.0	0.0	0.0	6.9	18.1	30.0	23.7	34.0	20.5	11.8	6.9	4.1	2.5	1.3	0.8	0.6	0.4	0.5	0.4	24	34.0	0.0	6.9	0	0	
10		0.0	1.0	1.2	0.2	0.4	0.0	0.1	0.1	1.2	1.4	0.6	0.6	2.8	1.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	2.8	0.0	0.5	0	0	
11		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	24	5.9	0.0	0.2	0	0		
12		15.0	3.7	0.0	0.0	2.2	11.9	6.4	0.8	13.5	12.2	3.0	1.4	0.7	0.6	0.4	0.2	0.1	0.4	0.4	0.6	5.4	2.6	0.3	0.6	24	15.0	0.0	3.4	0	0	
13		0.5	0.4	0.5	0.6	4.1	4.3	3.8	4.0	25.0	24.9	22.7	21.6	7.2	8.2	9.3	10.0	12.2	11.1	4.8	4.4	9.7	17.0	6.8	3.1	24	25.0	0.4	9.0	0	0	
14		5.6	2.2	1.9	1.8	1.5	1.2	0.5	1.4	2.0	2.5	2.9	3.4	3.3	3.1	2.5	2.2	2.2	1.8	3.3	7.9	7.3	6.2	6.1	5.9	24	7.9	0.5	3.3	0	0	
15		6.4	5.2	2.7	1.5	1.1	1.0	0.5	1.4	1.8	3.1	3.9	5.3	7.3	7.9	4.7	2.1	2.0	2.0	2.3	3.5	4.4	2.9	4.2	9.3	24	9.3	0.5	3.6	0	0	
16		4.5	2.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.1	0.3	0.7	0.4	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	24	4.5	0.0	0.4	0	0	
17		0.0	0.0	1.7	2.6	2.6	3.3	1.5	15.6	0.3	4.7	11.4	4.6	0.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.7	1.5	12.2	24	15.6	0.0	2.6	0	0		
18		1.3	2.2	2.1	2.2	2.6	3.1	3.7	4.6	4.6	5.8	4.5	3.7	2.8	2.6	2.4	1.7	1.1	1.4	1.8	4.7	7.4	4.5	3.8	3.9	24	7.4	1.1	3.2	0	0	
19		4.2	2.5	1.9	3.6	33.6	20.6	5.5	5.9	8.8	15.5	7.5	6.1	4.7	4.4	4.8	3.7	3.2	2.4	1.2	0.8	0.4	0.9	0.4	1.0	24	33.6	0.4	6.0	0	0	
20		13.5	14.5	16.6	21.2	10.7	4.6	4.1	3.9	5.2	8.1	19.0	16.0	15.0	9.6	2.8	3.7	4.3	7.6	1.5	0.9	1.4	0.3	1.0	0.2	24	21.2	0.2	7.7	0	0	
21		0.0	3.7	2.4	1.1	0.2	14.2	42.2	5.3	1.2	2.9	2.5	3.6	2.3	1.6	1.1	1.5	1.2	1.4	1.1	0.7	0.2	0.5	0.6	1.1	24	42.2	0.0	3.9	0	0	
22		1.3	1.5	1.9	1.9	1.6	1.2	1.0	1.4	1.6	1.9	1.8	1.2	0.2	0.0	0.0	0.3	1.8	1.5	1.8	2.0	3.0	2.7	2.3	2.6	24	3.0	0.0	1.5	0	0	
23		3.2	2.9	1.8	0.3	0.3	0.0	0.0	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.2	0.0	0.5	0	0	
24		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0	
25		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	M	M	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.9	3.0	2.4	20	3.0	0.0	0.5	0	0	
26		0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.2	0.0	0.2	0.1	0.1	0.4	0.5	2.3	2.8	2.9	0.5	0.4	24	2.9	0.0	0.5	0	0	
27		0.5	1.7	2.2	2.7	2.8	3.2	3.1	3.1	3.3	3.1	2.2	3.2	0.8	0.4	0.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.3	0.0	1.3	0	0	
28		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.2	2.4	0.7	0.4	0.5	0.4	0.6	2.1	4.2	1.0	0.7	0.4	0.8	1.9	0.6	2.6	24	4.2	0.0	0.9	0	0	
29																										0						
30																										0						
31																										0						
Count		28	28	28	28	28	28	28	28	27	27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	668	28	27	27.8		
Maximum		24.3	25.1	17.3	21.2	33.6	20.6	42.2	15.6	25.0	24.9	30.0	23.7	34.0	20.5	11.8	10.0	12.2	11.1	6.1	13.3	19.8	36.3	29.7	21.1	24	42.2	6.1	22.1			
Minimum		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0				
Average		3.8	3.3	2.9	2.3	3.6	3.0	3.0	2.1	3.3	4.7	5.1	4.6	3.9	3.1	2.3	1.9	1.8	1.6	1.3	1.9	2.7	3.4	2.6	3.1	22	13	0	3.0			
Percentiles			10		20		30		40		50		60		70		80		90		95		99		100							Maximum
Data			0.0		0.0		0.2		0.5		1.2		1.9		2.8		4.0		7.3		13.5		25.1		42.2							42.2
Notes		C - Calibration / Span Cycle		NA - No Data Available			T - Test			A- MOE Audit			M - Equipment Malfunction / Down																			

SO2 - COURTICE March 2014 (ug/m3)																														
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>690	Days>275
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
1	1.3	3.0	1.4	2.7	4.1	9.2	7.5	4.9	4.4	8.1	9.4	11.4	16.8	23.7	23.4	16.6	10.7	6.0	1.6	1.1	0.4	0.0	0.0	0.0	24	23.7	0.0	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	0.2	0.1	0.2	0.1	1.6	1.8	3.4	2.4	1.6	2.2	1.7	0.6	0.4	0.0	24	3.4	0.0	0.7	0	0
3	0.0	0.0	0.0	0.0	0.7	1.4	3.6	6.1	5.4	3.3	2.5	1.3	1.1	0.6	0.5	0.7	0.6	0.5	0.6	0.6	0.5	0.4	0.6	1.4	24	6.1	0.0	1.3	0	0
4	1.9	1.8	0.9	0.6	0.7	0.1	0.0	0.4	2.4	2.0	2.4	2.9	2.8	3.8	4.1	5.6	4.1	3.9	4.1	4.3	4.0	3.5	3.4	3.4	24	5.6	0.0	2.6	0	0
5	3.1	3.2	6.3	6.7	5.3	2.7	1.1	1.4	4.8	5.3	2.7	5.6	2.4	0.0	4.2	8.4	1.0	10.0	11.1	24.8	2.7	1.7	27.6	29.4	24	29.4	0.0	7.1	0	0
6	30.2	16.1	35.1	39.0	41.6	35.5	29.2	11.3	5.8	2.3	2.0	1.2	1.0	0.4	0.6	0.4	0.3	0.2	0.4	0.4	1.2	0.9	0.7	1.4	24	41.6	0.2	10.7	0	0
7	3.3	3.2	2.1	2.4	2.2	2.0	1.6	4.1	5.0	5.5	6.7	7.1	8.1	8.7	10.3	7.0	4.9	4.5	4.4	3.1	3.9	11.0	7.1	1.6	24	11.0	1.6	5.0	0	0
8	1.6	3.7	1.2	2.3	2.1	1.9	3.4	2.8	3.3	3.2	4.9	3.4	2.5	2.3	2.5	2.6	1.9	1.4	0.8	0.0	0.2	0.0	0.0	0.1	24	4.9	0.0	2.0	0	0
9	0.7	2.1	3.3	2.1	1.3	0.4	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.4	0.8	1.3	2.5	4.1	4.1	1.6	2.8	2.6	1.6	24	4.1	0.0	1.3	0	0
10	1.1	1.1	1.1	1.2	1.2	2.4	4.4	2.9	2.3	5.1	2.7	2.4	2.4	2.0	2.6	2.6	1.9	2.0	1.1	1.1	1.3	1.6	1.2	1.7	24	5.1	1.1	2.1	0	0
11	1.7	2.1	2.9	1.3	0.9	0.8	1.0	0.5	0.9	1.0	1.2	1.6	1.7	2.6	4.7	4.4	5.7	3.9	2.4	1.0	0.4	0.4	0.3	0.5	24	5.7	0.3	1.8	0	0
12	4.2	1.3	5.0	3.2	0.4	0.2	0.0	0.0	0.7	1.1	4.8	7.2	7.8	6.2	3.1	2.1	1.8	0.9	0.7	1.4	1.1	0.4	0.0	0.0	24	7.8	0.0	2.2	0	0
13	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.5	0.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	3.2	3.8	1.7	2.9	24	3.8	0.0	0.6	0	0
14	2.0	3.0	2.4	2.8	4.3	5.5	2.5	1.8	2.4	2.9	3.3	2.9	2.8	1.8	2.8	3.1	2.0	2.3	1.6	1.1	1.6	1.0	1.1	1.6	24	5.5	1.0	2.5	0	0
15	1.1	0.6	0.7	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.5	3.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.5	0.0	0.4	0	0
16	0.6	1.5	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	24	1.5	0.0	0.1	0	0
17	2.9	0.5	0.9	0.1	2.3	5.1	20.7	15.2	6.0	2.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.9	0.4	1.5	1.2	24	20.7	0.0	2.6	0	0
18	2.3	1.5	0.6	0.8	1.1	0.4	2.9	2.6	0.8	0.4	0.4	0.4	0.4	0.4	0.5	1.2	1.7	0.7	0.2	0.5	0.4	0.0	0.0	0.0	24	2.9	0.0	0.8	0	0
19	0.4	0.5	0.4	0.4	0.3	0.5	1.0	1.1	1.0	0.5	0.5	0.4	0.4	0.4	0.5	1.1	1.1	1.9	1.2	1.5	0.8	1.3	0.4	0.4	24	1.9	0.3	0.7	0	0
20	0.7	0.6	0.2	0.4	0.6	0.3	0.4	0.5	0.6	0.8	0.7	0.3	0.3	0.3	0.3	0.3	0.4	0.6	0.4	0.2	0.5	0.4	0.3	0.3	24	0.8	0.2	0.4	0	0
21	0.0	0.0	0.0	0.0	0.0	1.0	1.3	1.4	1.0	1.8	3.2	2.5	0.5	0.4	0.4	0.4	0.6	0.9	0.4	2.4	1.7	1.4	0.6	0.1	24	3.2	0.0	0.9	0	0
22	0.5	0.5	1.1	0.6	0.4	1.7	1.1	0.4	0.4	0.4	0.3	0.4	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.7	0.0	0.3	0	0
23	0.0	0.9	0.4	0.2	0.4	0.7	1.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.3	1.3	1.4	1.2	1.4	24	1.8	0.0	0.5	0	0
24	1.6	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	24	1.6	0.0	0.1	0	0
25	1.4	1.1	1.0	1.4	1.5	1.3	2.4	1.4	1.7	1.3	1.1	1.9	1.9	1.4	2.7	3.7	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	24	3.7	0.0	1.2	0	0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	0.0	0.3	0.4	0.5	1.2	1.7	1.2	1.6	1.4	0.0	0.0	0.0	0.0	0.0	21	1.7	0.0	0.4	0	0
27	0.0	0.0	0.0	0.0	7.3	5.8	0.9	1.0	1.1	1.6	1.2	3.0	2.6	1.1	0.4	0.8	0.5	0.9	3.7	8.3	3.1	1.8	1.3	2.2	24	8.3	0.0	2.0	0	0
28	1.1	0.9	0.9	0.8	0.8	0.4	1.1	4.2	1.0	2.4	6.0	2.5	0.6	0.4	0.4	0.3	0.2	0.9	1.3	1.2	1.9	2.5	4.1	9.1	24	9.1	0.2	1.9	0	0
29	6.5	2.9	2.9	9.6	3.5	15.1	13.0	5.9	3.0	2.3	1.1	4.0	6.7	4.8	3.1	1.7	1.8	3.8	7.4	6.2	4.7	5.1	4.5	5.2	24	15.1	1.1	5.2	0	0
30	4.0	1.3	2.1	1.3	1.4	0.6	0.5	0.6	0.6	0.5	0.4	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	4.0	0.0	0.6	0	0
31	0.8	0.6	0.4	0.5	0.4	0.5	3.6	2.3	1.3	0.6	1.4	0.6	0.6	1.1	1.1	0.7	0.3	0.3	0.0	1.9	25.7	11.3	20.2	3.3	24	25.7	0.0	3.3	0	0
Count	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	741	31	30	30.9		
Maximum	30.2	16.1	35.1	39.0	41.6	35.5	29.2	15.2	6.0	8.1	9.4	11.4	16.8	23.7	23.4	16.6	10.7	10.0	11.1	24.8	25.7	11.3	27.6	29.4	24	41.6	6.0	21.2		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21	0.8	0.0	0.0		
Average	2.4	1.8	2.4	2.6	2.8	3.1	3.4	2.5	1.9	1.8	1.9	2.1	2.1	2.1	2.4	2.2	1.6	1.7	1.7	2.2	2.1	1.7	2.6	2.3	24	9	0	2.2		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		0.0		0.0		0.4		0.5		0.9		1.3		1.9		2.9		4.9		7.8		26.8		41.6						41.6
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																													

SO2 - Rundle Road
January 2014
(ug/m3)

Day	Hour	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>690	Days>275	
1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	2.6	3.5	6.5	8.6	7.7	6.7	4.1	1.8	0.9	0.2	0.0	0.0	0.2	24	8.6	0.0	1.8	0	0	
2		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0	
4		0.0	0.3	1.8	1.8	1.1	2.2	3.5	9.6	8.0	6.5	4.4	4.7	5.4	7.4	5.8	5.8	5.5	4.9	5.2	4.7	5.5	3.5	2.9	3.2	24	9.6	0.0	4.3	0	0	
5		2.4	1.8	1.8	1.7	1.6	1.6	1.3	0.7	0.9	0.7	1.2	1.9	2.4	1.8	3.0	3.3	3.0	2.9	2.7	2.0	2.6	2.4	1.5	0.9	24	3.3	0.7	1.9	0	0	
6		0.2	0.2	1.1	0.4	0.1	0.5	0.5	0.2	0.2	1.6	7.9	4.5	0.8	0.1	0.0	0.0	0.0	0.9	0.9	0.8	1.2	1.3	1.2	0.0	24	7.9	0.0	1.0	0	0	
7		0.0	0.0	0.0	0.5	3.6	2.4	3.1	3.7	2.6	2.6	1.9	2.2	2.3	2.0	1.8	1.4	1.1	1.4	1.5	1.7	1.7	1.8	1.5	1.6	24	3.7	0.0	1.8	0	0	
8		1.3	1.1	1.3	2.1	2.7	2.3	1.6	2.6	1.8	1.8	2.8	3.3	2.3	3.3	3.8	3.7	4.2	7.2	9.0	9.6	7.9	5.4	3.8	4.4	24	9.6	1.1	3.7	0	0	
9		7.0	7.6	4.3	4.1	4.0	4.4	3.3	2.2	1.9	3.1	2.1	4.4	1.7	2.0	0.5	0.8	2.3	2.8	4.9	0.5	0.1	0.0	0.0	0.2	24	7.6	0.0	2.5	0	0	
10		0.6	0.3	0.0	0.0	0.0	0.1	0.2	0.6	0.8	1.7	2.9	A	A	5.4	5.1	4.2	2.7	1.7	1.6	1.4	1.6	1.7	1.0	1.2	22	5.4	0.0	1.6	0	0	
11		2.4	2.5	1.0	0.1	0.2	0.0	0.1	0.3	0.0	0.2	0.4	0.3	0.5	0.5	0.2	0.7	0.2	0.3	0.2	0.2	0.2	0.2	0.0	0.2	24	2.5	0.0	0.5	0	0	
12		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.7	0.9	0.1	0.0	24	0.9	0.0	0.1	0	0	
13		0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.1	1.2	2.3	1.6	1.7	1.6	1.7	1.7	1.5	1.4	0.9	0.4	0.2	0.2	0.0	0.0	24	2.3	0.0	0.7	0	0	
14		0.0	1.4	0.9	0.4	0.6	0.6	1.4	0.6	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.6	1.6	1.6	24	1.6	0.0	0.4	0	0	
15		0.7	0.5	0.6	0.2	0.3	1.1	1.0	0.7	0.3	0.0	0.0	0.0	0.6	0.3	0.9	0.8	0.8	0.5	0.4	0.0	0.0	0.0	0.0	0.0	24	1.1	0.0	0.4	0	0	
16		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.3	0.5	0.0	0.0	0.0	0.2	0.5	0.6	1.3	0.2	1.3	1.2	1.5	24	1.5	0.0	0.3	0	0	
17		1.8	2.9	2.8	3.2	M	M	M	M	M	M	M	0.9	0.8	2.2	2.3	2.5	1.1	1.3	1.1	0.8	0.3	0.0	0.0	0.0	17	3.2	0.0	0.0	0	0	
18		0.1	0.1	0.4	1.8	1.7	1.0	0.0	0.0	0.0	0.0	0.2	1.0	0.2	0.1	0.2	0.1	0.0	0.7	1.0	2.0	2.1	1.2	1.6	1.0	24	2.1	0.0	0.7	0	0	
19		0.6	0.1	0.8	1.8	3.2	2.7	2.9	5.8	5.7	4.6	5.1	4.5	4.4	2.5	2.8	1.6	1.6	2.1	2.8	2.4	2.8	2.6	2.4	2.4	24	5.8	0.1	2.8	0	0	
20		2.3	2.9	3.1	1.2	0.0	0.0	0.4	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.1	0.0	0.4	0	0	
21		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	0.0	0.0	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	0.0	0.0	0.0	0	0	
22		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0	
23		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0	
24		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.4	0.8	1.2	1.1	1.5	3.0	3.8	2.1	1.6	2.6	6.0	5.9	6.0	5.8	24	6.0	0.0	1.9	0	0	
25		4.5	3.8	2.7	3.0	2.9	2.8	2.3	2.2	2.5	3.1	3.7	5.0	5.3	4.4	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	5.3	0.0	2.0	0	0	
26		0.0	0.0	0.0	0.0	3.8	5.8	1.5	1.4	0.4	0.1	0.1	0.0	2.1	2.7	0.8	0.1	0.1	1.2	2.3	4.6	6.9	6.1	6.9	5.9	24	6.9	0.0	2.2	0	0	
27		4.1	3.1	3.2	2.2	1.4	0.6	0.1	0.0	0.1	2.1	3.4	0.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	4.1	0.0	0.9	0	0	
28		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.8	1.0	1.5	1.7	2.5	1.7	1.0	1.0	1.1	0.6	0.5	0.3	0.6	0.4	24	2.5	0.0	0.7	0	0	
29		0.8	2.3	2.1	1.9	2.8	3.7	4.7	5.1	4.3	3.7	3.0	3.4	3.6	3.2	1.9	1.5	1.7	1.7	2.4	2.5	3.7	3.4	3.2	3.8	24	5.1	0.8	2.9	0	0	
30		7.5	9.5	7.4	5.2	7.0	6.4	7.4	9.5	9.5	10.7	10.3	9.3	9.4	7.2	6.0	6.8	9.5	11.8	7.2	8.3	6.7	6.4	5.5	9.5	24	11.8	5.2	8.1	0	0	
31		8.9	6.7	4.9	3.4	3.8	3.2	3.1	3.2	3.2	3.7	4.4	2.5	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	8.9	0.0	2.2	0	0	
Count		31	31	31	31	30	30	30	30	29	29	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	733	31	29	30.5		
Maximum		8.9	9.5	7.4	5.2	7.0	6.4	7.4	9.6	9.5	10.7	10.3	9.3	9.4	7.4	8.6	7.7	9.5	11.8	9.0	9.6	7.9	6.4	6.9	9.5	24	11.8	5.2	8.5			
Minimum		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17	0.0	0.0	0.0			
Average		1.5	1.5	1.3	1.1	1.4	1.4	1.3	1.6	1.5	1.7	2.0	1.7	1.7	1.8	1.6	1.5	1.5	1.6	1.6	1.6	1.7	1.5	1.3	1.4	24	4	0	2			
Percentiles		10	20	30	40	50	60	70	80	90	95	99	100																			Maximum
Data		0.0	0.0	0.0	0.1	0.5	1.1	1.8	2.8	4.5	6.5	9.5	11.8																			11.8
Notes		C - Calibration / Span Cycle		NA - No Data Available			T - Test		A - MOE Audit			M - Equipment Malfunction / Down																				

SO2 - Rundle Road
February 2014
(ug/m3)

Day	Hour	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>690	Days>275	
1		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	8.1	3.2	3.2	2.7	1.7	2.8	2.9	1.8	1.0	1.0	0.8	1.0	2.9	24	8.1	0.0	1.5	0	0	
2		1.8	0.7	0.9	1.0	0.9	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	0.0	0.0	0.0	0.0	0.0	24	1.8	0.0	0.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	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	0.2	1.1	3.0	2.3	1.6	1.4	0.8	0.7	1.2	1.1	1.0	2.6	24	3.0	0.0	0.7	0	0		
5		2.2	1.5	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	2.2	0.0	0.2	0	0	
6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	3.1	0.2	2.4	5.9	3.9	0.8	0.0	0.0	0.9	2.3	2.3	1.2	1.2	24	5.9	0.0	1.1	0	0	
7		2.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.8	2.8	4.5	3.8	3.6	2.2	1.2	1.5	1.3	1.3	1.9	2.4	2.9	4.7	24	4.7	0.0	1.7	0	0	
8		4.4	3.8	7.2	4.4	2.9	2.4	2.6	2.9	4.3	4.0	2.6	2.3	2.2	1.6	3.4	1.8	1.5	0.7	0.6	0.8	0.6	0.1	0.0	0.1	24	7.2	0.0	2.4	0	0	
9		0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	6.6	8.8	7.4	4.9	2.3	2.2	1.2	0.1	0.2	0.0	0.1	0.0	0.0	24	8.8	0.0	1.4	0	0	
10		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.4	0.0	0.1	0	0	
11		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0	
12		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	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.9	0.0	0.0	0	0	
13		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	2.1	4.9	4.4	4.5	5.9	5.7	4.8	4.2	3.1	2.2	0.8	1.8	2.0	1.1	0.7	24	5.9	0.0	2.0	0	0	
14		0.8	0.7	1.0	0.9	0.6	0.6	0.5	0.5	0.9	1.3	1.7	2.4	2.4	2.9	2.3	1.8	1.4	1.5	1.9	6.3	6.4	5.0	4.7	5.1	24	6.4	0.5	2.2	0	0	
15		4.8	3.5	1.8	0.5	0.0	0.0	0.4	0.5	1.0	2.2	3.4	4.4	6.0	6.7	3.6	1.6	1.1	1.5	1.4	2.0	3.2	2.2	3.9	9.2	24	9.2	0.0	2.7	0	0	
16		4.7	1.3	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	4.7	0.0	0.3	0	0	
17		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	3.2	6.2	0.7	3.9	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	6.2	0.0	0.8	0	0	
18		3.5	7.5	0.7	0.7	1.0	2.0	2.6	1.7	3.5	5.8	5.2	3.6	2.3	1.8	1.3	1.4	0.7	1.0	1.2	3.7	6.8	4.7	3.5	3.6	24	7.5	0.7	2.9	0	0	
19		4.0	2.7	6.6	1.5	1.7	1.7	1.6	1.3	1.8	3.5	5.6	6.6	5.7	5.5	5.7	3.0	2.1	1.6	0.7	0.1	0.0	0.2	1.4	0.0	24	6.6	0.0	2.7	0	0	
20		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	4.9	4.3	3.4	5.6	1.7	1.8	1.8	1.6	0.5	1.0	0.8	1.4	0.7	0.7	24	5.6	0.0	1.3	0	0	
21		0.9	0.7	0.6	0.6	0.2	0.0	0.0	0.0	4.4	1.1	0.1	0.2	0.0	0.1	0.5	0.0	0.3	0.6	0.3	0.5	0.0	0.1	0.0	0.3	24	4.4	0.0	0.5	0	0	
22		0.7	1.0	1.1	1.0	0.5	0.2	0.2	0.8	1.1	1.7	1.5	0.9	0.0	0.0	0.0	0.0	1.3	1.1	1.0	1.1	2.4	2.1	2.1	2.4	24	2.4	0.0	1.0	0	0	
23		1.7	1.5	1.4	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	24	1.7	0.0	0.2	0	0	
24		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0	
25		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	M	1.1	1.0	2.0	3.1	3.4	2.8	21	3.4	0.0	0.6	0	0	
26		1.4	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1.0	0.8	0.9	1.0	0.9	1.3	1.5	1.4	2.2	3.3	3.3	1.8	1.7	24	3.3	0.8	1.3	0	0	
27		1.8	2.4	2.6	3.2	3.8	4.1	3.8	3.7	3.9	3.8	3.3	4.1	3.8	1.7	1.4	0.9	1.3	1.0	0.9	0.9	0.9	1.0	0.8	0.9	24	4.1	0.8	2.1	0	0	
28		1.0	1.0	0.9	0.6	0.9	1.0	1.3	1.8	2.2	3.4	2.1	1.6	1.7	1.7	1.7	2.6	5.5	2.3	2.4	1.7	1.1	1.2	1.7	3.9	24	5.5	0.6	1.9	0	0	
29																										0						
30																										0						
31																										0						
Count		28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27	28	28	28	28	28	28	28	28	669	28	27	27.9		
Maximum		4.8	7.5	7.2	4.4	3.8	4.1	3.8	3.7	4.4	5.8	5.6	8.1	8.8	7.4	5.9	4.8	5.5	3.1	2.4	6.3	6.8	5.0	4.7	9.2	24	9.2	2.4	5.5			
Minimum		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0.0				
Average		1.3	1.1	0.9	0.6	0.5	0.5	0.5	0.5	0.9	1.1	1.6	2.0	1.9	2.1	1.8	1.4	1.2	0.9	0.7	0.9	1.3	1.2	1.1	1.5	22	4	0	1.1			
Percentiles			10		20		30		40		50		60		70		80		90		95		99		100							Maximum
Data			0.0		0.0		0.0		0.0		0.2		0.9		1.4		2.2		3.5		4.7		6.7		9.2							9.2
Notes		C - Calibration / Span Cycle		NA - No Data Available			T - Test			A- MOE Audit			M - Equipment Malfunction / Down																			

**SO2 - Rundle Road
March 2014
(ug/m3)**

Day	Hour	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>690	Days>275
1		2.1	3.8	2.7	3.7	3.8	1.7	1.7	1.7	2.3	6.9	10.3	11.5	17.2	23.2	24.7	17.5	11.5	6.8	2.8	2.0	1.3	0.6	0.7	1.0	24	24.7	0.6	6.7	0	0
2		0.8	0.7	0.9	0.6	0.5	0.6	0.7	0.9	0.9	0.9	0.8	0.9	0.9	1.2	2.0	2.8	3.8	3.4	2.8	3.3	2.7	1.2	0.9	0.9	24	3.8	0.5	1.5	0	0
3		0.6	0.5	0.8	0.4	1.7	2.7	3.8	6.4	6.1	4.2	3.5	2.3	2.3	1.6	1.7	1.7	1.9	1.7	1.6	1.2	1.7	1.2	1.0	0.6	24	6.4	0.4	2.1	0	0
4		0.3	0.8	0.2	0.4	0.3	0.8	0.8	1.0	2.8	2.9	3.5	3.9	3.8	4.8	4.7	6.5	4.9	4.1	3.4	3.1	2.7	2.8	2.6	3.5	24	6.5	0.2	2.7	0	0
5		3.3	3.4	6.6	6.1	5.3	3.3	1.7	1.8	2.3	1.7	1.3	0.9	0.9	0.7	0.6	0.8	0.8	0.9	0.6	0.2	0.2	0.4	0.8	1.0	24	6.6	0.2	1.9	0	0
6		0.7	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.5	0.8	1.0	1.3	1.3	1.5	1.0	0.8	1.0	1.2	0.8	0.9	0.8	1.0	0.9	1.1	24	1.5	0.2	0.8	0	0
7		0.9	1.0	1.2	0.9	0.9	0.7	0.9	1.1	3.5	5.8	7.4	7.7	8.9	10.0	11.7	9.0	6.3	5.2	4.4	3.4	2.4	2.1	2.0	2.1	24	11.7	0.7	4.2	0	0
8		0.8	1.0	1.5	1.1	2.0	3.1	3.9	4.0	4.2	3.8	5.5	4.3	3.5	3.8	3.6	3.2	3.1	2.5	1.7	1.2	0.8	0.8	0.9	1.1	24	5.5	0.8	2.6	0	0
9		1.7	2.5	4.0	3.0	2.6	1.5	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	1.3	1.8	1.9	2.7	3.8	4.9	2.5	3.4	3.3	2.6	24	4.9	0.8	2.1	0	0
10		2.2	2.3	2.3	2.6	2.0	1.1	1.1	1.3	2.8	8.0	5.3	4.3	5.3	4.6	5.1	5.3	3.2	3.0	2.5	2.3	2.9	2.9	2.5	3.1	24	8.0	1.1	3.3	0	0
11		3.1	4.3	2.8	2.4	2.1	1.6	1.6	2.3	1.8	2.1	2.8	3.3	3.5	4.3	5.1	4.4	4.6	3.7	2.3	1.6	1.5	1.6	1.5	1.5	24	5.1	1.5	2.7	0	0
12		1.2	1.0	0.9	1.2	1.1	1.0	1.0	0.7	1.0	1.3	1.2	0.9	1.0	1.1	1.2	1.4	1.0	1.2	1.1	1.6	1.7	1.2	0.9	0.8	24	1.7	0.7	1.1	0	0
13		0.9	0.9	0.8	0.8	0.9	1.3	1.7	1.8	1.4	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	1.5	3.0	4.0	2.4	3.7	24	4.0	0.8	1.4	0	0
14		2.6	3.3	3.0	2.6	4.3	6.6	3.4	3.2	3.6	4.2	4.9	6.2	3.8	3.2	3.6	3.6	3.1	3.3	3.3	2.6	3.0	2.4	2.6	3.0	24	6.6	2.4	3.5	0	0
15		2.6	1.8	1.8	1.6	1.5	1.2	1.1	1.0	0.8	1.0	1.3	0.4	0.8	1.4	4.4	2.4	0.9	0.8	0.8	0.8	0.6	0.5	0.5	0.3	24	4.4	0.3	1.3	0	0
16		1.4	2.1	1.2	0.7	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.3	0.7	0.8	1.0	2.0	24	2.1	0.1	0.5	0	0
17		2.9	1.2	0.9	1.0	0.9	1.1	1.0	0.8	0.9	0.8	0.8	1.3	0.8	0.7	0.8	0.7	1.0	0.8	0.6	0.8	0.9	1.0	0.6	0.7	24	2.9	0.6	1.0	0	0
18		0.7	0.7	0.8	1.0	0.9	0.9	0.9	0.8	1.0	0.9	1.4	0.9	1.5	1.6	1.5	2.1	2.5	2.0	1.5	1.4	1.0	1.0	1.0	1.1	24	2.6	0.7	1.3	0	0
19		1.4	1.9	1.7	1.0	1.6	1.6	2.0	2.7	2.3	1.7	1.5	1.6	1.8	1.8	1.6	1.8	1.5	1.5	1.9	1.6	1.2	1.4	1.7	1.5	24	2.7	1.0	1.7	0	0
20		2.1	1.6	1.4	1.5	1.4	1.5	1.7	1.6	1.6	1.6	1.6	1.4	1.1	1.5	1.6	0.9	1.5	1.6	0.9	1.5	1.5	1.6	1.1	1.1	24	2.1	0.9	1.5	0	0
21		0.9	0.9	0.9	0.9	1.1	2.2	2.4	2.9	2.8	3.4	4.1	4.0	2.5	1.2	1.4	1.5	1.6	1.9	1.6	3.0	2.7	1.9	1.5	0.8	24	4.1	0.8	2.0	0	0
22		1.4	1.4	2.1	1.7	1.6	1.7	1.4	1.2	1.4	1.6	1.6	1.5	1.0	0.8	0.9	0.8	0.8	0.9	0.9	0.8	0.9	0.8	0.8	0.8	24	2.1	0.8	1.2	0	0
23		1.0	1.7	1.3	0.9	1.3	1.7	1.7	1.2	0.9	0.7	0.6	0.7	0.6	0.7	0.6	0.6	0.4	0.8	2.5	2.3	2.1	2.4	1.8	1.8	24	2.5	0.4	1.3	0	0
24		1.7	1.6	1.0	0.8	0.8	0.6	0.5	0.9	0.9	0.9	0.9	0.8	0.9	0.8	0.8	0.9	0.9	0.9	0.8	0.9	0.9	0.8	0.9	0.9	24	1.7	0.5	0.9	0	0
25		1.4	0.9	1.0	1.8	1.5	1.3	1.5	1.7	2.1	2.1	2.3	2.4	2.9	2.8	3.8	4.7	2.0	1.5	1.0	1.0	0.9	0.9	0.9	0.9	24	4.7	0.9	1.8	0	0
26		0.8	0.9	0.9	0.9	0.8	0.8	0.9	0.9	0.8	C	C	1.0	1.7	1.7	2.7	3.3	3.0	3.4	2.3	0.9	0.9	0.9	0.0	0.4	22	3.4	0.0	1.3	0	0
27		0.4	0.7	0.7	0.3	0.5	0.7	1.0	1.7	2.2	2.7	2.3	4.0	3.4	2.1	2.1	1.5	1.6	1.6	1.9	1.6	2.1	1.6	2.0	1.5	24	4.0	0.3	1.7	0	0
28		1.6	2.1	1.6	1.4	1.5	1.0	1.3	1.7	1.7	1.7	2.0	1.9	1.6	1.5	1.5	1.6	0.9	1.5	1.8	1.6	2.0	2.7	3.8	7.1	24	7.1	0.9	2.0	0	0
29		5.7	3.3	2.6	1.6	0.9	0.6	0.9	0.8	0.8	0.8	0.9	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	24	5.7	0.6	1.2	0	0
30		0.9	0.8	0.8	0.8	0.9	0.8	0.9	0.8	0.9	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.9	0.9	24	0.9	0.8	0.8	0	0
31		0.8	0.9	0.9	1.1	1.4	1.0	0.8	0.9	0.8	0.9	1.9	1.8	1.7	1.8	1.4	1.2	0.9	0.8	0.8	0.8	0.9	0.8	0.8	0.8	24	1.9	0.8	1.1	0	0
Count		31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	742	31	30	30.9		
Maximum		5.7	4.3	6.6	6.1	5.3	6.6	3.9	6.4	6.1	8.0	10.3	11.5	17.2	23.2	24.7	17.5	11.5	6.8	4.4	4.9	3.0	4.0	3.8	7.1	24	24.7	3.0	8.7		
Minimum		0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.2	0.2	0.4	0.0	0.3	22	0.9	0.0	0.2		
Average		1.6	1.6	1.6	1.5	1.5	1.5	1.4	1.6	1.8	2.2	2.4	2.4	2.5	2.7	3.0	2.8	2.2	2.0	1.7	1.6	1.6	1.5	1.4	1.6	24	5	1	1.9		
Percentiles			10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data			0.7		0.8		0.9		1.0		1.3		1.6		1.9		2.7		3.7		4.8		10.2		24.7						24.7
Notes		C - Calibration / Span Cycle		NA - No Data Available			T - Test			A- MOE Audit			M - Equipment Malfunction / Down																		

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Appendix B NO₂ Data Summaries and Time History Plots
June 23, 2014

Appendix B NO₂ DATA SUMMARIES AND TIME HISTORY PLOTS

Figure B-1 Time History Plots of Measured Hourly Average and 24-Hour Average NO₂ Concentrations – Courtice (WPCP) Station

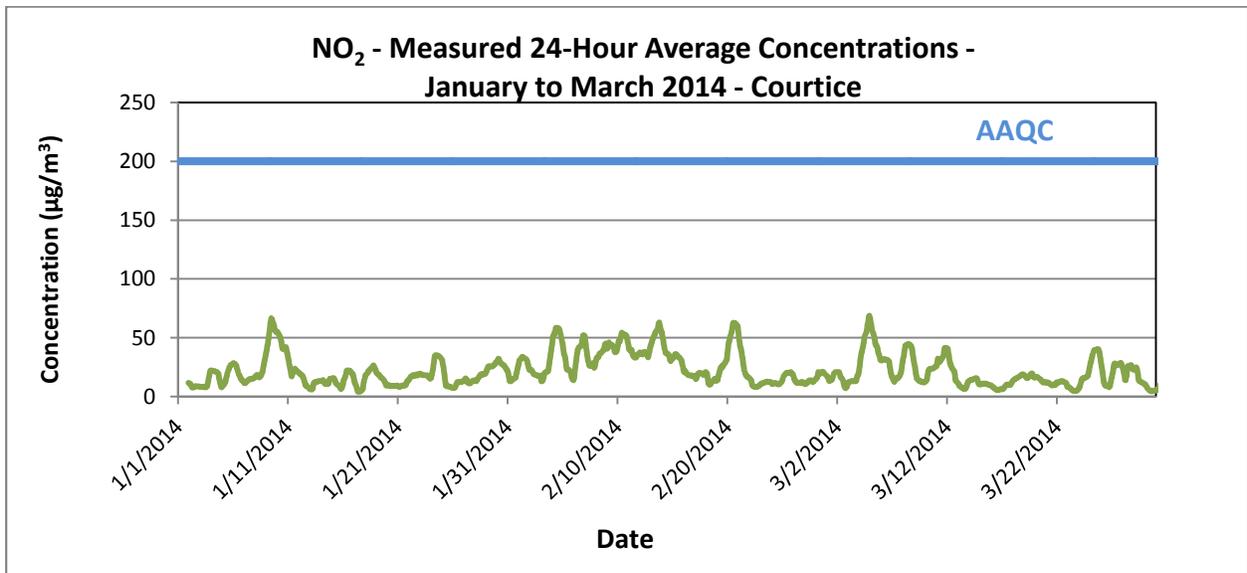
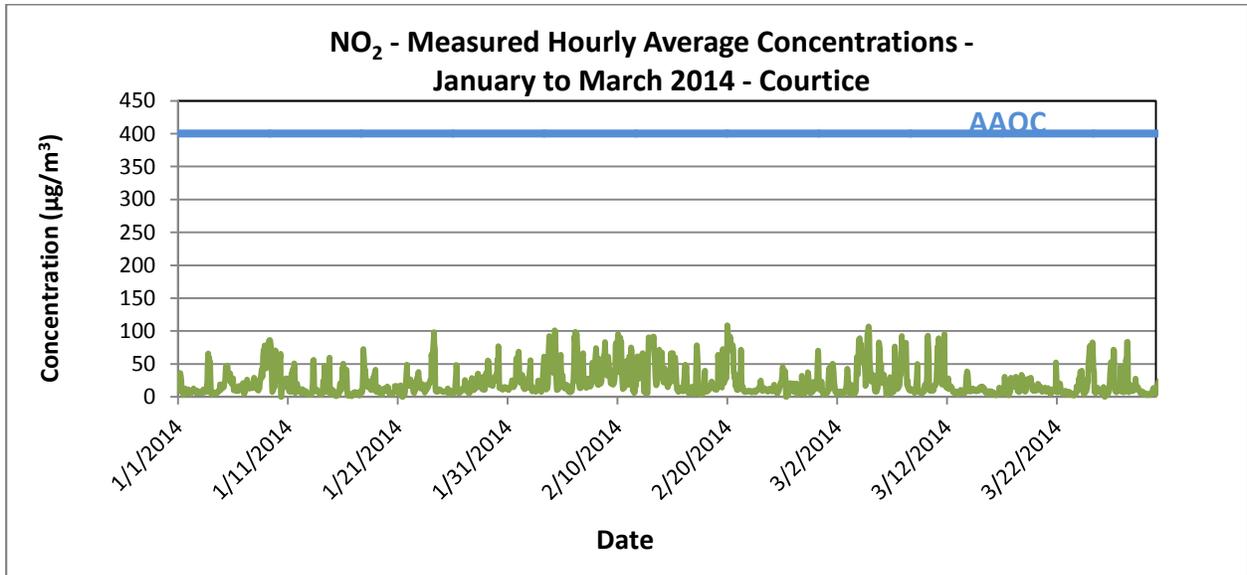
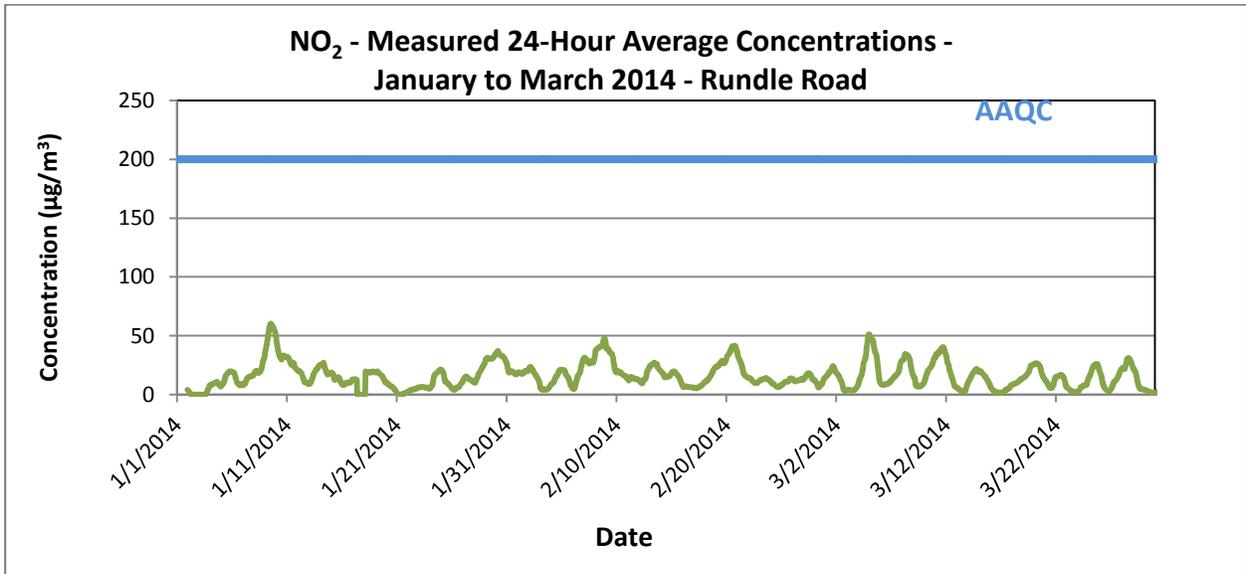
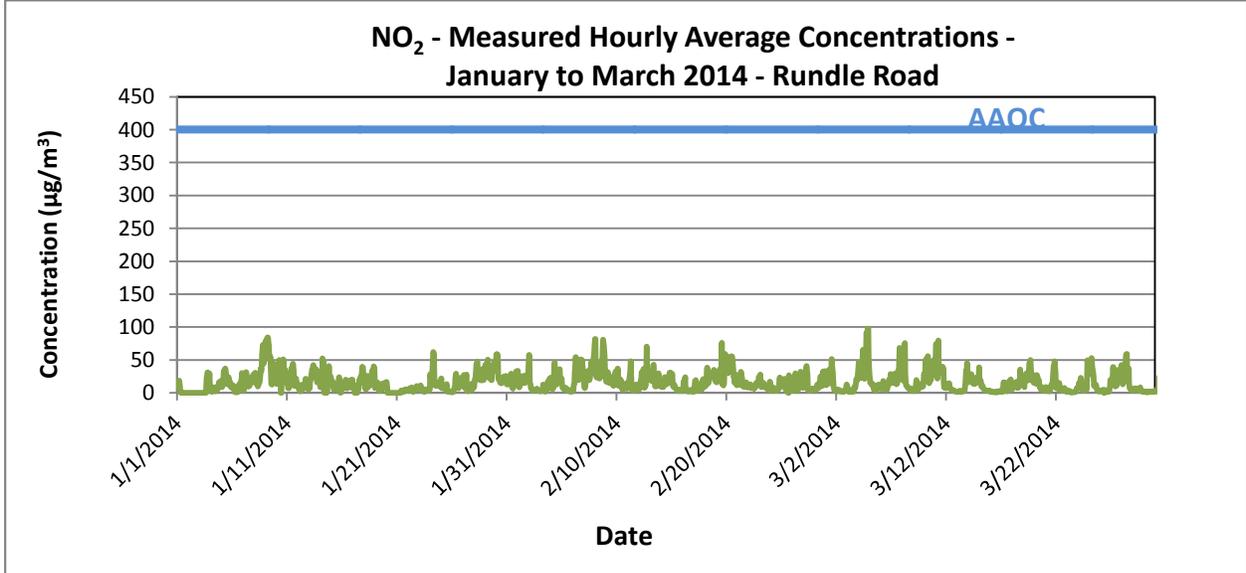


Figure B-2 Time History Plots of Measured Hourly Average and 24-Hour Average NO₂ Concentrations – Rundle Road Station



NO ₂ - COURTICE January 2014 (ug/m3)																														
Day	Hour																							Count	Maximum	Minimum	Average	Hrs>400	Days>200	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200							2300
1	11.0	12.1	9.9	12.9	17.7	36.3	30.6	27.1	12.0	7.1	5.9	3.9	3.1	8.1	3.7	3.8	12.6	8.9	8.6	7.9	7.2	8.7	8.5	11.1	24	36.3	3.1	11.6	0	0
2	9.9	6.6	6.2	4.4	6.9	8.8	9.1	9.5	11.0	8.6	12.6	12.1	10.6	9.6	7.9	6.0	9.7	9.1	6.3	9.0	7.4	7.4	7.3	7.0	24	12.6	4.4	8.5	0	0
3	6.0	6.2	6.5	6.8	7.1	6.3	6.3	11.4	9.0	6.8	9.5	9.0	11.3	10.2	7.2	17.9	24.9	50.0	65.8	57.7	59.4	55.2	53.8	29.9	24	65.8	6.0	22.3	0	0
4	6.0	4.4	5.4	4.6	4.1	4.1	4.8	6.9	6.1	6.3	5.4	5.0	5.6	6.4	7.1	8.1	9.1	8.1	9.1	13.0	19.2	17.8	10.8	13.2	24	19.2	4.1	7.9	0	0
5	16.9	17.8	15.2	13.5	14.8	19.3	23.2	24.7	45.8	42.0	32.9	46.3	47.6	38.1	28.7	31.8	35.5	27.4	35.7	24.0	24.0	20.2	25.5	22.1	24	47.6	13.5	28.0	0	0
6	28.4	17.4	10.0	10.8	12.3	13.0	10.5	9.2	8.8	10.9	10.0	9.1	11.2	16.6	11.3	10.9	10.4	12.5	12.9	11.2	14.5	20.2	21.1	9.2	24	28.4	8.8	13.0	0	0
7	4.8	6.7	6.4	10.2	21.2	20.5	23.1	26.2	21.1	19.9	16.8	12.8	15.3	13.5	13.3	13.7	14.1	14.0	13.0	14.3	16.8	22.7	29.3	26.4	24	29.3	4.8	16.5	0	0
8	19.9	13.8	13.9	23.6	24.2	18.6	10.1	10.4	9.7	12.7	13.9	21.0	26.3	30.5	38.9	42.4	30.2	40.7	61.9	71.4	59.9	77.8	75.5	77.9	24	77.9	9.7	34.4	0	0
9	64.8	43.2	77.9	78.9	74.5	77.7	83.7	85.9	86.0	85.2	84.9	77.5	71.6	17.8	7.5	9.4	10.8	16.6	25.3	14.7	24.6	70.8	65.1	58.7	24	86.0	7.5	54.6	0	0
10	62.5	60.3	64.1	60.7	61.3	55.0	57.1	62.0	65.3	A	A	11.1	11.8	14.7	15.3	16.0	20.1	22.2	20.5	19.2	28.0	16.2	24.5	24.1	22	65.3	11.1	36.0	0	0
11	16.0	28.4	16.4	8.4	15.5	12.9	7.5	11.1	19.5	37.2	27.9	42.1	32.2	40.7	50.9	30.3	5.9	7.4	10.5	17.0	19.8	13.0	13.8	13.8	24	50.9	5.9	20.7	0	0
12	9.3	8.7	8.1	7.0	7.2	6.1	5.4	5.7	11.7	8.6	7.2	6.1	5.8	6.4	8.5	8.7	8.2	7.3	3.9	4.1	4.3	3.9	3.5	4.8	24	11.7	3.5	6.7	0	0
13	4.0	4.9	3.5	3.6	5.6	6.1	22.0	54.8	56.4	41.1	12.2	9.7	11.8	8.6	8.9	9.4	11.0	10.4	9.2	8.4	6.8	4.9	4.0	3.4	24	56.4	3.4	13.4	0	0
14	3.0	4.2	4.3	4.5	6.2	24.3	17.5	15.4	47.3	19.6	12.0	11.9	9.2	7.3	9.3	9.6	20.1	8.2	38.8	59.4	18.1	3.8	5.0	5.6	24	59.4	3.0	15.2	0	0
15	11.4	5.4	3.8	6.3	9.4	5.9	3.8	2.9	1.8	1.3	1.1	2.5	2.6	3.2	4.4	5.3	5.5	12.4	20.3	19.2	10.7	10.1	20.7	43.1	24	43.1	1.1	8.9	0	0
16	43.5	50.3	45.6	29.0	27.4	31.9	33.7	38.2	41.4	31.7	1.9	2.6	3.5	2.8	1.9	2.0	2.4	2.1	2.5	4.3	1.3	2.6	3.8	5.1	24	50.3	1.3	17.1	0	0
17	6.3	6.0	7.2	7.5	6.9	5.5	5.3	5.1	4.8	4.5	4.1	3.2	2.2	5.5	8.4	9.1	9.0	9.7	6.5	10.9	39.7	72.6	59.6	47.4	24	72.6	2.2	14.5	0	0
18	40.4	40.0	32.4	15.9	15.8	16.0	22.3	18.0	23.9	21.3	14.7	13.1	13.0	13.8	10.2	14.1	13.6	21.4	26.4	29.9	28.7	35.1	35.0	41.0	24	41.0	10.2	23.2	0	0
19	15.5	7.7	10.6	7.2	10.8	14.8	14.6	9.5	7.1	6.1	5.3	4.1	4.1	3.6	5.9	6.6	9.6	12.3	10.9	10.0	10.9	11.0	13.1	14.4	24	15.5	3.6	9.4	0	0
20	14.6	13.7	15.7	14.5	6.6	5.5	7.1	6.7	6.1	4.7	5.9	5.7	6.5	4.8	6.6	5.8	6.9	8.5	16.6	10.9	10.0	14.0	16.8	8.4	24	16.8	4.7	9.3	0	0
21	8.3	11.3	4.6	5.4	8.1	10.1	17.5	12.6	10.9	4.2	C	C	5.7	5.5	4.6	4.6	7.9	16.1	25.0	33.3	48.7	24.0	19.5	17.9	22	48.7	4.2	13.9	0	0
22	16.6	17.7	21.7	17.7	26.6	19.7	17.9	21.7	20.0	12.0	8.3	6.3	5.7	8.8	9.9	15.8	17.0	20.6	26.5	30.7	29.2	37.8	30.6	24.0	24	37.8	5.7	19.3	0	0
23	23.4	15.4	12.9	17.6	16.1	16.8	13.8	19.0	16.0	12.1	8.8	6.6	7.5	10.6	10.3	11.9	14.8	19.3	13.9	17.2	19.4	19.7	21.2	25.3	24	25.3	6.6	15.4	0	0
24	24.8	25.4	64.4	51.8	58.2	74.5	81.1	98.2	81.0	72.3	16.0	8.8	8.1	9.3	9.6	8.1	8.5	11.3	11.7	10.7	10.8	10.7	10.9	10.0	24	98.2	8.1	32.3	0	0
25	8.7	8.0	7.9	7.6	7.8	7.6	7.9	7.8	7.6	7.4	7.4	7.8	9.4	12.9	7.6	5.0	4.7	4.9	6.3	9.8	6.4	6.9	8.0	8.5	24	12.9	4.7	7.7	0	0
26	7.4	5.1	5.5	8.0	6.8	12.1	19.2	34.9	48.6	43.0	11.8	7.1	8.8	8.0	5.8	5.5	6.3	7.4	10.4	11.2	11.4	11.1	10.2	9.8	24	48.6	5.1	13.1	0	0
27	14.5	12.6	13.0	25.9	22.3	10.5	10.5	16.3	20.5	12.8	6.7	5.5	4.9	5.7	6.9	10.1	17.9	16.9	28.8	16.0	15.5	14.2	10.3	13.0	24	28.8	4.9	13.8	0	0
28	16.1	12.4	15.3	14.0	13.6	25.7	30.6	35.6	33.2	23.8	24.2	20.4	17.5	18.2	15.9	13.5	11.8	11.2	18.8	30.7	24.0	10.9	11.0	15.7	24	35.6	10.9	19.3	0	0
29	32.8	36.2	32.9	37.1	35.8	55.2	41.2	53.0	27.4	20.6	18.5	19.7	20.4	19.5	17.1	16.5	22.5	27.0	27.0	27.1	30.5	31.4	27.7	24.5	24	55.2	16.5	29.2	0	0
30	36.4	37.9	56.7	41.0	77.2	46.5	13.6	15.3	15.4	14.2	12.8	12.7	11.5	11.0	12.7	13.2	14.3	15.4	15.3	13.8	12.1	13.7	12.9	14.3	24	77.2	11.0	22.5	0	0
31	11.6	10.9	11.0	10.6	12.4	14.0	14.4	15.0	17.0	22.7	25.2	25.0	17.2	14.9	17.7	17.6	21.5	26.8	31.2	58.3	58.3	56.4	62.0	39.6	24	62.0	10.6	25.5	0	0
Count	31	31	31	31	31	31	31	31	31	30	29	30	31	31	31	31	31	31	31	31	31	31	31	31	740	31	29	30.8		
Maximum	64.8	60.3	77.9	78.9	77.2	77.7	83.7	98.2	86.0	85.2	84.9	75.0	71.6	40.7	50.9	42.4	35.5	50.0	65.8	71.4	59.9	77.8	75.5	77.9	24	98.2	35.5	69.6		
Minimum	3.0	4.2	3.5	3.6	4.1	4.1	3.8	2.9	1.8	1.3	1.1	2.5	2.2	2.8	1.9	2.0	2.4	2.1	2.5	4.1	1.3	2.6	3.5	3.4	22	11.7	1.1	2.8		
Average	19.2	17.8	19.6	18.3	20.7	22.0	21.5	24.8	25.6	20.7	14.6	14.2	13.6	12.5	12.1	12.4	13.4	15.7	20.0	21.8	21.9	23.4	23.3	21.6	24	46	6	19		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		5.1		6.9		8.6		10.6		12.7		15.4		19.6		26.5		42.0		59.6		80.2		98.2						98.2
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																													

NO ₂ - COURTICE March 2014 (ug/m3)																														
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
1	4.5	8.2	6.8	6.8	8.7	32.7	39.6	44.5	31.9	14.8	12.7	14.0	19.3	34.8	50.5	47.5	39.5	29.0	16.4	13.7	8.1	6.3	6.2	7.5	24	50.5	4.5	21.0	0	0
2	4.7	8.1	6.7	7.7	6.2	6.6	8.5	7.4	6.5	7.9	7.4	6.8	6.5	3.5	3.8	6.7	9.2	7.8	10.6	11.7	17.9	28.1	42.5	38.3	24	42.5	3.5	11.3	0	0
3	23.7	20.6	6.4	5.0	5.7	13.5	13.4	17.8	6.4	5.5	6.3	4.2	3.7	4.6	4.9	6.8	7.6	10.6	44.5	60.7	46.0	33.8	53.1	87.4	24	87.4	3.7	20.5	0	0
4	87.3	89.2	75.8	74.5	80.6	60.2	52.8	57.6	57.1	51.6	65.6	66.4	51.7	33.8	16.8	25.7	38.1	81.3	95.2	97.8	105.3	107.0	92.7	56.8	24	107.0	16.8	67.5	0	0
5	43.8	37.8	23.3	23.6	23.6	29.5	30.0	32.9	22.8	18.8	11.3	8.4	10.5	7.7	7.8	10.9	12.6	15.9	47.5	83.1	81.1	73.5	51.2	37.7	24	83.1	7.7	31.0	0	0
6	49.7	21.6	29.9	28.3	34.1	31.5	33.5	28.6	23.6	20.6	13.0	3.4	4.2	4.0	4.8	8.2	4.9	6.7	5.6	12.7	29.9	8.6	6.6	7.3	24	49.7	3.4	17.6	0	0
7	11.5	19.0	6.8	9.5	15.5	11.0	76.5	62.6	12.0	13.5	12.6	12.2	12.4	12.6	15.4	17.5	18.1	25.8	35.3	34.3	52.9	92.5	71.0	71.4	24	92.5	6.8	30.1	0	0
8	69.4	51.3	55.8	72.0	77.1	66.4	82.4	65.1	20.3	17.4	24.3	13.1	12.5	10.1	10.6	12.5	9.9	12.0	11.6	11.1	9.6	8.9	10.8	10.0	24	82.4	8.9	31.0	0	0
9	9.6	6.1	9.1	8.3	13.3	21.9	29.7	49.8	19.9	9.6	7.9	6.9	8.1	8.7	7.7	6.5	7.7	8.2	8.7	7.7	6.2	7.4	7.8	17.8	24	49.8	6.1	12.3	0	0
10	17.3	14.2	15.7	17.5	29.2	89.3	92.9	84.0	60.4	22.6	9.8	9.6	9.4	9.3	9.3	9.8	9.8	10.4	9.6	11.4	15.8	17.6	17.9	17.9	24	92.9	9.3	25.5	0	0
11	21.6	28.3	55.5	75.5	74.9	80.2	89.2	38.0	52.0	36.5	34.4	30.3	21.3	19.0	19.8	21.1	26.1	74.3	95.3	32.6	18.2	16.3	16.4	13.5	24	95.3	13.5	41.3	0	0
12	22.2	19.7	20.9	28.0	11.6	15.1	16.9	14.9	16.0	14.7	11.6	13.0	9.9	8.0	6.6	6.7	6.4	6.7	8.2	6.5	7.3	5.5	5.5	5.8	24	28.0	5.5	12.0	0	0
13	7.3	4.9	4.6	5.0	6.3	7.7	10.9	10.4	6.4	6.8	5.4	7.7	6.5	6.0	5.3	6.3	8.0	18.2	32.4	34.3	38.7	35.0	29.6	13.0	24	38.7	4.6	13.1	0	0
14	8.6	12.9	12.9	10.9	8.6	10.4	9.7	11.1	12.6	12.5	11.1	9.6	9.5	9.8	8.8	9.0	8.3	9.9	11.7	9.4	9.7	9.2	9.9	12.9	24	12.9	8.3	10.4	0	0
15	15.2	11.1	11.1	11.7	15.2	12.7	15.5	14.5	12.0	12.6	9.8	7.4	7.1	7.3	6.0	5.7	5.4	7.1	5.6	8.7	6.2	7.9	8.2	8.6	24	15.5	5.4	9.7	0	0
16	4.9	6.5	8.0	6.4	6.4	4.8	6.5	3.6	5.6	3.2	2.8	2.8	2.8	3.7	3.0	5.4	6.2	5.4	14.1	13.8	13.1	10.6	8.3	6.4	24	14.1	2.8	6.4	0	0
17	4.9	4.9	7.7	12.7	12.1	18.5	30.4	20.6	17.0	13.5	7.7	4.4	3.5	3.9	2.4	3.3	4.5	6.4	8.2	26.3	29.0	23.3	23.1	23.3	24	30.4	2.4	13.0	0	0
18	19.6	18.6	16.2	15.8	19.9	26.5	30.6	26.6	25.1	18.3	8.7	11.1	8.6	7.6	8.8	9.3	12.1	16.3	18.2	33.6	30.2	29.5	24.7	12.5	24	33.6	7.6	18.7	0	0
19	12.0	8.9	7.8	8.1	8.7	12.7	20.6	27.0	27.3	21.7	20.3	21.4	20.8	18.4	23.7	28.9	18.3	20.9	11.2	10.0	9.8	10.3	9.6	9.2	24	28.9	7.8	16.2	0	0
20	12.6	15.7	13.2	11.0	9.6	11.4	14.5	20.1	15.8	14.2	12.2	15.9	14.8	11.2	10.5	8.1	9.0	8.5	10.7	10.8	12.1	11.8	14.2	14.1	24	20.1	8.1	12.6	0	0
21	8.0	9.1	8.4	9.1	12.1	13.2	11.2	10.1	6.6	8.4	5.0	4.5	5.3	8.4	11.4	11.3	11.4	12.2	9.4	12.1	10.6	14.4	52.4	30.8	24	52.4	4.5	12.3	0	0
22	6.9	7.0	8.8	11.8	7.4	13.6	19.5	20.4	12.8	6.9	6.2	6.5	5.8	5.1	4.7	5.0	4.9	6.7	7.3	9.5	7.3	6.4	4.5	3.2	24	20.4	3.2	8.3	0	0
23	4.3	6.2	7.7	5.2	5.3	6.6	4.5	3.4	3.3	3.9	2.4	2.4	2.5	3.9	2.8	4.9	4.0	4.1	9.3	15.9	8.0	11.8	15.8	13.1	24	15.9	2.4	6.3	0	0
24	27.9	22.8	25.6	37.8	37.3	35.4	39.6	28.5	12.5	7.3	4.9	4.3	4.5	5.4	6.4	7.8	9.2	12.2	13.4	27.2	23.4	51.3	61.3	70.6	24	70.6	4.3	24.0	0	0
25	77.8	70.1	64.3	62.6	77.7	75.6	82.7	57.8	40.6	36.1	7.6	8.5	8.1	6.0	7.2	8.8	14.0	14.0	13.3	9.5	10.5	8.0	6.9	9.4	24	82.7	6.0	32.4	0	0
26	6.7	6.0	7.2	8.7	11.6	13.4	15.3	11.4	C	C	4.7	7.3	4.3	4.1	4.4	3.8	4.3	6.7	11.4	22.4	35.8	40.5	52.8	49.6	22	52.8	3.8	15.1	0	0
27	44.7	46.3	49.1	50.7	71.5	68.8	26.3	8.9	10.8	8.5	7.0	8.1	8.3	8.4	9.8	9.3	9.5	9.7	11.5	46.2	34.3	19.7	7.9	39.8	24	71.5	7.0	25.6	0	0
28	8.6	6.9	7.1	8.7	8.1	13.2	23.8	56.8	49.8	83.3	83.8	59.5	12.0	6.9	8.1	15.7	18.4	12.0	13.5	11.0	11.1	9.0	9.8	10.9	24	83.8	6.9	22.8	0	0
29	10.8	9.8	15.7	19.7	27.9	17.7	15.4	15.5	13.0	14.0	11.2	10.3	8.6	7.7	5.6	8.1	8.8	7.3	5.9	6.4	4.8	4.6	6.9	6.1	24	27.9	4.6	10.9	0	0
30	3.3	4.1	3.5	2.9	4.9	2.4	3.0	2.9	3.7	4.0	3.7	2.9	4.9	4.8	3.5	5.2	5.8	10.5	12.2	13.9	6.0	5.7	5.7	7.5	24	13.9	2.4	5.3	0	0
31	4.7	5.2	7.9	8.6	8.3	11.4	22.4	23.7	24.6	22.2	26.0	10.7	7.5	14.2	19.1	21.6	17.4	6.4	4.4	43.1	95.2	78.9	68.8	53.9	24	95.2	4.4	25.3	0	0
Count	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	742	31	30	30.9		
Maximum	87.3	89.2	75.8	75.5	80.6	89.3	92.9	84.0	60.4	83.3	83.8	66.4	51.7	34.8	50.5	47.5	39.5	81.3	95.3	97.8	105.3	107.0	92.7	87.4	24	107.0	34.8	77.5		
Minimum	3.3	4.1	3.5	2.9	4.9	2.4	3.0	2.9	3.3	3.2	2.4	2.4	2.5	3.5	2.4	3.3	4.0	4.1	4.4	6.4	4.8	4.6	4.5	3.2	22	12.9	2.4	3.6		
Average	21.1	19.4	19.3	21.4	23.9	26.9	31.2	28.3	20.9	17.7	14.8	12.6	10.2	9.6	10.0	11.5	11.9	15.6	19.7	24.1	25.6	25.6	25.9	24.7	24	53	6	19.7		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		4.9		6.6		8.0		9.4		11.2		13.5		18.5		28.3		51.3		71.5		92.6		107.0						107.0
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																													

NO ₂ - Rundle Road January 2014 (ug/m3)																														
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
1	10.9	10.1	12.4	14.3	16.8	18.5	10.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	18.5	0.0	4.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	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	0.0	0.0	0.0	12.9	22.7	23.0	31.3	20.0	18.7	23.8	29.3	24	31.3	0.0	7.6	0	0
4	6.1	4.6	10.4	2.6	1.6	4.6	5.1	4.4	7.4	3.1	2.9	5.8	2.3	5.1	9.5	6.5	6.1	9.3	6.5	10.2	16.0	16.4	10.3	10.8	24	16.4	1.6	7.0	0	0
5	17.9	14.0	13.4	9.1	11.1	16.8	32.3	30.8	35.8	36.0	37.0	29.0	23.4	16.7	13.7	12.7	21.6	23.8	15.2	12.9	16.4	12.0	8.5	11.5	24	37.0	8.5	19.6	0	0
6	9.8	11.9	8.2	6.4	10.3	5.4	1.7	1.1	1.1	4.9	2.2	1.0	1.3	8.8	7.1	11.8	8.7	13.6	12.9	12.1	16.5	22.1	30.0	7.4	24	30.0	1.0	9.0	0	0
7	3.7	3.9	4.6	10.5	22.9	21.8	26.7	31.8	26.3	20.2	15.9	9.8	11.2	10.3	10.4	13.9	15.1	16.5	14.6	15.2	21.7	25.3	27.3	27.5	24	31.8	3.7	17.0	0	0
8	24.9	18.8	20.4	30.6	26.8	28.1	13.1	23.2	13.0	10.0	13.1	14.3	15.6	19.1	28.5	36.7	33.6	41.5	58.9	69.4	73.2	44.5	51.9	56.6	24	73.2	10.0	31.9	0	0
9	75.8	71.3	79.5	77.6	78.0	82.8	84.3	83.2	72.4	65.3	51.3	49.7	55.3	28.7	14.0	12.8	22.1	41.2	44.6	41.7	43.2	29.4	19.1	19.4	24	84.3	12.8	51.8	0	0
10	18.1	13.6	14.2	13.9	22.6	33.6	42.3	50.0	44.7	45.1	44.1	A	A	27.3	30.6	39.9	51.0	47.7	36.4	24.0	35.4	29.9	25.8	17.2	22	51.0	13.6	32.2	0	0
11	14.4	14.1	13.8	7.5	6.8	11.9	16.9	22.6	23.0	23.7	37.4	36.2	35.1	44.1	39.6	31.3	10.9	10.7	13.9	19.7	21.2	13.6	14.9	12.7	24	44.1	6.8	20.7	0	0
12	11.2	7.5	6.3	9.0	4.3	2.6	4.9	7.4	8.0	12.2	9.8	5.6	9.2	9.2	10.3	14.2	14.2	21.5	12.1	10.5	7.2	10.1	6.1	5.0	24	21.5	2.6	9.1	0	0
13	12.0	6.9	7.3	17.3	20.2	24.8	30.6	34.9	36.0	38.6	42.1	27.7	28.0	27.4	24.3	28.6	35.7	24.5	16.3	17.8	25.6	31.6	22.1	16.8	24	42.1	6.9	24.9	0	0
14	16.1	9.0	15.8	10.4	25.0	25.9	52.6	45.5	46.4	4.4	0.4	0.0	0.0	0.0	0.0	0.0	2.7	28.5	20.8	28.9	40.5	21.5	21.5	18.8	24	52.6	0.0	18.1	0	0
15	24.5	15.2	11.8	11.9	17.2	13.4	5.7	7.9	5.8	5.6	5.1	7.6	6.3	10.4	10.9	9.2	9.7	15.6	23.7	10.9	1.6	0.0	0.6	2.1	24	24.5	0.0	9.7	0	0
16	5.4	7.0	15.0	14.2	9.9	8.5	14.4	17.7	15.3	20.2	8.2	6.7	11.6	8.2	13.1	8.3	11.8	15.5	15.7	19.3	15.2	8.1	16.0	20.0	24	20.2	5.4	12.7	0	0
17	10.4	9.3	11.9	11.7	M	M	M	M	M	M	M	5.4	5.2	9.4	18.7	14.8	20.4	23.2	19.9	23.0	33.3	39.8	38.6	30.0	17	39.8	5.2	30.0	0	0
18	26.1	23.7	15.0	6.6	5.8	5.3	11.8	15.0	25.6	19.5	12.2	9.5	10.1	15.0	12.8	15.4	14.3	23.5	30.7	34.5	31.4	32.4	40.2	36.0	24	40.2	5.3	19.7	0	0
19	23.5	7.4	12.4	11.2	12.8	14.6	15.6	11.2	6.5	4.8	5.5	3.0	3.0	2.9	5.5	6.0	10.5	14.1	11.5	12.6	11.1	12.5	14.1	15.5	24	23.5	2.9	10.3	0	0
20	14.9	14.9	16.8	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	16.8	0.0	2.3	0	0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	3.4	2.1	2.2	2.6	1.8	1.4	2.2	3.5	4.4	5.2	5.1	4.2	4.3	22	5.2	0.0	2.2	0	0
22	3.5	5.6	4.5	6.1	5.4	4.0	4.6	7.7	8.4	7.7	4.5	4.1	1.8	2.6	4.1	4.5	4.8	6.8	8.0	10.4	7.4	9.7	8.7	8.1	24	10.4	1.8	6.0	0	0
23	7.4	6.3	5.0	8.0	11.5	8.3	4.7	5.6	6.2	5.3	3.1	2.1	1.7	2.2	2.0	3.4	4.0	5.2	5.6	4.4	3.3	3.4	5.0	5.5	24	11.5	1.7	5.0	0	0
24	5.3	28.2	25.3	16.5	12.1	16.2	34.7	55.9	62.0	57.9	30.8	12.7	11.1	12.9	12.9	10.6	13.2	12.8	12.8	15.6	14.4	11.7	12.2	10.5	24	62.0	5.3	21.2	0	0
25	8.9	21.9	7.3	8.3	7.3	6.9	7.3	7.9	6.8	9.5	7.7	7.5	9.2	13.1	2.7	2.1	1.6	1.8	2.3	2.7	2.7	1.9	1.0	1.2	24	21.9	1.0	6.2	0	0
26	1.5	1.1	1.3	1.4	1.5	4.2	7.5	9.3	21.7	29.0	13.7	9.1	10.6	12.2	7.3	7.0	8.6	16.7	13.4	23.0	13.8	14.3	15.7	10.9	24	29.0	1.1	10.6	0	0
27	19.0	19.0	15.8	27.0	18.5	7.4	10.2	22.2	27.9	9.8	3.6	3.5	2.5	3.6	4.4	3.7	4.0	7.3	8.1	13.2	14.4	7.9	6.0	9.6	24	27.9	2.5	11.2	0	0
28	10.4	8.7	14.7	21.4	20.7	34.6	43.4	45.8	47.5	33.0	28.5	23.0	20.4	21.3	21.3	20.1	21.7	19.1	29.7	33.2	36.5	23.5	19.4	22.1	24	47.5	8.7	25.8	0	0
29	35.2	40.2	43.1	42.0	38.3	39.8	44.7	50.6	32.8	25.5	23.0	22.4	22.0	21.0	20.8	19.5	27.3	34.7	33.3	35.0	43.6	46.0	43.0	33.9	24	50.6	19.5	34.1	0	0
30	42.6	48.5	58.8	55.2	58.7	46.8	21.9	19.9	21.2	17.4	16.8	15.3	14.6	14.5	18.8	18.3	20.4	24.5	24.4	23.1	23.0	22.4	25.6	18.4	24	58.8	14.5	28.0	0	0
31	14.0	12.7	13.8	13.6	16.4	18.1	20.8	22.4	26.5	27.2	29.2	18.8	8.9	8.0	6.6	8.7	9.8	12.9	18.3	18.1	22.7	32.4	23.0	20.3	24	32.4	6.6	17.6	0	0
Count	31	31	31	31	30	30	30	30	29	29	30	30	30	31	31	31	31	31	31	31	31	31	31	31	733	31	29	30.5		
Maximum	75.8	71.3	79.5	77.6	78.0	82.8	84.3	83.2	72.4	65.3	51.3	49.7	55.3	44.1	39.6	39.9	51.0	47.7	58.9	69.4	73.2	46.0	51.9	56.6	24	84.3	39.6	62.7		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17	0.0	0.0	0.0		
Average	15.3	14.7	15.4	15.3	16.1	16.8	19.0	21.3	21.7	18.5	15.1	11.1	10.8	11.5	11.3	11.7	13.5	17.4	17.3	18.6	19.9	17.6	17.2	15.5	24	34	5	16		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		0.0		3.6		6.5		9.4		12.2		15.0		20.0		25.2		35.9		44.9		73.0		84.3						84.3
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																													

NO ₂ - Rundle Road February 2014 (ug/m3)																															
Day	Hour																							Count	Maximum	Minimum	Average	Hrs>400	Days>200		
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	33.6	24.6	15.7	12.7	8.4	10.8	25.0	16.2	18.6	25.1	25.0	19.1	16.4	24.1	15.7	15.8	26.1	19.8	15.7	19.1	26.5	23.8	17.7	28.6	24	33.6	8.4	20.2	0	0	
2	43.2	57.6	46.7	16.0	13.9	9.0	5.9	5.4	3.7	3.9	4.3	5.0	4.1	4.3	4.8	4.4	5.3	5.0	5.3	6.5	5.4	3.4	3.4	3.2	24	57.6	3.2	11.2	0	0	
3	3.1	2.7	2.6	2.9	2.8	3.0	3.7	7.2	12.1	7.1	4.0	2.7	1.9	1.9	2.7	3.7	4.6	7.6	16.1	12.4	18.4	21.1	13.2	17.9	24	21.1	1.9	7.3	0	0	
4	22.7	19.7	10.4	12.4	5.4	6.4	7.4	20.8	35.9	46.2	24.5	15.8	16.9	12.7	17.0	18.8	25.5	26.9	32.8	35.7	36.0	23.3	18.7	19.6	24	46.2	5.4	21.3	0	0	
5	21.5	14.8	10.4	7.1	7.2	6.4	6.4	7.3	6.2	7.6	5.0	5.2	5.3	4.7	3.7	4.2	3.7	2.8	2.5	2.4	1.9	2.4	2.8	5.3	24	21.5	1.9	6.1	0	0	
6	2.6	3.7	3.8	12.4	13.6	31.0	43.5	54.3	43.0	23.0	42.0	47.6	25.3	21.2	19.5	21.0	24.2	30.0	50.8	41.3	43.9	49.7	38.2	25.0	24	54.3	2.6	29.6	0	0	
7	22.9	23.0	8.9	7.6	9.9	18.4	22.5	30.1	31.0	33.2	23.0	21.4	19.4	19.7	23.7	31.3	41.5	45.8	47.3	37.9	30.8	40.8	53.0	59.6	24	59.6	7.6	29.3	0	0	
8	70.3	81.8	82.1	36.2	24.4	23.2	26.5	41.6	44.2	36.8	25.8	21.8	23.5	24.3	30.8	41.6	48.2	52.6	70.8	81.0	73.4	69.7	54.2	37.3	24	82.1	21.8	46.8	0	0	
9	23.2	21.6	17.2	17.3	23.7	31.5	22.1	17.6	15.3	15.4	18.2	24.8	20.6	18.4	15.3	13.4	12.8	11.6	10.8	12.6	13.8	26.4	32.0	19.9	24	32.0	10.8	19.0	0	0	
10	20.4	26.0	26.5	36.7	12.2	10.7	20.8	16.0	14.8	20.0	18.3	9.3	7.0	6.4	5.2	6.0	6.1	9.2	8.2	10.9	14.1	14.0	8.2	6.4	24	36.7	5.2	13.9	0	0	
11	15.7	16.0	16.7	15.0	18.7	27.1	30.4	48.2	29.6	9.4	5.1	3.6	4.1	4.1	3.7	4.1	3.6	5.2	9.4	12.8	8.0	7.6	6.1	4.6	24	48.2	3.6	12.9	0	0	
12	11.0	5.1	5.7	7.4	12.2	18.0	20.7	31.3	29.0	26.0	15.8	36.6	9.1	8.0	22.6	10.5	18.2	39.6	70.4	38.2	31.7	28.4	21.4	26.2	24	70.4	5.1	22.6	0	0	
13	21.2	27.8	19.6	19.4	18.5	20.9	20.1	32.9	41.5	42.8	26.5	17.1	12.2	9.9	9.9	11.3	18.5	17.8	20.0	22.8	29.8	12.7	11.8	10.1	24	42.8	9.9	20.6	0	0	
14	14.1	13.7	10.8	9.7	11.4	8.6	9.0	11.2	17.0	16.3	24.0	19.9	18.4	14.7	13.3	14.3	16.9	22.9	15.6	24.9	30.5	26.8	30.4	27.8	24	30.5	8.6	17.6	0	0	
15	28.4	23.7	28.5	14.9	10.0	10.4	12.6	9.4	7.2	7.2	7.2	5.7	5.6	4.0	4.3	3.7	3.2	3.3	4.0	4.4	3.9	3.3	3.2	2.8	24	28.5	2.8	8.8	0	0	
16	4.1	5.7	8.1	17.2	14.6	16.8	23.8	7.6	5.3	5.4	3.5	2.7	2.7	2.4	2.0	2.4	2.4	2.5	4.4	4.1	3.3	2.6	2.3	1.9	24	23.8	1.9	6.2	0	0	
17	1.8	2.0	4.8	13.2	18.4	19.4	9.5	15.8	11.6	3.2	4.3	7.0	8.1	11.5	7.7	13.0	9.5	5.3	5.9	6.1	13.6	21.0	9.0	15.2	24	21.0	1.8	9.9	0	0	
18	12.7	20.1	11.4	10.1	18.7	19.1	38.3	15.0	14.1	19.2	17.5	21.0	24.5	25.2	29.7	25.1	24.7	25.6	26.5	24.1	31.8	34.9	28.3	32.0	24	38.3	10.1	22.9	0	0	
19	17.9	17.8	31.6	16.3	21.1	25.9	21.1	29.8	29.5	34.8	35.8	24.7	21.3	30.7	76.0	13.5	26.5	12.0	11.2	13.6	29.3	59.2	46.4	48.8	24	76.0	11.2	29.0	0	0	
20	55.5	56.0	39.9	38.7	30.1	34.2	36.4	51.6	47.1	51.0	54.2	47.4	55.8	52.4	48.6	35.4	24.3	24.2	15.9	18.0	15.8	27.9	15.0	11.7	24	56.0	11.7	37.0	0	0	
21	13.2	12.8	13.6	13.6	12.0	14.2	18.4	17.0	32.1	22.5	23.9	16.5	14.3	9.7	9.3	13.7	10.4	12.1	11.0	16.1	9.8	13.6	8.5	10.2	24	32.1	8.5	14.5	0	0	
22	10.0	10.5	9.0	9.7	12.1	12.5	7.6	7.8	9.6	9.8	9.7	7.0	6.3	8.9	6.7	8.5	9.8	14.2	15.6	14.9	14.2	12.2	15.7	24.0	24	24.0	6.3	11.1	0	0	
23	22.1	16.8	27.5	12.6	10.2	9.1	9.9	13.6	15.7	12.1	13.7	12.3	10.9	11.3	9.8	8.1	6.5	6.2	9.9	6.2	5.6	6.0	12.7	16.9	24	27.5	5.6	11.9	0	0	
24	15.2	6.1	3.5	4.0	5.7	6.8	7.8	5.4	7.1	4.4	3.8	3.3	3.9	3.7	4.0	4.7	4.2	4.8	5.7	7.1	20.8	23.2	18.5	15.7	24	23.2	3.3	7.9	0	0	
25	10.4	11.0	14.3	17.1	15.6	13.6	17.6	21.7	10.8	5.6	4.9	3.8	4.0	3.6	3.3	C	C	M	25.3	16.9	18.0	20.7	16.2	21.1	21	25.3	3.3	13.1	0	0	
26	9.7	3.4	4.1	3.6	3.8	5.5	11.8	29.7	20.2	9.3	5.4	3.3	3.3	5.1	7.5	11.2	18.0	21.8	32.0	32.1	29.3	14.5	10.0	8.1	24	32.1	3.3	12.6	0	0	
27	10.1	7.7	15.6	16.8	18.7	23.8	29.2	40.8	35.6	28.6	10.9	4.1	3.6	3.5	3.6	4.2	4.0	4.3	4.5	5.8	5.5	6.5	5.7	5.2	24	40.8	3.5	12.4	0	0	
28	5.3	7.0	7.2	5.5	6.2	5.9	10.1	12.6	7.4	7.3	9.6	8.4	15.2	18.9	25.0	14.6	12.1	11.0	22.6	32.0	30.4	27.9	32.9	13.1	24	32.9	5.3	14.5	0	0	
29																									0						
30																									0						
31																									0						
Count	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27	28	28	28	28	28	28	28	669	28	27	27.9		
Maximum	70.3	81.8	82.1	38.7	30.1	34.2	43.5	54.3	47.1	51.0	54.2	47.6	55.8	52.4	76.0	41.6	48.2	52.6	70.8	81.0	73.4	69.7	54.2	59.6	24	82.1	30.1	57.1			
Minimum	1.8	2.0	2.6	2.9	2.8	3.0	3.7	5.4	3.7	3.2	3.5	2.7	1.9	1.9	2.0	2.4	2.4	2.5	2.5	2.4	1.9	2.4	2.3	1.9	0	21.0	1.8				
Average	19.4	19.2	17.7	14.5	13.6	15.8	18.5	22.1	21.3	19.0	16.6	14.9	13.0	13.0	15.2	13.3	15.2	16.5	20.4	20.0	21.3	22.3	19.1	18.5	22	40	6	17.5			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum
Data		3.9		5.7		8.1		11.0		14.1		17.3		21.2		26.2		35.7		46.6		70.3		82.1							82.1
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																														

NO ₂ - Rundle Road March 2014 (ug/m3)																														
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
1	15.3	12.6	11.9	17.4	16.0	18.1	20.8	20.6	35.0	27.3	14.6	14.7	19.6	32.3	51.3	42.9	33.3	25.9	10.4	7.8	4.5	3.5	3.6	3.0	24	51.3	3.0	19.3	0	0
2	2.2	2.4	4.1	3.8	4.5	4.1	4.6	2.7	2.9	2.6	2.6	2.4	2.7	2.5	2.1	1.8	2.4	2.4	3.2	3.1	3.0	3.6	9.3	12.8	24	12.8	1.8	3.7	0	0
3	9.0	6.8	2.9	2.0	1.8	1.7	2.0	4.1	2.6	2.5	2.4	1.6	2.0	2.0	2.2	5.8	9.4	6.9	10.7	14.7	19.8	18.5	21.0	26.3	24	26.3	1.6	7.4	0	0
4	33.3	46.0	37.4	30.8	26.2	23.0	26.0	23.0	33.3	41.6	65.4	65.3	54.5	37.7	21.3	31.5	40.8	68.6	90.9	89.2	92.6	97.6	97.3	53.7	24	97.6	21.3	51.1	0	0
5	33.8	26.2	15.1	14.8	15.7	14.1	12.4	11.4	13.0	9.2	6.6	5.1	4.7	4.0	3.7	3.7	3.9	7.3	10.0	12.3	12.0	10.7	10.6	8.6	24	33.8	3.7	11.2	0	0
6	12.4	7.6	6.7	6.4	8.1	6.8	12.2	18.1	9.3	12.3	11.3	5.8	7.6	5.6	5.0	5.7	8.8	12.4	11.8	16.3	21.1	21.6	17.9	28.6	24	28.6	5.0	11.6	0	0
7	17.2	19.0	19.0	18.3	15.1	18.3	24.5	23.9	29.3	18.6	16.1	14.8	13.2	13.7	17.5	33.1	24.7	32.0	68.5	67.5	54.1	54.9	36.6	38.7	24	68.5	13.2	28.7	0	0
8	30.7	22.9	19.1	18.8	30.9	73.4	75.4	30.7	12.4	12.7	11.2	9.4	8.5	7.8	7.0	6.2	6.0	5.5	7.1	7.1	5.4	4.2	4.1	3.4	24	75.4	3.4	17.5	0	0
9	3.3	2.9	3.3	3.2	5.3	7.4	10.9	19.4	16.8	9.1	6.1	4.4	6.6	8.8	9.6	8.4	10.9	13.8	13.4	11.1	9.6	10.1	9.9	22.0	24	22.0	2.9	9.4	0	0
10	28.6	25.2	23.4	38.1	50.8	33.3	35.9	35.9	55.8	28.8	17.3	14.5	15.5	18.8	22.2	21.1	25.6	36.7	35.1	27.5	44.8	49.3	30.3	30.8	24	55.8	14.5	31.1	0	0
11	31.9	49.4	74.8	46.4	46.8	22.1	40.2	79.3	44.0	32.4	37.0	38.3	32.9	31.0	31.5	35.1	39.8	36.4	37.0	15.3	8.2	8.2	7.7	7.5	24	79.3	7.5	34.7	0	0
12	7.3	7.2	8.4	13.8	14.1	9.4	7.7	14.5	7.2	6.6	5.8	6.2	5.3	4.5	4.2	3.8	3.8	3.3	3.1	2.8	2.7	1.9	2.1	2.0	24	14.5	1.9	6.2	0	0
13	1.7	1.8	2.1	2.7	2.6	2.7	2.9	2.8	2.3	1.8	2.4	2.7	2.5	2.5	3.2	3.2	3.2	5.6	15.7	24.4	34.2	34.9	45.3	25.3	24	45.3	1.7	9.5	0	0
14	16.1	18.7	20.4	20.0	22.1	19.0	20.4	28.7	24.0	21.1	15.5	14.0	14.3	16.7	14.3	22.6	14.2	22.1	20.1	18.6	23.9	16.3	16.6	18.1	24	28.7	14.0	19.1	0	0
15	38.7	23.9	16.7	17.5	18.4	10.6	9.4	11.5	10.3	7.9	6.5	5.7	5.2	5.0	3.8	3.4	3.4	3.3	3.1	3.4	3.1	3.1	2.9	3.6	24	38.7	2.9	9.2	0	0
16	2.5	1.7	2.1	1.8	1.7	2.0	1.7	1.3	1.0	1.0	1.0	1.0	1.0	1.4	1.0	1.5	1.2	1.7	2.0	2.2	2.5	2.9	2.0	1.7	24	2.9	1.0	1.7	0	0
17	1.4	1.7	2.4	1.8	2.5	11.9	16.1	13.2	6.4	4.5	5.2	15.1	2.7	3.0	3.2	3.6	9.7	7.2	10.5	18.2	18.0	20.5	5.5	7.1	24	20.5	1.4	8.0	0	0
18	7.3	7.4	6.3	10.4	12.3	10.0	11.6	15.6	11.5	12.8	12.1	17.1	7.7	14.6	7.9	13.0	13.9	17.3	35.3	18.7	21.3	14.4	12.7	17.3	24	35.3	6.3	13.7	0	0
19	16.9	18.4	11.4	8.8	16.7	19.7	24.5	29.4	26.7	27.8	21.7	19.0	19.5	32.8	45.2	43.5	49.8	42.6	24.8	29.7	19.3	25.5	24.3	15.6	24	49.8	8.8	25.6	0	0
20	23.2	20.5	18.6	15.9	14.3	22.5	27.4	26.2	22.6	17.8	15.1	18.6	10.6	11.1	8.5	5.3	6.0	6.1	7.1	5.6	4.4	4.4	3.6	3.8	24	27.4	3.6	13.3	0	0
21	5.0	8.6	8.2	7.2	8.4	3.0	3.5	4.8	3.1	2.6	2.4	2.9	4.7	10.2	12.3	12.4	12.7	19.7	34.0	40.4	35.7	48.2	41.5	29.9	24	48.2	2.4	15.1	0	0
22	8.9	6.9	9.0	10.1	7.4	13.4	7.0	15.1	11.0	5.0	4.5	4.2	4.0	3.8	3.7	3.4	3.5	3.9	6.0	7.2	4.2	3.2	2.2	2.4	24	15.1	2.2	6.2	0	0
23	2.2	2.5	2.6	3.5	3.1	3.0	2.0	1.8	1.1	1.0	0.8	1.0	0.9	1.1	1.1	1.2	1.2	0.9	1.4	1.8	3.5	4.6	7.2	7.6	24	7.6	0.8	2.4	0	0
24	7.5	9.5	14.2	14.1	16.0	14.8	23.0	20.3	9.1	5.0	3.5	3.5	3.3	3.6	6.0	6.7	6.3	5.6	5.1	5.7	25.1	49.3	35.8	31.5	24	49.3	3.3	13.5	0	0
25	32.4	28.4	28.6	35.4	42.7	46.1	53.1	40.8	35.0	30.5	27.2	10.6	12.9	9.8	11.8	12.6	10.0	7.0	3.8	3.1	3.1	2.8	2.7	2.9	24	53.1	2.7	20.6	0	0
26	2.5	2.6	2.7	2.9	3.5	3.2	4.5	4.7	3.6	C	C	4.7	2.5	2.4	2.0	2.5	2.0	1.9	2.1	1.6	2.2	4.7	10.2	19.1	22	19.1	1.6	4.0	0	0
27	20.6	16.3	14.8	17.8	22.4	39.4	31.5	16.2	15.7	21.9	9.6	12.9	11.7	11.1	31.2	14.5	19.6	24.0	35.3	23.6	19.0	24.8	29.6	42.3	24	42.3	9.6	21.9	0	0
28	29.8	30.4	13.4	15.1	19.8	25.4	26.5	41.5	47.0	56.3	59.1	59.2	29.4	21.1	20.9	36.8	13.6	6.8	6.9	5.9	5.0	4.7	4.5	4.0	24	59.2	4.0	24.3	0	0
29	3.8	3.7	3.5	3.9	7.1	6.4	6.7	5.4	6.6	4.1	6.3	5.5	3.7	3.5	3.3	3.7	8.3	4.3	3.0	2.5	2.5	2.8	2.3	2.5	24	8.3	2.3	4.4	0	0
30	2.1	1.7	1.9	1.6	1.2	1.2	1.0	1.2	1.4	1.0	1.4	1.4	1.6	1.5	1.6	1.6	1.9	1.8	2.0	2.0	1.4	1.7	1.8	1.6	24	2.1	1.0	1.6	0	0
31	1.9	2.1	1.9	2.2	2.2	2.6	6.4	6.4	5.6	2.2	24.1	2.6	19.5	12.0	9.6	11.9	13.7	18.3	15.1	15.2	20.2	26.6	19.8	22.4	24	26.6	1.9	11.5	0	0
Count	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	742	31	30	30.9		
Maximum	38.7	49.4	74.8	46.4	50.8	73.4	75.4	79.3	55.8	56.3	65.4	65.3	54.5	37.7	51.3	43.5	49.8	68.6	90.9	89.2	92.6	97.6	97.3	53.7	24	97.6	37.7	64.9		
Minimum	1.4	1.7	1.9	1.6	1.2	1.2	1.0	1.2	1.0	1.0	0.8	1.0	0.9	1.1	1.0	1.2	1.2	0.9	1.4	1.6	1.4	1.7	1.8	1.6	22	2.1	0.8	1.3		
Average	14.5	14.0	13.1	13.1	14.8	15.8	17.8	18.4	16.3	14.3	13.8	12.9	10.4	10.8	12.0	13.1	13.0	14.6	17.2	16.3	17.0	18.7	16.8	16.0	24	37	5	14.8		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		2.0		2.9		4.1		6.5		9.6		13.7		18.2		24.0		35.0		44.8		74.3		97.6						97.6
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																													

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Appendix C NOX Data Summaries and Time History Plots
June 23, 2014

Appendix C NO_x DATA SUMMARIES AND TIME HISTORY PLOTS

Figure C-1 Time History Plots of Measured Hourly Average and 24-Hour Average NO_x Concentrations – Courtice (WPCP) Station

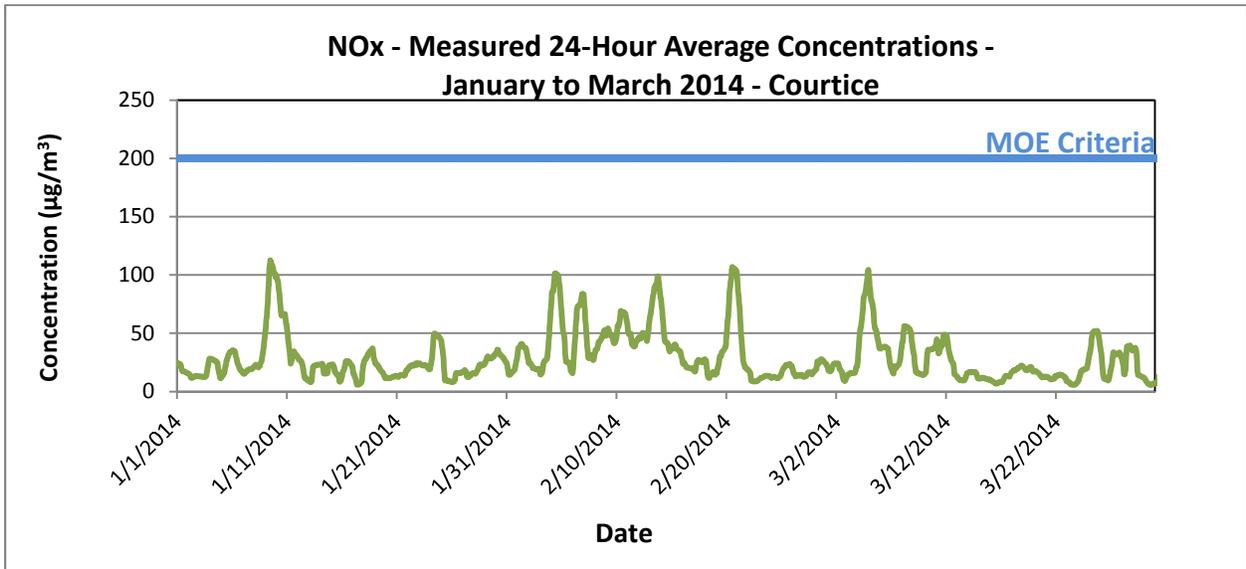
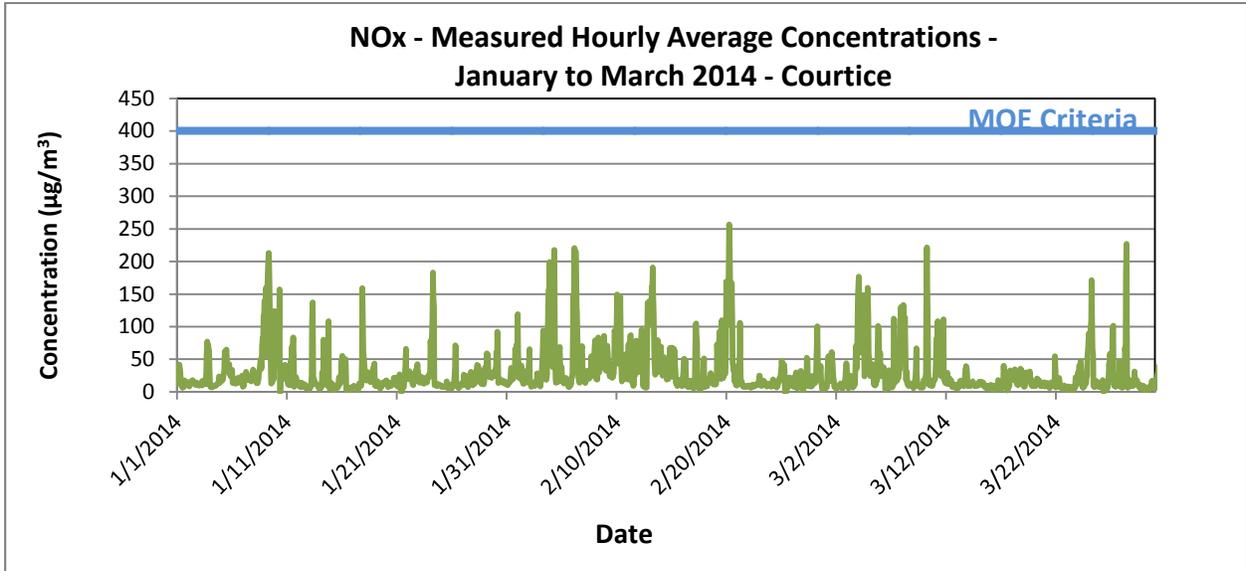
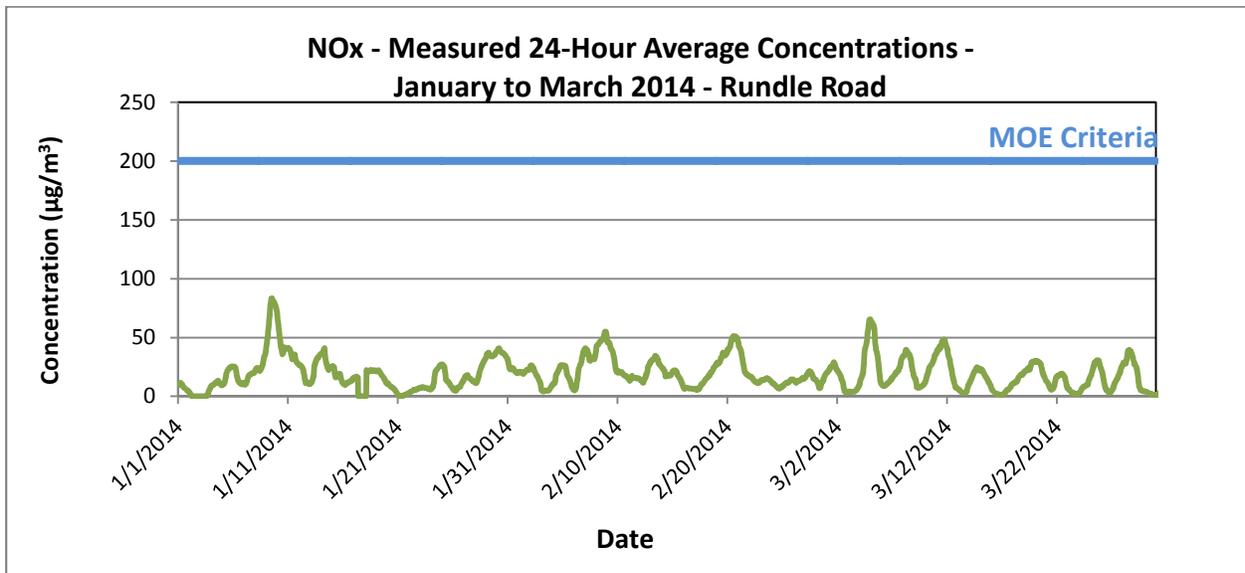
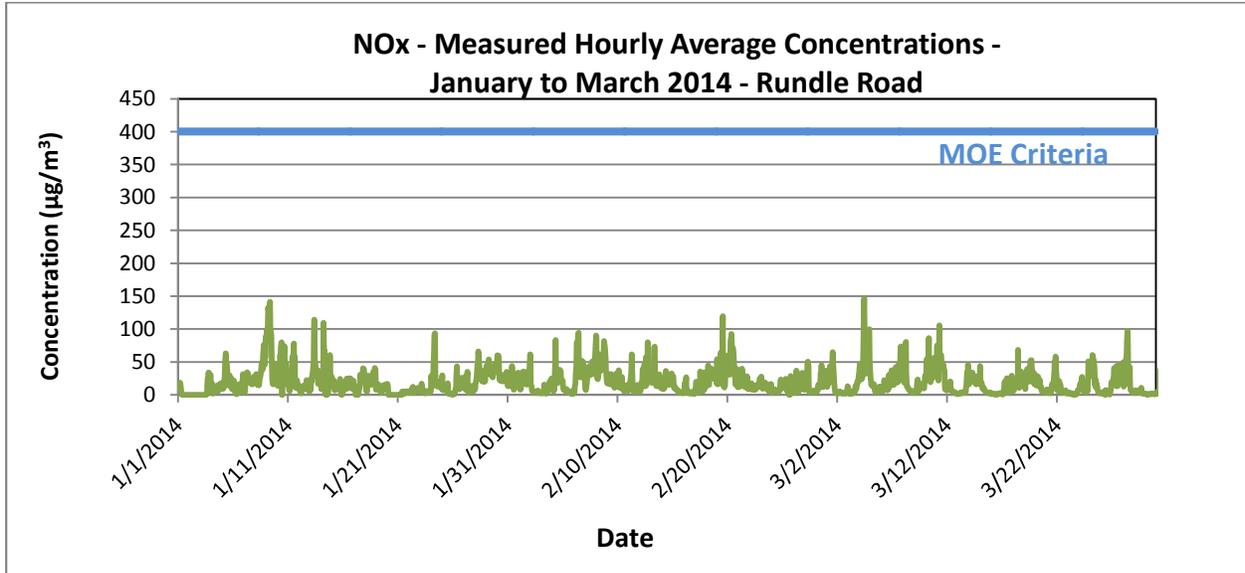


Figure C-2 Time History Plots of Measured Hourly Average and 24-Hour Average NO_x Concentrations – Rundle Road Station



NOx COURTICE January 2014 (ug/m3)																														
Day	Hour																							Count	Maximum	Minimum	Average	Hrs>400	Days>200	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200							2300
1	14.5	16.0	13.6	16.4	21.2	42.1	36.3	32.5	16.6	11.4	9.8	7.3	6.5	12.6	7.4	7.7	17.6	12.4	11.9	11.2	11.0	12.1	12.1	15.1	24	42.1	6.5	15.6	0	0
2	14.1	10.6	10.4	8.3	11.3	13.9	13.3	14.0	16.0	13.2	18.2	17.0	15.7	14.1	12.7	11.5	14.8	13.8	10.5	14.3	11.8	11.7	11.3	10.9	24	18.2	8.3	13.1	0	0
3	10.0	10.8	10.2	10.6	10.5	10.2	9.8	16.6	14.2	11.6	14.6	14.4	17.2	14.6	11.7	23.1	30.1	57.5	77.2	66.5	72.2	67.1	61.8	36.5	24	77.2	9.8	28.3	0	0
4	9.5	7.6	8.6	8.0	6.8	7.5	7.6	9.8	9.2	9.5	8.8	8.7	9.1	9.7	11.0	11.2	12.3	12.3	12.4	16.5	23.3	22.0	14.1	16.6	24	23.3	6.8	11.3	0	0
5	20.8	21.7	19.1	17.1	18.7	23.4	27.9	30.3	61.7	52.7	42.3	61.0	64.7	47.1	34.7	38.1	41.8	32.5	42.2	28.7	29.3	24.4	30.2	25.9	24	64.7	17.1	34.8	0	0
6	33.7	21.4	13.6	15.2	16.6	17.1	14.7	13.0	12.5	14.7	14.4	13.5	15.4	21.7	15.1	14.4	14.0	15.6	15.9	15.0	18.2	24.3	24.7	12.1	24	33.7	12.1	16.9	0	0
7	7.9	10.0	9.5	13.1	25.2	23.9	27.0	30.7	25.4	25.9	23.1	18.9	21.5	18.9	18.0	18.3	18.2	18.0	16.1	17.5	21.4	27.3	34.2	30.9	24	34.2	7.9	20.9	0	0
8	24.0	17.7	18.1	27.9	28.7	23.0	13.9	14.5	13.2	17.6	18.9	27.5	33.6	37.6	46.9	50.4	35.5	45.9	70.2	82.5	71.1	116.0	113.1	140.1	24	140.1	13.2	45.3	0	0
9	96.3	54.7	145.3	160.2	116.6	138.6	181.9	195.3	212.6	201.8	177.6	112.0	98.4	23.8	12.5	13.5	15.7	20.4	30.0	19.0	41.5	123.9	96.9	74.2	24	212.6	12.5	98.4	0	0
10	88.2	81.3	120.2	100.9	111.5	76.0	79.8	108.5	157.2	A	A	18.1	20.0	23.7	22.5	20.8	23.7	24.9	24.3	23.5	41.3	19.7	32.1	39.6	22	157.2	18.1	57.2	0	0
11	21.2	39.1	25.3	11.2	25.8	16.1	10.4	17.4	24.2	47.7	38.2	69.4	49.1	74.1	83.5	44.7	8.0	9.6	12.8	19.3	22.6	15.2	16.1	16.1	24	83.5	8.0	29.9	0	0
12	12.3	11.3	10.3	9.3	8.9	8.2	7.2	7.5	14.1	11.4	10.6	10.3	8.7	9.4	11.7	11.4	10.9	9.2	5.7	6.3	5.9	5.9	5.4	6.7	24	14.1	5.4	9.1	0	0
13	5.7	7.3	5.2	5.3	7.6	8.0	26.4	107.4	136.9	80.4	19.9	15.0	18.4	12.4	13.5	12.3	12.8	12.4	10.8	10.3	8.6	6.7	5.7	4.9	24	136.9	4.9	23.1	0	0
14	4.7	5.9	7.0	6.6	8.0	29.6	19.0	18.1	79.8	29.1	19.0	21.5	13.8	11.2	14.4	14.0	28.5	9.6	56.5	108.2	21.7	4.9	6.6	7.2	24	108.2	4.7	22.7	0	0
15	13.5	7.1	5.0	8.7	11.8	7.7	5.4	4.4	3.9	2.9	3.3	4.6	5.2	6.0	7.3	7.2	7.5	14.0	22.5	21.2	12.8	12.6	23.2	47.1	24	47.1	2.9	11.0	0	0
16	47.0	55.0	49.5	32.2	30.2	35.9	39.6	46.0	50.5	42.4	3.3	5.3	6.0	4.5	4.1	3.7	3.7	3.8	4.1	5.9	2.8	4.5	5.7	7.0	24	55.0	2.8	20.5	0	0
17	8.0	7.8	8.9	9.3	8.1	7.4	6.5	7.1	6.4	6.6	6.0	7.4	5.3	3.2	9.2	12.7	11.8	11.3	8.6	12.7	52.3	159.0	99.8	62.3	24	159.0	3.2	22.6	0	0
18	49.7	44.8	36.3	19.1	19.1	17.4	24.9	20.2	28.3	30.2	24.6	23.0	20.2	21.1	15.1	18.7	16.5	23.8	28.4	32.1	30.8	37.9	37.0	43.4	24	49.7	15.1	27.6	0	0
19	17.5	9.8	12.9	9.1	12.3	16.8	16.2	11.3	9.2	7.9	7.6	6.0	6.2	5.6	7.8	8.5	11.9	14.1	12.5	11.8	12.8	12.8	14.7	16.1	24	17.5	5.6	11.3	0	0
20	16.4	15.7	17.7	16.6	9.0	7.5	11.1	10.8	10.0	8.8	11.5	12.5	12.6	9.8	14.8	12.5	12.3	12.3	21.5	14.0	13.1	16.9	21.5	10.9	24	21.5	7.5	13.3	0	0
21	11.0	20.4	7.5	8.4	10.9	13.2	26.8	17.5	18.3	11.3	C	C	8.8	8.8	6.7	7.0	10.4	19.6	29.4	37.8	65.6	27.7	24.0	22.6	22	65.6	6.7	18.8	0	0
22	20.6	19.8	24.3	19.7	31.8	22.5	20.9	27.5	27.4	20.8	14.8	11.4	10.0	15.8	15.7	21.9	22.1	28.1	31.1	35.2	33.1	42.2	35.0	26.7	24	42.2	10.0	24.1	0	0
23	25.3	19.3	14.0	18.9	17.3	20.3	15.7	23.0	21.9	18.9	13.0	12.7	12.9	19.4	17.1	17.0	18.9	22.2	14.8	20.2	21.3	21.1	22.4	27.3	24	27.3	12.7	19.0	0	0
24	26.1	28.8	78.2	65.4	65.0	93.0	112.8	182.7	147.9	129.1	20.5	10.3	10.6	10.9	10.9	9.2	8.8	11.2	12.2	11.0	11.0	11.2	10.9	10.4	24	182.7	8.8	45.3	0	0
25	9.2	8.2	8.2	7.7	8.0	7.9	8.0	7.7	7.5	8.0	7.9	8.7	10.3	16.3	9.7	6.3	5.5	5.7	6.3	10.3	7.0	7.2	11.1	9.4	24	16.3	5.5	8.4	0	0
26	7.3	5.6	6.3	10.3	9.8	14.7	19.9	38.0	71.4	69.4	16.8	14.7	10.0	11.7	9.6	7.3	6.2	7.6	11.4	11.4	11.7	11.6	10.3	10.1	24	71.4	5.6	16.4	0	0
27	14.8	12.5	13.3	26.4	22.6	11.0	11.3	17.0	24.5	17.1	10.4	8.3	7.5	8.5	10.1	14.3	24.9	19.3	30.9	16.8	16.5	14.9	10.4	13.7	24	30.9	7.5	15.7	0	0
28	16.9	12.8	16.2	14.3	13.9	26.4	31.6	37.3	41.6	34.4	39.0	32.2	28.3	28.6	22.1	17.6	13.6	12.0	19.1	31.3	24.5	11.5	11.6	16.4	24	41.6	11.5	23.1	0	0
29	33.7	37.3	33.8	38.2	37.4	59.0	42.7	57.1	31.5	26.8	22.8	26.1	27.3	26.8	23.6	21.5	26.1	28.8	27.7	27.5	30.9	31.9	28.6	24.6	24	59.0	21.5	32.2	0	0
30	37.1	38.1	60.2	46.3	92.4	53.1	13.6	15.2	16.6	17.8	18.1	19.1	15.8	14.5	15.4	14.9	14.8	16.1	16.5	13.9	12.4	13.8	13.1	14.4	24	92.4	12.4	25.1	0	0
31	11.9	10.7	11.4	10.5	12.7	14.0	14.0	14.7	18.7	27.8	36.4	36.8	23.0	18.8	23.2	21.4	24.1	27.7	31.4	65.6	62.7	60.6	72.6	40.8	24	72.6	10.5	28.8	0	0
Count	31	31	31	31	31	31	31	31	31	30	29	30	31	31	31	31	31	31	31	31	31	31	31	31	740	31	29	30.8		
Maximum	96.3	81.3	145.3	160.2	116.6	138.6	181.9	195.3	212.6	201.8	177.6	112.0	98.4	74.1	83.5	50.4	41.8	57.5	77.2	108.2	72.2	159.0	113.1	140.1	24	212.6	41.8	120.6		
Minimum	4.7	5.6	5.0	5.3	6.8	7.4	5.4	4.4	3.9	2.9	3.3	4.6	3.2	4.5	4.1	3.7	3.7	3.8	4.1	5.9	2.8	4.5	5.4	4.9	22	14.1	2.8	4.6		
Average	23.5	21.6	26.5	24.9	26.8	27.9	28.9	37.2	42.9	33.6	23.1	21.6	19.7	18.2	17.4	16.5	16.9	18.4	23.4	26.4	26.5	31.6	29.6	27.1	24	71	9	25		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		7.4		9.6		11.4		13.5		16.0		19.1		23.9		31.2		52.3		80.4		158.3		212.6						212.6
Notes	C - Calibration / Span Cycle		NA - No Data Available				T - Test		A - MOE Audit		M - Equipment Malfunction / Down																			

NOx COURTICE February 2014 (ug/m3)																															
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	119.1	70.0	44.3	28.1	21.2	21.7	29.7	34.2	40.7	23.7	17.6	15.4	13.5	12.3	12.8	15.4	19.1	17.1	31.6	25.7	15.5	14.4	15.2	23.6	24	119.1	12.3	28.4	0	0	
2	39.2	48.4	65.5	18.3	16.5	11.4	7.7	8.7	10.3	10.4	14.0	13.2	10.5	10.3	9.2	12.2	16.3	17.2	19.2	28.5	17.1	24.4	16.6	26.8	24	65.5	7.7	19.7	0	0	
3	11.5	15.6	8.5	16.9	19.5	34.6	43.8	70.3	93.5	46.8	33.9	21.7	19.9	23.5	19.9	18.7	26.6	58.5	84.5	143.2	156.5	155.0	199.0	161.3	24	199.0	8.5	61.8	0	0	
4	160.8	139.6	114.9	172.2	60.5	38.2	52.1	185.2	217.8	141.2	63.7	38.2	52.1	185.2	217.8	141.2	141.2	63.7	38.2	52.1	185.2	217.8	141.2	63.7	38.2	24	217.8	14.0	72.8	0	0
5	38.0	25.3	16.3	15.6	18.1	13.4	13.8	17.2	18.3	21.7	19.1	17.7	12.3	11.1	15.1	8.8	7.2	8.1	12.0	10.5	9.7	12.4	21.8	23.1	24	38.0	7.2	16.1	0	0	
6	28.8	113.6	147.0	112.9	220.4	118.9	145.4	215.7	163.1	128.8	122.4	70.7	32.4	20.9	16.0	14.3	23.5	31.4	34.4	64.6	68.5	70.3	29.1	16.8	24	220.4	14.3	83.7	0	0	
7	18.9	28.0	16.7	14.5	13.5	16.8	19.2	25.7	32.0	32.1	26.2	27.7	23.4	20.7	21.9	26.3	38.4	54.4	48.3	32.7	25.4	38.4	49.9	54.2	24	54.4	13.5	29.4	0	0	
8	64.3	79.1	69.2	24.6	20.6	19.0	18.8	71.6	83.6	80.3	29.4	31.2	35.3	36.1	43.6	50.6	55.6	59.8	61.4	61.8	71.7	85.8	61.1	45.3	24	85.8	18.8	52.5	0	0	
9	35.1	34.9	32.4	58.5	70.7	57.3	45.2	44.7	33.4	23.7	27.6	38.9	41.5	23.5	21.7	21.3	22.2	29.0	27.3	42.3	93.9	89.5	86.3	68.4	24	93.9	21.3	44.5	0	0	
10	85.0	149.1	116.1	101.8	43.5	77.9	101.3	72.1	146.5	107.2	58.0	26.6	15.9	17.5	33.6	19.6	22.1	24.3	26.3	32.9	57.4	38.4	26.4	27.6	24	149.1	15.9	59.5	0	0	
11	18.9	41.6	70.5	73.7	67.5	63.4	85.4	86.9	56.0	19.1	15.3	18.5	11.5	9.3	12.2	33.9	25.9	36.6	63.6	78.6	54.3	46.1	50.9	30.0	24	86.9	9.3	44.6	0	0	
12	44.9	65.5	69.0	48.0	65.0	71.0	83.7	94.9	91.5	89.1	10.3	9.0	8.8	7.3	8.0	7.6	6.5	6.6	6.8	65.4	136.7	136.2	113.5	138.7	24	138.7	6.5	57.7	0	0	
13	133.0	114.5	105.8	115.4	118.9	161.2	146.7	190.8	156.0	118.9	84.2	53.0	28.3	26.5	27.8	30.5	36.4	48.6	79.6	74.4	61.3	40.2	39.0	40.3	24	190.8	26.5	84.6	0	0	
14	45.8	69.2	29.9	37.7	28.4	24.7	31.1	52.8	53.1	35.4	43.6	35.8	29.7	22.9	19.1	22.5	21.9	20.2	22.3	26.9	33.0	67.1	50.2	41.5	24	69.2	19.1	36.0	0	0	
15	61.3	67.8	47.5	37.9	22.9	66.2	61.2	62.9	42.8	26.0	13.5	15.2	12.1	9.1	13.3	10.2	14.1	18.6	18.6	14.9	10.7	11.5	11.5	8.8	24	67.8	8.8	28.3	0	0	
16	11.6	24.8	28.2	40.7	50.5	34.8	48.5	45.5	16.9	12.9	14.2	7.9	8.6	14.7	10.0	7.3	8.2	17.2	13.5	16.1	9.5	10.7	8.1	13.7	24	50.5	7.3	19.8	0	0	
17	5.2	6.5	12.0	17.4	50.8	100.4	104.9	81.6	69.7	23.3	24.7	21.1	5.4	4.4	4.1	3.3	4.9	5.4	7.0	7.4	7.3	12.8	28.9	51.3	24	104.9	3.3	27.5	0	0	
18	8.2	8.9	8.1	7.7	8.7	9.1	9.0	12.5	17.3	14.9	14.6	21.9	22.6	24.9	28.9	23.7	15.0	17.9	13.5	12.8	13.9	11.2	11.1	11.4	24	28.9	7.7	14.5	0	0	
19	11.1	11.1	14.3	19.9	72.9	53.8	37.1	62.8	67.6	92.7	57.5	22.3	20.2	34.3	109.7	22.5	28.5	21.1	25.5	27.9	30.9	28.8	28.0	58.8	24	109.7	11.1	40.0	0	0	
20	168.6	139.7	142.8	108.3	150.1	167.1	256.7	245.5	168.3	148.7	115.9	102.7	166.8	103.7	42.3	41.5	32.0	39.4	15.9	22.7	17.1	11.2	16.6	9.8	24	256.7	9.8	101.4	0	0	
21	17.7	28.2	22.0	11.7	29.8	60.3	105.7	22.8	16.6	14.7	15.7	11.1	8.5	7.9	8.0	8.0	7.5	8.2	8.6	8.1	8.1	8.6	8.4	8.5	24	105.7	7.5	18.9	0	0	
22	9.2	9.9	9.6	8.8	7.8	6.7	6.3	7.7	9.4	10.8	11.4	9.0	8.7	8.3	9.0	9.3	10.4	10.7	11.5	11.5	12.2	11.8	13.5	15.2	24	15.2	6.3	9.9	0	0	
23	24.8	24.7	17.5	10.0	9.2	9.1	10.6	12.5	13.5	15.0	17.0	16.0	14.8	13.4	12.3	11.0	8.5	8.5	11.5	12.3	10.8	9.6	12.1	11.8	24	24.8	8.5	13.2	0	0	
24	12.7	9.1	7.8	12.7	12.4	14.2	18.9	17.3	16.4	13.1	9.4	10.2	10.4	9.0	7.0	9.5	9.8	13.7	14.4	15.2	21.2	21.6	21.7	27.0	24	27.0	7.0	13.9	0	0	
25	38.7	47.2	41.3	30.0	18.6	29.7	42.0	31.8	C	C	M	M	8.1	4.7	9.2	11.0	14.8	22.2	19.2	10.9	10.6	11.8	9.7	20.8	20	47.2	4.7	21.6	0	0	
26	13.3	13.4	11.0	7.7	10.8	13.9	15.4	23.3	29.7	16.5	10.2	5.5	7.2	10.5	11.6	14.4	15.3	16.9	14.2	32.2	10.5	6.8	4.5	5.1	24	32.2	4.5	13.3	0	0	
27	3.5	5.2	12.3	15.2	14.3	17.3	20.3	27.7	52.0	50.0	20.4	11.5	8.7	9.9	11.2	8.7	11.7	8.5	8.1	9.9	24.3	19.1	19.6	18.1	24	52.0	3.5	17.0	0	0	
28	17.5	13.0	13.5	21.8	27.7	49.7	85.0	100.3	33.4	26.2	20.2	18.2	28.5	33.7	40.2	16.6	12.1	4.2	4.3	4.8	5.2	5.3	4.8	5.9	24	100.3	4.2	24.7	0	0	
29																									0						
30																									0						
31																									0						
Count	28	28	28	28	28	28	28	28	27	27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	668	28	27	27.8		
Maximum	168.6	149.1	147.0	172.2	220.4	167.1	256.7	245.5	217.8	148.7	122.4	102.7	166.8	103.7	109.7	50.6	55.6	59.8	84.5	143.2	156.5	155.0	199.0	161.3	24	256.7	50.6	148.5			
Minimum	3.5	5.2	7.8	7.7	7.8	6.7	6.3	7.7	9.4	10.4	9.4	5.5	5.4	4.4	4.1	3.3	4.9	4.2	4.3	4.8	5.2	5.3	4.5	5.1	0	15.2	3.3				
Average	44.5	50.1	46.2	42.4	45.4	48.6	58.8	68.7	64.8	49.7	33.7	24.9	22.4	19.4	21.2	17.6	18.9	22.9	26.7	34.0	37.9	37.3	35.3	35.8	22	98	10	37.8			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		8.6		11.0		13.7		17.1		21.8		28.0		38.4		58.3		90.1		136.5		187.0		256.7						256.7	
Notes	C - Calibration / Span Cycle		NA - No Data Available				T - Test		A - MOE Audit		M - Equipment Malfunction / Down																				

NOx COURTICE March 2014 (ug/m3)																															
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	4.9	8.7	6.7	6.7	8.9	33.6	41.1	54.4	36.8	17.4	16.6	17.9	25.2	47.1	61.1	54.0	43.5	29.7	18.9	16.8	8.4	6.6	6.7	8.8	24	61.1	4.9	24.2	0	0	
2	4.9	8.9	7.1	8.6	6.7	6.9	9.8	8.4	7.9	12.7	11.8	10.1	10.6	5.0	4.9	9.7	14.2	10.1	11.8	13.3	22.6	31.3	43.7	40.1	24	43.7	4.9	13.4	0	0	
3	24.4	21.4	7.4	5.2	6.5	15.2	17.5	25.0	9.2	10.0	12.7	8.0	6.8	8.7	8.4	11.8	10.9	11.9	47.6	70.0	51.2	36.8	60.9	139.1	24	139.1	5.2	26.1	0	0	
4	155.7	176.6	115.3	104.6	124.6	69.6	60.4	90.6	89.6	89.1	133.0	148.5	101.4	57.8	23.7	34.1	48.5	104.4	112.2	110.4	140.9	159.7	114.8	60.7	24	176.6	23.7	101.1	0	0	
5	45.5	41.0	24.7	24.1	24.5	34.5	32.0	42.5	29.9	29.1	16.6	11.2	17.3	9.5	10.6	16.3	17.1	17.2	57.2	93.1	100.8	93.2	58.8	40.3	24	100.8	9.5	36.9	0	0	
6	59.4	23.7	33.1	30.7	39.1	33.7	36.9	37.6	36.9	33.5	22.8	4.5	5.2	5.3	6.9	13.8	6.3	8.3	5.9	15.1	33.3	9.1	6.9	7.4	24	59.4	4.5	21.5	0	0	
7	11.4	19.5	6.6	9.4	17.1	11.2	112.1	110.9	14.3	18.0	17.6	16.9	16.8	16.9	20.9	22.7	21.9	28.1	39.0	35.5	67.5	130.0	79.0	82.5	24	130.0	6.6	38.6	0	0	
8	82.1	53.4	57.3	133.2	96.5	71.5	114.1	80.3	21.2	17.6	30.9	13.8	14.0	10.0	11.0	13.8	9.6	12.7	11.6	11.9	10.1	9.8	12.6	11.4	24	133.2	9.6	37.9	0	0	
9	11.1	6.0	10.4	8.6	13.7	22.7	30.8	66.9	27.7	13.8	11.1	9.8	11.6	11.2	9.5	7.0	8.2	7.8	8.1	7.9	6.4	6.8	8.0	18.2	24	66.9	6.0	14.3	0	0	
10	17.2	14.4	15.5	18.1	29.6	122.7	221.7	168.3	94.3	31.0	11.3	10.9	10.5	9.9	9.8	10.4	10.2	10.4	9.2	10.8	15.7	17.9	17.5	17.8	24	221.7	9.2	37.7	0	0	
11	21.3	28.3	58.1	81.2	81.0	87.9	108.5	42.0	69.4	47.4	53.7	46.7	30.7	24.9	25.1	23.7	27.8	94.2	111.5	34.0	18.4	16.4	15.9	13.2	24	111.5	13.2	48.4	0	0	
12	22.4	19.4	20.6	29.3	12.2	14.8	21.7	15.8	19.0	16.8	12.4	17.6	11.7	9.7	7.3	7.5	7.1	7.2	10.7	7.4	11.4	6.3	6.8	6.9	24	29.3	6.3	13.4	0	0	
13	10.7	5.8	5.6	7.2	7.8	9.6	13.8	17.1	10.8	14.0	10.6	13.0	12.0	10.2	9.0	8.9	10.0	21.1	34.1	35.5	39.4	35.4	29.8	13.3	24	39.4	5.6	16.0	0	0	
14	8.9	13.4	12.8	11.3	8.7	10.1	9.7	11.3	14.1	15.1	16.2	12.1	11.2	10.9	9.7	9.7	8.6	10.0	11.6	9.5	9.7	9.0	10.1	12.8	24	16.2	8.6	11.1	0	0	
15	14.9	10.9	11.0	11.4	15.4	12.4	15.3	14.7	12.4	14.2	11.1	9.0	8.1	8.4	7.0	6.5	5.8	8.1	6.3	9.5	6.0	9.4	9.0	9.1	24	15.4	5.8	10.2	0	0	
16	5.5	7.3	10.7	8.0	8.2	5.3	8.8	4.3	9.5	4.2	3.5	4.0	4.3	5.9	3.7	9.9	9.6	7.0	17.8	15.7	15.0	11.6	9.7	8.8	24	17.8	3.5	8.3	0	0	
17	5.0	5.2	10.6	17.4	13.5	20.6	39.8	26.9	26.7	22.1	11.8	6.6	4.6	6.8	2.6	4.4	5.6	7.8	9.1	32.0	32.8	25.9	25.2	24.9	24	39.8	2.6	16.2	0	0	
18	20.7	19.7	18.5	17.9	20.6	29.1	34.8	30.8	31.1	29.7	12.7	17.9	12.5	10.3	13.4	12.1	14.6	19.3	18.4	35.8	34.8	31.7	25.2	12.9	24	35.8	10.3	21.8	0	0	
19	14.1	9.6	7.8	8.1	8.3	12.8	21.4	29.6	29.9	23.5	22.3	23.7	23.6	21.3	25.4	31.0	18.8	20.7	10.7	9.8	9.4	10.1	8.9	8.6	24	31.0	7.8	17.1	0	0	
20	12.3	15.0	12.9	10.4	9.5	11.2	14.5	20.4	16.9	16.3	14.2	17.6	15.8	12.2	11.2	8.8	10.0	8.9	10.8	10.4	11.8	12.2	14.7	14.4	24	20.4	8.8	13.0	0	0	
21	8.2	9.5	8.6	9.8	11.9	13.6	12.3	11.8	8.2	11.8	7.1	5.8	7.0	10.6	14.8	13.6	13.9	14.0	9.7	12.1	10.7	14.8	54.5	33.2	24	54.5	5.8	13.6	0	0	
22	6.7	7.2	10.3	13.3	8.3	14.2	20.5	21.3	15.1	7.8	6.9	14.2	7.7	6.2	5.7	5.3	4.9	6.8	8.4	9.6	7.8	6.6	4.8	3.8	24	21.3	3.8	9.0	0	0	
23	4.8	6.7	8.3	5.4	6.0	7.4	5.1	4.6	5.1	7.0	2.9	3.2	3.2	5.7	3.3	7.8	6.0	5.5	14.2	22.3	9.3	12.6	16.7	13.6	24	22.3	2.9	7.8	0	0	
24	29.4	23.8	26.8	39.8	40.1	37.2	46.8	39.0	18.7	11.3	7.0	6.5	6.5	7.2	8.6	10.2	11.4	13.9	14.2	28.4	24.7	54.5	66.5	75.1	24	75.1	6.5	27.0	0	0	
25	89.7	77.0	70.4	65.8	97.5	109.5	171.5	97.1	62.7	55.8	8.9	10.2	9.2	7.3	7.8	10.1	16.0	16.5	15.4	10.1	11.0	9.3	7.8	11.5	24	171.5	7.3	43.7	0	0	
26	7.8	6.6	7.6	8.9	13.7	14.1	18.1	14.6	C	C	7.1	14.1	12.5	5.8	5.3	5.2	4.1	4.5	6.8	13.2	27.2	42.7	41.3	58.6	53.7	22	58.6	4.1	17.2	0	0
27	52.1	48.1	52.9	58.1	94.8	101.3	33.5	9.7	12.7	10.7	8.0	10.1	10.5	8.8	10.5	9.2	9.6	9.8	11.9	47.3	36.0	19.6	7.4	41.0	24	101.3	7.4	29.7	0	0	
28	8.1	6.1	6.9	8.4	8.1	13.9	26.6	67.2	56.9	180.1	227.1	97.2	10.9	6.2	8.0	16.3	19.0	12.6	14.5	10.9	11.0	8.7	9.3	11.3	24	227.1	6.1	35.2	0	0	
29	11.2	9.3	16.4	19.6	31.3	17.8	18.9	17.5	15.1	17.5	12.2	12.0	9.5	8.7	6.3	11.0	10.6	7.5	5.9	8.7	4.8	4.6	9.3	9.1	24	31.3	4.6	12.3	0	0	
30	3.7	4.7	4.5	3.2	6.6	2.7	3.5	3.8	4.6	5.8	4.7	3.6	7.6	6.8	4.1	6.7	8.1	16.5	16.9	17.1	6.2	6.0	6.7	10.1	24	17.1	2.7	6.8	0	0	
31	4.8	5.6	10.6	11.3	8.5	11.3	24.7	30.4	36.8	33.6	39.9	14.4	9.6	20.0	27.6	29.4	22.5	7.3	4.6	69.6	131.9	137.6	90.4	57.8	24	137.6	4.6	35.0	0	0	
Count	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	742	31	30	30.9			
Maximum	155.7	176.6	115.3	133.2	124.6	122.7	221.7	168.3	94.3	180.1	227.1	148.5	101.4	57.8	61.1	54.0	48.5	104.4	112.2	110.4	140.9	159.7	114.8	139.1	24	227.1	48.5	128.0			
Minimum	3.7	4.7	4.5	3.2	6.0	2.7	3.5	3.8	4.6	4.2	2.9	3.2	3.2	5.0	2.6	4.1	4.5	5.5	4.6	7.4	4.8	4.6	4.8	3.8	22	15.4	2.6	4.2			
Average	25.1	23.0	21.8	25.6	28.4	31.6	43.4	39.2	28.1	27.2	25.3	19.4	14.2	12.7	12.3	14.2	14.0	18.1	22.3	27.3	30.4	31.8	28.9	28.1	24	78	7	24.7			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		6.2		7.8		9.4		10.7		12.6		15.9		21.2		32.0		58.6		94.7		152.8		227.1						227.1	
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																														

NOx Rundle Road January 2014 (ug/m3)																														
Day	Hour																							Count	Maximum	Minimum	Average	Hrs>400	Days>200	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200							2300
1	11.0	10.6	12.7	14.6	17.4	18.7	11.1	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	18.7	0.0	4.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	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	0.0	0.0	0.9	15.0	25.0	23.3	34.0	20.6	19.3	24.4	30.5	24	34.0	0.0	8.0	0	0
4	6.5	6.7	18.0	3.8	2.0	8.6	7.3	4.7	10.1	5.4	5.1	12.2	4.4	10.8	14.6	9.8	6.8	13.0	6.9	10.3	16.5	17.1	10.4	11.0	24	18.0	2.0	9.2	0	0
5	18.1	14.5	13.7	9.2	11.4	16.7	33.3	51.7	63.1	46.3	49.8	43.4	33.8	21.8	20.0	14.0	25.9	29.4	15.5	12.8	25.3	17.5	8.7	15.3	24	63.1	8.7	25.5	0	0
6	9.7	12.1	22.1	6.3	11.1	5.6	1.9	1.1	1.3	7.9	5.3	4.4	4.6	16.2	11.4	15.6	9.8	14.1	13.4	12.4	17.4	22.5	31.6	7.8	24	31.6	1.1	11.1	0	0
7	3.8	4.1	4.6	10.9	23.9	23.0	27.6	34.3	33.4	31.5	28.8	20.5	22.2	19.7	18.2	19.6	17.3	17.9	16.1	16.1	22.3	25.8	28.1	28.1	24	34.3	3.8	20.7	0	0
8	25.9	19.3	20.6	31.4	27.3	29.2	15.0	25.6	16.2	14.7	20.8	28.5	28.5	33.2	44.7	48.6	38.1	42.9	60.5	71.8	76.7	45.8	53.9	58.0	24	76.7	14.7	36.5	0	0
9	88.7	81.2	98.6	96.2	105.0	132.5	126.8	132.2	131.0	141.4	104.1	92.3	91.8	39.3	22.1	16.3	25.2	44.2	48.0	44.8	44.7	30.1	20.0	21.2	24	141.4	16.3	74.1	0	0
10	18.9	14.2	14.6	14.3	23.7	34.7	45.3	60.4	56.3	73.0	79.9	A	A	42.8	43.7	57.8	74.3	59.5	39.6	24.7	46.8	32.8	27.1	17.8	22	79.9	14.2	41.0	0	0
11	14.8	15.5	18.0	7.2	6.1	14.2	17.2	24.4	24.2	26.2	57.4	57.2	59.4	78.2	55.6	57.3	12.0	10.8	14.7	20.4	22.1	13.6	15.3	13.2	24	78.2	6.1	27.3	0	0
12	12.1	7.5	6.3	9.1	4.2	2.3	5.1	7.3	8.1	13.7	13.2	8.4	11.9	11.5	12.3	15.5	15.5	22.6	12.2	16.4	7.5	13.5	9.1	5.1	24	22.6	2.3	10.4	0	0
13	20.3	7.3	7.7	24.4	21.0	27.7	33.8	39.4	51.7	101.3	114.3	47.6	47.7	39.4	33.9	35.1	38.1	32.4	16.9	18.8	26.9	35.9	22.5	17.6	24	114.3	7.3	35.9	0	0
14	15.9	9.0	20.2	10.6	34.0	27.5	109.5	62.2	66.9	5.7	1.4	0.0	0.0	0.4	0.0	1.1	3.5	30.6	24.9	38.2	60.4	26.4	26.1	20.9	24	109.5	0.0	24.8	0	0
15	27.1	16.4	22.3	12.9	21.9	20.0	6.9	10.0	7.3	7.7	8.6	12.3	9.2	14.6	16.6	10.6	11.2	16.4	24.4	10.8	2.1	0.0	0.3	1.7	24	27.1	0.0	12.1	0	0
16	5.4	6.5	14.9	13.8	10.6	8.6	14.6	21.8	17.5	24.7	12.7	10.1	18.4	13.5	25.4	16.2	15.5	24.6	17.4	21.0	17.4	9.1	16.4	21.7	24	25.4	5.4	15.7	0	0
17	11.3	10.1	14.2	13.4	M	M	M	M	M	M	M	7.7	8.3	15.0	30.5	20.6	24.1	25.6	20.0	23.6	40.5	40.1	39.5	30.4	17	40.5	7.7	0	0	0
18	26.3	23.7	15.0	6.6	5.6	5.6	12.2	15.9	29.0	26.9	19.8	17.4	16.1	24.0	18.1	18.9	15.8	24.1	31.5	35.2	32.1	32.4	40.7	37.0	24	40.7	5.6	22.1	0	0
19	24.0	7.7	13.0	11.5	13.0	14.8	15.7	11.6	7.3	5.9	8.3	3.9	3.5	3.6	6.2	6.8	11.8	14.9	12.2	14.5	12.0	13.8	14.2	16.0	24	24.0	3.5	11.1	0	0
20	15.3	15.3	16.6	9.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	16.6	0.0	2.4	0	0
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	C	C	5.2	3.4	3.7	4.4	2.9	2.2	2.9	3.9	4.9	5.5	5.3	5.0	4.2	4.6	22	5.5	0.0	2.7	0	0
22	3.2	5.6	4.1	6.0	5.2	4.0	4.9	9.3	11.0	12.1	7.9	7.9	2.9	3.4	6.3	6.4	5.8	7.9	8.6	10.4	7.4	10.0	8.8	8.0	24	12.1	2.9	7.0	0	0
23	7.3	6.1	4.9	8.2	16.9	9.4	5.2	6.2	7.8	7.4	4.4	3.1	2.4	3.9	2.9	4.3	5.1	5.8	5.7	4.5	3.4	3.7	5.7	5.4	24	16.9	2.4	5.8	0	0
24	5.3	28.9	25.8	16.5	12.8	16.4	43.4	66.2	90.0	93.7	45.0	17.3	15.5	19.9	16.0	12.8	18.1	14.0	13.8	20.5	19.4	12.5	14.9	11.5	24	93.7	5.3	27.1	0	0
25	9.2	29.4	7.3	11.7	7.7	7.1	7.3	10.3	7.2	13.5	8.9	8.8	11.9	17.4	3.3	2.4	1.5	1.3	2.0	2.5	2.7	1.9	0.9	1.2	24	29.4	0.9	7.4	0	0
26	1.3	0.9	0.8	1.2	1.2	4.1	7.8	9.3	28.5	43.2	20.0	12.7	14.8	15.1	8.8	8.4	9.3	21.6	14.4	25.7	14.5	18.0	24.3	11.3	24	43.2	0.8	13.2	0	0
27	19.3	19.3	16.1	27.2	18.4	7.5	11.0	23.2	34.8	13.4	4.8	5.2	3.4	5.4	6.0	4.5	5.0	8.3	8.3	13.7	14.2	7.7	5.8	9.8	24	34.8	3.4	12.2	0	0
28	10.6	8.9	15.1	21.6	21.1	35.6	44.3	48.6	65.7	54.0	48.0	37.9	34.3	35.6	32.2	28.1	25.3	20.5	30.5	33.9	37.0	23.7	20.0	22.6	24	65.7	8.9	31.5	0	0
29	35.9	40.5	44.6	42.5	38.7	40.4	45.4	53.8	37.8	34.5	31.1	31.9	32.7	31.0	30.6	26.8	33.0	36.5	34.2	35.6	44.4	46.8	43.8	34.7	24	53.8	26.8	37.8	0	0
30	43.4	50.8	60.0	56.1	59.8	47.7	26.7	21.8	29.1	23.6	30.2	23.9	22.4	20.4	29.1	22.6	22.9	30.7	27.0	24.7	24.9	28.1	34.9	19.5	24	60.0	19.5	32.5	0	0
31	14.5	13.2	14.6	13.7	16.2	18.5	21.6	24.2	32.5	35.2	43.7	26.0	10.6	9.9	7.9	10.0	10.6	13.5	18.8	18.9	23.2	33.2	22.9	20.5	24	43.7	7.9	19.8	0	0
Count	31	31	31	31	30	30	30	30	29	29	30	30	30	31	31	31	31	31	31	31	31	31	31	31	733	31	29	30.5		
Maximum	88.7	81.2	98.6	96.2	105.0	132.5	126.8	132.2	131.0	141.4	114.3	92.3	91.8	78.2	55.6	57.8	74.3	59.5	60.5	71.8	76.7	46.8	53.9	58.0	24	141.4	46.8	88.5		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17	0.0	0.0	0.0		
Average	16.3	15.7	17.6	16.5	17.9	19.3	23.4	26.1	29.9	29.8	26.0	18.1	17.2	17.7	16.8	15.9	16.1	19.7	18.2	20.1	22.2	18.9	18.5	16.2	24	47	6	20		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		0.0		4.4		7.5		11.0		14.6		18.0		23.3		30.5		43.7		57.9		104.7		141.4						141.4
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																													

NOx Rundle Road February 2014 (ug/m3)																															
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	33.6	24.8	15.8	12.6	8.1	10.6	26.6	16.2	19.7	28.8	35.5	27.2	19.5	34.7	18.1	17.1	29.2	20.1	15.5	22.4	35.5	24.8	17.9	29.1	24	35.5	8.1	22.7	0	0	
2	43.6	61.4	51.9	15.9	13.8	8.8	5.3	5.9	3.6	3.9	4.5	5.5	5.2	5.0	5.5	4.5	5.6	5.2	4.7	6.4	5.3	3.2	3.5	2.7	24	61.4	2.7	11.7	0	0	
3	2.8	2.4	2.5	2.5	2.3	2.7	3.9	8.1	15.1	10.3	5.6	3.9	2.0	2.1	3.5	4.1	5.9	8.7	16.5	12.7	19.3	21.5	13.8	17.8	24	21.5	2.0	7.9	0	0	
4	24.6	20.6	10.7	12.7	5.2	7.7	7.8	29.1	56.2	83.1	41.1	24.4	24.0	18.0	24.1	23.2	28.4	28.2	33.6	37.6	36.5	23.3	19.0	19.9	24	83.1	5.2	26.6	0	0	
5	21.6	14.8	10.2	7.2	7.5	6.5	6.5	7.7	6.3	8.9	5.6	5.9	6.2	5.7	4.1	4.9	4.5	3.0	2.4	2.4	1.7	2.2	2.7	6.4	24	21.6	1.7	6.5	0	0	
6	2.2	3.7	3.8	12.1	17.0	31.5	44.1	79.1	81.1	37.6	88.5	94.5	42.4	32.2	27.4	26.6	29.5	32.0	51.7	41.9	44.2	50.2	39.0	25.5	24	94.5	2.2	39.1	0	0	
7	23.0	23.3	8.8	7.6	10.4	18.7	24.2	32.6	37.4	43.0	33.8	34.5	31.0	29.9	35.6	42.7	50.6	48.7	47.9	38.5	31.5	41.3	53.3	60.4	24	60.4	7.6	33.7	0	0	
8	71.6	90.0	89.2	38.2	24.6	23.8	27.3	44.0	61.5	61.7	42.9	36.5	40.8	38.4	45.0	58.4	59.3	56.1	71.5	82.0	74.7	70.1	54.8	37.7	24	90.0	23.8	54.2	0	0	
9	23.4	21.5	17.5	17.5	28.8	31.7	22.3	17.8	16.0	17.8	22.6	31.3	25.4	21.3	18.0	14.5	13.6	11.6	10.8	12.6	13.8	26.8	32.4	19.6	24	32.4	10.8	20.4	0	0	
10	20.2	26.0	26.8	37.2	12.3	10.6	21.8	17.9	17.5	27.3	27.2	11.9	8.6	7.6	5.7	7.5	6.8	9.6	8.4	11.3	14.0	13.8	7.9	6.0	24	37.2	5.7	15.2	0	0	
11	16.0	16.0	16.6	14.9	18.4	27.9	31.7	61.4	42.4	14.3	7.9	5.5	6.5	6.2	5.5	6.1	4.5	6.6	10.8	15.2	9.7	7.5	7.6	4.6	24	61.4	4.5	15.2	0	0	
12	12.2	4.9	5.8	7.8	12.2	18.9	21.7	38.7	37.4	40.6	26.4	47.1	16.3	13.0	56.8	15.2	30.5	44.4	79.9	39.2	32.1	28.6	21.1	31.5	24	79.9	4.9	28.4	0	0	
13	22.2	30.0	19.2	19.2	18.7	21.3	20.3	38.3	71.5	73.4	40.8	26.9	17.7	13.5	13.3	13.6	22.8	18.7	20.7	23.6	30.9	12.6	11.9	10.3	24	73.4	10.3	25.5	0	0	
14	14.3	13.5	10.9	9.6	11.6	8.7	9.6	11.6	19.8	21.3	36.5	32.5	27.3	20.6	17.3	16.2	17.8	23.2	15.6	24.8	30.4	26.9	32.3	27.4	24	36.5	8.7	20.0	0	0	
15	28.2	23.8	28.4	15.0	10.4	10.6	12.3	9.6	7.7	8.0	7.9	6.2	6.3	4.6	4.6	3.8	2.9	3.2	3.9	4.2	3.7	3.3	2.9	2.4	24	28.4	2.4	8.9	0	0	
16	3.9	5.7	8.0	17.7	14.6	16.7	26.9	7.5	5.9	6.7	4.1	3.3	3.1	2.4	2.0	2.5	2.3	2.5	4.3	4.1	3.2	2.5	1.8	1.9	24	26.9	1.8	6.4	0	0	
17	1.6	2.0	4.9	13.3	19.7	19.4	9.5	17.9	15.2	3.9	6.1	19.4	13.7	13.5	35.6	15.1	21.5	20.9	5.3	5.8	6.2	14.6	33.9	8.6	18.1	24	35.6	1.6	13.6	0	0
18	14.8	24.1	12.5	15.4	24.9	23.0	44.4	16.0	15.3	25.8	24.1	30.5	31.2	34.2	39.8	32.1	31.2	26.9	27.0	24.3	31.9	35.3	29.0	34.6	24	44.4	12.5	27.0	0	0	
19	18.1	19.3	54.5	16.2	27.6	27.8	21.2	33.1	39.4	57.6	64.3	39.3	32.2	51.5	119.7	14.7	30.3	12.4	11.3	13.7	29.2	59.2	46.6	49.2	24	119.7	11.3	37.0	0	0	
20	55.7	60.3	40.6	41.2	30.4	40.5	39.3	81.5	87.0	92.6	80.6	57.8	71.6	67.3	60.3	40.4	28.8	24.9	15.6	22.8	16.0	39.2	18.7	11.5	24	92.6	11.5	46.9	0	0	
21	17.0	12.5	16.1	20.0	12.8	13.7	18.2	18.8	39.8	25.0	30.8	20.0	17.7	12.6	11.8	21.1	12.1	13.5	11.6	28.2	10.3	17.4	8.8	10.4	24	39.8	8.8	17.5	0	0	
22	9.8	10.8	8.7	9.7	12.8	17.4	7.7	8.2	12.3	12.9	13.6	17.4	9.3	8.0	12.5	8.4	10.2	11.3	14.8	16.0	16.5	14.4	12.0	15.4	24	24.7	7.7	12.4	0	0	
23	21.9	16.6	27.6	12.3	10.3	9.1	9.8	14.4	18.4	14.9	18.8	16.6	14.4	17.1	13.2	9.7	6.7	6.5	9.9	5.9	5.6	5.5	12.6	16.8	24	27.6	5.5	13.1	0	0	
24	15.4	5.7	3.1	3.8	5.6	6.8	7.9	5.9	8.2	5.7	5.0	4.3	5.2	4.8	5.5	6.1	4.5	5.2	5.8	6.7	21.1	23.6	18.7	15.9	24	23.6	3.1	8.4	0	0	
25	10.2	11.1	14.2	17.0	15.5	14.1	18.1	24.4	13.8	8.1	7.6	6.1	6.7	6.0	4.6	C	C	M	28.9	16.4	18.3	21.9	19.0	21.2	21	28.9	4.6	14.4	0	0	
26	9.6	3.4	3.9	3.5	3.5	5.4	11.8	37.1	28.7	14.4	8.4	3.9	4.7	7.8	11.5	16.3	23.6	23.9	32.3	32.7	33.3	16.3	10.8	8.4	24	37.1	3.4	14.8	0	0	
27	15.1	8.1	15.7	16.9	18.9	24.1	29.6	49.0	50.4	44.0	15.2	4.6	4.5	4.6	4.2	4.9	4.2	5.2	4.6	5.6	4.8	6.3	5.4	5.5	24	50.4	4.2	14.6	0	0	
28	4.9	6.8	7.2	5.3	6.3	6.0	10.6	15.4	10.4	11.7	17.0	15.2	31.9	35.0	45.2	22.5	16.1	11.8	34.5	34.9	31.2	28.5	36.8	13.5	24	45.2	4.9	19.1	0	0	
29																									0						
30																									0						
31																									0						
Count	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27	28	28	28	28	28	28	28	669	28	27	27.9		
Maximum	71.6	90.0	89.2	41.2	30.4	40.5	44.4	81.5	87.0	92.6	88.5	94.5	71.6	67.3	119.7	58.4	59.3	56.1	79.9	82.0	74.7	70.1	54.8	60.4	24	119.7	30.4	71.1			
Minimum	1.6	2.0	2.5	2.5	2.3	2.7	3.9	5.9	3.6	3.9	4.1	3.3	2.0	2.1	2.0	2.5	2.3	2.5	2.4	2.4	1.7	2.2	1.8	1.9	0	21.5	1.6				
Average	19.9	20.1	19.1	15.1	14.4	16.6	19.3	26.7	29.9	28.7	25.8	22.1	18.7	19.4	22.3	17.1	18.7	17.5	21.5	21.2	22.0	23.5	19.7	19.0	22	50	6	20.8			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		4.5		6.2		9.3		12.7		16.0		19.3		24.8		31.7		42.4		57.7		84.4		119.7						119.7	
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																														

NOx Rundle Road March 2014 (ug/m3)																														
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
1	18.9	13.8	12.2	23.8	16.2	18.2	20.8	21.7	43.2	37.9	19.6	20.1	27.7	45.0	65.1	49.9	35.8	26.4	10.3	7.7	4.2	3.1	3.2	2.7	24	65.1	2.7	22.8	0	0
2	2.1	1.9	3.6	3.5	4.4	3.7	5.1	3.1	3.2	2.7	2.9	2.7	3.2	3.2	2.5	2.3	2.5	2.7	3.0	2.8	2.8	3.2	9.1	13.1	24	13.1	1.9	3.7	0	0
3	9.5	6.9	2.8	1.6	1.4	1.7	1.4	4.7	3.7	4.0	4.0	2.4	3.4	3.0	3.3	9.2	13.8	8.5	11.2	14.8	19.9	19.0	21.2	29.9	24	29.9	1.4	8.4	0	0
4	33.7	46.8	38.0	34.5	27.7	23.3	26.9	26.5	46.0	67.1	133.0	146.2	109.2	68.6	31.9	44.0	53.6	81.3	96.0	90.2	93.4	99.5	99.8	54.1	24	146.2	23.3	65.5	0	0
5	33.7	26.0	15.5	14.9	16.2	15.1	12.5	12.9	16.5	12.2	8.0	5.7	5.3	4.7	4.6	4.1	4.0	8.3	10.5	12.4	12.0	10.6	10.3	8.4	24	33.7	4.0	11.9	0	0
6	12.6	7.6	6.0	6.2	8.1	5.8	13.4	22.5	13.5	19.8	17.0	8.7	14.5	20.4	6.7	7.8	13.1	30.5	12.0	16.2	22.6	30.8	18.0	37.5	24	37.5	5.8	15.5	0	0
7	17.3	18.8	19.5	18.1	15.3	18.6	26.8	29.6	42.3	26.0	23.3	22.1	18.9	19.4	24.3	47.1	34.6	35.5	70.7	73.6	54.9	55.8	36.9	59.0	24	73.6	15.3	33.7	0	0
8	30.9	22.6	18.9	19.3	30.8	74.9	80.6	32.0	12.7	13.3	11.7	9.8	9.1	7.9	7.0	6.5	5.6	5.9	6.7	6.5	5.0	3.7	4.0	2.8	24	80.6	2.8	17.8	0	0
9	2.9	3.3	3.1	3.0	5.0	7.9	11.3	22.9	23.5	12.9	8.2	6.0	9.6	13.1	13.6	10.3	12.0	16.6	14.1	11.3	11.7	10.1	9.6	22.1	24	23.5	2.9	11.0	0	0
10	28.5	25.1	23.4	39.1	54.7	33.5	37.6	43.0	86.2	42.9	25.0	20.2	19.5	23.8	30.5	24.9	28.2	38.5	40.7	27.6	47.9	56.6	30.0	30.9	24	86.2	19.5	35.8	0	0
11	31.6	49.7	75.0	52.9	57.1	21.7	42.8	105.3	57.6	43.6	58.0	61.2	51.3	48.3	44.7	42.5	44.9	38.3	37.2	14.8	8.4	7.6	7.1	7.3	24	105.3	7.1	42.0	0	0
12	7.3	6.9	8.0	15.7	16.4	9.2	7.7	20.4	7.7	7.3	6.0	6.6	5.6	4.8	4.4	3.5	3.9	3.4	3.0	2.5	3.2	1.8	2.0	1.4	24	20.4	1.4	6.6	0	0
13	1.2	1.5	1.5	2.5	2.6	2.4	3.6	3.3	3.3	2.7	3.6	4.1	4.2	3.5	4.8	4.0	3.8	5.7	15.4	25.1	34.3	35.7	45.4	25.4	24	45.4	1.2	10.0	0	0
14	16.0	18.7	20.7	20.3	25.4	19.8	25.7	33.8	30.2	28.6	23.7	20.5	19.9	20.5	17.4	28.2	15.9	24.7	20.0	17.9	26.3	16.4	16.6	18.3	24	33.8	15.9	21.9	0	0
15	43.7	24.9	16.6	17.2	18.1	10.3	9.3	11.5	10.8	8.1	6.5	6.4	5.7	4.7	3.8	3.2	3.6	3.0	3.0	3.5	2.7	2.7	2.4	3.4	24	43.7	2.4	9.4	0	0
16	2.1	1.1	2.0	1.4	1.5	1.8	1.5	1.1	1.0	0.8	0.5	1.0	1.3	1.5	0.8	1.0	1.0	2.2	1.7	2.1	2.2	3.0	1.9	1.7	24	3.0	0.5	1.5	0	0
17	1.4	0.8	2.3	1.9	2.2	16.2	20.2	16.8	8.7	6.4	7.5	25.5	3.8	3.7	4.2	4.5	15.0	10.7	14.1	21.8	24.2	29.3	5.6	6.6	24	29.3	0.8	10.6	0	0
18	7.0	7.1	6.3	13.6	14.6	15.3	13.0	17.6	20.0	18.6	25.7	68.1	11.9	23.5	10.6	20.4	17.5	19.0	35.6	18.7	27.3	17.4	20.7	27.1	24	68.1	6.3	19.9	0	0
19	16.5	28.9	14.4	8.8	25.7	19.8	24.9	39.5	29.2	33.0	23.3	20.6	21.3	41.3	51.2	52.5	53.0	45.0	25.4	35.4	19.2	26.3	33.1	16.2	24	53.0	8.8	29.3	0	0
20	30.7	21.0	19.2	16.3	14.3	22.2	28.3	27.6	25.4	22.0	19.3	21.8	11.8	12.5	9.2	5.3	6.3	6.3	6.9	5.5	4.3	4.2	3.3	3.5	24	30.7	3.3	14.5	0	0
21	4.6	8.1	8.1	6.8	8.0	2.8	3.8	5.6	3.1	3.2	2.8	3.7	6.4	15.4	17.2	16.5	15.9	22.0	35.9	49.9	37.0	58.0	41.8	29.8	24	58.0	2.8	16.9	0	0
22	8.9	6.7	14.9	10.2	7.4	20.8	7.0	16.6	12.5	5.7	5.0	4.6	4.1	3.9	4.3	3.2	3.4	4.1	6.2	6.8	3.8	3.3	1.9	1.9	24	20.8	1.9	7.0	0	0
23	1.9	1.9	2.5	3.4	2.9	3.1	1.7	2.0	1.0	0.8	1.1	1.3	1.5	1.1	0.8	1.1	1.6	0.8	0.6	2.0	3.5	4.4	7.2	7.5	24	7.5	0.6	2.3	0	0
24	8.1	10.4	15.4	15.1	17.2	15.9	26.2	27.4	13.3	7.4	5.1	4.9	4.5	4.5	7.5	8.2	7.8	6.1	4.7	5.9	26.1	51.1	37.1	31.7	24	51.1	4.5	15.1	0	0
25	32.8	28.0	28.7	36.2	47.6	51.7	60.5	55.4	52.3	46.1	42.3	14.1	24.1	11.9	17.9	14.5	11.1	7.3	3.5	3.1	2.9	3.1	2.3	2.6	24	60.5	2.3	25.0	0	0
26	2.5	2.1	2.4	2.9	3.6	3.5	5.1	5.6	5.0	C	C	7.2	3.3	3.1	2.6	3.3	1.7	2.2	1.9	0.8	1.8	4.3	10.1	18.6	22	18.6	0.8	4.3	0	0
27	20.1	16.4	15.2	23.4	22.4	40.9	34.1	18.5	20.2	43.3	13.2	26.5	19.7	13.8	45.7	15.9	20.6	24.8	38.4	23.3	37.1	25.3	37.3	47.0	24	47.0	13.2	26.8	0	0
28	37.6	49.2	12.7	14.8	19.6	25.2	35.5	52.7	61.1	82.6	97.5	86.4	31.1	23.8	21.3	42.3	13.9	6.8	6.4	5.4	4.4	4.2	4.0	3.5	24	97.5	3.5	30.9	0	0
29	3.5	3.3	2.9	3.5	6.9	5.9	6.4	5.6	6.4	3.8	6.9	5.5	3.7	3.4	3.2	3.9	10.7	4.0	2.7	1.9	2.2	2.3	2.1	2.3	24	10.7	1.9	4.3	0	0
30	1.8	1.6	1.4	0.6	0.7	1.0	1.0	0.5	1.3	1.1	1.2	1.3	1.7	1.5	1.3	1.6	1.8	1.5	1.4	1.7	1.2	1.4	1.0	1.2	24	1.8	0.5	1.3	0	0
31	1.9	2.0	1.6	1.6	1.9	2.9	7.0	7.8	6.9	2.4	38.4	31.1	18.2	13.2	16.0	21.1	16.6	20.5	15.5	16.5	20.5	26.5	19.8	22.0	24	38.4	1.6	13.8	0	0
Count	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	742	31	30	31		
Maximum	43.7	49.7	75.0	52.9	57.1	74.9	80.6	105.3	86.2	82.6	133.0	146.2	109.2	68.6	65.1	52.5	53.6	81.3	96.0	90.2	93.4	99.5	99.8	59.0	24	146.2	43.7	81.5		
Minimum	1.2	0.8	1.4	0.6	0.7	1.0	1.0	0.5	1.0	0.8	0.5	1.0	1.3	1.1	0.8	1.0	1.0	0.8	0.6	0.8	1.2	1.4	1.0	1.2	22	1.8	0.5	0.9		
Average	15.2	14.9	13.4	14.0	16.0	16.6	19.4	22.4	21.5	20.2	21.3	21.5	15.3	15.1	15.4	16.2	15.3	16.5	17.9	17.0	18.3	20.0	17.6	17.4	24	46	5	17.4		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum	
Data		1.9		3.1		4.3		6.9		11.2		16.2		20.6		27.6		42.3		53.6		94.9		146.2					146.2	
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																													

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Appendix D PM_{2.5} Data Summaries and Time History Plots
June 23, 2014

Appendix D PM_{2.5} DATA SUMMARIES AND TIME HISTORY PLOTS

Figure D-1 Time History Plot of Measured 24-Hour Average PM_{2.5} Concentrations – Courtice (WPCP) Station

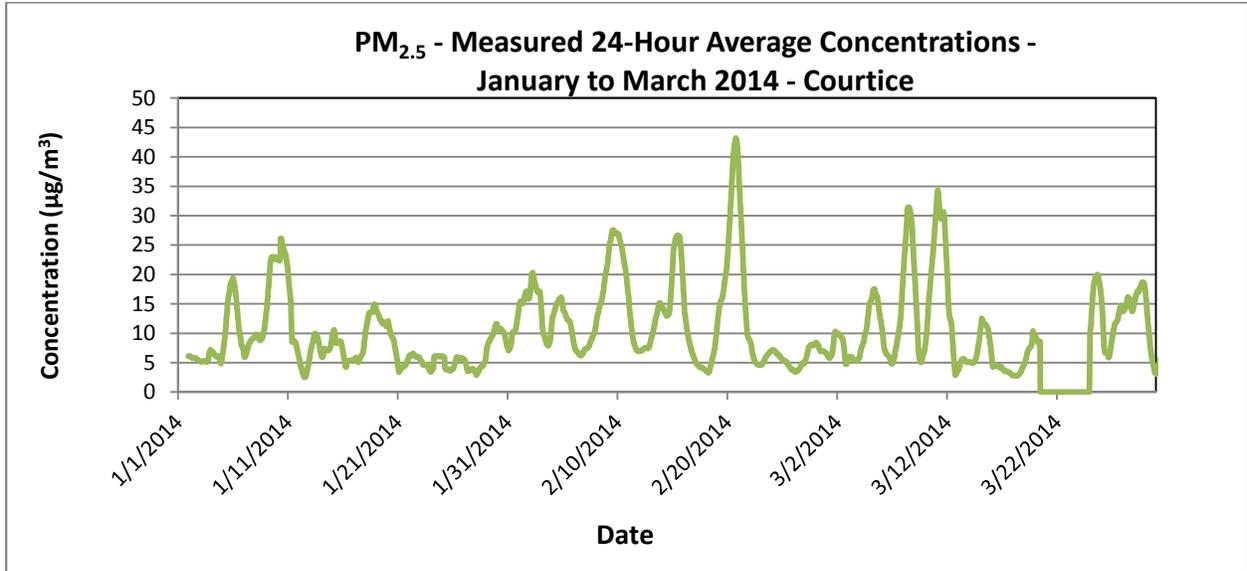
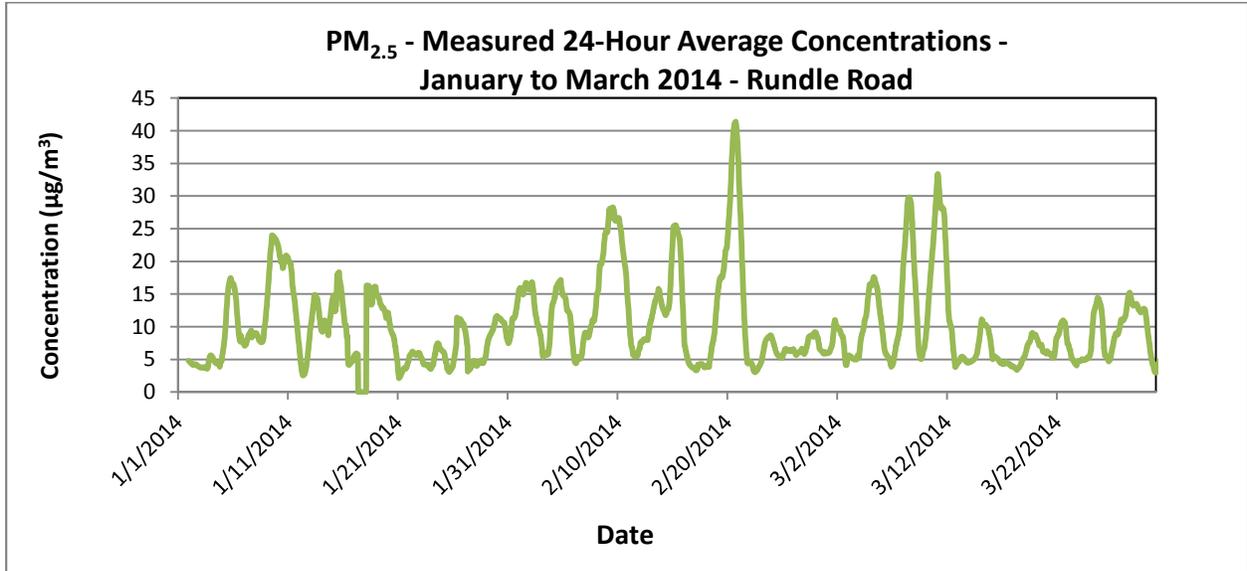


Figure D-2 Time History Plot of Measured 24-Hour Average PM_{2.5} Concentrations – Rundle Road Station



PM _{2.5} - COURTICE January 2014 (ug/m3)																													
Day	Hour																								Count	Maximum	Minimum	Average	Days>30
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300					
1	6.1	6.3	6.6	6.8	7.1	8.2	8.6	8.5	6.9	4.9	5.1	4.8	4.4	4.2	4.3	4.6	5.7	6.6	5.8	5.7	6.0	6.6	5.6	6.1	24	8.6	4.2	6.1	0
2	6.7	6.6	7.0	6.6	6.3	6.0	5.8	6.0	6.1	5.8	5.4	5.1	4.5	4.1	4.4	4.4	4.3	4.6	4.5	4.6	4.5	4.5	4.5	4.6	24	7.0	4.1	5.3	0
3	5.8	6.2	6.0	5.9	6.1	6.1	6.4	7.4	7.9	6.2	5.2	3.8	3.7	2.8	3.0	4.2	4.1	6.6	12.5	13.3	20.7	10.8	11.7	6.5	24	20.7	2.8	7.2	0
4	4.3	4.0	4.3	4.2	4.0	3.9	4.1	3.9	3.6	3.4	2.8	2.7	3.0	3.6	4.2	4.7	5.1	5.5	5.8	6.8	7.3	8.6	10.1	12.6	24	12.6	2.7	5.1	0
5	16.6	17.5	17.0	16.6	17.9	20.2	20.8	21.5	27.0	23.5	22.6	25.7	32.3	23.5	17.8	15.6	12.6	12.5	27.0	14.7	13.4	13.8	12.9	15.0	24	32.3	12.5	19.1	0
6	23.3	14.4	7.3	5.2	6.8	5.3	5.2	4.7	4.8	5.5	5.3	5.1	5.1	4.8	4.2	4.6	4.8	6.4	6.9	7.1	8.4	9.7	8.0	6.0	24	23.3	4.2	7.0	0
7	5.7	6.5	6.7	8.0	10.8	12.3	13.1	12.6	11.8	12.0	10.8	9.6	8.7	8.2	7.8	8.0	8.0	8.4	8.4	8.8	9.3	10.0	10.2	9.5	24	13.1	5.7	9.4	0
8	9.5	9.1	9.3	9.7	9.9	9.0	8.1	8.2	8.3	8.4	8.3	8.5	8.6	9.1	10.3	10.6	11.0	12.6	15.3	16.6	19.0	21.9	24.8	29.7	24	29.7	8.1	12.3	0
9	23.6	22.7	29.5	30.2	33.3	32.9	33.5	33.3	35.0	31.1	27.5	18.4	17.8	11.3	10.0	9.9	11.0	12.4	12.2	12.3	17.7	29.2	26.2	21.7	24	35.0	9.9	22.6	0
10	22.4	28.5	32.1	30.1	29.3	28.3	28.4	41.2	114.5	35.9	A	5.9	4.5	4.8	5.7	4.6	3.2	4.6	7.9	11.4	11.8	12.2	12.6	10.8	23	114.5	3.2	21.3	0
11	6.9	8.0	9.0	11.5	11.7	10.6	5.9	12.6	10.4	9.8	9.6	8.2	7.5	5.1	3.1	3.1	1.3	0.7	1.3	1.6	3.2	3.6	2.4	1.2	24	12.6	0.7	6.2	0
12	1.0	0.9	1.1	1.6	2.3	2.7	2.4	3.1	3.2	4.0	4.0	3.4	4.0	4.6	5.6	6.5	7.9	7.7	8.5	10.1	11.9	13.3	13.9	12.8	24	13.9	0.9	5.7	0
13	12.3	11.8	11.9	11.0	10.2	9.8	9.0	10.9	13.7	16.2	10.3	5.0	4.4	3.6	3.0	2.7	2.4	2.4	2.5	2.5	2.7	2.8	2.8	3.3	24	16.2	2.4	7.0	0
14	3.9	4.9	5.9	6.9	11.0	13.9	20.0	20.4	21.4	19.3	5.6	3.6	3.1	3.0	2.7	2.5	2.3	2.5	4.6	5.6	6.2	9.8	13.1	12.6	24	21.4	2.3	8.5	0
15	14.2	16.3	14.2	14.9	18.9	17.0	10.1	9.0	5.7	4.2	3.8	3.7	4.1	3.2	3.9	4.3	4.3	4.2	5.5	4.5	4.0	3.2	2.6	3.0	24	18.9	2.6	7.5	0
16	3.7	4.4	5.1	4.3	4.0	3.8	5.2	7.3	8.8	19.9	9.6	3.6	4.1	4.6	4.8	4.4	4.7	4.7	4.3	4.2	4.2	3.9	3.6	4.3	24	19.9	3.6	5.5	0
17	4.5	5.1	6.0	6.8	6.1	6.3	5.9	6.1	6.2	6.4	6.7	7.2	7.2	10.3	10.0	9.3	7.8	7.3	6.9	7.2	9.7	13.5	20.5	21.4	24	21.4	4.5	8.5	0
18	20.4	20.6	19.9	16.5	15.6	17.1	18.1	14.5	15.7	15.9	11.1	7.4	8.3	10.8	9.9	9.7	9.2	11.8	13.7	15.2	17.1	18.9	19.1	20.2	24	20.6	7.4	14.9	0
19	12.9	10.2	13.4	10.8	11.9	12.6	12.9	11.7	10.6	9.4	7.2	5.8	5.2	5.2	5.6	7.8	11.6	14.0	14.6	14.4	15.1	15.7	14.7	14.9	24	15.7	5.2	11.2	0
20	16.5	19.5	21.2	11.3	2.2	2.5	2.5	2.4	2.3	2.2	2.2	2.5	2.7	3.0	3.1	2.5	2.5	2.9	3.9	3.9	4.4	4.7	4.8	4.6	24	21.2	2.2	5.4	0
21	5.0	4.8	4.9	5.0	5.2	5.8	6.2	5.7	5.4	3.1	3.8	C	4.3	4.2	3.9	3.4	3.1	4.0	7.7	10.8	10.5	7.7	7.3	8.5	23	10.8	3.1	5.7	0
22	9.8	9.2	8.6	5.1	4.5	5.9	8.1	9.2	6.5	3.9	4.3	1.9	1.6	1.8	2.2	2.3	3.2	4.9	6.8	9.9	7.9	8.8	7.3	8.2	24	9.9	1.6	5.9	0
23	6.3	4.4	3.0	3.0	3.8	3.3	3.0	3.6	4.3	3.8	4.4	3.0	2.4	2.1	2.2	2.3	3.0	3.5	3.3	3.0	3.9	3.8	4.1	4.6	24	6.3	2.1	3.5	0
24	5.1	3.8	5.6	6.8	6.1	6.2	6.9	48.6	6.9	5.7	3.5	2.6	2.5	2.6	2.9	2.6	2.0	2.9	3.1	3.3	3.2	3.8	4.4	4.8	24	48.6	2.0	6.1	0
25	5.0	5.2	5.2	5.7	5.6	5.5	5.2	4.4	3.7	3.1	2.8	2.6	3.4	5.2	1.1	0.6	0.5	0.7	1.7	2.9	7.0	6.1	3.3	5.1	24	7.0	0.5	3.8	0
26	6.5	6.5	8.3	10.7	12.1	12.1	12.8	14.3	10.6	6.0	2.7	1.7	1.3	1.5	1.5	1.6	1.7	2.1	2.4	2.4	2.3	3.4	4.7	6.5	24	14.3	1.3	5.7	0
27	5.0	5.9	5.7	8.9	7.0	3.9	3.3	2.6	3.9	3.0	3.2	2.4	2.0	2.0	2.2	2.9	4.4	4.1	4.1	2.5	2.3	2.2	2.1	2.3	24	8.9	2.0	3.7	0
28	2.3	2.1	3.2	3.1	3.3	6.0	6.6	7.2	7.4	6.9	7.4	6.7	5.7	5.2	4.7	4.1	3.9	3.8	4.8	6.8	7.4	6.0	5.7	6.2	24	7.4	2.1	5.3	0
29	13.1	21.8	15.1	14.6	11.4	13.5	13.0	10.3	9.6	10.4	9.3	10.4	10.1	9.9	7.8	6.8	8.3	9.7	10.8	12.1	14.5	15.0	12.0	9.6	24	21.8	6.8	11.6	0
30	12.4	12.0	11.7	8.0	10.9	12.3	12.0	12.7	11.4	9.1	6.9	6.3	6.6	7.4	7.1	6.1	5.6	5.3	4.9	4.0	4.0	3.4	3.4	4.9	24	12.7	3.4	7.8	0
31	3.9	5.2	7.6	9.5	14.3	17.4	18.6	20.0	20.8	23.5	24.0	17.3	7.3	6.7	5.7	7.9	9.3	10.4	11.4	12.7	15.0	17.9	16.9	15.9	24	24.0	3.9	13.3	0
Count	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31	742	31	30	30.9	
Maximum	23.6	28.5	32.1	30.2	33.3	32.9	33.5	48.6	114.5	35.9	27.5	25.7	32.3	23.5	17.8	15.6	12.6	14.0	27.0	16.6	20.7	29.2	26.2	29.7	24	114.5	12.6	30.5	
Minimum	1.0	0.9	1.1	1.6	2.2	2.5	2.4	2.4	2.3	2.2	2.2	1.7	1.3	1.5	1.1	0.6	0.5	0.7	1.3	1.6	2.3	2.2	2.1	1.2	23	6.3359	0.5	1.6	
Average	9.5	9.8	10.1	9.7	10.0	10.3	10.4	12.4	13.4	10.4	7.8	6.5	6.1	5.8	5.3	5.3	5.4	6.1	7.5	7.8	8.9	9.5	9.5	9.6	24	21	4	9	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		2.7		3.7		4.4		5.2		6.3		7.8		9.8		12.3		17.1		21.8		33.1		114.5					114.5
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																												

PM_{2.5} - COURTICE
February 2014
(ug/m3)

Day	Hour																							Count	Maximum	Minimum	Average		
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200					2300	
1	20.9	21.0	16.8	16.2	17.7	16.3	17.5	15.4	20.0	24.4	22.8	20.3	18.8	17.7	16.4	12.8	16.0	11.9	8.6	7.7	14.1	10.3	0.2	17.5	24	24.4	0.2	15.9	
2	28.8	33.4	34.5	39.4	44.3	31.2	20.4	15.7	13.4	12.9	12.0	13.5	10.9	8.9	8.1	7.6	8.3	8.1	8.3	8.2	8.6	8.4	8.4	8.9	24	44.3	7.6	16.8	
3	9.7	9.9	10.0	9.7	9.9	9.5	9.4	9.9	10.1	7.8	6.6	4.9	3.7	4.0	4.5	4.9	5.8	7.6	10.6	13.7	15.7	17.1	22.4	32.6	24	32.6	3.7	10.4	
4	29.2	32.1	20.7	17.0	16.1	15.1	15.2	15.5	16.8	15.6	13.1	8.1	8.1	7.7	7.8	8.7	10.3	11.8	12.7	13.7	19.0	18.3	16.9	18.2	24	32.1	7.7	15.3	
5	18.4	16.7	13.8	12.4	12.9	12.0	11.1	10.2	9.6	8.8	8.6	8.3	7.4	7.1	6.5	6.1	6.0	5.9	5.9	5.8	5.8	5.7	5.8	6.0	24	18.4	5.7	9.0	
6	6.1	6.2	7.3	6.8	7.9	7.3	7.1	8.4	8.3	6.7	5.8	4.8	4.4	4.3	5.1	5.5	6.1	7.1	7.0	7.5	8.6	10.1	10.2	9.7	24	10.2	4.3	7.0	
7	9.8	9.6	7.7	7.5	7.7	8.6	9.1	9.1	9.6	9.9	10.1	9.5	9.6	9.6	9.5	9.6	10.1	11.7	12.2	12.8	12.8	14.5	15.9	16.9	24	16.9	7.5	10.6	
8	19.7	22.1	22.2	17.9	16.8	16.1	15.6	17.8	19.1	18.4	14.8	15.1	14.5	14.7	17.3	20.3	21.2	23.0	25.0	27.4	27.8	28.9	27.9	27.6	24	28.9	14.5	20.5	
9	27.7	30.2	30.8	33.8	38.9	35.5	33.7	31.7	27.0	23.6	27.3	25.3	24.5	21.6	21.0	20.6	19.9	20.1	20.8	22.3	26.0	29.8	28.7	26.4	24	38.9	19.9	27.0	
10	25.8	28.6	32.5	29.8	26.3	27.5	28.5	23.3	22.0	19.9	15.8	12.5	11.0	9.8	9.0	8.9	8.9	9.6	9.7	9.9	10.8	9.6	8.9	8.8	24	32.5	8.8	17.0	
11	8.8	9.2	9.3	9.2	8.9	8.7	8.6	8.4	7.2	5.6	4.8	4.4	3.5	3.5	3.5	3.6	4.2	5.1	7.0	8.3	9.3	8.6	8.7	8.7	24	9.3	3.5	7.0	
12	8.8	9.2	9.9	10.4	9.1	8.9	9.0	9.6	10.0	9.4	6.4	4.8	4.2	3.9	3.8	3.6	3.8	4.7	5.8	7.2	11.0	13.3	14.3	16.4	24	16.4	3.6	8.2	
13	16.1	17.4	16.3	16.5	15.4	16.1	17.9	18.9	20.1	17.2	15.8	15.5	12.3	11.2	11.2	11.4	12.2	13.2	14.1	15.5	15.9	12.9	12.6	12.3	24	20.1	11.2	14.9	
14	11.9	13.1	13.1	13.6	13.4	13.1	13.6	13.3	14.0	13.7	12.6	11.3	12.3	11.6	11.6	12.5	18.3	19.4	26.0	35.3	36.9	41.4	42.8	44.2	24	44.2	11.3	19.5	
15	43.0	45.9	43.2	36.9	23.2	24.4	24.9	21.4	19.2	17.1	15.1	13.6	12.4	11.5	10.4	9.9	9.9	10.0	10.2	10.4	10.2	10.0	9.5	9.4	24	45.9	9.4	18.8	
16	9.6	10.4	10.4	10.0	9.8	9.2	8.9	8.2	6.7	5.8	4.9	3.9	3.4	3.0	2.6	2.4	2.3	2.6	3.8	4.6	5.0	5.1	4.8	4.3	24	10.4	2.3	5.9	
17	4.6	4.6	5.2	5.1	5.7	6.4	7.0	6.9	5.6	3.4	2.9	2.5	2.0	2.0	2.1	2.1	2.5	2.8	3.0	2.5	2.6	2.6	3.2	4.5	24	7.0	2.0	3.8	
18	3.2	3.3	3.2	3.3	3.8	4.7	5.1	5.5	8.5	11.7	8.3	9.5	10.0	10.8	11.4	9.1	8.9	9.9	10.1	10.8	11.5	17.3	19.2	19.2	24	19.2	3.2	9.1	
19	20.6	20.0	21.5	21.0	23.8	21.1	19.5	19.3	18.7	16.8	14.5	12.2	12.5	13.9	25.7	18.2	20.5	23.3	24.3	26.0	27.2	24.6	31.4	40.5	24	40.5	12.2	21.5	
20	46.1	48.4	50.5	49.3	51.5	52.5	53.4	56.5	51.9	48.2	48.4	46.4	48.6	49.0	41.6	38.2	34.5	35.7	32.8	29.3	21.5	13.0	12.3	10.0	24	56.5	10.0	40.4	
21	9.9	12.1	11.5	10.7	10.2	15.9	22.1	12.0	11.6	11.6	9.5	7.7	7.0	6.5	5.3	5.1	5.0	5.3	6.0	6.4	6.7	6.8	6.7	6.5	24	22.1	5.0	9.1	
22	6.6	6.6	6.3	5.9	5.5	5.0	4.7	4.4	3.4	2.9	2.7	2.3	2.1	2.5	2.8	3.4	3.2	4.1	5.2	5.8	6.3	6.4	6.2	5.8	24	6.6	2.1	4.6	
23	6.3	6.7	6.9	6.7	7.1	7.9	8.1	8.1	7.4	7.3	6.7	5.8	6.0	5.7	5.4	5.3	5.4	6.3	7.6	8.3	8.2	8.4	8.7	7.8	24	8.7	5.3	7.0	
24	7.8	7.9	7.5	7.3	7.2	7.0	7.0	6.6	6.1	4.8	3.8	3.7	3.9	3.8	3.4	3.7	4.1	5.2	5.5	5.6	6.0	6.0	6.0	6.0	24	7.9	3.4	5.7	
25	5.9	6.3	6.0	6.0	5.6	5.5	5.9	5.7	4.6	C	M	M	0.7	0.7	0.7	1.0	1.6	2.2	2.4	3.0	4.6	6.5	5.1	7.5	21	7.5	0.7	4.2	
26	4.5	3.1	3.9	4.3	4.4	5.3	5.6	6.9	6.1	4.2	3.2	2.4	2.4	3.1	3.8	4.1	5.2	5.8	6.1	9.3	6.8	5.3	4.9	4.9	24	9.3	2.4	4.8	
27	4.9	6.4	8.8	10.0	11.0	12.2	13.2	14.4	15.4	14.5	9.1	12.2	4.8	4.4	4.3	5.1	5.8	4.9	5.6	6.4	6.8	7.2	7.1	7.2	7.0	24	15.4	4.3	8.2
28	7.6	8.6	8.7	8.8	9.2	9.8	11.5	11.4	7.8	4.9	3.7	3.6	4.2	4.8	5.7	5.2	4.7	5.3	6.1	6.3	5.9	5.0	5.6	5.8	24	11.5	3.6	6.7	
29																									0				
30																									0				
31																									0				
Count	28	28	28	28	28	28	28	28	28	27	27	27	28	28	28	28	28	28	28	28	28	28	28	28	28	669	28	27	27.9
Maximum	46.1	48.4	50.5	49.3	51.5	52.5	53.4	56.5	51.9	48.2	48.4	46.4	48.6	49.0	41.6	38.2	34.5	35.7	32.8	35.3	36.9	41.4	42.8	44.2	24	56.5	32.8	45.2	
Minimum	3.2	3.1	3.2	3.3	3.8	4.7	4.7	4.4	3.4	2.9	2.7	2.3	0.7	0.7	0.7	1.0	1.6	2.2	2.4	2.5	2.6	2.6	0.2	4.3	0	6.6	0.2		
Average	15.1	16.0	15.7	15.2	15.1	14.7	14.8	14.1	13.6	12.9	11.5	10.2	9.5	9.2	9.3	8.9	9.4	10.1	10.8	11.8	12.6	12.6	12.7	14.0	22	23	6	12.5	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		3.9		5.3		6.4		7.9		9.3		10.8		13.6		17.9		26.0		33.7		49.1		56.5					56.5
Notes	C - Calibration / Span Cycle		NA - No Data Available				T - Test			A - MOE Audit			M - Equipment Malfunction / Down																

PM _{2.5} - COURTICE March 2014 (ug/m3)																															
Day	Hour																								Count	Maximum	Minimum	Average			
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	5.9	5.7	5.6	5.8	6.0	7.3	7.8	9.7	9.5	6.7	6.1	6.7	8.2	11.4	16.1	19.2	23.7	29.7	17.2	15.0	7.7	4.5	3.7	3.6	24	29.7	3.6	10.1			
2	3.2	3.4	5.3	5.8	5.9	5.3	5.4	5.4	5.6	5.2	4.8	4.7	4.5	3.6	2.9	3.3	3.7	3.9	5.8	6.8	7.8	9.0	11.7	10.6	24	11.7	2.9	5.6			
3	9.0	8.8	5.4	5.1	4.7	5.1	5.4	5.6	4.1	3.3	2.6	1.9	1.9	1.9	2.0	2.2	2.8	3.2	6.3	9.5	10.4	9.9	10.9	13.4	24	13.4	1.9	5.6			
4	12.6	16.3	14.9	12.5	15.9	11.0	10.2	10.4	10.0	9.0	10.3	11.6	11.8	10.3	6.2	8.6	11.8	19.7	21.1	23.3	27.0	30.2	26.1	18.7	24	30.2	6.2	15.0			
5	19.5	20.7	16.9	17.7	20.1	24.2	22.7	18.5	14.4	9.5	6.5	4.9	4.9	4.0	3.7	3.7	4.8	4.6	7.0	11.3	14.0	17.8	12.2	8.6	24	24.2	3.7	12.2			
6	8.3	5.8	5.5	4.9	4.7	4.5	5.1	6.2	5.6	4.9	3.3	2.0	2.1	2.0	2.4	2.4	2.3	2.6	4.5	5.9	6.9	7.8	8.1	8.2	24	8.3	2.0	4.8			
7	7.7	8.6	7.8	10.0	13.0	13.1	17.6	20.4	14.4	13.3	12.9	12.7	12.7	12.4	13.9	14.9	15.5	17.4	21.0	23.2	29.9	45.5	40.3	44.3	24	45.5	7.7	18.4			
8	42.5	34.9	33.4	35.0	38.0	41.3	45.6	49.1	50.4	52.4	27.9	12.9	12.8	11.3	9.9	8.5	6.8	6.1	6.1	4.9	4.6	4.0	3.9	3.8	24	52.4	3.8	22.8			
9	4.0	4.4	4.1	4.8	6.0	7.0	8.0	8.9	6.2	4.7	3.5	3.1	2.9	2.8	4.6	5.5	7.1	11.9	19.2	14.6	8.0	9.8	8.7	13.7	24	19.2	2.8	7.2			
10	18.2	16.4	18.2	23.1	28.6	33.4	38.7	40.5	35.4	28.5	22.8	22.0	22.9	25.6	26.2	27.0	30.1	33.4	36.5	34.9	37.0	37.8	39.1	38.8	24	40.5	16.4	29.8			
11	43.4	46.3	46.3	41.1	36.6	22.1	10.2	10.5	8.2	10.0	20.7	23.0	28.9	34.7	32.2	32.5	31.0	24.2	19.3	5.4	1.9	1.9	2.2	2.1	24	46.3	1.9	22.3			
12	2.3	2.7	2.9	2.8	2.1	2.1	1.6	2.1	3.2	3.3	2.7	2.2	2.0	2.2	2.9	3.8	4.5	5.2	5.5	5.8	6.1	5.5	5.1	5.0	24	6.1	1.6	3.5			
13	6.1	7.6	8.6	8.8	9.1	8.9	8.4	8.1	5.9	4.4	3.7	2.9	2.1	1.9	1.8	1.4	1.3	2.2	3.4	3.6	5.3	6.0	6.1	6.1	24	9.1	1.3	5.2			
14	5.5	7.1	8.7	8.3	8.1	7.8	7.5	6.9	6.4	5.9	4.2	3.7	4.8	6.2	6.7	6.0	7.2	9.8	13.1	15.6	18.5	16.3	16.9	19.3	24	19.3	3.7	9.2			
15	23.7	25.8	23.2	24.1	21.2	3.8	0.8	0.4	2.1	4.4	4.1	3.7	2.6	5.6	2.8	2.8	3.6	4.1	4.9	5.6	5.2	5.0	4.6	5.3	24	25.8	0.4	7.9			
16	5.8	6.4	6.8	6.1	5.8	5.8	5.4	3.6	3.3	3.1	3.0	2.9	2.6	2.0	1.9	1.9	2.0	2.4	3.9	5.2	6.4	6.3	5.9	4.9	24	6.8	1.9	4.3			
17	3.6	2.7	2.9	3.4	3.2	3.7	5.2	3.4	4.1	2.8	2.0	1.6	1.4	1.3	1.1	1.3	1.5	1.6	1.9	2.9	4.3	4.2	3.8	4.2	24	5.2	1.1	2.8			
18	3.5	2.8	3.0	3.0	3.2	3.5	3.4	3.8	3.8	2.9	2.6	2.7	3.0	3.3	3.3	4.0	4.4	4.7	5.9	7.9	8.0	8.0	8.8	6.2	24	8.8	2.6	4.4			
19	7.1	8.6	9.0	9.2	9.3	10.6	12.8	12.8	10.4	8.2	6.3	5.1	4.2	4.8	5.6	8.6	8.6	10.3	28.9	30.1	17.1	1.6	1.6	3.7	24	30.1	1.6	9.8			
20	5.5	5.6	2.7	4.3	6.5	5.4	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	6	6.5	2.7				
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0				
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0				
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0				
24	M	M	M	M	M	M	M	5.6	4.6	4.2	3.5	3.3	3.4	3.7	8.9	11.9	12.3	11.7	11.7	13.0	13.6	14.3	15.7	16.5	17	16.5	3.3				
25	20.5	23.0	26.5	34.5	37.1	38.1	44.4	36.1	24.6	21.0	8.0	9.7	10.5	10.6	11.8	12.1	13.7	12.6	5.9	3.8	4.6	5.3	3.5	3.0	24	44.4	3.0	17.5			
26	2.9	2.9	3.4	3.8	4.1	4.6	4.8	1.7	C	9.9	10.7	10.5	10.4	9.3	7.7	6.7	7.2	8.2	9.5	10.9	13.5	15.0	18.3	16.5	23	18.3	1.7	8.4			
27	14.9	13.0	12.7	13.8	13.3	14.2	12.9	11.1	10.9	12.2	12.9	14.2	13.5	15.1	17.0	19.1	18.1	14.9	13.8	19.5	18.2	13.6	8.5	13.6	24	19.5	8.5	14.2			
28	7.6	9.5	14.4	16.9	16.8	16.9	17.0	19.8	18.3	22.8	25.4	17.3	12.5	13.7	15.8	13.9	3.2	3.4	7.6	8.7	11.4	14.0	16.0	19.2	24	25.4	3.2	14.2			
29	19.4	20.0	24.2	23.4	24.2	23.5	23.9	25.1	23.1	21.9	21.0	20.9	21.6	20.2	17.1	13.7	13.6	10.8	9.7	10.7	12.1	13.9	13.0	10.0	24	25.1	9.7	18.2			
30	9.0	6.0	3.2	3.0	2.2	1.6	1.6	1.5	2.0	2.6	2.9	2.6	3.0	2.5	2.3	2.1	2.0	2.1	2.8	3.2	3.7	3.8	4.9	5.6	24	9.0	1.5	3.2			
31	6.4	7.4	8.7	8.4	9.3	9.9	9.7	7.8	7.3	8.6	12.3	9.9	6.5	4.8	8.3	7.3	7.7	5.5	1.7	1.8	9.8	16.7	28.4	36.6	27.8	24	36.6	1.7	10.8		
Count	27	27	27	27	27	27	26	27	26	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	646	27	26	26.9			
Maximum	43.4	46.3	46.3	41.1	38.0	41.3	45.6	49.1	50.4	52.4	27.9	23.0	28.9	34.7	32.2	32.5	31.0	33.4	36.5	34.9	37.0	45.5	40.3	44.3	24	52.4	23.0	39.0			
Minimum	2.3	2.7	2.7	2.8	2.1	1.6	0.8	0.4	2.0	2.6	2.0	1.6	1.4	1.3	1.1	1.3	1.3	1.6	1.8	2.9	1.9	1.6	1.6	2.1	0	0.0	0.4				
Average	11.8	11.9	12.0	12.6	13.1	12.4	12.9	12.4	11.3	10.6	9.1	7.9	8.0	8.5	8.7	9.1	9.2	9.7	10.9	11.5	11.8	12.6	12.4	12.3	21	20	3	11.0			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		2.6		3.5		4.7		5.8		7.6		9.7		12.8		16.9		24.2		34.2		45.0		52.4						52.4	
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																														

PM _{2.5} - Rundle Road January 2014 (ug/m3)																													
Day	Hour																							Count	Maximum	Minimum	Average	Days>30	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200						2300
1	6.3	6.1	5.9	5.5	6.2	6.7	7.0	8.4	6.3	4.1	3.4	3.1	2.9	2.7	3.0	3.4	3.8	4.9	4.8	4.3	4.3	4.4	4.2	3.9	24	8.4	2.7	4.8	0
2	4.0	4.5	4.8	4.6	5.0	5.0	4.9	4.7	4.8	4.7	4.2	4.4	3.3	2.9	2.6	2.9	2.8	3.2	3.1	3.1	3.3	3.2	2.9	3.1	24	5.0	2.6	3.8	0
3	3.6	3.9	4.4	4.3	4.3	4.6	5.2	6.0	5.7	5.0	4.1	2.8	2.2	1.8	2.1	2.1	2.4	5.0	13.3	14.0	11.8	11.2	9.4	6.3	24	14.0	1.8	5.6	0
4	3.0	2.5	2.2	2.0	1.9	2.0	2.1	2.2	2.1	1.8	1.4	1.6	1.8	2.1	2.5	3.2	3.7	4.5	4.2	7.4	18.9	23.9	8.1	9.5	24	23.9	1.4	4.8	0
5	12.5	13.6	13.7	13.4	14.1	16.8	18.7	21.9	28.0	27.7	26.6	28.7	27.9	19.9	15.5	14.9	10.7	11.3	10.5	12.3	11.3	11.0	10.5	10.1	24	28.7	10.1	16.7	0
6	10.6	9.9	9.0	6.1	7.3	5.4	5.8	5.1	5.4	6.1	5.9	6.2	5.3	4.9	4.2	5.5	5.6	34.5	5.3	5.6	6.5	7.7	7.4	5.5	24	34.5	4.2	7.5	0
7	7.2	5.8	6.2	7.0	9.4	10.4	11.4	11.7	11.8	12.1	10.4	9.0	8.7	7.5	7.1	8.2	9.7	9.3	7.2	8.3	8.8	8.7	9.1	9.2	24	12.1	5.8	8.9	0
8	9.3	6.0	6.3	6.9	7.0	7.2	6.5	7.8	7.4	6.6	6.7	6.5	6.3	6.8	8.2	8.7	9.3	11.3	13.4	16.5	34.3	20.2	20.3	25.5	24	34.3	6.0	11.0	0
9	24.3	24.0	26.8	28.4	30.0	31.9	34.0	32.4	31.5	40.7	21.7	25.4	16.5	40.6	7.8	7.7	8.6	10.2	10.9	13.5	20.5	24.5	22.7	21.1	24	40.7	7.7	23.1	0
10	18.3	20.9	21.5	23.0	20.4	21.3	21.5	25.1	25.4	28.5	30.5	A	A	13.3	14.2	15.3	15.6	16.2	19.0	21.0	21.0	22.8	21.9	19.0	22	30.5	13.3	20.7	0
11	14.3	15.3	17.0	19.6	20.8	18.9	16.0	12.7	11.3	10.8	5.1	3.8	3.3	2.1	2.2	1.9	0.6	1.4	2.0	3.0	3.8	2.6	0.8	0.5	24	20.8	0.5	7.9	0
12	0.6	0.9	1.6	2.5	2.7	2.2	3.2	4.3	5.2	5.2	4.8	4.6	6.1	7.5	7.9	10.6	10.3	11.3	13.0	17.1	19.1	20.4	17.5	17.0	24	20.4	0.6	8.1	0
13	19.3	15.2	14.9	14.1	14.9	16.8	18.6	18.9	20.0	23.3	17.3	5.4	4.7	4.2	2.8	2.0	16.7	2.2	2.3	2.3	2.6	3.2	3.7	5.2	24	23.3	2.0	10.4	0
14	6.2	7.1	9.0	12.6	18.1	25.7	30.0	31.7	25.5	6.6	3.1	2.2	2.3	1.9	1.7	1.6	2.1	34.8	5.9	14.2	11.3	18.9	16.6	23.8	24	34.8	1.6	13.0	0
15	18.8	16.2	15.9	22.7	21.1	12.6	9.9	6.6	32.0	24.5	3.6	72.9	40.8	7.3	3.8	3.6	2.9	3.7	3.3	3.0	2.1	3.9	2.0	2.1	24	72.9	2.0	14.0	0
16	2.6	2.9	3.2	2.8	3.4	4.5	6.1	7.2	6.7	8.4	7.3	3.9	4.7	5.6	4.4	5.2	5.6	6.0	5.2	5.5	5.2	4.0	7.8	7.7	24	8.4	2.6	5.2	0
17	5.8	5.3	6.3	6.1	M	M	M	M	M	M	M	8.2	10.7	70.9	10.5	6.9	5.4	4.9	5.0	8.3	9.7	12.7	20.5	23.3	17	70.9	4.9	23.3	0
18	22.3	23.4	19.9	15.6	15.2	15.4	16.6	16.3	16.4	16.5	12.7	7.0	7.2	9.9	9.3	9.1	8.8	19.8	16.0	18.5	20.4	24.2	24.2	22.6	24	24.2	7.0	16.1	0
19	17.7	9.6	13.6	12.2	11.4	12.7	12.5	12.1	10.4	8.9	6.5	4.7	4.0	4.5	4.8	7.4	11.4	14.7	15.7	15.5	16.2	16.1	14.4	14.9	24	17.7	4.0	11.3	0
20	18.3	20.1	22.5	11.7	0.9	1.0	0.9	1.0	0.9	0.5	0.6	0.8	1.1	1.0	0.8	0.6	3.4	7.5	2.3	8.5	1.5	2.3	2.1	3.7	24	22.5	0.5	4.7	0
21	2.3	2.4	2.5	2.6	3.2	4.0	4.5	4.9	5.8	C	5.0	3.8	4.2	4.3	2.7	2.4	2.6	4.0	6.1	8.4	8.2	8.5	6.8	7.5	23	8.5	2.3	4.6	0
22	9.1	10.6	8.7	5.2	4.1	6.5	8.2	8.9	7.3	4.6	2.7	2.5	1.3	1.4	1.7	1.8	2.9	4.3	8.8	10.9	9.4	8.4	7.8	7.1	24	10.9	1.3	6.0	0
23	7.3	4.1	1.9	2.3	2.8	2.4	2.4	2.3	2.5	2.4	2.8	2.0	1.5	1.4	1.6	2.0	2.8	3.8	4.0	15.6	3.4	4.3	6.5	4.3	24	15.6	1.4	3.6	0
24	6.0	5.7	5.7	5.8	4.6	5.7	9.6	16.5	9.9	14.0	3.7	14.1	18.6	3.5	5.1	6.5	2.2	2.1	2.3	2.3	2.4	2.5	2.8	3.0	24	18.6	2.1	6.4	0
25	4.9	3.8	3.9	4.2	4.2	4.3	4.4	4.1	3.6	3.5	3.2	3.0	3.6	4.8	0.7	0.3	0.2	6.1	1.3	3.5	5.9	10.3	2.2	3.7	24	10.3	0.2	3.7	0
26	9.7	11.1	12.0	13.4	15.3	15.2	15.5	18.8	15.6	99.1	2.4	1.5	2.3	1.0	0.5	0.7	0.8	2.3	2.0	1.5	1.4	2.1	2.8	4.1	24	99.1	0.5	10.5	0
27	4.3	5.5	5.8	8.3	6.5	3.5	3.2	2.4	4.4	6.2	3.4	6.9	2.1	1.9	4.6	2.6	6.6	3.1	14.0	5.6	2.6	3.4	2.6	3.6	24	14.0	1.9	4.7	0
28	5.0	1.2	1.8	2.9	3.1	3.6	4.4	5.4	7.5	7.3	6.7	6.3	6.1	4.6	4.3	3.9	3.8	3.5	6.1	6.5	9.4	7.7	7.3	6.4	24	9.4	1.2	5.2	0
29	10.8	14.2	14.0	13.2	13.0	12.6	12.4	10.8	11.6	10.7	9.7	10.1	9.5	8.8	7.3	6.8	7.6	9.1	11.4	12.7	17.3	18.3	14.7	11.2	24	18.3	6.8	11.6	0
30	12.6	13.0	13.7	9.8	10.8	11.4	11.6	11.8	10.8	8.9	7.1	7.1	6.8	6.9	7.0	5.8	5.5	5.7	4.9	4.6	4.4	3.5	3.7	4.6	24	13.7	3.5	8.0	0
31	8.2	8.2	10.5	12.0	16.5	18.6	19.9	22.4	23.3	24.4	26.3	17.8	7.2	8.1	4.9	8.2	8.7	17.1	11.2	12.8	14.0	18.4	15.4	17.5	24	26.3	4.9	14.7	0
Count	31	31	31	31	30	30	30	30	30	29	30	30	30	31	31	31	31	31	31	31	31	31	31	31	734	31	29	30.6	
Maximum	24.3	24.0	26.8	28.4	30.0	31.9	34.0	32.4	32.0	99.1	30.5	72.9	40.8	70.9	15.5	15.3	16.7	34.8	19.0	21.0	34.3	24.5	24.2	25.5	24	99.1	15.3	33.7	
Minimum	0.6	0.9	1.6	2.0	0.9	1.0	0.9	1.0	0.9	0.5	0.6	0.8	1.1	1.0	0.5	0.3	0.2	1.4	1.3	1.5	1.4	2.1	0.8	0.5	17	5.01	0.2	1.0	
Average	9.8	9.4	9.8	9.7	9.9	10.3	10.9	11.5	12.0	14.6	8.3	9.2	7.4	8.5	5.0	5.2	5.9	9.0	7.6	9.2	10.0	10.7	9.6	9.9	24	26	3	9	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		2.2		3.1		4.2		5.2		6.5		8.3		10.9		14.9		20.0		24.2		34.5		99.1					99.1
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																												

PM _{2.5} - Rundle Road																															
February 2014																															
(ug/m3)																															
Day	Hour																								Count	Maximum	Minimum	Average			
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	20.2	17.0	16.0	16.4	16.5	15.4	16.8	15.0	18.0	22.3	23.7	19.3	18.1	16.1	15.3	12.5	15.9	11.1	9.6	7.4	15.3	16.0	14.9	12.9	24	23.7	7.4	15.9			
2	14.1	18.6	19.2	23.1	28.9	19.8	10.0	4.5	3.3	2.9	3.2	2.9	2.2	2.5	8.7	3.3	3.7	4.1	3.8	4.2	14.9	4.3	4.9	6.4	24	28.9	2.2	8.9			
3	6.6	7.0	6.9	7.5	7.4	6.9	6.9	9.2	8.0	8.9	3.5	2.0	1.6	1.9	2.8	4.2	5.2	8.0	14.4	19.2	25.4	44.7	33.7	32.2	24	44.7	1.6	11.4			
4	31.1	24.5	13.1	10.5	13.0	12.5	12.7	15.1	19.0	22.0	14.1	5.3	5.3	5.7	6.5	6.8	8.6	10.8	15.9	20.0	28.5	24.7	20.7	20.9	24	31.1	5.3	15.3			
5	23.0	21.2	12.7	10.5	11.2	9.7	8.0	6.8	6.0	5.5	5.5	5.3	4.8	3.9	3.0	2.5	2.4	2.5	2.5	2.2	2.1	3.0	3.9	3.4	24	23.0	2.1	6.7			
6	3.2	3.9	4.4	5.5	7.2	8.3	8.7	15.5	19.1	7.1	4.0	3.9	1.8	1.6	3.2	3.8	4.7	7.2	8.1	10.7	20.4	20.3	16.6	10.2	24	20.4	1.6	8.3			
7	14.3	12.0	5.4	4.4	4.8	7.0	7.9	10.4	10.4	11.5	10.3	10.0	10.0	9.8	9.4	10.3	11.2	13.0	13.6	13.9	15.4	20.5	26.9	23.9	24	26.9	4.4	11.9			
8	27.4	31.4	29.2	16.3	12.9	12.2	13.7	26.6	58.0	36.4	14.6	11.4	11.2	11.1	15.1	20.7	22.3	24.6	29.9	33.6	34.3	36.2	33.3	28.3	24	58.0	11.1	24.6			
9	26.8	30.0	27.5	29.5	34.8	39.8	32.6	31.3	28.7	31.0	29.2	22.0	19.8	17.4	15.0	15.9	15.0	15.2	16.3	19.3	42.3	38.8	30.8	23.3	24	42.3	15.0	26.3			
10	28.2	30.5	30.5	31.8	27.0	22.8	28.5	18.1	15.6	17.1	10.4	6.4	4.2	3.2	2.3	2.4	2.6	3.8	4.4	11.7	6.2	6.4	5.0	6.9	24	31.8	2.3	13.6			
11	5.3	5.9	5.8	6.1	6.9	7.5	8.3	13.0	9.2	3.2	2.4	2.1	2.1	2.4	3.2	3.0	2.5	3.6	6.3	10.0	9.3	13.3	13.3	11.4	24	13.3	2.1	6.5			
12	9.7	12.9	17.6	8.4	8.9	10.3	8.9	10.2	12.7	8.0	5.0	2.2	2.0	2.0	2.1	1.7	2.0	3.2	6.6	19.4	24.5	27.4	17.1	26.1	24	27.4	1.7	10.4			
13	16.9	20.0	18.8	19.0	17.3	16.1	18.7	20.4	19.4	16.8	11.4	8.8	7.7	6.6	6.6	7.2	8.2	9.6	15.4	16.3	17.9	8.9	9.1	18.2	24	20.4	6.6	14.0			
14	8.7	11.4	12.9	14.2	13.1	13.6	13.9	13.5	14.2	15.5	13.7	12.5	13.0	12.4	9.8	8.7	14.8	23.7	27.4	44.5	48.1	54.1	47.2	45.1	24	54.1	8.7	21.1			
15	44.4	40.1	45.1	21.0	13.6	15.7	15.4	13.4	10.8	10.1	9.3	7.2	6.2	4.4	3.7	3.6	3.5	3.6	4.5	5.2	5.3	4.5	4.6	4.5	24	45.1	3.5	12.5			
16	4.9	5.1	5.7	6.8	6.0	6.0	6.6	5.3	4.1	3.3	2.3	1.8	1.5	1.0	0.9	1.0	1.3	1.2	2.5	4.6	4.5	5.2	4.4	3.9	24	6.8	0.9	3.7			
17	3.0	2.6	3.2	4.3	5.2	6.4	8.4	12.7	15.7	3.2	2.4	2.4	1.8	2.2	1.0	1.4	1.1	1.0	1.0	1.7	2.5	2.4	3.8	24	15.7	1.0	3.8				
18	5.0	5.8	2.5	3.4	5.6	8.1	8.3	8.4	16.3	21.3	9.0	11.4	14.0	14.4	16.3	8.7	8.2	9.7	9.5	10.0	11.8	22.8	28.4	27.3	24	28.4	2.5	11.9			
19	24.3	20.9	23.8	20.3	21.8	20.9	20.6	21.0	21.4	18.7	17.2	10.8	11.1	15.4	27.3	16.0	20.8	23.6	25.1	27.9	30.9	27.2	31.4	35.2	24	35.2	10.8	22.2			
20	44.1	47.7	44.6	44.0	45.9	47.6	50.7	56.6	61.7	60.6	48.2	41.6	45.7	45.3	40.0	33.5	27.7	27.8	26.3	22.1	13.5	6.2	4.5	2.7	24	61.7	2.7	37.0			
21	3.1	3.1	3.6	4.1	4.5	5.8	6.1	6.9	12.3	9.5	6.6	3.4	2.5	2.7	1.8	1.6	1.7	2.0	3.0	4.3	4.5	4.7	5.1	4.8	24	12.3	1.6	4.5			
22	6.9	4.4	3.2	2.6	2.4	2.0	3.6	2.3	2.2	3.0	2.2	1.2	1.4	2.8	3.4	3.9	3.0	3.2	5.6	7.6	8.5	8.3	7.5	7.1	24	8.5	1.2	4.1			
23	10.8	8.9	7.6	7.7	9.3	11.1	12.9	12.2	12.9	11.1	10.2	7.5	6.7	6.4	5.3	5.1	4.8	6.4	7.3	8.4	8.6	10.4	9.6	7.4	24	12.9	4.8	8.7			
24	6.4	5.1	3.7	3.6	4.0	4.3	6.4	6.7	6.5	4.4	4.3	4.3	3.6	2.6	2.4	2.6	3.2	7.2	4.9	9.2	6.9	8.7	6.7	11.0	24	11.0	2.4	5.4			
25	7.3	8.0	9.1	8.1	7.6	7.4	14.1	8.0	4.4	5.3	3.1	2.1	2.3	2.3	1.8	C	M	M	5.9	6.5	8.8	11.5	7.9	11.6	21	14.1	1.8	6.8			
26	8.7	3.8	4.8	5.4	5.1	6.1	7.2	9.0	8.1	6.2	4.4	3.6	3.2	3.8	4.2	4.3	4.7	6.6	7.0	13.2	8.5	5.5	5.1	4.9	24	13.2	3.2	6.0			
27	5.4	6.7	8.6	9.4	10.9	12.4	13.7	16.7	18.1	16.5	10.5	4.4	4.0	5.4	4.9	5.4	4.4	6.0	5.7	10.4	7.9	11.6	13.1	8.2	24	18.1	4.0	9.2			
28	5.6	5.3	5.7	6.0	6.1	7.5	6.8	7.3	6.4	4.3	4.3	2.8	2.7	3.0	3.7	3.3	3.2	3.7	5.5	6.7	12.1	15.2	9.4	6.0	24	15.2	2.7	5.9			
29																									0						
30																									0						
31																									0						
Count	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27	28	28	28	28	28	28	28	669	28	27	27.9		
Maximum	44.4	47.7	45.1	44.0	45.9	47.6	50.7	56.6	61.7	60.6	48.2	41.6	45.7	45.3	40.0	33.5	27.7	27.8	29.9	44.5	48.1	54.1	47.2	45.1	24	61.7	27.7	45.1			
Minimum	3.0	2.6	2.5	2.6	2.4	2.0	3.6	2.3	2.2	2.9	2.2	1.2	1.4	1.0	0.9	1.0	1.1	1.0	1.0	1.0	1.7	2.5	2.4	2.7	0	6.81	0.9				
Average	14.8	14.8	14.0	12.5	12.8	13.0	13.4	14.1	15.8	13.8	10.2	7.8	7.5	7.4	7.8	7.2	7.6	9.0	10.3	13.2	15.6	16.5	14.9	14.6	22	27	4	12.0			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		2.6		3.9		5.1		6.6		8.3		10.7		14.0		18.6		27.4		33.6		48.1		61.7						61.7	
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																														

PM _{2.5} - Rundle Road March 2014 (ug/m3)																														
Day	Hour																							Count	Maximum	Minimum	Average	Days>30		
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
1	5.7	6.2	5.8	6.1	6.3	7.0	9.6	9.3	11.3	9.1	6.1	5.8	6.8	9.7	15.3	19.9	23.9	28.5	16.2	13.9	7.5	4.8	4.4	3.7	24	28.5	3.7	10.1	0	
2	3.1	3.0	3.9	5.0	5.1	5.0	4.9	5.0	5.2	4.5	4.0	3.7	3.4	2.8	2.2	2.4	2.8	3.0	4.4	6.1	7.0	9.5	22.9	10.5	24	22.9	2.2	5.4	0	
3	6.9	4.9	3.8	3.6	3.4	3.6	3.9	4.6	3.9	3.1	2.0	1.9	2.1	1.9	1.7	2.4	2.6	3.4	4.6	9.2	12.9	16.4	13.2	11.5	24	16.4	1.7	5.3	0	
4	16.1	23.4	19.5	16.2	15.6	12.0	11.9	10.3	10.6	10.2	10.2	11.9	12.2	11.1	6.2	8.0	13.2	20.9	22.0	24.2	27.3	31.0	31.6	19.8	24	31.6	6.2	16.5	0	
5	19.1	19.5	15.1	16.7	19.0	20.1	20.0	17.8	14.9	8.0	5.7	5.3	4.3	3.3	3.0	2.8	3.3	4.0	5.7	10.4	15.0	18.0	16.4	8.5	24	20.1	2.8	11.5	0	
6	5.8	4.2	3.9	3.6	3.4	3.4	3.9	4.2	3.6	3.6	2.4	1.3	1.2	1.5	1.4	1.3	1.6	1.7	2.7	4.7	7.2	7.6	10.5	9.7	24	10.5	1.2	3.9	0	
7	8.2	8.3	9.1	10.3	14.2	12.2	14.2	16.8	16.4	10.2	8.2	7.8	8.5	8.6	10.0	12.1	12.2	14.1	23.2	28.5	38.9	43.9	38.1	48.5	24	48.5	7.8	17.6	0	
8	43.6	32.6	28.5	28.2	32.9	38.0	44.5	44.3	45.1	46.8	26.9	12.5	12.1	10.0	8.0	7.3	6.0	5.4	6.6	6.2	5.1	4.5	4.1	3.9	24	46.8	3.9	21.0	0	
9	3.7	3.9	4.2	4.8	6.0	7.1	7.8	10.6	7.9	5.5	3.8	2.8	2.8	2.3	3.0	4.0	6.0	10.1	17.4	14.9	8.4	9.3	8.8	14.2	24	17.4	2.3	7.1	0	
10	17.9	16.4	16.7	21.0	25.4	29.4	33.6	37.0	37.3	29.7	24.0	21.7	22.0	23.6	24.5	25.1	26.6	31.4	34.4	33.5	36.7	38.4	38.9	39.5	24	39.5	16.4	28.5	0	
11	44.3	48.9	46.8	42.4	31.1	15.5	10.0	10.6	10.8	7.7	13.6	18.9	24.4	26.9	21.8	21.1	23.8	22.0	17.1	5.0	2.1	2.3	2.4	2.2	24	48.9	2.1	19.7	0	
12	2.8	3.3	3.8	4.0	3.5	3.0	2.4	2.8	4.6	4.6	4.0	3.9	3.3	3.8	4.2	5.4	5.4	6.2	6.3	6.5	6.4	5.8	5.3	5.2	24	6.5	2.4	4.4	0	
13	5.2	5.4	5.9	6.0	6.3	6.5	6.7	6.4	5.1	4.7	3.1	2.2	2.6	2.1	1.7	1.4	4.7	3.0	5.1	3.3	5.1	5.3	6.5	5.2	24	6.7	1.4	4.6	0	
14	5.3	4.9	6.4	7.7	7.9	7.4	7.4	7.4	6.4	5.0	4.5	4.0	3.8	4.6	6.1	6.1	6.0	8.2	10.9	13.7	17.0	15.3	16.4	17.8	24	17.8	3.8	8.3	0	
15	20.6	22.3	20.0	20.0	16.2	5.0	1.8	1.4	2.3	4.4	4.2	3.5	2.9	5.1	3.1	3.0	4.1	4.4	6.5	7.0	7.1	11.2	5.5	5.7	24	22.3	1.4	7.8	0	
16	6.3	7.2	7.0	6.4	6.2	6.2	5.4	4.2	4.3	3.5	3.1	2.5	2.2	2.0	1.6	1.8	1.7	2.0	3.1	5.6	8.2	5.5	5.3	4.5	24	8.2	1.6	4.4	0	
17	5.4	5.9	6.0	7.2	5.6	6.5	9.2	5.9	6.4	2.6	1.7	1.3	1.0	1.0	1.0	1.0	1.2	1.4	2.0	3.1	4.6	4.6	5.1	4.5	24	9.2	1.0	3.9	0	
18	5.9	5.5	5.1	5.3	4.6	4.9	5.0	4.5	4.5	4.5	2.8	2.8	2.5	2.7	3.3	4.3	4.3	5.2	6.6	8.2	8.4	8.2	8.7	7.5	24	8.7	2.5	5.2	0	
19	7.7	8.9	9.4	10.1	10.5	11.0	12.9	12.1	10.0	8.2	5.9	4.7	4.1	5.5	7.4	12.4	11.4	15.9	9.2	7.0	7.1	5.7	4.1	7.0	24	15.9	4.1	8.7	0	
20	11.0	8.9	3.1	5.6	9.4	8.2	7.1	5.4	4.3	3.2	2.7	3.9	6.1	5.0	11.1	4.7	6.5	5.2	5.9	7.2	7.1	5.3	5.3	5.4	24	11.1	2.7	6.1	0	
21	6.4	7.1	8.3	9.5	8.9	5.0	4.4	4.3	3.2	2.2	1.8	1.7	2.1	3.5	5.5	6.3	6.4	7.2	9.3	14.2	17.8	26.1	23.1	16.7	24	26.1	1.7	8.4	0	
22	6.7	8.2	13.6	12.5	9.9	11.3	14.9	14.5	14.1	4.3	3.6	6.0	5.4	5.9	5.8	3.4	4.8	4.8	3.8	6.0	4.4	5.7	4.2	4.8	24	14.9	3.4	7.4	0	
23	5.2	5.8	6.0	6.0	5.9	8.2	4.7	4.9	4.3	3.5	3.2	2.9	2.1	2.1	2.0	1.9	1.6	1.7	2.3	4.1	14.9	9.8	6.0	5.8	24	14.9	1.6	4.8	0	
24	5.4	5.3	6.4	6.5	7.1	6.6	8.3	7.0	4.2	2.4	1.9	1.9	2.6	2.9	2.6	2.3	3.3	3.1	6.6	5.0	11.5	10.2	9.3	8.3	24	11.5	1.9	5.4	0	
25	10.0	13.5	16.3	25.6	27.2	29.8	34.8	33.5	21.8	13.3	7.3	6.9	7.7	8.1	8.5	9.1	11.1	11.3	5.3	4.0	4.7	5.2	3.9	3.4	24	34.8	3.4	13.4	0	
26	3.3	3.3	3.3	3.6	4.0	4.3	4.4	4.5	3.7	2.8	C	8.1	7.7	7.4	6.4	5.2	5.3	5.1	6.0	6.6	7.6	9.8	13.3	12.7	23	13.3	2.8	6.0	0	
27	11.7	10.4	11.2	11.0	12.2	12.9	12.4	9.9	7.5	7.1	6.2	6.1	6.4	8.4	10.4	12.4	12.9	13.5	13.5	16.2	16.0	13.1	9.1	14.5	24	16.2	6.1	11.0	0	
28	9.8	10.7	13.4	15.6	16.0	15.5	15.8	20.8	21.8	19.6	19.3	18.4	13.7	13.9	16.4	16.2	7.1	4.1	7.3	6.0	8.9	9.5	8.6	9.3	24	21.8	4.1	13.2	0	
29	10.7	12.0	13.9	16.5	16.8	16.8	16.9	17.0	16.2	14.9	14.5	14.5	15.2	14.1	12.3	10.1	10.2	8.2	8.0	8.6	9.7	11.1	10.0	7.5	24	17.0	7.5	12.7	0	
30	7.3	5.0	3.4	3.3	3.3	2.7	2.5	2.5	2.6	2.3	2.1	2.1	2.0	1.7	1.4	1.5	1.5	1.5	1.9	2.8	4.1	3.9	4.9	6.1	24	7.3	1.4	3.0	0	
31	7.3	8.3	8.2	8.7	9.3	9.2	11.8	8.2	4.4	1.9	3.6	9.2	3.5	2.2	2.7	2.8	2.9	2.9	3.1	3.1	8.6	18.1	37.7	34.1	30.4	24	37.7	1.9	9.7	0
Count	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	743	31	30	31.0	
Maximum	44.3	48.9	46.8	42.4	32.9	38.0	44.5	44.3	45.1	46.8	26.9	21.7	24.4	26.9	24.5	25.1	26.6	31.4	34.4	33.5	38.9	43.9	38.9	48.5	24	48.9	21.7	36.7		
Minimum	2.8	3.0	3.1	3.3	3.3	2.7	1.8	1.4	2.3	1.9	1.7	1.3	1.0	1.0	1.0	1.0	1.2	1.4	1.9	2.8	2.1	2.3	2.4	2.2	23	6.5	1.0	2.0		
Average	10.6	10.7	10.6	11.3	11.4	10.8	11.4	11.2	10.3	8.2	6.8	6.3	6.3	6.6	6.8	7.0	7.6	8.4	8.9	9.7	11.5	12.7	12.3	11.4	24	21	3	9.5		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		2.5		3.5		4.5		5.4		6.4		8.1		10.2		14.0		20.1		28.5		44.1		48.9						48.9
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down																													

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Appendix E Continuous Parameter Edit Logs
June 23, 2014

Appendix E CONTINUOUS PARAMETER EDIT LOGS

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung	Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com			
Station number:	N/A		Station Name:	Courtice WPCP Station				
Station address:	Courtice Water Pollution Control		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Temperature	Instrument make & model:	Campbell Scientific Model HMP60		Serial Number:			
Data edit period	Start date:	1-Jan-14	End date:	31-Mar-14		Time Zone : EST		
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	30-Apr-14	CL	Invalidate data	25-Feb-14	16:00	25-Feb-14	17:00	Datalogger program updated.

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung	Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com			
Station number:	N/A		Station Name:	Courtice WPCP Station				
Station address:	Courtice Water Pollution Control		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Rainfall	Instrument make & model:	Texas Electronic TE525M		Serial Number:			
Data edit period	Start date:	1-Jan-14	End date:	31-Mar-14		Time Zone : EST		
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	30-Apr-14	CL	Invalidate data	25-Feb-14	16:00	25-Feb-14	17:00	Datalogger program updated.
2	15-May-14	TH	Invalidate data	10-Jan-14	00:00	February 3, 2014	23:00	Top of rain guage blown off

Examples of Acceptable Edit Actions:

- Add offset of
- Delete hours
- Zero Correction
- Slope Correction
- Manual data entry for missing, but collected data
- Invalidating span & zero check data
- Invalidating data due to equipment malfunctions and power failures.
- Invalidating data when instrumentation off-line
- Marking data as out-of-range

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung		Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com		
Station number:	N/A		Station Name:	Courtice WPCP Station				
Station address:	Courtice Water Pollution Control		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Relative Humidity	Instrument make & model:			Campbell Scientific Model HMP60		Serial Number:	
Data edit period	Start date:	1-Jan-14	End date:	31-Mar-14		Time Zone : EST		
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	30-Apr-14	CL	Invalidate data	25-Feb-14	16:00	25-Feb-14	17:00	Datalogger program updated.

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung		Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com		
Station number:	N/A		Station Name:	Rundle Road Station				
Station address:	Courtice Water Pollution Control		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Atmospheric Pressure	Instrument make & model:			Campbell Scientific Model CS106		Serial Number:	
Data edit period	Start date:	1-Jan-14	End date:	31-Mar-14		Time Zone : EST		
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	30-Apr-14	CL	Invalidate data	25-Feb-14	16:00	25-Feb-14	17:00	Datalogger program updated.

Examples of Acceptable Edit Actions:

- Add offset of
- Delete hours
- Zero Correction
- Slope Correction
- Manual data entry for missing, but collected data
- Invalidating span & zero check data
- Invalidating data due to equipment malfunctions and power failures.
- Invalidating data when instrumentation off-line
- Marking data as out-of-range

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung	Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com			
Station number:	N/A		Station Name:	Rundle Road Station				
Station address:	Rundle Road / Baseline Road		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Temperature	Instrument make & model:	Campbell Scientific Model HMP60		Serial Number:			
Data edit period	Start date:	1-Jan-14	End date:	31-Mar-14		Time Zone : EST		
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	21-Apr-14	CL	Invalidate data	17-Jan-14	04:00	17-Jan-14	10:00	Modem connection off-line.
2	30-Apr-14	CL	Invalidate data	25-Feb-14	16:00	25-Feb-14	17:00	Datalogger program updated.

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung	Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com			
Station number:	N/A		Station Name:	Rundle Road Station				
Station address:	Rundle Road / Baseline Road		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Rainfall	Instrument make & model:	Texas Electronic TE525M		Serial Number:			
Data edit period	Start date:	1-Jan-14	End date:	31-Mar-14		Time Zone : EST		
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	21-Apr-14	CL	Invalidate data	17-Jan-14	04:00	17-Jan-14	10:00	Modem connection off-line.
2	30-Apr-14	CL	Invalidate data	25-Feb-14	16:00	25-Feb-14	17:00	Datalogger program updated.

Examples of Acceptable Edit Actions:

- Add offset of
- Delete hours
- Zero Correction
- Slope Correction
- Manual data entry for missing, but collected data
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- Marking data as out-of-range

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung		Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com		
Station number:	N/A		Station Name:	Rundle Road Station				
Station address:	Rundle Road / Baseline Road		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Relative Humidity	Instrument make & model:			Campbell Scientific Model HMP60	Serial Number:		
Data edit period	Start date:	1-Jan-14	End date:	31-Mar-14	Time Zone : EST			
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	21-Apr-14	CL	Invalidate data	17-Jan-14	04:00	17-Jan-14	10:00	Modem connection off-line.
2	30-Apr-14	CL	Invalidate data	25-Feb-14	16:00	25-Feb-14	17:00	Datalogger program updated.

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung		Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com		
Station number:	N/A		Station Name:	Rundle Road Station				
Station address:	Rundle Road / Baseline Road		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Wind Speed/Wind Direction	Instrument make & model:			Met One Instruments Inc. Model 034B	Serial Number:		
Data edit period	Start date:	1-Jan-14	End date:	31-Mar-14	Time Zone : EST			
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	21-Apr-14	CL	Invalidate data	17-Jan-14	04:00	17-Jan-14	10:00	Modem connection off-line.
2	30-Apr-14	CL	Invalidate data	25-Feb-14	16:00	25-Feb-14	17:00	Datalogger program updated.

Examples of Acceptable Edit Actions:

- Add offset of
- Delete hours
- Zero Correction
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- Manual data entry for missing, but collected data
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- Marking data as out-of-range

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Appendix F Metals Data Summary
June 23, 2014

Appendix F METALS DATA SUMMARY

Metals and Total Particulates		Courtice WPCP Station				Jan - March 2014		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice				
Location	Date	dd/mm/yyyy	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice	Courtice			
Start Time	Sample Duration	hh:mm	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	0:00	0:00			
Technician	Filter Number	minutes	TH	TH	CL	CL	TH	TH/CL	TH/CL	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH	TH			
Analytical Report #	Total Volumetric Flow	Am ³ /sample	13110419	13110422	13110423	13112151	13112153	13112157	13112158	13112161	13112162	14010777	14010780	14010781	14010785	14010786	14010789	8404117	8406160	8410444	8415207	8420539	8421541	8425658	8427552	8430727	8435920	8439327	8442962	8445206	8448238	8454232
Analytical Results	Units	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	
Particulate	mg	54.5	5	15.8	5	26.4	5	10.5	5	55.8	5	38.6	5	45.5	5	<5	5	23.5	5	64.7	5	45.8	5	16.8	5	81.2	5	42	5	30.3	5	
Total Mercury (Hg)	ug	<0.02	0.02	<0.02	0.02	0.03	0.02	0.03	0.02	0.04	0.02	<0.02	0.02	0.03	0.02	<0.02	0.02	0.02	0.02	0.02	0.02	<0.02	0.02	0.02	0.02	<0.02	0.02	0.02	<0.02	0.02	<0.02	0.02
Aluminum (Al)	ug	96	50	<67	67	82	67	66	50	233	50	92	50	87	50	<50	50	95	50	197	50	128	50	100	50	461	50	138	50	141	50	
Antimony (Sb)	ug	<10	10	<13	13	<13	13	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	
Arsenic (As)	ug	<6.0	6	<8.0	8	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	
Barium (Ba)	ug	5.9	1	2.9	1.3	10	1.3	4.9	1	11.8	1	10.8	1	13.6	1.0	3.1	1.0	8.6	1	12.9	1	6.3	1	3.8	1	14.8	1	12.4	1	6.9	1	
Beryllium (Be)	ug	<1.0	1	<1.3	1.3	<1.3	1.3	<1.0	1	<1.0	1	<1.0	1	<1.0	1.0	<1.0	1.0	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	
Bismuth (Bi)	ug	<6.0	6	<8.0	8	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<6.0	6.0	<6.0	6.0	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	
Boron (B)	ug	6.1	6	<8.0	8	<8.0	8	<6.0	6	<6.0	6	10	6	6.3	6.0	<6.0	6.0	<6.0	6	7	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	
Cadmium (Cd)	ug	<2.0	2	<2.7	2.7	<2.7	2.7	<2.0	2	2.6	2	<2.0	2	<2.0	2.0	<2.0	2.0	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	
Chromium (Cr)	ug	<5.0	5	<6.7	6.7	<6.7	6.7	<5.0	5	6.4	5	<5.0	5	<5.0	5.0	<5.0	5.0	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	
Cobalt (Co)	ug	<2.0	2	<2.7	2.7	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.0	2.0	<2.0	2.0	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	
Copper (Cu)	ug	62.2	5	62.4	6.7	34.8	6.7	56.9	5	77.7	5	91	5	125	5.0	31.8	5.0	26.2	5	63	5	11.4	5	41.9	5	20.6	5	91.9	5	17.2	5	
Iron (Fe)	ug	229	50	118	67	428	67	204	50	798	50	425	50	398	50	95	50	315	50	639	50	435	50	248	50	1430	50	582	50	517	50	
Lead (Pb)	ug	4.4	3	<4.0	4	<4.0	4	<3.0	3	12.1	3	<3.0	3	3.9	3.0	<3.0	3.0	<3.0	3	5.5	3	<3.0	3	<3.0	3	3.4	3	4.3	3	<3.0	3	
Magnesium (Mg)	ug	100	50	<67	67	128	67	136	50	341	50	117	50	166	50	<50	50	<74	50	472	50	257	50	139	50	652	50	478	50	268	50	
Manganese (Mn)	ug	7.4	1	3.4	1.3	11.4	1.3	8	1	46.2	1	9.8	1	9.7	1.0	3.1	1.0	11.5	1	25.7	1	12.3	1	8.8	1	47.1	1	17.3	1	19.4	1	
Molybdenum (Mo)	ug	<3.0	3	<4.0	4	<4.0	4	<3.0	3	5.2	3	<3.0	3	<3.0	3.0	<3.0	3.0	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	
Nickel (Ni)	ug	<3.0	3	<4.0	4	<4.0	4	<3.0	3	<3.0	3	<3.0	3	3.4	3.0	<3.0	3.0	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	
Phosphorus (P)	ug	<25	25	<33	33	<33	33	<25	25	34	25	<25	25	<25	25	<25	25	<25	25	<25	25	<25	25	<25	25	<25	25	<25	25	<25	25	
Selenium (Se)	ug	<10	10	<13	13	<13	13	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	
Silver (Ag)	ug	<5.0	5	<6.7	6.7	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5.0	<5.0	5.0	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	
Strontium (Sr)	ug	3.9	1	1.6	1.3	3.3	1.3	3.8	1	5.3	1	4.2	1	4.2	1.0	1.1	1.0	4.5	1	15.8	1	6.5	1	2.7	1	20.7	1	9	1	7.5	1	
Thallium (Tl)	ug	<10	10	<13	13	<13	13	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	
Tin (Sn)	ug	<10	10	<13	13	<13	13	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	
Titanium (Ti)	ug	<10	10	<13	13	<13	13	<10	10	13	10	<10	10	<10	10	<10	10	<10	10	12	10	<10	10	<10	10	27	10	<10	10	11	10	
Vanadium (V)	ug	<5.0	5	<6.7	6.7	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5.0	<5.0	5.0	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	
Zinc (Zn)	ug	50.8	5	20.3	6.7	38.2	6.7	25.2	5	250	5	30.3	5	32.0	5.0	16.3	5.0	32.9	5	35.7	5	19.4	5	22.8	5	44.8	5	51.2	5	14.8	5	
Zirconium (Zr)	ug	<5.0	5	<6.7	6.7	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5.0	<5.0	5.0	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	
Total Uranium (U)	ug	<0.45	0.45	<0.6	0.6	<0.6	0.6	<0.45	0.45	<0.6	0.6	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	
Calculated Concentrations	Quarter 1 2014			Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		
	Units	Maximum	Minimum	1/5/2014	1/11/2014	1/17/2014	1/23/2014	1/29/2014	2/4/2014	2/10/2014	2/16/2014	2/22/2014	2/28/2014	3/6/2014	3/12/2014	3/18/2014	3/24/2014	3/30/2014														
Particulate	ug/m ³	48.2	3.1	24.833	7.421	11.656	4.459	25.353	21.669	21.646	3.146	11.522	32.664	37.620	10.071	48.181	25.020	17.981														
Total Mercury (Hg)	ug/m ³	1.82E-05	4.56E-06	4.56E-06	4.70E-06	1.32E-05	1.27E-05	1.82E-05	5.61E-06	1.43E-05	1.26E-05	9.81E-06	1.01E-05	8.21E-06	5.99E-06	1.19E-05	5.96E-06	5.93E-06														
Aluminum (Al)	ug/m ³	2.74E-01	1.57E-02	4.37E-02	1.57E-02	3.62E-02	2.80E-02	1.06E-01	5.16E-02	4.14E-02	3.15E-02	4.66E-02	9.95E-02	1.05E-01	5.99E-02	2.74E-01	8.22E-02	8.37E-02														
Antimony (Sb)	ug/m ³	6.29E-03	2.12E-03	2.28E-03	3.05E-03	6.29E-03	2.12E-03	2.27E-03	2.45E-03	2.52E-03	2.38E-03	2.97E-03	4.11E-03	2.97E-03	3.00E-03	2.97E-03	2.98E-03	2.97E-03														
Arsenic (As)	ug/m ³	3.77E-03	1.27E-03	1.37E-03	1.88E-03	1.77E-03	1.27E-03	1.36E-03	1.68E-03	1.43E-03	3.77E-03	1.47E-03	1.51E-03	2.46E-03	1.80E-03	1.78E-03	1.79E-03	1.78E-03														
Barium (Ba)	ug/m ³	8.78E-03	1.36E-03	2.69E-03	1.36E-03	4.42E-03	2.08E-03	5.36E-03	6.06E-03	6																						

Metals and Total Particulates		Rundle Road Station				Jan - March 2014		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle											
Location	dd/mm/yyyy	Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle			
Date	hh:mm	05/01/2014	11/01/2014	17/01/2014	23/01/2014	29/01/2014	04/02/2014	10/02/2014	16/02/2014	22/02/2014	28/02/2014	06/03/2014	12/03/2014	18/03/2014	24/03/2014	30/03/2014															
Start Time	minutes	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															
Sample Duration	23.9	23.75	23.66	23.59	24.17	23.86	24.08	23.78	23.55	23.73	24.62	23.52	23.77	23.72																	
Technician	TH	TH	CL	CL	TH	TH/CL	TH/CL	TH																							
Filter Number	13110420	13110421	13110424	13110425	13112154	13112155	13112159	13112160	13112164	14010778	14010779	14010782	14010784	14010787	14010788																
Analytical Report #	B404117	B406160	B410444	B415207	B420539	B421541	B425658	B427552	B430727	B435920	B439327	B442962	B445206	B448238	B454232																
Total Volumetric Flow	Am ³ /sample	2326.44	2401.59	2317.64	2262.10	2383.01	2442.08	2463.15	2480.70	2550.83	2316.71	1633.89	1591.81	1556.58	1540.28	1570.76															
Analytical Results	Units	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL		
Particulate	ug	49.8	5	22.3	5	47.5	5	61.7	5	78	5	89.5	5	43.8	5	29.6	5	46.7	5	66.4	5	34.7	5	13.3	5	42.3	5	40.1	5	21.4	5
Total Mercury (Hg)	ug	0.02	0.02	<0.02	0.02	0.03	0.02	0.06	0.02	0.07	0.02	0.03	0.02	0.02	0.02	<0.02	0.02	0.03	0.02	0.02	0.02	<0.02	0.02	<0.02	0.02	0.02	0.02	<0.02	0.02	<0.02	0.02
Aluminum (Al)	ug	71	50	<67	67	123	67	273	50	296	50	173	50	69	50	81	50	170	50	227	50	137	50	68	50	226	50	147	50	93	50
Antimony (Sb)	ug	<10	10	<13	13	<13	13	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10
Arsenic (As)	ug	<6.0	6	<8.0	8	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6
Barium (Ba)	ug	7	1	4.8	1.3	12.6	1.3	6.3	1	16.9	1	13.6	1	10.2	1.0	4.3	1.0	10.9	1	14.8	1	7	1	2.5	1	9.1	1	9.2	1	3.4	1
Beryllium (Be)	ug	<1.0	1	<1.3	1.3	<1.3	1.3	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Bismuth (Bi)	ug	<6.0	6	<8.0	8	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6
Boron (B)	ug	<6.0	6	<8.0	8	<8.0	8	<6.0	6	<6.0	6	<6.0	6	6.2	6.0	<6.0	6.0	<6.0	6.0	9.8	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6
Cadmium (Cd)	ug	<2.0	2	<2.7	2.7	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2
Chromium (Cr)	ug	<5.0	5	<6.7	6.7	<6.7	6.7	<5.0	5	7.7	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Cobalt (Co)	ug	<2.0	2	<2.7	2.7	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2
Copper (Cu)	ug	128	5	94.5	6.7	109	6.7	161	5	88.5	5	237	5	226	5	164	5	71.4	5	236	5	87.6	5	308	5	44.1	5	150	5	40.9	5
Iron (Fe)	ug	249	50	168	67	693	67	515	50	1130	50	701	50	216	50	168	50	1060	50	618	50	153	50	966	50	514	50	257	50	50	50
Lead (Pb)	ug	5	3	<4.0	4	5.5	4	<3.0	3	17.5	3	4	3	3.8	3.0	4.7	3.0	3.8	3	7.4	3	<3.0	3	11.6	3	<3.0	3	3.5	3	<3.0	3
Magnesium (Mg)	ug	99	50	<67	67	193	67	252	50	455	50	387	50	144	50	116	50	431	50	571	50	232	50	86	50	364	50	436	50	163	50
Manganese (Mn)	ug	8.3	1	4.3	1.3	17.4	1.3	16.5	1	61.9	1	22.6	1	8.4	1.0	6.3	1.0	22	1	32.3	1	14	1	4.8	1	25.5	1	24.4	1	10.6	1
Molybdenum (Mo)	ug	3.7	3	<4.0	4	<4.0	4	3.4	3	<3.0	3	5.1	3	5.3	3.0	<3.0	3	4.5	3	<3.0	3	4.4	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3
Nickel (Ni)	ug	<3.0	3	<4.0	4	<4.0	4	<3.0	3	3	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	3.4	3	3.8	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3
Phosphorus (P)	ug	<25	25	<33	33	<33	33	28	25	52	25	27	25	<25	25	<25	25	27	25	31	25	55	25	<25	25	29	25	43	25	<25	25
Selenium (Se)	ug	<10	10	<13	13	<13	13	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10
Silver (Ag)	ug	<5.0	5	<6.7	6.7	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Strontium (Sr)	ug	3.4	1	1.9	1.3	5.3	1.3	6.8	1	7.9	1	13.8	1	3.1	1.0	3.7	1.0	9.4	1	14	1	8.5	1	1.6	1	10.6	1	9.5	1	4.8	1
Thallium (Tl)	ug	<10	10	<13	13	<13	13	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10
Tin (Sn)	ug	<10	10	<13	13	<13	13	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10
Titanium (Ti)	ug	<10	10	<13	13	<13	13	16	10	17	10	12	10	<10	10	<10	10	15	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10
Vanadium (V)	ug	<5.0	5	<6.7	6.7	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Zinc (Zn)	ug	46	5	25.8	6.7	51.5	6.7	35.5	5	296	5	47.5	5	24.6	5.0	93.8	5	40.7	5	18	5	24.6	5	26.1	5	27.7	5	9.8	5	9.8	5
Zirconium (Zr)	ug	<5.0	5	<6.7	6.7	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Total Uranium (U)	ug	<0.45	0.45	<0.6	0.6	<0.6	0.6	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45
Calculated Concentrations		Quarter 1 2014		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle			
	Units	Maximum	Minimum	1/5/2014	1/11/2014	1/17/2014	1/23/2014	1/29/2014	2/4/2014	2/10/2014	2/16/2014	2/22/2014	2/28/2014	3/6/2014	3/12/2014	3/18/2014	3/24/2014	3/30/2014													
Particulate	ug/m ³	36.6	8.4	21.4	9.3	20.5	27.3	32.7	36.6	17.8	11.9	18.3	28.7	21.2	8.4	27.2	26.0	13.6													
Total Mercury (Hg)	ug/m ³	2.94E-05	4.03E-06	8.60E-06	4.16E-06	1.29E-05	2.65E-05	2.94E-05	1.23E-05	8.12E-06	4.03E-06	1.18E-05	8.63E-06	6.12E-06	6.28E-06	1.28E-05	6.49E-06	6.37E-06													
Aluminum (Al)	ug/m ³	1.45E-01	1.39E-02	3.05E-02	1.39E-02	5.31E-02	1.21E-01	1.24E-01	7.08E-02	2.80E-02	3.27E-02	6.66E-02	9.80E-02	8.38E-02	4.27E-02	1.45E-01	9.54E-02	5.92E-02													
Antimony (Sb)	ug/m ³	3.25E-03	1.96E-03	2.15E-03	2.71E-03	2.80E-03	2.21E-03	2.10E-03	2.05E-03	2.10E-03	2.03E-03	2.02E-03	1.96E-03	2.03E-03	3.14E-03	3.21E-03	3.25E-03	3.18E-03													
Arsenic (As)	ug/m ³	1.95E-03	1.18E-03	1.29E-03	1.67E-03	1.73E-03	1.33E-03	1.26E-03	1.23E-03	1.22E-03	1.23E-03	1.22E-03	1.21E-03	1.18E-03	1.29E-03	1.84E-03	1.88E-03	1.93E-03	1.95E-03	1.91E-03											
Barium (Ba)	ug/m ³	7.09E-03	1.57E-03	3.01E-03	2.00E-03	5.44E-03	2.79E-03	7.09E-03	5.57E-03	4.14E-03	1.73E-03	4.27E-03	6.39E-03	4.28E-03	1.57E-03	5.85E-03	5.97E-03	2.16E-03													
Beryllium (Be)	ug/m ³	3.25E-04	1.96E-04	2.15E-04	2.																										

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Appendix G PAHs Data Summary
June 23, 2014

Appendix G PAHS DATA SUMMARY

Polycyclic Aromatic Hydrocarbons		Courtice WPCP Station													
Location		Jan to March 2014													
Date	dd/mm/yyyy	Courtice 11/01/2014		Courtice 23/01/2014		Courtice 04/02/2014		Courtice 16/02/2014		Courtice 28/02/2014		Courtice 12/03/2014		Courtice 24/03/2014	
Start Time	hh:mm	0:00		0:00		0:00		0:00		0:00		0:00		0:00	
Sample Duration	minutes	22.87		23.63		23.7		23.12		23.39		23.52		23.16	
Technician	TH		CL		TH/CL		TH		TH		TH		TH		
Filter Number	UK8497-01		UK8536-01		UK8553-01		UK8560-01		US2328-01		US2410-01		UZ5617-01		
Maxaam ID	UN9078		U55315		UV6291		UY5526		VC5583		VF9127		VI2703		
Analytical Report #	B406174		B415211		B421542		B427540		B435930		B442971		B448241		
Total Volumetric Flow	Am ³ /sample	348.82		323.41		338.59		326.15		317.08		344.94		333.28	
Analytical Results	Units	Value	RDL	Value	RDL										
Benzo(a)pyrene	µg	0.009	0.0058	0.005	0.0021	0.0448	0.0064	0.0067	0.0065	0.0139	0.003	0.0039	0.0018	0.0198	0.0031
1-Methylnaphthalene	µg	2.85	0.2	0.53	0.1	1.86	0.2	0.76	0.2	0.91	0.2	0.66	0.15	1.17	0.2
2-Methylnaphthalene	µg	3.87	0.2	0.89	0.1	3.22	0.2	1.43	0.2	1.73	0.2	1.16	0.15	2.25	0.2
Acenaphthene	µg	0.96	0.1	0.106	0.05	0.4	0.1	0.2	0.1	0.18	0.1	0.321	0.075	0.32	0.1
Acenaphthylene	µg	<0.10	0.1	0.068	0.05	0.13	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Anthracene	µg	<0.10	0.1	<0.050	0.05	0.38	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Benzo(a)anthracene	µg	<0.10	0.1	<0.050	0.05	<0.10	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Benzo(a)fluorene	µg	<0.20	0.2	<0.10	0.1	<0.20	0.2	<0.20	0.2	<0.20	0.2	<0.15	0.15	<0.20	0.2
Benzo(b)fluoranthene	µg	<0.10	0.1	<0.050	0.05	0.2	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Benzo(b)fluorene	µg	<0.20	0.2	<0.10	0.1	<0.20	0.2	<0.20	0.2	<0.20	0.2	<0.15	0.15	<0.20	0.2
Benzo(e)pyrene	µg	<0.20	0.2	<0.10	0.1	<0.20	0.2	<0.20	0.2	<0.20	0.2	<0.15	0.15	<0.20	0.2
Benzo(g,h,i)perylene	µg	<0.10	0.1	<0.050	0.05	<0.10	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Benzo(k)fluoranthene	µg	<0.10	0.1	<0.050	0.05	<0.10	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Biphenyl	µg	1.56	0.2	0.31	0.1	1.14	0.2	0.38	0.2	0.48	0.2	0.45	0.15	0.48	0.2
Chrysene	µg	<0.10	0.1	<0.050	0.05	0.18	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Dibenz(a,h)anthracene ¹	µg	<0.10	0.1	<0.050	0.05	<0.10	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Dibenzo(a,c)anthracene + Picene ²	µg	<0.10	0.1	<0.10	0.1	<0.20	0.2	<0.20	0.2	<0.20	0.2	<0.15	0.15	<0.20	0.2
Fluoranthene	µg	0.43	0.1	0.066	0.05	1.35	0.1	<0.10	0.1	0.14	0.1	0.126	0.075	0.14	0.1
Indeno(1,2,3-cd)pyrene	µg	<0.10	0.1	<0.050	0.05	<0.10	0.1	<0.10	0.1	<0.10	0.1	<0.075	0.075	<0.10	0.1
Naphthalene	µg	11.8	0.14	3.75	0.072	13.1	0.14	5.4	0.14	8.36	0.14	4.06	0.11	7.28	0.14
o-Terphenyl	µg	<0.20	0.2	<0.10	0.1	<0.20	0.2	<0.20	0.2	<0.20	0.2	<0.15	0.15	<0.20	0.2
Perylene	µg	<0.20	0.2	<0.10	0.1	<0.20	0.2	<0.20	0.2	<0.20	0.2	<0.15	0.15	<0.20	0.2
Phenanthrene	µg	1.6	0.1	0.328	0.05	2.8	0.1	0.34	0.1	0.39	0.1	0.486	0.075	0.56	0.1
Pyrene	µg	0.22	0.1	<0.050	0.05	0.86	0.1	<0.10	0.1	<0.10	0.1	0.081	0.075	0.11	0.1
Tetralin	µg	8.83	0.2	0.55	0.1	0.8	0.2	0.59	0.2	0.74	0.2	0.46	0.15	0.67	0.2
Calculated Concentrations	Quarter 1 2014			Courtice											
	Units	Maximum	Minimum	1/11/2014		1/23/2014		2/4/2014		2/16/2014		2/28/2014		3/12/2014	
Benzo(a)pyrene	ng/m ³	1.32E-01	1.13E-02	2.58E-02	1.55E-02	1.32E-01	2.05E-02	4.38E-02	1.13E-02	5.94E-02					
1-Methylnaphthalene	ng/m ³	8.17E+00	1.64E+00	8.17E+00	1.64E+00	5.49E+00	2.33E+00	2.87E+00	1.91E+00	3.51E+00					
2-Methylnaphthalene	ng/m ³	1.11E+01	2.75E+00	1.11E+01	2.75E+00	9.51E+00	4.38E+00	5.46E+00	3.36E+00	6.75E+00					
Acenaphthene	ng/m ³	2.75E+00	3.28E-01	2.75E+00	3.28E-01	1.18E+00	6.13E-01	5.68E-01	9.31E-01	9.60E-01					
Acenaphthylene	ng/m ³	3.84E-01	1.09E-01	1.43E-01	2.10E-01	3.84E-01	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Anthracene	ng/m ³	1.12E+00	7.73E-02	1.43E-01	7.73E-02	1.12E+00	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Benzo(a)anthracene	ng/m ³	1.58E-01	7.73E-02	1.43E-01	7.73E-02	1.48E-01	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Benzo(a)fluorene	ng/m ³	3.15E-01	1.55E-01	2.87E-01	1.55E-01	2.95E-01	3.07E-01	3.15E-01	2.17E-01	3.00E-01					
Benzo(b)fluoranthene	ng/m ³	5.91E-01	7.73E-02	1.43E-01	7.73E-02	5.91E-01	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Benzo(b)fluorene	ng/m ³	3.15E-01	1.55E-01	2.87E-01	1.55E-01	2.95E-01	3.07E-01	3.15E-01	2.17E-01	3.00E-01					
Benzo(e)pyrene	ng/m ³	3.15E-01	1.55E-01	2.87E-01	1.55E-01	2.95E-01	3.07E-01	3.15E-01	2.17E-01	3.00E-01					
Benzo(g,h,i)perylene	ng/m ³	1.58E-01	7.73E-02	1.43E-01	7.73E-02	1.48E-01	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Benzo(k)fluoranthene	ng/m ³	1.58E-01	7.73E-02	1.43E-01	7.73E-02	1.48E-01	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Biphenyl	ng/m ³	4.47E+00	9.59E-01	4.47E+00	9.59E-01	3.37E+00	1.17E+00	1.51E+00	1.30E+00	1.44E+00					
Chrysene	ng/m ³	5.32E-01	7.73E-02	1.43E-01	7.73E-02	5.32E-01	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Dibenz(a,h)anthracene ¹	ng/m ³	1.58E-01	7.73E-02	1.43E-01	7.73E-02	1.48E-01	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Dibenzo(a,c)anthracene + Picene ¹	ng/m ³	3.15E-01	1.43E-01	1.43E-01	1.55E-01	2.95E-01	3.07E-01	3.15E-01	2.17E-01	3.00E-01					
Fluoranthene	ng/m ³	3.99E+00	1.53E-01	1.23E+00	2.04E-01	3.99E+00	1.53E-01	4.42E-01	3.65E-01	4.20E-01					
Indeno(1,2,3-cd)pyrene	ng/m ³	1.58E-01	7.73E-02	1.43E-01	7.73E-02	1.48E-01	1.53E-01	1.58E-01	1.09E-01	1.50E-01					
Naphthalene	ng/m ³	3.87E+01	1.16E+01	3.88E+01	1.16E+01	3.87E+01	1.66E+01	2.64E+01	1.18E+01	2.18E+01					
o-Terphenyl	ng/m ³	3.15E-01	1.55E-01	2.87E-01	1.55E-01	2.95E-01	3.07E-01	3.15E-01	2.17E-01	3.00E-01					
Perylene	ng/m ³	3.15E-01	1.55E-01	2.87E-01	1.55E-01	2.95E-01	3.07E-01	3.15E-01	2.17E-01	3.00E-01					
Phenanthrene	ng/m ³	8.27E+00	1.01E+00	4.85E+00	1.01E+00	8.27E+00	1.04E+00	1.23E+00	1.41E+00	1.68E+00					
Pyrene	ng/m ³	2.54E+00	7.73E-02	6.31E-01	7.73E-02	2.54E+00	1.53E-01	1.58E-01	2.35E-01	3.30E-01					
Tetralin	ng/m ³	2.53E+01	1.33E+00	2.53E+01	1.70E+00	2.36E+00	1.81E+00	2.33E+00	1.33E+00	2.01E+00					
Total PAH	ng/m ³	9.50E+01	2.20E+01	9.50E+01	2.20E+01	8.07E+01	3.14E+01	4.43E+01	2.49E+01	4.22E+01					

Note:
RDL = Reportable Detection Limit

1. Based on laboratory analyses, dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene. Picene elutes after dibenz(a,h)anthracene. Ions specific to this compound in the appropriate retention time range were searched with no possible positives detected.

Polycyclic Aromatic Hydrocarbons		Rundle Road Station		Jan to March 2014		Rundle		Rundle		Rundle		Rundle		Rundle	
Location		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle	
Date	dd/mm/yyyy	14/01/2014		23/01/2014		08/02/2014		16/02/2014		28/02/2014		12/03/2014		24/03/2014	
Start Time	hh:mm	0:00		0:00		0:00		0:00		0:00		0:00		0:00	
Sample Duration	minutes	23.7		24.1		24.06		23.36		23.32		23.39		23.44	
Technician		TH		CL		TH/CL		TH		TH		TH		TH	
Filter Number		UK8496-01		UK8535-01		UK8552-01		UK8561-01		US2329-01		US2409-01		U25612-01	
Maxxaam ID		UQ0328		US5314		UX4858		UY5527		VC5584		VF9128		VI2704	
Analytical Report #		8410449		8415211		8425588		8427540		8435930		8442971		8448241	
Total Volumetric Flow	Am ³ /sample	343.90		324.89		350.94		326.75		330.90		337.50		331.33	
Analytical Results		Units		Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL
Benzo(a)pyrene	µg	0.0245	0.0029	0.0106	0.0024	0.101	0.018	<0.032	0.032	0.0221	0.0022	0.0078	0.015	0.0335	0.0048
1-Methylnaphthalene	µg	2.42	0.2	0.52	0.1	3.8	0.2	0.7	0.2	0.95	0.2	0.55	0.15	1.28	0.2
2-Methylnaphthalene	µg	4.15	0.2	0.82	0.1	6.58	0.2	1.23	0.2	1.66	0.2	0.96	0.15	2.29	0.2
Acenaphthene	µg	0.67	0.1	0.076	0.05	0.41	0.1	<-0.10	0.1	0.14	0.1	0.165	0.075	0.17	0.1
Acenaphthylene	µg	0.7	0.1	0.114	0.05	0.68	0.1	<-0.10	0.1	0.12	0.1	<-0.075	0.075	0.19	0.1
Anthracene	µg	0.2	0.1	<-0.050	0.05	0.26	0.1	<-0.10	0.1	<-0.10	0.1	<-0.075	0.075	0.1	0.1
Benzo(a)anthracene	µg	<-0.10	0.1	<-0.050	0.05	<-0.10	0.1	<-0.10	0.1	<-0.10	0.1	<-0.075	0.075	<-0.10	0.1
Benzo(a)fluorene	µg	<-0.20	0.2	<-0.10	0.1	<-0.20	0.2	<-0.20	0.2	<-0.20	0.2	<-0.15	0.15	<-0.20	0.2
Benzo(b)fluoranthene	µg	0.15	0.1	<-0.050	0.05	0.24	0.1	<-0.10	0.1	<-0.10	0.1	<-0.075	0.075	<-0.10	0.1
Benzo(b)fluorene	µg	<-0.20	0.2	<-0.10	0.1	<-0.20	0.2	<-0.20	0.2	<-0.20	0.2	<-0.15	0.15	<-0.20	0.2
Benzo(e)pyrene	µg	<-0.20	0.2	<-0.10	0.1	<-0.20	0.2	<-0.20	0.2	<-0.20	0.2	<-0.15	0.15	<-0.20	0.2
Benzo(g,h,i)perylene	µg	<-0.10	0.1	<-0.050	0.05	0.11	0.1	<-0.10	0.1	<-0.10	0.1	0.099	0.075	<-0.10	0.1
Benzo(k)fluoranthene	µg	<-0.10	0.1	<-0.050	0.05	<-0.10	0.1	<-0.10	0.1	<-0.10	0.1	<-0.075	0.075	<-0.10	0.1
Biphenyl	µg	1.29	0.2	0.39	0.1	2.05	0.2	0.43	0.2	0.55	0.2	0.4	0.15	0.55	0.2
Chrysene	µg	0.12	0.1	<-0.050	0.05	0.23	0.1	<-0.10	0.1	<-0.10	0.1	<-0.075	0.075	<-0.10	0.1
Dibenz(a,h)anthracene ¹	µg	<-0.10	0.1	<-0.050	0.05	<-0.10	0.1	<-0.10	0.1	<-0.10	0.1	0.081	0.075	<-0.10	0.1
Dibenzo(a,c)anthracene + Picene ¹	µg	<-0.20	0.2	<-0.10	0.1	<-0.20	0.2	<-0.20	0.2	<-0.20	0.2	<-0.15	0.15	<-0.20	0.2
Fluoranthene	µg	0.6	0.1	0.118	0.05	1.04	0.1	0.12	0.1	0.21	0.1	0.144	0.075	0.24	0.1
Indeno(1,2,3-cd)pyrene	µg	<-0.10	0.1	<-0.050	0.05	0.1	0.1	<-0.10	0.1	<-0.10	0.1	0.093	0.075	<-0.10	0.1
Naphthalene	µg	17.4	0.14	4.69	0.072	32.5	0.14	5.68	0.14	8.41	0.14	3.68	0.11	8.29	0.14
o-Terphenyl	µg	<-0.20	0.2	<-0.10	0.1	<-0.20	0.2	<-0.20	0.2	<-0.20	0.2	<-0.15	0.15	<-0.20	0.2
Perylene	µg	<-0.20	0.2	<-0.10	0.1	<-0.20	0.2	<-0.20	0.2	<-0.20	0.2	<-0.15	0.15	<-0.20	0.2
Phenanthrene	µg	2.11	0.1	0.554	0.05	3.11	0.1	0.45	0.1	0.6	0.1	0.51	0.075	0.74	0.1
Pyrene	µg	0.39	0.1	0.072	0.05	0.66	0.1	<-0.10	0.1	0.12	0.1	0.084	0.075	0.18	0.1
Tetralin	µg	1.2	0.2	0.21	0.1	1.4	0.2	0.52	0.2	0.62	0.2	0.35	0.15	0.68	0.2
Calculated Concentrations	Quarter 1 2014			Rundle		Rundle		Rundle		Rundle		Rundle		Rundle	
	Units	Maximum	Minimum	1/14/2014	1/23/2014	2/8/2014	2/16/2014	2/28/2014	3/12/2014	3/24/2014					
Benzo(a)pyrene	ng/m ³	2.88E-01	2.31E-02	7.12E-02	3.26E-02	2.88E-01	4.90E-02	6.68E-02	2.31E-02	1.01E-01					
1-Methylnaphthalene	ng/m ³	1.08E+01	1.60E+00	7.04E+00	1.60E+00	1.08E+01	2.14E+00	2.87E+00	1.63E+00	3.86E+00					
2-Methylnaphthalene	ng/m ³	1.87E+01	2.52E+00	1.21E+01	2.52E+00	1.87E+01	3.76E+00	5.02E+00	2.84E+00	6.91E+00					
Acenaphthene	ng/m ³	1.95E+00	1.53E-01	1.95E+00	2.34E-01	1.17E+00	1.53E-01	4.23E-01	4.89E-01	5.13E-01					
Acenaphthylene	ng/m ³	2.04E+00	1.11E-01	2.04E+00	3.51E-01	1.94E+00	1.53E-01	3.63E-01	1.11E-01	5.73E-01					
Anthracene	ng/m ³	7.41E-01	7.69E-02	5.82E-01	7.69E-02	7.41E-01	1.53E-01	1.51E-01	1.11E-01	3.02E-01					
Benzo(a)anthracene	ng/m ³	1.53E-01	7.69E-02	1.45E-01	7.69E-02	1.42E-01	1.53E-01	1.51E-01	1.11E-01	1.51E-01					
Benzo(a)fluorene	ng/m ³	3.06E-01	1.54E-01	2.91E-01	1.54E-01	2.85E-01	3.06E-01	3.02E-01	2.22E-01	3.02E-01					
Benzo(b)fluoranthene	ng/m ³	6.84E-01	7.69E-02	4.36E-01	7.69E-02	6.84E-01	1.53E-01	1.51E-01	1.11E-01	1.51E-01					
Benzo(b)fluorene	ng/m ³	3.06E-01	1.54E-01	2.91E-01	1.54E-01	2.85E-01	3.06E-01	3.02E-01	2.22E-01	3.02E-01					
Benzo(e)pyrene	ng/m ³	3.06E-01	1.54E-01	2.91E-01	1.54E-01	2.85E-01	3.06E-01	3.02E-01	2.22E-01	3.02E-01					
Benzo(g,h,i)perylene	ng/m ³	3.13E-01	7.69E-02	1.45E-01	7.69E-02	3.13E-01	1.53E-01	1.51E-01	2.93E-01	1.51E-01					
Benzo(k)fluoranthene	ng/m ³	1.53E-01	7.69E-02	1.45E-01	7.69E-02	1.42E-01	1.53E-01	1.51E-01	1.11E-01	1.51E-01					
Biphenyl	ng/m ³	5.84E+00	1.19E+00	3.75E+00	1.20E+00	5.84E+00	1.32E+00	1.66E+00	1.19E+00	1.66E+00					
Chrysene	ng/m ³	6.55E-01	7.69E-02	3.49E-01	7.69E-02	6.55E-01	1.53E-01	1.51E-01	1.11E-01	1.51E-01					
Dibenz(a,h)anthracene ¹	ng/m ³	2.40E-01	7.69E-02	1.45E-01	7.69E-02	1.42E-01	1.53E-01	1.51E-01	2.40E-01	1.51E-01					
Dibenzo(a,c)anthracene + Picene ¹	ng/m ³	3.06E-01	1.54E-01	2.91E-01	1.54E-01	2.85E-01	3.06E-01	3.02E-01	2.22E-01	3.02E-01					
Fluoranthene	ng/m ³	2.96E+00	3.63E-01	1.74E+00	3.63E-01	2.96E+00	3.67E-01	6.35E-01	4.27E-01	7.24E-01					
Indeno(1,2,3-cd)pyrene	ng/m ³	2.85E-01	7.69E-02	1.45E-01	7.69E-02	2.85E-01	1.53E-01	1.51E-01	2.76E-01	1.51E-01					
Naphthalene	ng/m ³	9.26E+01	1.09E+01	5.06E+01	1.44E+01	9.26E+01	1.74E+01	2.54E+01	1.09E+01	2.50E+01					
o-Terphenyl	ng/m ³	3.06E-01	1.54E-01	2.91E-01	1.54E-01	2.85E-01	3.06E-01	3.02E-01	2.22E-01	3.02E-01					
Perylene	ng/m ³	3.06E-01	1.54E-01	2.91E-01	1.54E-01	2.85E-01	3.06E-01	3.02E-01	2.22E-01	3.02E-01					
Phenanthrene	ng/m ³	8.86E+00	1.38E+00	6.14E+00	1.71E+00	8.86E+00	1.38E+00	1.81E+00	1.51E+00	2.23E+00					
Pyrene	ng/m ³	1.88E+00	1.53E-01	1.13E+00	2.22E-01	1.88E+00	1.53E-01	3.63E-01	2.49E-01	5.43E-01					
Tetralin	ng/m ³	3.99E+00	6.46E-01	3.49E+00	6.46E-01	3.99E+00	1.59E+00	1.87E+00	1.04E+00	2.05E+00					
Total PAH	ng/m ³	1.54E+02	2.31E+01	9.38E+01	2.49E+01	1.54E+02	3.15E+01	4.35E+01	2.31E+01	4.74E+01					

Note:
RDL = Reportable Detection Limit

1. Based on laboratory analyses, dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene. Picene elutes after dibenz(a,h)anthracene. Ions specific to this compound in the appropriate retention time range were searched with no possible positives detected.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JANUARY TO MARCH 2014

Appendix H Dioxins and Furans Data Summary
June 23, 2014

Appendix H DIOXINS AND FURANS DATA SUMMARY

Dioxins and Furans		Rundle Road Station		January to March 2014			Rundle			Rundle			Rundle		
Location		Rundle			Rundle			Rundle			Rundle				
Date	dd/mm/yyyy	14/01/2014			08/02/2014			28/02/2014			24/03/2014				
Start Time	hh:mm	0:00			0:00			0:00			0:00				
Sample Duration	minutes	23.7			24.06			23.32			23.44				
Technician		TH			TH/CL			TH			TH				
Filter Number		UK8496-01			UK8552-01			US2329-01			UZ2612-01				
Maxaam ID		UQ0328			UX4858			VCS584			VI2704				
Analytical Report #		8410449			8425588			8435930			8448241				
Total Volumetric Flow	Am ³ /sample	343.90			350.94			330.90			331.33				
Analytical Results	Units	Value	EDL	WHO ₂₀₀₅ TEF	Value	EDL	WHO ₂₀₀₅ TEF	Value	EDL	WHO ₂₀₀₅ TEF	Value	EDL	WHO ₂₀₀₅ TEF		
2,3,7,8-Tetra CDD *	pg	<3.7	3.7	1	<4.3	4.3	1	12.4	4.1	1	<4.2	4.2	1		
1,2,3,7,8-Penta CDD	pg	<4.6	4.6	1	<4.4	4.4	1	4.2	4	1	<4.3	4.3	1		
1,2,3,4,7,8-Hexa CDD	pg	<4.6	4.6	0.1	<4.3	4.3	0.1	<4.3	4.3	0.1	<4.2	4.2	0.1		
1,2,3,6,7,8-Hexa CDD	pg	<4.8	4.8	0.1	<4.3	4.3	0.1	8.7	4.5	0.1	<4.3	4.3	0.1		
1,2,3,7,8,9-Hexa CDD	pg	6.7	4.1	0.1	4.4	3.9	0.1	12	3.8	0.1	4	3.7	0.1		
1,2,3,4,6,7,8-Hepta CDD	pg	25.9	3.6	0.01	31.5	4.3	0.01	83.8	4.2	0.01	29	4.3	0.01		
Octa CDD	pg	91.3	6.3	0.0003	88.4	4.1	0.0003	171	4.3	0.0003	95.5	4.3	0.0003		
Total Tetra CDD	pg	11	3.7		<4.3	4.3		<13	13		<19	19			
Total Penta CDD	pg	<18	18		7.5	4.4		<10	10		<9.9	9.9			
Total Hexa CDD	pg	15.8	4.5		30.8	4.1		53.1	4.2		4	4			
Total Hepta CDD	pg	51.1	3.6		67.2	4.3		83.8	4.2		57.1	4.3			
2,3,7,8-Tetra CDF **	pg	5.9	2.9	0.1	17.9	4.1	0.1	<4.2	4.2	0.1	<4.2	4.2	0.1		
1,2,3,7,8-Penta CDF	pg	<3.4	3.4	0.03	4.3	4.1	0.03	<4.0	4	0.03	<4.2	4.2	0.03		
2,3,4,7,8-Penta CDF	pg	<3.4	3.4	0.3	5.4	4	0.3	<4.0	4	0.3	<4.2	4.2	0.3		
1,2,3,4,7,8-Hexa CDF	pg	7.1	4	0.1	4.4	4.1	0.1	<4.1	4.1	0.1	<4.4	4.4	0.1		
1,2,3,6,7,8-Hexa CDF	pg	<3.8	3.8	0.1	<3.8	3.8	0.1	<3.9	3.9	0.1	<4.2	4.2	0.1		
2,3,4,6,7,8-Hexa CDF	pg	<4.0	4	0.1	<4.4	4.4	0.1	<4.1	4.1	0.1	<4.4	4.4	0.1		
1,2,3,7,8,9-Hexa CDF	pg	<3.9	3.9	0.1	<4.4	4.4	0.1	<3.9	3.9	0.1	<4.3	4.3	0.1		
1,2,3,4,6,7,8-Hepta CDF	pg	11.5	3.6	0.01	9.6	3.7	0.01	<4.6	4.6	0.01	<4.1	4.1	0.01		
1,2,3,4,7,8,9-Hepta CDF	pg	<4.0	4	0.01	<4.5	4.5	0.01	<4.4	4.4	0.01	<4.6	4.6	0.01		
Octa CDF	pg	12.7	4.4	0.0003	7.7	4.3	0.0003	<6.5	6.5	0.0003	<4.1	4.1	0.0003		
Total Tetra CDF	pg	21.2	2.9		64.7	4.1		<4.2	4.2		<4.2	4.2			
Total Penta CDF	pg	4.9	3.4		24	4.1		<4.0	4		<4.2	4.2			
Total Hexa CDF	pg	7.1	3.9		11.9	4.2		<4.0	4		<4.3	4.3			
Total Hepta CDF	pg	11.5	3.8		9.6	4.1		5.2	4.1		<4.3	4.3			
Toxic Equivalency	pg							17.5	4.2						
Calculated Concentrations		Quarter 1 2014			Rundle			Rundle			Rundle				
Units	Maximum	Minimum	1/14/2014			2/8/2014			2/28/2014			3/24/2014			
2,3,7,8-Tetra CDD *	pg/m3	0.037	0.005	0.005	0.006	0.007	0.006	0.037	0.006	0.037	0.006	0.006	0.006		
1,2,3,7,8-Penta CDD	pg/m3	0.013	0.006	0.007	0.006	0.007	0.006	0.013	0.006	0.013	0.006	0.006	0.006		
1,2,3,4,7,8-Hexa CDD	pg/m3	0.007	0.006	0.007	0.006	0.007	0.006	0.006	0.006	0.006	0.006	0.006	0.006		
1,2,3,6,7,8-Hexa CDD	pg/m3	0.026	0.006	0.007	0.006	0.007	0.006	0.026	0.006	0.026	0.006	0.006	0.006		
1,2,3,7,8,9-Hexa CDD	pg/m3	0.036	0.012	0.019	0.013	0.013	0.013	0.036	0.012	0.036	0.012	0.012	0.012		
1,2,3,4,6,7,8-Hepta CDD	pg/m3	0.253	0.075	0.075	0.090	0.090	0.090	0.253	0.075	0.253	0.075	0.075	0.075		
Octa CDD	pg/m3	0.517	0.252	0.265	0.252	0.252	0.252	0.517	0.252	0.517	0.252	0.252	0.252		
Total Tetra CDD	pg/m3	0.032	0.006	0.032	0.006	0.032	0.006	0.032	0.006	0.032	0.006	0.006	0.006		
Total Penta CDD	pg/m3	0.026	0.015	0.026	0.021	0.021	0.021	0.026	0.015	0.026	0.015	0.015	0.015		
Total Hexa CDD	pg/m3	0.160	0.012	0.046	0.088	0.088	0.088	0.160	0.012	0.160	0.012	0.012	0.012		
Total Hepta CDD	pg/m3	0.253	0.149	0.149	0.191	0.191	0.191	0.253	0.149	0.253	0.149	0.149	0.149		
2,3,7,8-Tetra CDF **	pg/m3	0.051	0.006	0.017	0.051	0.051	0.051	0.051	0.006	0.051	0.006	0.006	0.006		
1,2,3,7,8-Penta CDF	pg/m3	0.012	0.005	0.005	0.012	0.012	0.012	0.012	0.006	0.012	0.006	0.006	0.006		
2,3,4,7,8-Penta CDF	pg/m3	0.015	0.005	0.005	0.015	0.015	0.015	0.015	0.006	0.015	0.006	0.006	0.006		
1,2,3,4,7,8-Hexa CDF	pg/m3	0.021	0.006	0.021	0.013	0.013	0.013	0.021	0.006	0.021	0.006	0.006	0.006		
1,2,3,6,7,8-Hexa CDF	pg/m3	0.006	0.005	0.006	0.005	0.005	0.005	0.006	0.005	0.006	0.005	0.005	0.005		
2,3,4,6,7,8-Hexa CDF	pg/m3	0.007	0.006	0.007	0.006	0.006	0.006	0.007	0.006	0.007	0.006	0.006	0.006		
1,2,3,7,8,9-Hexa CDF	pg/m3	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006		
1,2,3,4,6,7,8-Hepta CDF	pg/m3	0.033	0.006	0.033	0.027	0.027	0.027	0.033	0.006	0.033	0.006	0.006	0.006		
2,3,4,6,7,8-Hepta CDF	pg/m3	0.007	0.006	0.007	0.006	0.006	0.006	0.007	0.006	0.007	0.006	0.006	0.006		
Octa CDF	pg/m3	0.037	0.006	0.037	0.022	0.022	0.022	0.037	0.006	0.037	0.006	0.006	0.006		
Total Tetra CDF	pg/m3	0.184	0.006	0.062	0.184	0.184	0.184	0.184	0.006	0.184	0.006	0.006	0.006		
Total Penta CDF	pg/m3	0.068	0.006	0.014	0.068	0.068	0.068	0.068	0.006	0.068	0.006	0.006	0.006		
Total Hexa CDF	pg/m3	0.034	0.006	0.021	0.034	0.034	0.034	0.034	0.006	0.034	0.006	0.006	0.006		
Total Hepta CDF	pg/m3	0.033	0.006	0.033	0.027	0.027	0.027	0.033	0.006	0.033	0.006	0.006	0.006		
Toxic Equivalency	pg/m3				0.024	0.029	0.029	0.065		0.065		0.022	0.022		
TOTAL TOXIC EQUIVALENCY	pg TEQ/m ³	0.065	0.022	0.024	0.029	0.029	0.029	0.065	0.022	0.065	0.022	0.022	0.022		
Calculated TEQ Concentrations		Units	Rundle			Rundle			Rundle			Rundle			
2,3,7,8-Tetra CDD *	pg TEQ/m ³		0.005	0.006	0.037	0.006	0.037	0.006	0.006	0.037	0.006	0.006	0.006		
1,2,3,7,8-Penta CDD	pg TEQ/m ³		0.007	0.006	0.013	0.006	0.013	0.006	0.006	0.013	0.006	0.006	0.006		
1,2,3,4,7,8-Hexa CDD	pg TEQ/m ³		0.0007	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006		
1,2,3,6,7,8-Hexa CDD	pg TEQ/m ³		0.0007	0.0006	0.0026	0.0006	0.0026	0.0006	0.0006	0.0026	0.0006	0.0006	0.0006		
1,2,3,7,8,9-Hexa CDD	pg TEQ/m ³		0.0019	0.0013	0.0036	0.0013	0.0036	0.0013	0.0013	0.0036	0.0013	0.0013	0.0013		
1,2,3,4,6,7,8-Hepta CDD	pg TEQ/m ³		0.0008	0.0009	0.0025	0.0009	0.0025	0.0009	0.0009	0.0025	0.0009	0.0009	0.0009		
Octa CDD	pg TEQ/m ³		0.00008	0.00008	0.00016	0.00008	0.00016	0.00008	0.00008	0.00016	0.00008	0.00008	0.00008		
Total Tetra CDD	pg TEQ/m ³														
Total Penta CDD	pg TEQ/m ³														
Total Hexa CDD	pg TEQ/m ³														
Total Hepta CDD	pg TEQ/m ³														
2,3,7,8-Tetra CDF **	pg TEQ/m ³		0.0017	0.0051	0.0006	0.0051	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006		
1,2,3,7,8-Penta CDF	pg TEQ/m ³		0.0001	0.0004	0.0002	0.0004	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002		
2,3,4,7,8-Penta CDF	pg TEQ/m ³		0.001	0.005	0.002	0.005	0.002	0.002	0.002	0.002	0.002	0.002	0.002		
1,2,3,4,7,8-Hexa CDF	pg TEQ/m ³		0.0021	0.0013	0.0006	0.0013	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006		
1,2,3,6,7,8-Hexa CDF	pg TEQ/m ³		0.0006	0.0005	0.0006	0.0005	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006		
2,3,4,6,7,8-Hexa CDF	pg TEQ/m ³		0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006		
1,2,3,7,8,9-Hexa CDF	pg TEQ/m ³		0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006		
1,2,3,4,6,7,8-Hepta CDF	pg TEQ/m ³		0.00033	0.00027	0.00007	0.00027	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007	0.00007		
2,3,4,6,7,8-Hepta CDF	pg TEQ/m ³		0.00006	0.00006	0.00007	0.00006									