

**Quarterly Ambient Air Quality
Monitoring Report for the Durham
York Energy Centre – July to
September 2013**

Durham York Energy Centre



Prepared for:
The Region of Durham
605 Rossland Rd
Whitby, ON
L1N 6A3

Prepared by:
Stantec Consulting Ltd.
300-675 Cochrane Dr., West Tower,
Markham, ON L3R 0B8

Project No.: 160950528

April 28, 2014

Sign-off Sheet

This document entitled Quarterly Ambient Air Quality Monitoring Report for the Durham York Energy Centre – July to September 2013 was prepared by Stantec Consulting Ltd. for the account of The Region of Durham. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

ORIGINAL SIGNATURE ON FILE

Prepared by _____
(signature)

Connie Lim, B.A.Sc.

ORIGINAL SIGNATURE ON FILE

Reviewed by _____
(signature)

Gregory Crooks M.Eng., P.Eng.

\\cd1215-f01\work_group\01609\Active\160950528\planning\report\final\2013\quarterly report Q3\Q3_Mar2014_v2\160950528_rpt_Q3_Apr28_2014 ver_2.2.docx

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Table of Contents

Summary of Report Revisions.....i

Executive Summary.....ii

Abbreviations..... v

1.0 Introduction1.1

1.1 BACKGROUND AND OBJECTIVES 1.1

1.2 LOCATIONS OF AMBIENT AIR QUALITY MONITORING STATIONS 1.2

2.0 Key Components Assessed.....2.1

2.1 METEOROLOGY..... 2.1

2.2 AIR QUALITY CONTAMINANTS OF CONCERN..... 2.1

2.3 AIR QUALITY CRITERIA..... 2.3

3.0 Instrumentation Summary.....3.1

3.1 INSTRUMENTATION 3.1

3.2 INSTRUMENTATION ISSUES..... 3.3

3.3 INSTRUMENTATION RECOVERY RATES..... 3.5

4.0 Summary of Ambient Measurements4.1

4.1 METEOROLOGICAL DATA 4.1

4.2 CAC AMBIENT AIR QUALITY MEASUREMENTS 4.3

4.2.1 Sulphur Dioxide (SO₂) 4.9

4.2.2 Nitrogen Dioxide (NO₂) 4.10

4.2.3 Nitrogen Oxides (NO_x) 4.12

4.2.4 Particulate Matter Smaller than 2.5 Microns (PM_{2.5}) 4.13

4.2.5 Ambient TSP / Metals Concentrations..... 4.14

4.2.6 Ambient PAH Concentrations 4.15

4.2.7 Ambient Dioxin and Furan Concentrations 4.16

5.0 Conclusions5.1

LIST OF TABLES

Table 2-1 Summary of Meteorological Parameters Measured at Each Station 2.1

Table 2-2 Summary of Air Quality Criteria for CACs..... 2.3

Table 2-3 Summary of Air Quality Criteria for Metals..... 2.4

Table 2-4 Summary of Air Quality Criteria for PAHs and D/Fs 2.5

Table 3-1 Summary of Continuous Ambient Air Quality Monitors..... 3.1

Table 3-2 Summary of Non-Continuous Ambient Air Quality Monitors 3.2

Table 3-3 Summary of Meteorological Equipment 3.3

Table 3-4 Summary of Instrument Issues at Courtice WPCP Station (Upwind) 3.4

Table 3-5 Summary of Instrument Issues at Rundle Road (Downwind) 3.4

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Table 3-6	Summary of Data Recovery Rates for the Courtice WPCP Station (Upwind) - July to September 2013	3.5
Table 3-7	Summary of Data Recovery Rates for the Rundle Road Station (Downwind) - July to September 2013	3.6
Table 4-1	Summary of Hourly Meteorological Measurements - July to September 2013	4.1
Table 4-2	Summary of Ambient CAC Monitoring Data - July to September 2013	4.5
Table 4-3	Summary of Measured Ambient TSP/Metals Concentrations	4.17
Table 4-4	Summary of Measured Ambient PAH Concentrations	4.19
Table 4-5	Summary of Measured Ambient Dioxin and Furan Concentrations	4.21

LIST OF FIGURES

Figure 1-1	Durham York Energy Centre Site Location Plan	1.3
Figure 1-2	Locations of Ambient Air Quality Monitoring Stations	1.4
Figure 1-3	View of Rundle Road Ambient Air Quality Monitoring Station	1.5
Figure 1-4	View of Courtice WPCP Ambient Air Quality Monitoring Station	1.5
Figure 4-1	Wind Roses for July to September 2013	4.3
Figure 4-2	Comparison of NO ₂ / NO _x and SO ₂ Ambient Air Quality Monitoring Data to Applicable Criteria	4.9
Figure 4-3	Pollution Roses for Hourly SO ₂ Concentrations – July to September 2013 ..	4.10
Figure 4-4	Pollution Roses for Hourly NO ₂ Concentrations – July to September 2013 .	4.11
Figure 4-5	Pollution Roses for Hourly NO _x Concentrations – July to September 2013 .	4.13
Figure 4-6	Pollution Roses for Daily Average PM _{2.5} Concentrations – July to September 2013	4.14

LIST OF APPENDICES

APPENDIX A	SO₂ DATA SUMMARIES AND TIME HISTORY PLOTS	A.1
APPENDIX B	NO₂ DATA SUMMARIES AND TIME HISTORY PLOTS	B.1
APPENDIX C	NO_x DATA SUMMARIES AND TIME HISTORY PLOTS	C.1
APPENDIX D	PM_{2.5} DATA SUMMARIES AND TIME HISTORY PLOTS	D.1
APPENDIX E	CONTINUOUS PARAMETER EDIT LOGS	E.1
APPENDIX F	METALS DATA SUMMARY	F.1
APPENDIX G	PAHS DATA SUMMARY	G.1
APPENDIX H	DIOXINS AND FURANS DATA SUMMARY	H.1

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Report Revisions

The November 29, 2013 version of this Quarterly report was submitted to the Ministry of Environment (MOE) for review and comment on December 9, 2013. The Ministry of Environment performs routine audits of air quality monitoring conducted by emitters as noted in the MOE Ambient Monitoring Operations Manual. This April 2014 report version includes the following primary revisions based on, or as a result of, the comments and recommendations received from the MOE during their normal audit process:

- The November 29, 2014 version of the report expressed concentration results following the convention specified by the US EPA in 40 CFR Part 50 Appendix B, which is a reference method provided in the MOE Operations Manual. Following their review, MOE has requested a different reporting basis be utilized in all the reports for this project (concentration results to be expressed in actual rather than normal cubic metres). Both methods are widely used and accepted in various jurisdictions. Revising the reporting basis has the result of altering the reported concentration values as they are based on cubic metres of air at the temperature at the time of the measurement (actual conditions), rather than expressing concentrations based on an equivalent volume of air at a single set temperature (normal conditions).
- Revising a calibrator constant used in the flow calculations for non-continuous monitors to address actual versus normal conditions.
- Reporting PAHs in nanograms per cubic metre (ng/m³) rather than micrograms per cubic metre (µg/m³).

The previous version of the report provided 90th percentile concentrations for the various monitoring parameters. This information is not a mandatory MOE reporting requirement, and is not required for assessment of compliance with any applicable standard. Due to the already large volume of data presented in the report, and the potential for misinterpretation, this additional information has been removed.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

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 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 downwind station is located along Rundle Road, south of Baseline Road. The upwind station is sited at the Courtyce 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 downwind Rundle Road station measures horizontal wind speed, wind direction, atmospheric temperature, relative humidity and rainfall. The upwind Courtyce station measures atmospheric temperature, relative humidity, rainfall and barometric pressure. Wind speed and wind direction data at the upwind location are available from the Courtyce Water Pollution Control Plant.

This quarterly report provides a summary of the ambient air quality data collected at these two stations for the period July to September 2013 (Quarter 3). During this quarter, a few minor instrumentation issues were encountered with acceptable data recovery rates for all parameters. Additional detail on instrumentation issues are presented in Section 3.2 of this report.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

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 in this quarterly report is 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. Discussion on compliance with the CWS will be provided in the 2013 annual report;
3. The maximum measured concentrations of TSP and all metals with MOE air quality criteria were well below their applicable criteria (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 (one at each monitoring station) on August 20, 2013, which exceeded the applicable Ontario Ambient Air Quality Criteria by about 30%. 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 well below the applicable criteria presented in Table 2.4; and,
6. All monitored contaminants were below their applicable MOE criteria during the monitoring period between July and September, 2013 with the exception of two benzo(a)pyrene measurements. 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 – JULY TO SEPTEMBER 2013

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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

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 – JULY TO SEPTEMBER 2013

Introduction
April 28, 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 below.

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 July to September 2013.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Introduction
April 28, 2014

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 downwind and one 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.

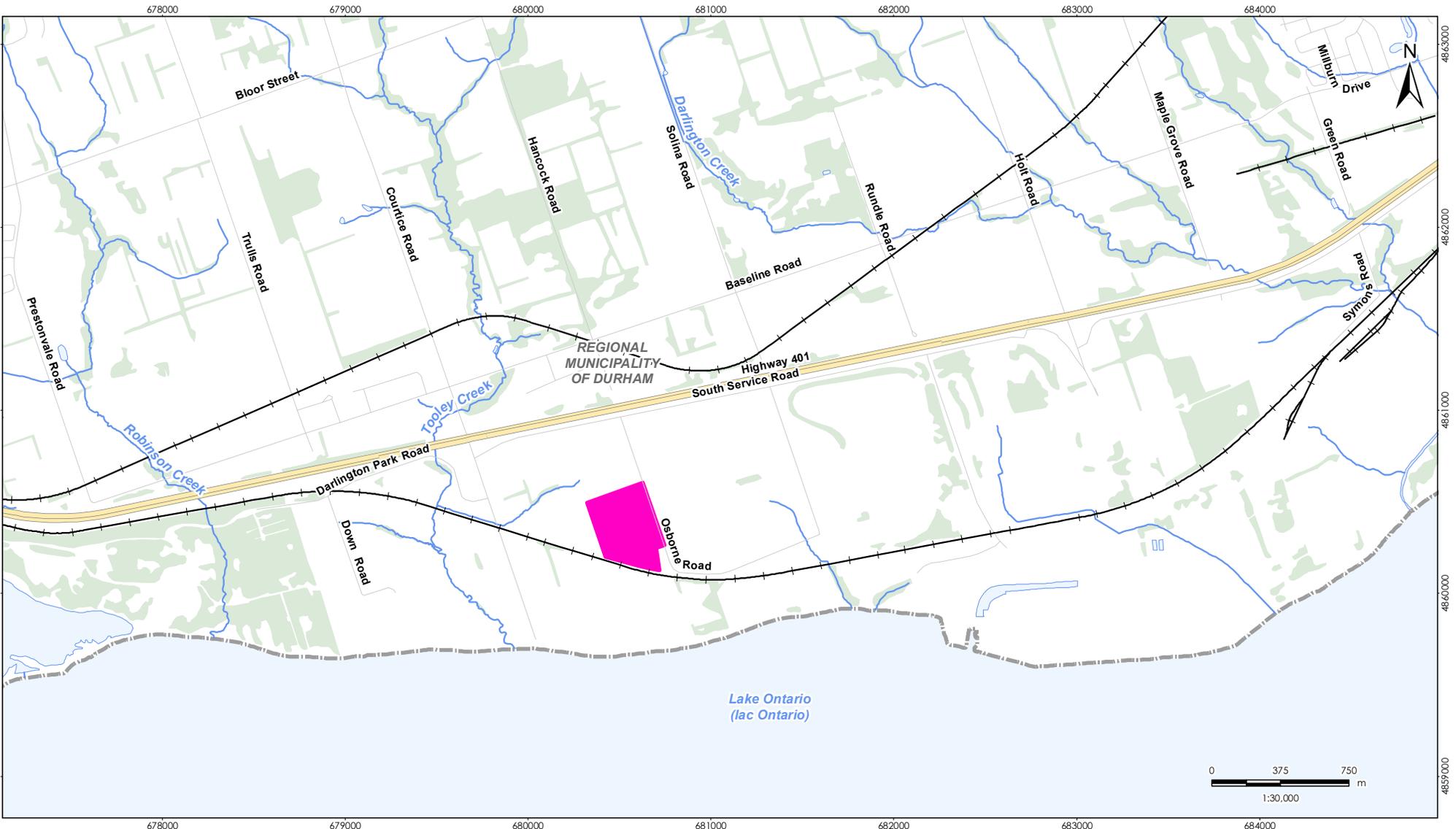
The selected downwind location is sited northeast of the DYEC in the vicinity of residential receptors downwind of the DYEC in this direction, and falls in the area where maximum annual concentrations are predicted to occur. The downwind station is located along Rundle Road, south of Baseline Road. Its 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 in 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.

V:\01609\Active\160950528\Planning\Drawings\XADD\Atmospheric\160950528_Atm_Fig1-1_Site_Loc.mxd
 Revised: 2013-10-28 By: scates



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.

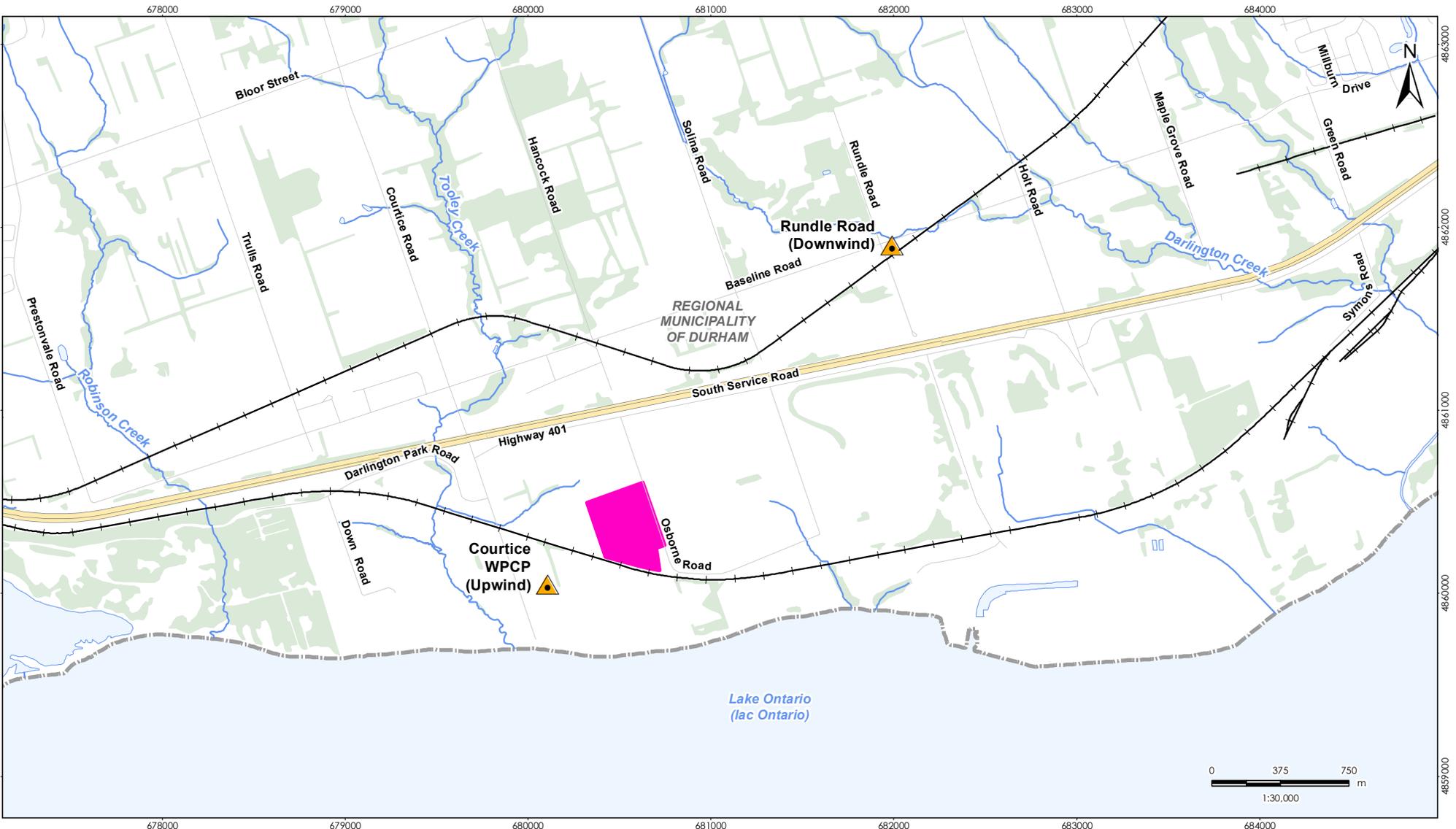


Client/Project
 The Region of Durham
 Durham York Energy Centre

Figure No.
1-1

Title
Site Location Plan

V:\01609\Active\160950528\Planning\Drawings\XMD\Atmospheric\160950528_Atm_Fig1-2_Ambient_Monitor_Loc.mxd
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
 160950528

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Introduction
April 28, 2014

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



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



QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Key Components Assessed
April 28, 2014

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)
- Phosphorus (Ph)
- Selenium (Se)
- Silver (Ag)

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Key Components Assessed

April 28, 2014

- 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 – JULY TO SEPTEMBER 2013

Key Components Assessed
April 28, 2014

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 through 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, 2009b) 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			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.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Key Components Assessed
April 28, 2014

Table 2-3 Summary of Air Quality Criteria for Metals

Contaminant	CAS	O. Reg 419/05 – Schedule 3			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 – JULY TO SEPTEMBER 2013

Key Components Assessed
April 28, 2014

Table 2-2 Summary of Air Quality Criteria for CACs

Contaminant	CAS	O. Reg 419/05 – Schedule 3			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			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 – JULY TO SEPTEMBER 2013

Key Components Assessed
April 28, 2014

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

Contaminant	CAS	O. Reg 419/05 – Schedule 3			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 – JULY TO SEPTEMBER 2013

Instrumentation Summary
April 28, 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 – JULY TO SEPTEMBER 2013

Instrumentation Summary
April 28, 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 (upwind) and Rundle Road (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 – JULY TO SEPTEMBER 2013

Instrumentation Summary
April 28, 2014

The downwind Rundle Road station measures horizontal wind speed, wind direction, atmospheric temperature, relative humidity and rainfall. The upwind Courtice station measures atmospheric temperature, relative humidity, rainfall and barometric pressure. Wind speed and wind direction data at the 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 107
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 few incidences of power outages at the Courtice WPCP station. Courtice WPCP personnel were contacted to increase the power supply for the monitoring station to correct this. 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 – JULY TO SEPTEMBER 2013

Instrumentation Summary
April 28, 2014

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

Parameter	Issues	Time Frame	Remedial Action
SO ₂	None		
NO _x	Calibration light was off.	July 11, 2013	Reset unit.
	Ozone flow warning light was on. Power was out and then back on.	July 16, 2013	Reset unit.
PM _{2.5}	None		
TSP/Metals Hi-Vol.	TSP Hi-vol did not run full cycle and timer was not at correct day/time. Likely due to power outage.	July 15-16, 2013	Reset timer. Hi-vol operated properly for the next sampling day.
PAH/ D/F Hi-Vol	PAH Hi-vol did not start at the correct time. Likely due to a power outage.	Jul 4, 2013	Reset timer. Hi-vol operated properly for the next sampling day. The hi-vol operated for approximately 22 hours for the sample collected on July 3. This sample was sent to the laboratory for analysis.
Other	Power outage for a short duration during site visit.	July 11, 2013	Contacted WPCP personnel to increase power supply at the station.

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

Parameter	Issues	Time Frame	Remedial Action
SO ₂	None		
NO _x	Calibration light was off.	July 4, 2013	Reset unit.
	Fault light on.	July 16, 2013	Reset unit.
PM _{2.5}	None		
TSP/Metals Hi-Vol.	TSP Hi-vol did not run full cycle. Power outage due to water collecting inside sealed plug connection.	August 12, 2013	Dried out plug connection and resealed it.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Instrumentation Summary
April 28, 2014

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

Parameter	Issues	Time Frame	Remedial Action
PAH/ D/F Hi-Vol	None		
Rain Gauge	Rain gauge was plugged.	July 4, 2013	Cleared debris from rain gauge and re-installed rain gauge.
Other – Laboratory	The PAH /D/F sample collected on July 3, 2013 was not analyzed due to an accident at the laboratory.	July 3, 2013	Contacted laboratory personnel to identify cause and whether there was archived sample to re-run the analyses. However, there was not sufficient archive to re-analyze the sample.

3.3 INSTRUMENTATION RECOVERY RATES

Data recovery rates for each continuous monitor at the two monitoring stations during Quarter 3 (July to September 2013) are presented in Tables 3-5 and 3-6.

Table 3-6 Summary of Data Recovery Rates for the Courtice WPCP Station (Upwind) - July to September 2013

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO ₂	2178	98.6%
NO _x	2177	98.6%
PM _{2.5}	2158	97.7%
Temperature	2182	98.8%
Rainfall	2182	98.8%
Relative Humidity	2182	98.8%
Pressure	2118	95.9%
Wind Speed/Direction	2208	100%
TSP/Metals	14 ^A	93%
PAHs	8 ^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 – JULY TO SEPTEMBER 2013

Instrumentation Summary

April 28, 2014

Table 3-7 Summary of Data Recovery Rates for the Rundle Road Station (Downwind) - July to September 2013

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO ₂	2203	99.8%
NO _x	2203	99.8%
PM _{2.5}	2205	99.9%
Temperature	2208	100.0%
Rainfall	2208	100.0%
Relative Humidity	2208	100.0%
Wind Speed/Direction	2208	100.0%
TSP/Metals	14 ^A	93%
PAHs	8 ^A	100%
Dioxins and Furans	3 ^A	75%

Note:

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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 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 July to September 2013 period are presented in Table 4-1.

Table 4-1 Summary of Hourly Meteorological Measurements - July to September 2013

Parameter		Courtice WPCP (Upwind)	Rundle Road (Downwind)	Units
Temperature	Max	30.3	32.8	C
	Min	5.1	3.1	C
	Mean (July)	20.7	20.8	C
	Mean (August)	19.1	19.0	C
	Mean (September)	15.0	14.7	C
	Mean (Period)	18.4	18.2	C
	Standard Deviation	4.3	5.0	C
Rainfall	Max	21.9	19.8	mm
	Min	0.0	0.0	mm
	Mean (July)	0.07	0.07	mm
	Mean (August)	0.1	0.09	mm
	Mean (September)	0.07	0.08	mm
	Mean (Period)	0.08	0.08	mm
	Standard Deviation	0.69	0.62	mm
Relative Humidity	Max	99.6	99.6	%
	Min	38.5	40.7	%
	Mean (July)	79	79.3	%
	Mean (August)	79.2	79.7	%
	Mean (September)	79.1	81.6	%
	Mean (Period)	79.1	80.2	%
	Standard Deviation	12.4	14.0	%

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

Table 4-1 Summary of Hourly Meteorological Measurements - July to September 2013

Parameter		Courtice WPCP (Upwind)	Rundle Road (Downwind)	Units
Pressure ^A	Max	30.2	-	in Hg
	Min	29.3	-	in Hg
	Mean (July)	29.7	-	in Hg
	Mean (August)	29.7	-	in Hg
	Mean (September)	29.7	-	in Hg
	Mean (Period)	29.7	-	in Hg
	Standard Deviation	0.2	-	in Hg
Wind Speed ^B	Max	30.9	23.6	km/hr
	Min	0.2	0.1	km/hr
	Mean (July)	8.4	7.9	km/hr
	Mean (August)	7.9	7.0	km/hr
	Mean (September)	9.3	7.4	km/hr
	Mean (Period)	8.6	7.5	km/hr
	Standard Deviation	4.6	4.3	km/hr

Notes:

A. Pressure is not measured at 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 (Upwind) 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 (Downwind) 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.

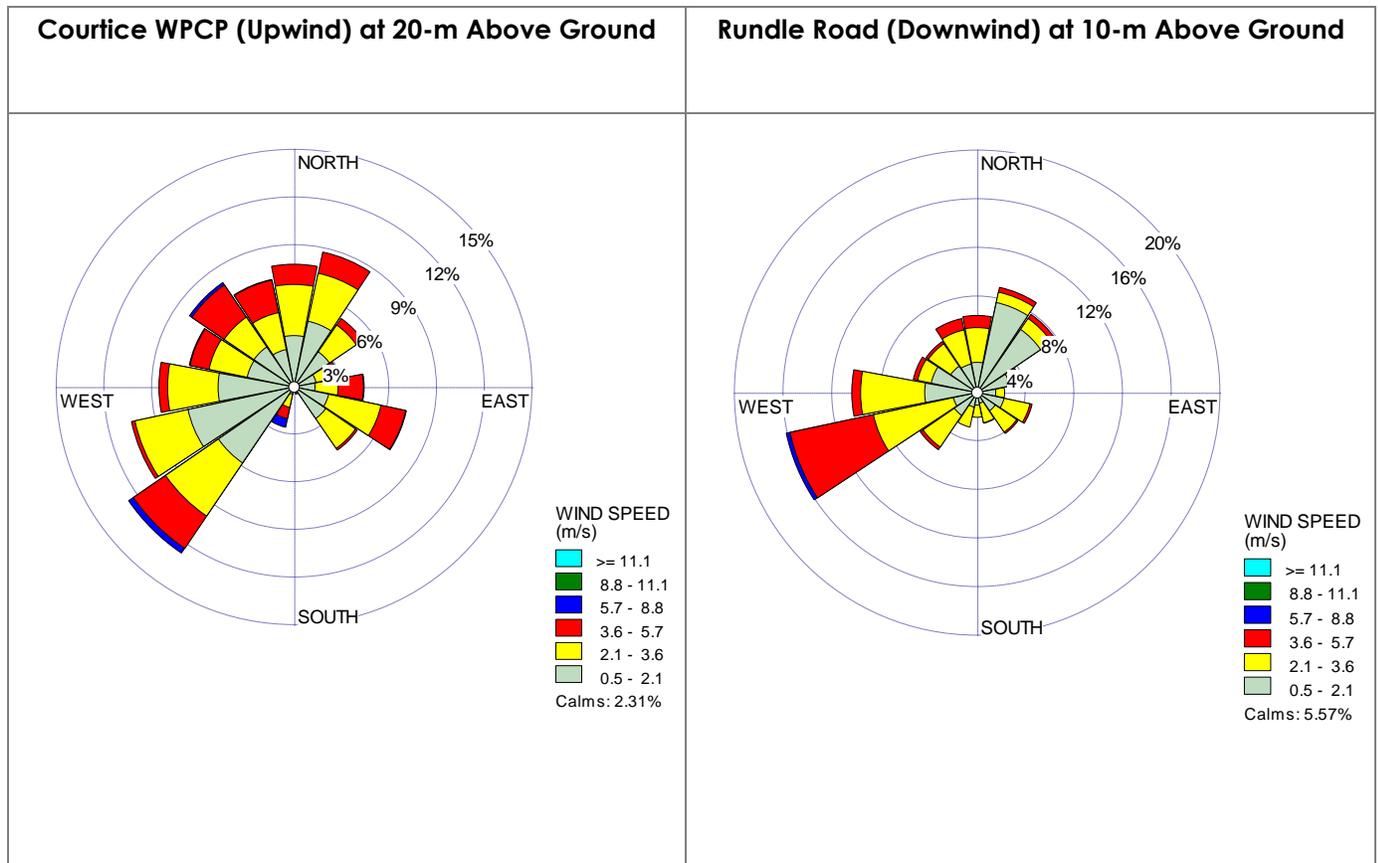
Winds over the three-month period at the Courtice WPCP Station occurred predominantly from the southwest as well as from westerly and northerly directions. The wind rose for the Quarter 3 period showed higher wind speeds occurring from the southwest and northwest directions, and lower wind speeds from the southeast and east. Similar to the previous Quarter 2 period, wind contribution from the south was low.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

At the Rundle Road Station, the wind rose showed predominant winds occurring from the west/southwesterly directions, as well as from the northeasterly direction. Wind contribution from the south was low. Higher wind speeds are noted occurring from the southwest direction, and lower wind speeds from the north and east.

Figure 4-1 Wind Roses for July to September 2013



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 July and September, 2013.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

Nitric oxide (NO) has no regulatory criteria as discussed in Section 4.2.2 below. The hourly and daily AAQC for NO_x are based on health effects of NO₂, therefore 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 AAQC was also 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 – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data - July to September 2013

Pollutant	Averaging Period	AAQC / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		µg/m ³	ppb		Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)
SO ₂	1	690	250	Maximum	86.8	32.9	65.3	24.8
				Minimum	0.0	0.0	0.0	0.0
				Mean (July)	13.9	5.3	1.0	0.4
				Mean (August)	1.4	0.5	1.4	0.5
				Mean (September)	3.1	1.1	1.8	0.7
				Mean (Period)	6.2	2.3	1.4	0.5
				Standard Deviation	7.0	2.6	3.2	1.2
				# of Exceedances	0.0	0.0	0.0	0.0
	24	275	100	Maximum	20.0	7.6	10.4	3.9
				Minimum	0.0	0.0	0.0	0.0
				Mean (July)	14.1	5.3	1.0	0.4
				Mean (August)	1.4	0.5	1.4	0.5
				Mean (September)	3.1	1.2	1.8	0.7
				Mean (Period)	6.3	2.4	1.4	0.5
Standard Deviation				5.9	2.2	1.3	0.5	
# of Exceedances				0.0	0.0	0.0	0.0	
PM _{2.5}	24	30 ^A	NA	Maximum	26.1	N/A	50.6	N/A
				Minimum	3.0	N/A	0.6	N/A
				Mean (July)	10.1	N/A	10.8	N/A
				Mean (August)	11.4	N/A	9.8	N/A
				Mean (September)	8.0	N/A	6.6	N/A
				Mean (Period)	9.9	N/A	9.1	N/A
				Standard Deviation	5.1	N/A	7.0	N/A
				# of Exceedances	N/A	N/A	N/A	N/A

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data - July to September 2013

Pollutant	Averaging Period	AAQC / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		µg/m ³	ppb		Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)
NO ₂	1	400 ^B	200 ^B	Maximum	86.9	46.2	43.1	22.2
				Minimum	0.0	0.0	0.9	0.5
				Mean (July)	8.3	4.4	9.3	4.9
				Mean (August)	10.0	5.3	9.4	4.9
				Mean (September)	11.7	6.0	11.5	5.9
				Mean (Period)	10.0	5.2	10.1	5.2
				Standard Deviation	12.2	6.4	7.0	3.6
				# of Exceedances	0.0	0.0	0.0	0.0
	24	200	100	Maximum	28.2	15.0	21.8	11.5
				Minimum	0.5	0.3	2.7	1.4
				Mean (July)	8.2	4.3	9.1	4.8
				Mean (August)	10.0	5.3	9.6	5.0
				Mean (September)	11.9	6.1	11.3	5.9
				Mean (Period)	10.0	5.2	10.0	5.2
Standard Deviation	5.9	3.1	4.2	2.2				
# of Exceedances	0.0	0.0	0.0	0.0				

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data - July to September 2013

Pollutant	Averaging Period	AAQC / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		µg/m ³	ppb		Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)
NO _x	1	NA	NA	Maximum	73.1	57.9	34.3	26.9
				Minimum	0.0	0.0	0.1	0.1
				Mean (July)	3.2	2.6	4.8	3.9
				Mean (August)	4.8	3.8	5.1	4.1
				Mean (September)	3.2	2.5	4.3	3.4
				Mean (Period)	3.7	3.0	4.7	3.8
				Standard Deviation	6.8	5.4	2.6	2.1
				# of Exceedances	N/A	N/A	N/A	N/A
	24	NA	NA	Maximum	20.1	15.9	8.7	6.8
				Minimum	0.0	0.0	1.1	0.8
				Mean (July)	3.2	2.5	4.7	3.8
				Mean (August)	4.8	3.8	5.1	4.1
				Mean (September)	3.3	2.6	4.4	3.4
				Mean (Period)	3.7	3.0	4.7	3.8
Standard Deviation				3.2	2.5	1.2	0.9	
# of Exceedances				N/A	N/A	N/A	N/A	

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data - July to September 2013

Pollutant	Averaging Period	AAQC / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		µg/m ³	ppb		Concentration (µg/m ³)	Concentration (ppbv)	Concentration (µg/m ³)	Concentration (ppbv)
NO _x	1	400 ^B	200 ^B	Maximum	154.7	79.9	69.5	35.5
				Minimum	0.0	0.0	1.1	0.6
				Mean (July)	13.0	6.8	12.0	6.3
				Mean (August)	17.2	9.0	12.2	6.4
				Mean (September)	16.3	8.4	13.8	7.1
				Mean (Period)	15.5	8.1	12.6	6.6
				Standard Deviation	20.3	10.6	9.4	4.9
				# of Exceedances	0.0	0.0	0.0	0.0
	24	200 ^B	100 ^B	Maximum	51.4	26.5	26.1	13.5
				Minimum	1.9	1.0	3.5	1.8
				Mean (July)	12.9	6.8	11.8	6.2
				Mean (August)	17.2	9.0	12.4	6.5
				Mean (September)	16.6	8.6	13.6	7.0
				Mean (Period)	15.5	8.1	12.6	6.6
Standard Deviation	9.9	5.2	5.0	2.6				
# of Exceedances	0.0	0.0	0.0	0.0				

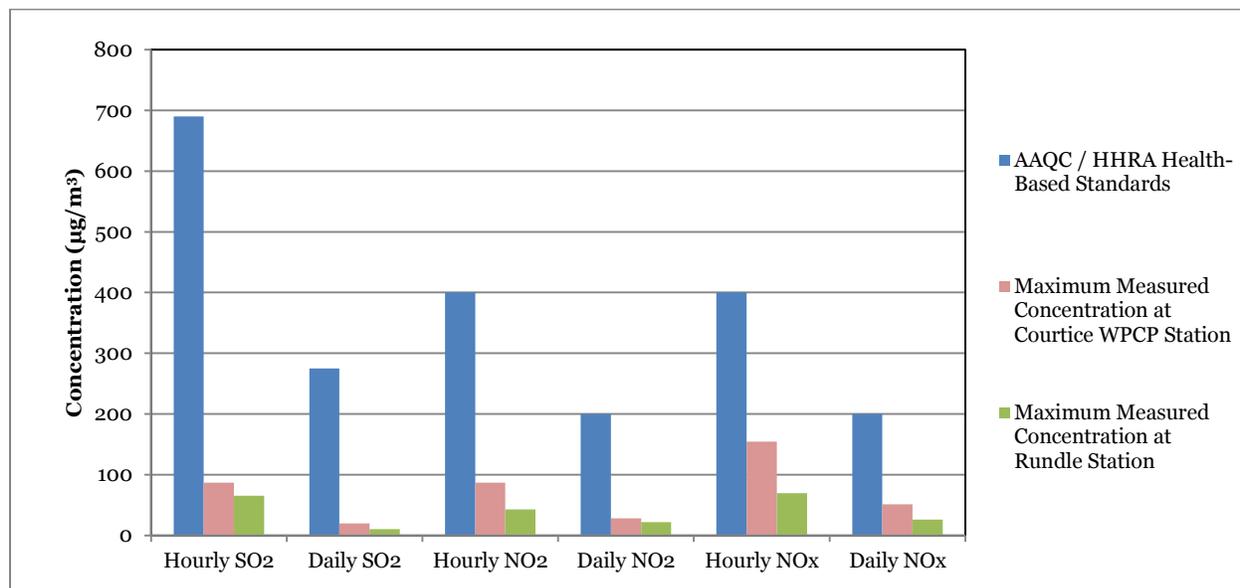
Note:

- 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 – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 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 daily average SO₂ concentrations. For the hourly and daily averages, the Ontario AAQCs of 690 $\mu\text{g}/\text{m}^3$ and 275 $\mu\text{g}/\text{m}^3$ 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 July to September were 87 and 20 $\mu\text{g}/\text{m}^3$ respectively, which are 13% and 7% of the applicable ambient 1-hour and 24-hour air quality criteria.

The maximum hourly and 24-hour average concentrations measured at the Rundle Road station during this quarter were 65 and 10 $\mu\text{g}/\text{m}^3$ respectively, which are 10% and 4% of the applicable ambient 1-hour and 24-hour air quality criteria.

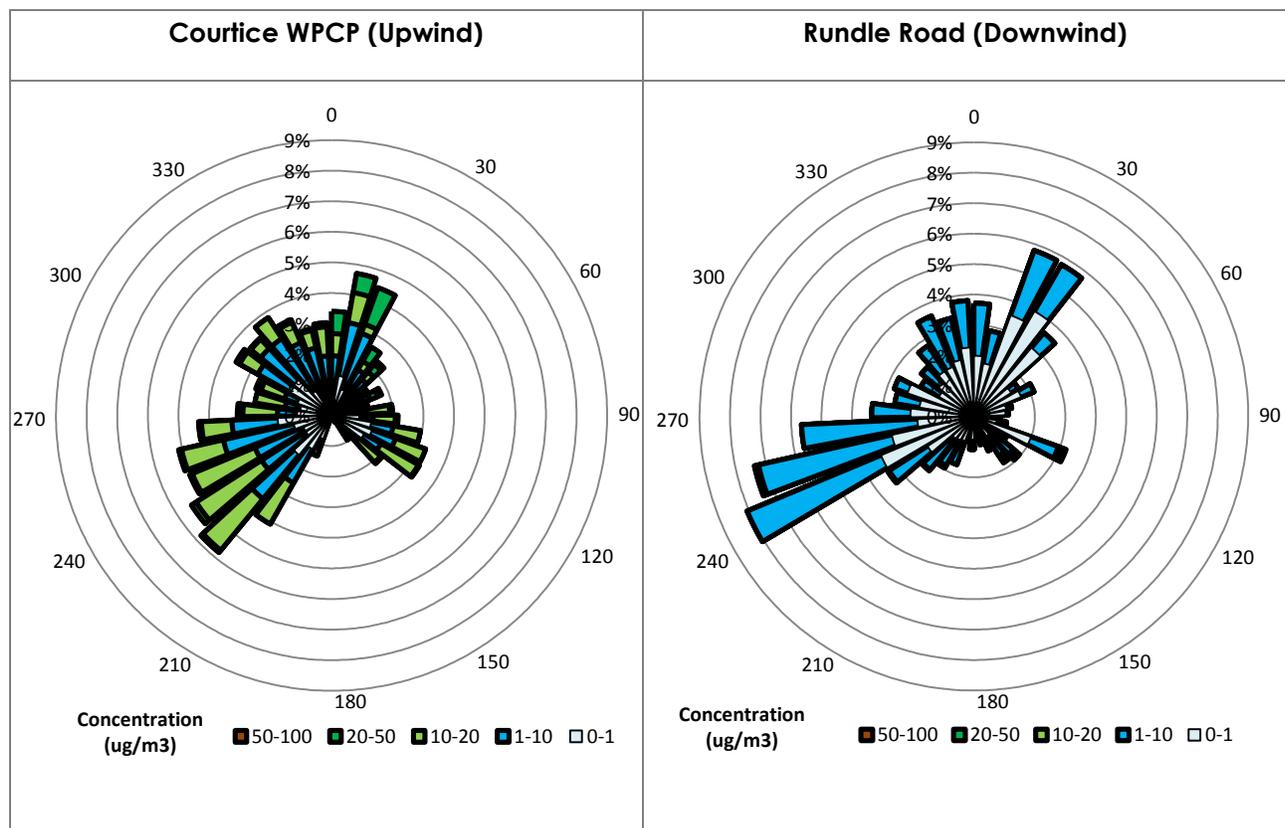
Pollution roses of hourly average SO₂ concentrations measured at the Courtice WPCP Station and Rundle Road Station are presented in Figure 4-3. The pollution rose plot presents measured hourly average contaminant concentrations versus measured wind direction (over 10° wind sectors).

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
 April 28, 2014

For the Courtice WPCP Station, the maximum measured hourly concentrations occurred for northeasterly winds. For the Rundle Road station, maximum measured hourly concentrations occurred for southeasterly winds.

Figure 4-3 Pollution Roses for Hourly SO₂ Concentrations – July to September 2013



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. However, as per the current April 2012 version of O. Reg. 419 Summary of Standards and Guidelines, the AAQC was also compared to the monitored NO_x concentrations (see Section 4.2.3 below).

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

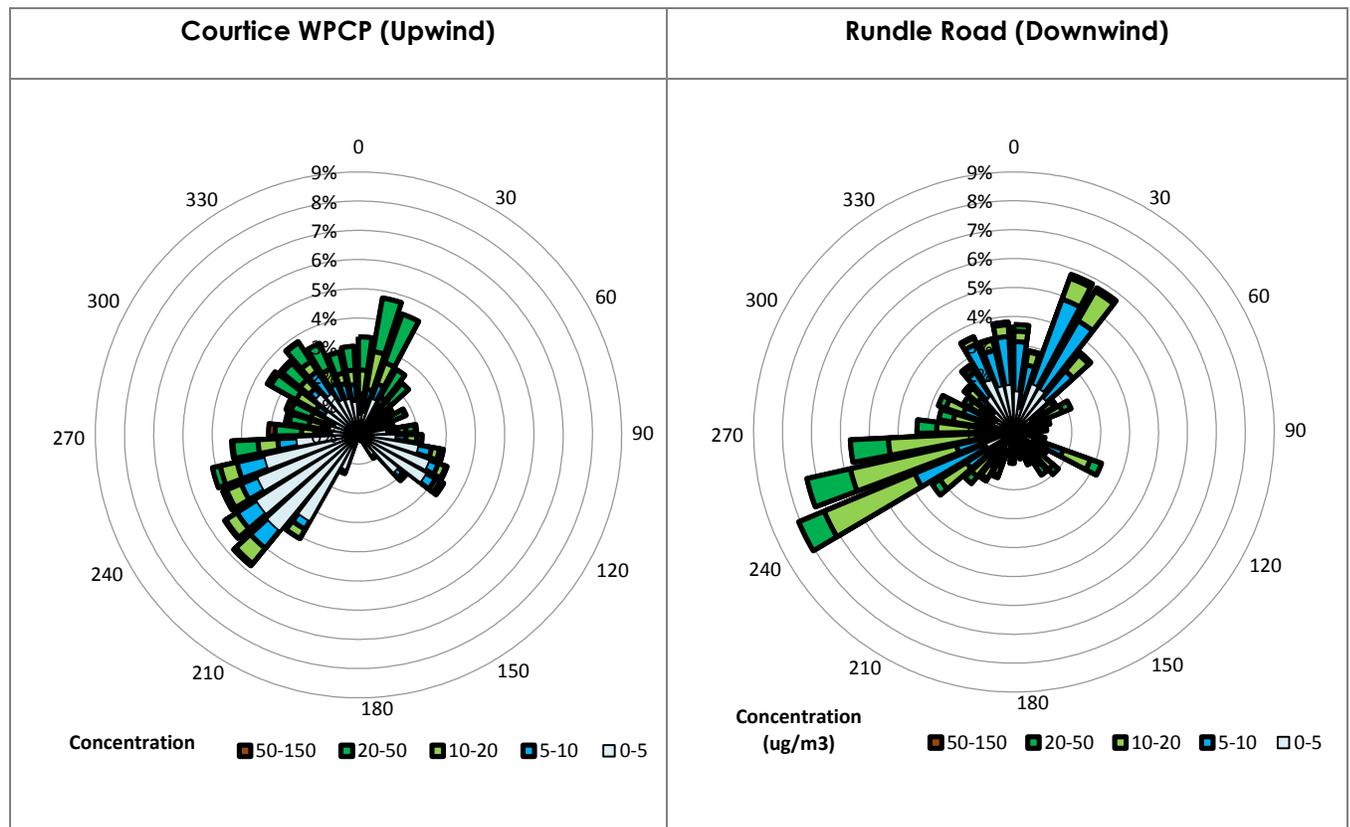
Summary of Ambient Measurements
 April 28, 2014

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 daily average NO₂ concentrations. For the hourly and daily 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 87 and 28 µg/m³ respectively, which are 22% and 14% of the applicable ambient 1-hour and 24-hour air quality criteria. At Rundle Road, the maximum hourly and 24-hour average concentrations measured were 43 and 22 µg/m³, which are 11% of the applicable ambient 1-hour and 24-hour air quality criteria.

Pollution roses of hourly 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 northwesterly, north and northeasterly directions. The maximum measured hourly average concentrations for the Rundle Road Station shown in Figure 4-4 occurred for winds blowing from the northeast.

Figure 4-4 Pollution Roses for Hourly NO₂ Concentrations – July to September 2013



QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 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 daily average NO_x concentrations. For the hourly and daily averages, the Ontario AAQCs of 400 µg/m³ and 200 µg/m³ are shown as blue lines on each plot. As indicated in the section above, although the AAQC were compared to the measured NO_x in this report, the standards for NO_x are based on health effects of NO₂. As shown in these figures, the maximum measured ambient hourly and daily NO_x concentration at Courtice WPCP station were below the criteria during this quarter. The measured concentrations at the Rundle Road station were also well below the criteria.

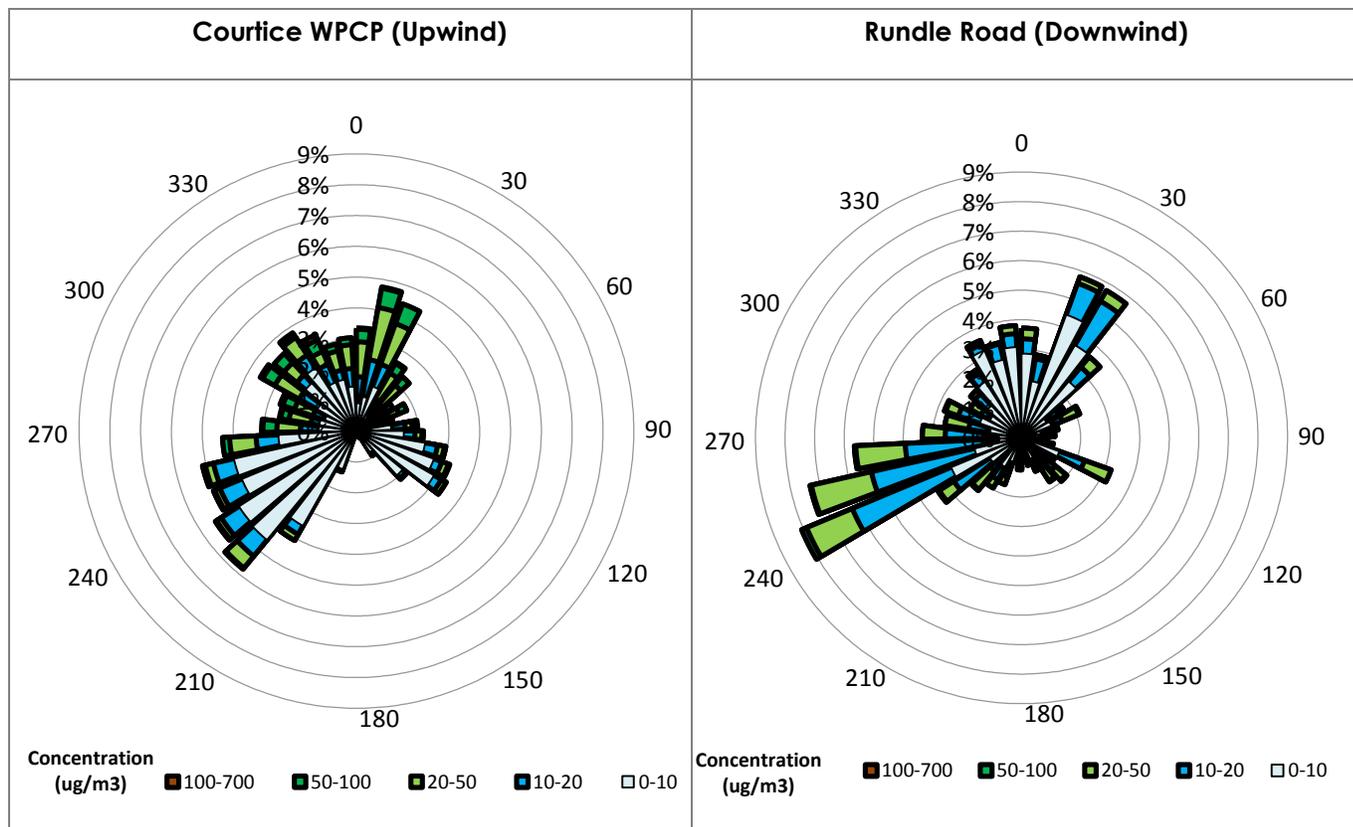
As indicated above and in Table 4-2, the maximum hourly NO_x concentration measured at the Courtice WPCP station was 155 µg/m³, which is 39% of the 1-hour ambient criteria. The 24-hour average NO_x concentration measured at this station was 51 µg/m³, which is 26% of the applicable ambient 24-hour air quality criteria. At the Rundle Road Station, the maximum hourly and 24-hour average concentrations measured during this quarter were 70 and 26 µg/m³, which are 17% and 13% of the applicable air quality criteria.

Pollution roses of hourly average NO_x concentrations for Courtice WPCP Station and Rundle Road Station are presented in Figure 4-5. In Figure 4-5, the maximum measured hourly average NO_x concentration for Courtice WPCP occurred for winds blowing from the east/northeast. At Rundle Road Station, the maximum measured hourly average concentration occurred for northeasterly winds.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

Figure 4-5 Pollution Roses for Hourly NO_x Concentrations – July to September 2013



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

Data summaries are presented in Appendix D for PM_{2.5} for the Courtice WPCP and Rundle Road stations.

The maximum measured 24-hour average concentration at the Rundle Road station was 51 $\mu\text{g}/\text{m}^3$ and occurred in early July. It should be noted that since the CWS for PM_{2.5} is based on a 98th percentile level exceeded each year over a 3 year period, whereas the PM_{2.5} measurement period at both stations in the report was three months, there is insufficient data collected to determine with any certainty if exceedances of the CWS would occur. The maximum 24-hour average PM_{2.5} concentration measured at the Courtice WPCP station during Q3 was 26 $\mu\text{g}/\text{m}^3$. Discussion of PM_{2.5} measurements with respect to the CWS will be provided in the 2013 annual report, at which time sufficient data will have been collected to make preliminary comparisons.

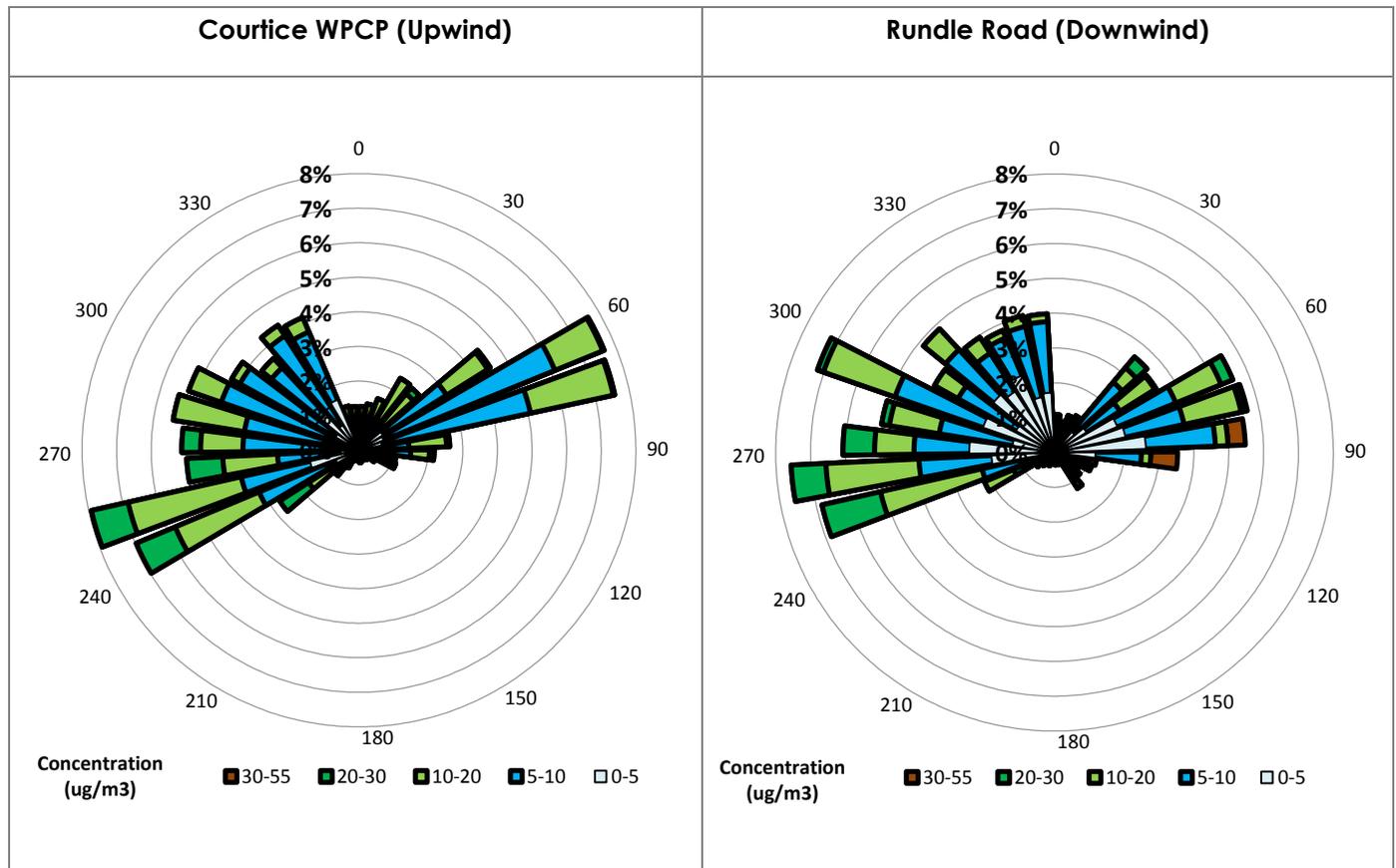
Pollution roses showing the measured 24-hour average ambient PM_{2.5} concentrations versus direction are shown in Figure 4-6 for both monitoring stations. Maximum measured

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
 April 28, 2014

concentrations occurred for southwesterly winds for the Courtice WPCP Station. For the Rundle Road Station, maximum measured 24-hour average concentrations occurred for easterly winds.

Figure 4-6 Pollution Roses for Daily Average PM_{2.5} Concentrations – July to September 2013



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.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

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 two (2) measurements of benzo(a)pyrene (B(a)P – one at each station.

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 one (1) sample collected at the Courtice WPCP Station on August 20, 2013 and in one (1) sample collected at the Rundle Road Station on the same day exceeded the Ontario AAQC by approximately 30%. Both 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.

The meteorology measured at both stations on August 20, 2013 showed that the predominant wind direction was winds blowing from the west. Land use in this direction is primarily agricultural at Courtice and a mix of agricultural and commercial at Rundle.

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.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

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 4-5. 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 well below the applicable 24-hour criteria AAQC of $0.1 \text{ pg TEQ}/\text{m}^3$ (as shown in Table 4-5).

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

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	62	9	0	75	9	0
Total Mercury (Hg)	µg/m ³	2	2	3.12E-05	4.17E-06	0	2.72E-05	4.12E-06	0
Aluminum (Al)	µg/m ³	4.8	-	2.23E-01	2.75E-02	0	2.97E-01	2.90E-02	0
Antimony (Sb)	µg/m ³	25	25	2.23E-03	1.99E-03	0	2.27E-03	2.03E-03	0
Arsenic (As)	µg/m ³	0.3	0.3	1.34E-03	1.20E-03	0	1.36E-03	1.22E-03	0
Barium (Ba)	µg/m ³	10	10	1.58E-02	2.25E-03	0	1.61E-02	1.89E-03	0
Beryllium (Be)	µg/m ³	0.01	0.01	2.23E-04	1.99E-04	0	2.27E-04	2.03E-04	0
Bismuth (Bi)	µg/m ³	-	-	1.34E-03	1.20E-03	-	1.36E-03	1.22E-03	-
Boron (B)	µg/m ³	120	-	1.13E-02	1.20E-03	0	1.45E-02	1.22E-03	0
Cadmium (Cd)	µg/m ³	0.025	0.025	4.46E-04	3.99E-04	0	8.99E-04	4.06E-04	0
Chromium (Cr)	µg/m ³	0.5	-	3.82E-03	1.02E-03	0	1.09E-02	1.05E-03	0
Cobalt (Co)	µg/m ³	0.1	0.1	4.46E-04	3.99E-04	0	4.54E-04	4.06E-04	0
Copper (Cu)	µg/m ³	50	-	5.37E-02	1.65E-02	0	1.52E-01	5.83E-02	0
Iron (Fe)	µg/m ³	4	-	9.90E-01	1.40E-01	0	1.31E+00	7.74E-02	0
Lead (Pb)	µg/m ³	0.5	0.5	6.47E-03	6.19E-04	0	6.80E-03	6.18E-04	0
Magnesium (Mg)	µg/m ³	-	-	5.71E-01	4.27E-02	-	6.76E-01	6.52E-02	-
Manganese (Mn)	µg/m ³	0.4	-	3.31E-02	3.68E-03	0	6.90E-02	5.22E-03	0
Molybdenum (Mo)	µg/m ³	120	-	1.65E-03	5.98E-04	0	3.57E-03	2.07E-03	0
Nickel (Ni)	µg/m ³	0.2	-	2.53E-03	6.21E-04	0	3.77E-03	6.18E-04	0
Phosphorus (P)	µg/m ³	-	-	5.80E-02	2.32E-02	-	6.67E-02	2.31E-02	-

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements

April 28, 2014

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
Selenium (Se)	µg/m ³	10	10	2.23E-03	1.99E-03	0	2.27E-03	2.03E-03	0
Silver (Ag)	µg/m ³	1	1	1.89E-03	3.99E-04	0	2.33E-03	4.20E-04	0
Strontium (Sr)	µg/m ³	120	-	9.10E-03	1.12E-03	0	1.21E-02	1.30E-03	0
Thallium (Tl)	µg/m ³	-	-	2.23E-03	1.99E-03	-	2.27E-03	2.03E-03	-
Tin (Sn)	µg/m ³	10	10	4.79E-03	1.99E-03	0	2.27E-03	2.03E-03	0
Titanium (Ti)	µg/m ³	120	-	1.29E-02	1.72E-03	0	1.91E-02	2.10E-03	0
Vanadium (V)	µg/m ³	2	1	1.12E-03	3.99E-04	0	2.77E-03	4.20E-04	0
Zinc (Zn)	µg/m ³	120	-	6.50E-02	8.89E-03	0	7.43E-02	1.01E-02	0
Zirconium (Zr)	µg/m ³	20	-	1.12E-03	1.99E-04	0	1.27E-03	2.10E-04	0
Total Uranium (U)	µg/m ³	1.5	-	1.00E-04	8.98E-05	0	1.02E-04	9.13E-05	0

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements

April 28, 2014

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	6.48E-02	9.06E-03	1 0 0	6.46E-02	9.34E-03	1 0 0
1-Methylnaphthalene	ng/m ³	12,000	-	2.72E+01	9.67E-01	0	2.66E+01	2.09E+00	0
2-Methylnaphthalene	ng/m ³	10,000	-	5.43E+01	1.75E+00	0	4.54E+01	3.46E+00	0
Acenaphthene	ng/m ³	-	-	3.87E+01	1.51E-01	-	1.89E+01	2.12E+00	-
Acenaphthylene	ng/m ³	3500	-	6.22E-01	1.11E-01	0	2.34E-01	1.12E-01	0
Anthracene	ng/m ³	200	-	1.31E+01	1.51E-01	0	1.50E+00	1.56E-01	0
Benzo(a)anthracene	ng/m ³	-	-	1.51E-01	1.10E-01	-	2.34E-01	1.12E-01	-
Benzo(a)fluorene	ng/m ³	-	-	3.02E-01	2.21E-01	-	4.68E-01	2.23E-01	-
Benzo(b)fluoranthene	ng/m ³	-	-	1.51E-01	1.10E-01	-	2.34E-01	1.12E-01	-
Benzo(b)fluorene	ng/m ³	-	-	3.02E-01	2.21E-01	-	4.68E-01	2.23E-01	-
Benzo(e)pyrene	ng/m ³	-	-	3.02E-01	2.21E-01	-	4.68E-01	2.23E-01	-
Benzo(g,h,i)perylene	ng/m ³	-	-	3.56E-01	1.10E-01	-	2.34E-01	1.12E-01	-
Benzo(k)fluoranthene	ng/m ³	-	-	1.51E-01	1.10E-01	-	2.34E-01	1.12E-01	-
Biphenyl	ng/m ³	-	-	1.49E+01	3.02E-01	-	7.35E+00	8.72E-01	-
Chrysene	ng/m ³	-	-	1.51E-01	1.10E-01	-	2.34E-01	1.12E-01	-
Dibenz(a,h)anthracene ^D	ng/m ³	-	-	2.67E-01	1.10E-01	-	2.34E-01	1.12E-01	-
Dibenzo(a,c) anthracene + Picene ^E	ng/m ³	-	-	2.21E-01	2.21E-01	-	2.23E-01	2.23E-01	-
Fluoranthene	ng/m ³	-	-	4.46E+00	1.51E-01	-	7.67E+00	3.11E-01	-

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements

April 28, 2014

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	-	-	3.56E-01	1.10E-01	-	2.72E-01	1.12E-01	-
Naphthalene	ng/m ³	22,500	22,500	1.43E+02	5.04E+00	0	5.84E+01	1.05E+01	0
o-Terphenyl	ng/m ³	-	-	3.02E-01	2.21E-01	-	4.68E-01	2.23E-01	-
Perylene	ng/m ³	-	-	3.02E-01	2.21E-01	-	4.68E-01	2.23E-01	-
Phenanthrene	ng/m ³	-	-	3.39E+01	6.65E-01	-	2.94E+01	1.56E+00	-
Pyrene	ng/m ³	-	-	1.66E+00	1.51E-01	-	3.18E+00	1.56E-01	-
Tetralin	ng/m ³	-	-	4.87E+00	6.95E-01	-	3.49E+00	1.37E+00	-
Total PAH ^F	ng/m ³	-	-	3.27E+02	1.28E+01	-	1.64E+02	2.54E+01	-

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. Dibenzo(a,c)anthracene is not reported for July, August, September 1, and September 13 samples. Based on laboratory analyses, dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene.
- E. Dibenzo(a,c) anthracene + Picene was only reported for September 13, 2013 sample. Based on laboratory analyses, picene elutes after dibenz(a,h)anthracene.
- F. The reported total PAH is the sum of all analysed PAH species.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE – JULY TO SEPTEMBER 2013

Summary of Ambient Measurements
April 28, 2014

Table 4-5 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			6.65E-03	4.97E-03		6.78E-03	3.89E-03	
1,2,3,7,8-Penta CDD	pg/m ³			6.51E-03	5.88E-03		6.62E-03	5.67E-03	
1,2,3,4,7,8-Hexa CDD	pg/m ³			7.21E-03	5.52E-03		7.59E-03	5.19E-03	
1,2,3,6,7,8-Hexa CDD	pg/m ³			2.42E-02	5.17E-03		7.16E-03	4.38E-03	
1,2,3,7,8,9-Hexa CDD	pg/m ³			2.72E-02	5.36E-03		6.62E-03	4.54E-03	
1,2,3,4,6,7,8-Hepta CDD	pg/m ³			1.60E-01	3.53E-02		1.07E-01	6.54E-03	
Octa CDD	pg/m ³			6.37E-01	2.30E-01		1.92E+00	4.98E-02	
Total Tetra CDD	pg/m ³			6.99E-03	4.97E-03		6.78E-03	5.51E-03	
Total Penta CDD	pg/m ³			5.14E-02	6.33E-03		9.72E-03	6.39E-03	
Total Hexa CDD	pg/m ³			2.05E-01	6.48E-03		2.27E-02	6.78E-03	
Total Hepta CDD	pg/m ³			3.50E-01	3.53E-02		1.84E-01	6.54E-03	
2,3,7,8-Tetra CDF **	pg/m ³			2.42E-02	4.96E-03		2.18E-02	7.10E-03	
1,2,3,7,8-Penta CDF	pg/m ³			6.49E-03	5.52E-03	N/A	7.10E-03	4.38E-03	N/A
2,3,4,7,8-Penta CDF	pg/m ³			1.51E-02	5.33E-03		6.94E-03	4.21E-03	
1,2,3,4,7,8-Hexa CDF	pg/m ³			6.34E-03	5.70E-03		1.30E-02	6.23E-03	
1,2,3,6,7,8-Hexa CDF	pg/m ³			1.51E-02	4.96E-03		6.62E-03	3.73E-03	
2,3,4,6,7,8-Hexa CDF	pg/m ³			3.63E-02	5.88E-03		2.91E-02	4.38E-03	
1,2,3,7,8,9-Hexa CDF	pg/m ³			7.25E-03	6.25E-03		8.39E-03	4.70E-03	
1,2,3,4,6,7,8-Hepta CDF	pg/m ³			5.14E-02	7.35E-03		3.23E-02	5.92E-03	
1,2,3,4,7,8,9-Hepta CDF	pg/m ³			7.10E-03	4.96E-03		7.48E-03	5.02E-03	
Octa CDF	pg/m ³			2.57E-02	2.30E-02		4.52E-02	6.70E-03	
Total Tetra CDF	pg/m ³			2.42E-02	4.96E-03		1.56E-02	7.10E-03	
Total Penta CDF	pg/m ³			7.85E-02	5.52E-03		6.94E-03	4.38E-03	
Total Hexa CDF	pg/m ³			1.12E-01	5.70E-03		2.91E-02	6.54E-03	
Total Hepta CDF	pg/m ³			6.95E-02	8.27E-03		3.23E-02	6.54E-03	
TOTAL TOXIC EQUIVALENCY ^A	pg TEQ/m ³	0.1 ^B 1 ^C	-	0.035	0.019	0 0	0.026	0.017	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 – JULY TO SEPTEMBER 2013

Conclusions
April 28, 2014

5.0 Conclusions

This interim report provides a summary of the ambient air quality data collected at the two monitoring stations located upwind and downwind in the vicinity of the DYEC for the period July to September 2013. 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 quarterly report. Discussion on compliance with the CWS will be provided in the 2013 annual report;
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 (one at each monitoring station) on August 20, 2013, which exceeded the applicable Ontario Ambient Air Quality Criteria by about 30%. 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 well below the applicable criteria presented in Table 2.4; and,
6. All monitored contaminants were below their applicable MOE criteria during the monitoring period between July and September, 2013 with the exception of two benzo(a)pyrene measurements. 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 – JULY TO SEPTEMBER 2013**

Appendix A
SO₂ Data Summaries and Time History Plots
April 28, 2014

Appendix A
SO₂ Data Summaries and Time History Plots

SO2 - COURTICE
August 2013
(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		4.0	0.9	3.9	4.3	4.4	8.8	7.2	1.7	4.4	1.6	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.3	6.1	5.3	1.2	24	8.8	0.0	2.3	0	0
2		0.0	0.0	0.0	0.0	1.4	0.5	0.7	62.7	4.5	2.1	0.9	2.3	6.1	2.0	0.2	0.2	0.2	0.9	0.8	0.0	1.5	1.5	0.6	0.4	24	62.7	0.0	3.7	0	0
3		0.3	0.0	0.0	0.1	0.0	0.0	0.1	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	24	0.3	0.0	0.0	0	0
4		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.5	1.2	1.1	2.1	3.2	0.9	0.4	1.6	1.2	0.4	0.4	0.0	0.1	24	3.2	0.0	0.6	0	0
5		0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.4	0.0	0.0	1.9	7.4	1.3	0.5	0.6	0.5	0.4	0.0	0.0	1.9	21.6	5.9	24	21.6	0.0	1.9	0	0
6		2.7	1.6	3.5	3.2	4.9	2.3	3.9	1.6	0.9	1.0	0.7	0.6	0.5	0.5	0.6	0.5	0.3	0.5	0.0	0.0	4.2	11.5	9.0	6.0	24	11.5	0.0	2.5	0	0
7		19.1	5.3	0.9	0.9	0.3	0.0	0.2	0.8	1.1	1.5	1.2	0.6	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	19.1	0.0	1.4	0	0
8		0.0	0.0	0.0	0.0	0.3	1.2	1.7	1.4	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.6	0.8	0.8	1.1	3.0	24	3.1	0.0	0.6	0	0
9		7.5	9.3	7.0	3.4	1.8	1.3	0.8	0.6	0.6	0.3	0.4	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.4	7.2	0.3	0.0	0.1	24	9.3	0.0	1.7	0	0
10		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.6	0.8	1.4	1.5	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	7.0	1.2	0.7	0.2	24	7.0	0.0	0.7	0	0
11		0.0	0.3	0.3	0.2	0.0	0.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.3	0.4	0.0	0.0	0.0	1.4	0.1	0.4	0.8	0.3	24	1.4	0.0	0.2	0	0
12		0.0	5.3	0.7	1.1	2.0	1.6	2.0	1.4	1.0	1.0	0.9	1.9	1.9	1.9	2.8	2.6	1.6	0.6	0.5	0.7	0.8	0.8	0.8	0.5	24	5.3	0.0	1.4	0	0
13		0.3	0.8	0.9	0.9	0.4	0.7	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.9	0.0	0.2	0	0
14		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	1.2	0.1	0.0	0.2	0.0	0.0	0.6	2.4	0.0	0.0	0.0	0.0	0.0	24	2.4	0.0	0.2	0	0
15		0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.4	1.0	2.2	1.8	0.8	1.8	0.8	0.1	0.0	0.0	0.0	0.0	0.2	0.2	0.6	1.3	24	2.2	0.0	0.5	0	0
16		7.2	5.3	1.8	1.4	2.6	2.6	2.3	1.4	1.4	1.9	1.9	2.5	6.5	8.8	13.2	7.2	3.0	1.9	1.5	1.0	0.8	2.0	5.1	8.3	24	13.2	0.8	3.8	0	0
17		0.5	1.6	7.0	3.8	2.0	1.8	4.7	3.2	1.7	0.3	0.3	0.8	1.9	6.6	3.5	2.8	3.2	3.6	3.2	6.8	3.0	0.9	2.4	2.6	24	7.0	0.3	2.8	0	0
18		10.8	7.7	2.0	1.7	1.9	0.1	3.6	1.2	0.6	0.6	0.0	0.0	0.1	0.1	0.1	0.4	0.5	0.5	0.0	1.3	0.7	0.2	0.4	0.5	24	10.8	0.0	1.5	0	0
19		0.8	1.8	0.8	0.0	3.6	0.4	0.8	0.8	0.6	0.6	0.6	0.5	1.6	4.3	5.8	4.3	3.8	3.0	2.5	2.0	3.2	3.6	3.6	1.6	24	5.8	0.0	2.1	0	0
20		1.1	0.3	0.5	3.5	6.4	12.7	4.3	2.5	2.0	1.8	2.5	5.2	8.2	9.6	8.0	2.4	2.5	2.4	2.8	2.3	1.5	1.3	1.8	1.4	24	12.7	0.3	3.6	0	0
21		0.4	1.8	2.7	1.3	0.5	0.2	0.8	3.1	3.0	3.3	8.7	1.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	2.3	24	8.7	0.0	1.3	0	0
22		1.0	0.6	0.5	0.9	1.1	1.4	1.9	1.4	1.9	2.2	1.4	1.2	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.4	2.1	2.7	2.2	1.6	24	2.7	0.0	1.1	0	0
23		1.7	1.4	0.6	0.0	0.3	1.3	1.5	1.0	2.6	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.7	3.1	6.5	24	6.5	0.0	1.0	0	0
24		4.6	0.4	3.8	11.7	9.5	11.1	12.9	3.1	0.2	0.0	0.9	2.3	1.6	0.7	0.0	0.0	0.0	0.0	0.0	5.1	0.5	1.8	0.9	1.1	24	12.9	0.0	3.0	0	0
25		0.5	0.0	1.4	0.9	3.3	4.0	3.0	3.4	0.6	0.0	0.0	0.0	0.6	1.2	0.8	0.8	0.5	0.5	0.8	1.3	2.2	0.7	0.6	1.6	24	4.0	0.0	1.2	0	0
26		1.1	0.6	1.5	1.1	1.1	0.5	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	24	1.5	0.0	0.3	0	0
27		0.4	0.7	0.4	0.1	0.7	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.0	0.0	0.2	0	0
28		0.7	0.4	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0	48.4	2.2	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	0.5	0.0	0.2	24	48.4	0.0	2.2	0	0
29		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	0.2	0.4	0.5	0.7	24	0.7	0.0	0.1	0	0
30		0.6	0.5	0.4	0.4	0.0	0.2	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.6	0.6	0.1	0.0	0.0	24	1.0	0.0	0.2	0	0
31		0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	24	0.4	0.0	0.1	0	0
Count		31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	31	31	31		
Maximum		19.1	9.3	7.0	11.7	9.5	12.7	12.9	62.7	4.5	3.3	48.4	5.2	8.2	9.6	13.2	7.2	3.8	3.6	3.2	6.8	7.2	11.5	21.6	8.3	24	62.7	3.2	12.9		
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	24	0.3	0.0	0.0		
Average		2.1	1.5	1.3	1.3	1.6	1.8	1.8	3.0	1.0	0.8	2.4	0.9	1.2	1.5	1.3	0.8	0.6	0.5	0.6	0.8	1.2	1.3	2.0	1.5	24	10	0	1.4		
Percentiles			10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data			0.0		0.0		0.0		0.1		0.4		0.6		1.1		1.9		3.4		6.1		11.6		62.7						62.7
Notes		C - Span Cycle		NA - No Data Available			T - Test			A- MOE Audit																					

SO2 - COURTICE
September 2013
(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	4.0	0.6	0.4	0.0	1.1	2.3	1.4	4.7	1.5	0.6	0.6	0.3	0.0	0.0	0.0	0.0	0.0	2.1	3.2	0.5	0.0	0.1	0.0	0.0	24	4.7	0.0	1.0	0	0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.5	4.2	6.1	4.9	0.6	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	24	6.1	0.0	0.7	0	0
3	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	M	M	M	M	M	M	M	M	M	M	M	M	11	0.4	0.0		0	0	
4	M	M	M	M	M	M	M	M	M	M	M	C	C	3.1	2.2	1.8	1.8	1.8	1.7	1.9	1.5	1.5	2.3	3.2	11	3.2	1.5		0	0
5	2.4	2.8	2.8	2.6	4.7	3.5	5.1	6.9	5.8	3.8	1.7	1.8	3.1	1.8	1.6	1.7	1.3	1.4	1.4	1.4	1.8	2.2	2.0	2.1	24	6.9	1.3	2.7	0	0
6	2.6	3.0	2.4	1.9	1.5	2.5	2.5	2.3	2.6	2.8	9.0	3.6	3.9	3.3	2.9	7.0	5.5	4.8	3.5	2.7	3.3	2.8	5.6	7.5	24	9.0	1.5	3.7	0	0
7	8.0	4.6	3.1	5.2	3.8	6.2	5.9	5.9	3.5	2.9	4.7	5.0	2.7	2.8	5.9	5.5	5.3	3.8	2.7	2.1	2.0	2.1	3.1	2.5	24	8.0	2.0	4.1	0	0
8	1.4	1.6	1.5	4.2	4.1	2.7	1.6	3.1	6.5	3.9	3.9	3.5	2.2	1.3	1.3	1.3	1.4	1.2	1.3	3.8	7.4	5.5	2.0	2.4	24	7.4	1.2	2.9	0	0
9	4.7	3.2	4.2	2.1	2.5	3.5	4.3	6.5	3.2	2.7	2.0	2.2	2.0	1.8	1.6	1.9	1.5	1.9	1.9	3.2	3.8	2.5	4.1	2.4	24	6.5	1.5	2.9	0	0
10	4.7	3.8	2.2	2.4	2.5	2.3	3.4	4.6	5.4	3.0	2.0	1.5	1.3	1.3	2.2	2.6	2.1	2.0	2.8	3.2	2.4	2.0	2.7	3.6	24	5.4	1.3	2.8	0	0
11	3.2	3.3	2.8	3.0	2.4	2.5	2.4	2.7	3.2	3.0	2.5	2.3	1.6	2.8	7.1	4.0	2.0	1.8	1.5	1.4	1.9	2.4	1.3	1.3	24	7.1	1.3	2.6	0	0
12	1.6	1.4	1.8	2.0	1.9	1.7	1.7	2.5	2.6	2.2	2.4	2.4	2.1	1.9	1.8	1.9	1.5	1.7	1.5	1.5	1.6	2.0	1.7	1.5	24	2.6	1.4	1.9	0	0
13	1.5	1.6	1.5	1.6	1.4	1.5	1.4	1.6	1.8	4.9	4.8	3.8	4.4	2.4	2.4	1.9	1.6	1.7	1.5	1.4	1.6	1.3	1.2	1.8	24	4.9	1.2	2.1	0	0
14	4.8	3.1	1.9	1.6	1.6	1.3	1.5	1.6	2.4	2.8	2.6	2.3	1.4	1.1	0.5	1.4	1.7	1.3	1.8	3.4	6.3	3.3	1.8	2.2	24	6.3	0.5	2.2	0	0
15	2.6	3.5	2.7	5.0	2.2	5.7	2.1	2.8	3.2	5.2	9.5	18.4	13.2	7.8	5.6	4.6	3.9	2.9	2.3	1.8	1.5	1.6	1.6	9.1	24	18.4	1.5	4.9	0	0
16	1.8	1.9	1.4	1.5	1.4	3.1	8.1	6.8	7.6	6.6	3.4	2.9	4.9	4.2	6.9	3.5	4.0	3.2	9.4	5.5	2.4	6.3	2.6	6.4	24	9.4	1.4	4.4	0	0
17	4.8	8.9	13.9	9.0	3.6	5.9	15.3	17.5	5.6	3.6	2.0	1.5	1.4	1.6	1.4	1.6	2.0	1.9	3.2	5.0	2.4	7.2	1.9	2.6	24	17.5	1.4	5.2	0	0
18	4.6	3.5	4.0	2.1	2.1	2.9	5.2	7.3	5.3	3.1	2.8	2.5	2.1	3.1	3.5	3.3	2.5	2.0	2.0	4.9	4.8	7.3	5.7	5.0	24	7.3	2.0	3.8	0	0
19	7.2	4.4	3.3	2.0	3.5	3.6	3.9	5.6	3.5	3.3	3.5	3.2	3.9	3.6	3.2	2.4	2.0	2.0	1.9	2.6	2.3	3.7	3.8	8.0	24	8.0	1.9	3.6	0	0
20	7.5	4.2	8.7	5.5	4.9	11.1	7.0	2.8	3.2	3.8	4.3	3.5	3.1	3.7	3.2	2.9	3.2	2.5	2.2	2.1	2.0	2.1	2.1	2.3	24	11.1	2.0	4.1	0	0
21	2.0	1.8	1.9	1.5	1.7	1.6	1.7	1.4	1.5	1.6	1.3	1.4	1.6	1.4	1.4	1.4	1.5	1.4	1.4	1.5	1.5	1.4	1.4	1.4	24	2.0	1.3	1.5	0	0
22	1.4	1.6	2.1	1.5	1.5	1.5	1.5	1.4	2.2	3.1	2.3	1.7	1.8	1.4	2.3	1.6	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.4	24	3.1	1.4	1.7	0	0
23	1.4	1.7	2.7	4.3	2.1	2.1	2.9	2.6	6.2	3.2	2.0	3.7	1.7	2.8	2.0	1.9	1.5	4.4	4.0	2.1	2.4	2.2	2.2	2.3	24	6.2	1.4	2.7	0	0
24	3.3	12.8	4.2	7.7	19.7	19.2	21.4	5.5	4.7	3.9	2.7	2.9	2.6	2.1	2.2	3.0	2.3	2.1	2.7	9.7	6.7	2.2	1.7	5.1	24	21.4	1.7	6.3	0	0
25	10.5	12.8	19.3	23.2	17.7	17.7	19.5	9.3	9.4	C	C	0.5	0.6	0.5	2.3	1.6	0.7	0.8	3.2	6.6	5.9	5.8	6.1	5.1	22	23.2	0.5	8.1	0	0
26	5.0	4.1	0.7	2.4	3.4	9.8	6.9	5.9	3.0	1.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	3.5	4.7	6.0	5.3	3.5	1.4	24	9.8	0.0	2.8	0	0
27	1.7	2.8	1.7	2.9	5.8	5.8	7.3	14.8	9.1	34.4	0.7	0.7	0.3	0.2	0.9	0.6	0.5	0.3	3.9	3.0	2.8	2.4	0.5	2.3	24	34.4	0.2	4.4	0	0
28	3.2	4.0	0.9	1.5	2.5	1.2	0.9	2.9	38.9	15.9	1.3	0.6	0.2	0.0	0.0	0.0	0.0	0.1	4.0	3.3	1.3	0.9	0.0	0.2	24	38.9	0.0	3.5	0	0
29	0.0	0.1	0.0	0.2	0.7	0.7	0.7	0.7	0.7	1.5	2.4	2.5	2.1	1.4	0.7	0.7	1.9	1.3	0.6	0.4	1.2	1.7	1.0	1.1	24	2.5	0.0	1.0	0	0
30	0.7	1.0	1.3	1.3	0.6	0.7	0.7	0.8	1.3	2.0	3.4	3.6	2.0	1.5	1.3	0.6	0.4	0.2	0.0	0.0	0.3	0.5	0.6	0.8	24	3.6	0.0	1.1	0	0
31																									0	0.0	0.0		0	0
Count	29	29	29	29	29	29	29	29	29	28	28	28	28	29	29	29	29	29	29	29	29	29	29	29	692	29	28	29		
Maximum	10.5	12.8	19.3	23.2	19.7	19.2	21.4	17.5	38.9	34.4	9.5	18.4	13.2	7.8	7.1	7.0	5.5	4.8	9.4	9.7	7.4	7.3	6.1	9.1	24	38.9	4.8	14.1		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	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			
Average	3.3	3.4	3.2	3.4	3.5	4.2	4.7	4.5	5.0	4.5	2.9	3.0	2.5	2.1	2.3	2.1	1.9	1.8	2.4	2.8	2.7	2.8	2.2	2.9	22	10	1	3.2		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		0.4		1.3		1.5		1.9		2.2		2.6		3.2		4.1		5.9		8.0		19.2		38.9						38.9
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																				

SO2 - RUNDLE
July 2013
(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	0.9	0.8	0.6	0.5	0.6	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.7	0.5	0.5	24	1.3	0.4	0.6	0	0
2	0.7	0.5	0.5	0.7	0.5	0.4	0.7	1.0	1.1	1.1	1.1	6.2	2.5	6.8	4.0	2.0	1.2	1.1	1.2	0.8	0.6	0.4	0.5	24	6.8	0.4	1.5	0	0	
3	1.0	0.5	0.5	0.5	0.7	0.6	0.5	1.1	1.2	4.7	4.4	4.4	6.2	28.8	20.5	20.7	3.6	2.1	1.7	1.6	1.2	1.2	1.0	0.6	24	28.8	0.5	4.6	0	0
4	1.3	0.9	0.5	0.5	0.8	0.5	0.6	0.6	0.7	0.5	0.9	1.0	0.9	1.0	0.8	0.5	0.5	0.5	0.5	2.1	1.3	1.1	1.2	1.0	24	2.1	0.5	0.8	0	0
5	1.3	1.2	0.9	1.1	1.1	1.1	1.3	1.3	1.2	1.1	2.3	4.0	2.5	1.2	1.0	0.9	1.1	0.8	1.1	1.1	1.2	0.8	0.8	0.7	24	4.0	0.7	1.3	0	0
6	1.2	0.6	0.5	0.6	1.2	1.2	1.2	1.2	1.3	1.7	2.3	2.9	4.5	4.4	3.0	2.4	2.5	2.1	2.2	1.8	1.1	1.1	0.8	0.9	24	4.5	0.5	1.8	0	0
7	1.4	1.1	1.1	0.9	0.6	0.5	0.7	1.0	0.9	0.5	0.6	0.7	0.6	0.5	0.6	0.5	1.0	0.6	0.5	0.6	0.6	0.7	0.5	0.7	24	1.4	0.5	0.7	0	0
8	1.3	0.8	0.6	0.6	0.8	1.4	1.3	1.1	1.2	1.6	1.1	1.3	1.7	1.1	1.3	1.2	1.4	1.5	0.8	0.7	0.6	0.6	0.6	0.6	24	1.7	0.6	1.1	0	0
9	1.2	0.8	0.5	0.6	0.9	0.9	0.8	0.9	0.5	0.4	0.4	0.4	0.5	0.4	0.6	0.8	0.9	1.1	1.0	1.2	1.0	1.0	0.9	0.9	24	1.2	0.4	0.8	0	0
10	1.3	1.1	0.9	0.9	0.7	0.9	0.9	1.2	0.9	1.0	0.7	0.6	0.7	0.5	0.7	0.9	0.9	0.9	0.8	0.9	1.1	0.7	0.7	0.9	24	1.3	0.5	0.9	0	0
11	1.3	0.5	0.5	0.6	0.5	0.7	0.5	0.9	0.9	1.5	2.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	2.0	0.0	0.4	0	0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	12.3	24.4	4.1	0.0	0.0	0.0	0.0	24	24.4	0.0	1.9	0	0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	8.1	48.9	31.5	65.3	11.2	56.1	21.7	0.0	0.0	0.0	0.0	0.0	24	65.3	0.0	10.1	0	0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	19.1	8.0	0.0	0.0	0.0	0.0	0.0	0.0	24	19.1	0.0	1.2	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	2.8	3.5	6.4	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	6.4	0.0	0.6	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	34.9	12.6	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	24	34.9	0.0	2.0	0	0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	9.2	0.0	0.6	0	0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.2	0.7	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.0	0.0	0.1	0	0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.1	0.4	0.3	0.0	0.0	1.2	0.0	0.0	1.2	24	1.2	0.0	0.1	0	0
29	0.8	0.2	0.0	0.5	0.0	0.0	0.5	1.1	0.8	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.1	0.0	0.0	0.0	0.0	0.0	24	1.1	0.0	0.2	0	0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	A	A	0.8	1.3	1.5	1.2	1.0	1.2	0.9	0.9	1.3	1.2	0.9	0.5	0.6	0.6	22	1.5	0.0	0.6	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	31		
Maximum	1.4	1.2	1.1	1.1	1.2	1.4	1.3	1.3	34.9	12.6	9.2	4.8	8.1	48.9	31.5	65.3	19.1	56.1	24.4	4.1	1.3	1.2	1.2	1.2	24	65.3	1.1	13.9		
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	0.0	0.0	0.0		
Average	0.5	0.3	0.2	0.3	0.3	0.3	0.3	0.4	1.5	0.9	0.9	0.9	1.3	3.0	2.2	3.2	1.6	2.9	1.9	0.5	0.4	0.3	0.3	0.3	24	7	0	1.0		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		0.0		0.0		0.0		0.0		0.0		0.4		0.6		0.9		1.3		2.5		21.3		65.3						65.3
Notes	C - Span Cycle		NA - No Data Available				T - Test			A - MOE Audit																				

SO2 - RUNDLE
August 2013
(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	0.2	0.4	0.5	0.5	0.5	0.6	9.0	1.7	1.2	1.3	0.9	0.6	0.5	0.4	0.6	0.8	0.5	0.4	0.6	0.5	0.7	0.5	0.6	24	9.0	0.2	1.0	0	0	
2	0.7	0.5	0.5	0.5	0.5	0.7	1.0	1.2	1.9	1.1	4.7	11.1	11.0	3.1	1.3	1.1	1.1	1.4	0.9	0.9	0.8	0.5	0.6	24	11.1	0.5	2.0	0	0	
3	0.9	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.4	0.6	0.5	0.4	0.5	0.5	0.6	0.6	24	0.9	0.4	0.5	0	0	
4	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	1.0	1.7	1.5	2.6	3.3	1.5	1.1	2.1	1.7	0.8	0.6	0.5	0.6	24	3.3	0.5	1.0	0	0
5	0.7	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.7	0.6	0.5	3.6	7.5	2.3	1.6	1.5	1.3	1.1	1.0	0.5	0.5	0.6	0.6	24	7.5	0.5	1.2	0	0
6	0.8	0.6	0.5	0.5	0.5	0.5	0.6	1.1	1.9	2.9	1.8	1.5	1.8	1.4	1.3	1.9	3.4	3.9	1.0	0.8	0.5	0.7	0.7	0.7	24	3.9	0.5	1.3	0	0
7	1.1	0.7	0.7	1.1	0.7	0.6	0.9	1.1	1.2	1.7	1.6	1.2	2.3	2.1	1.4	2.3	2.4	2.4	2.4	2.0	1.4	2.7	0.8	0.6	24	2.7	0.6	1.5	0	0
8	1.0	0.5	0.7	0.6	0.6	0.6	0.7	0.9	0.7	0.5	1.1	0.8	1.4	1.0	1.2	4.1	6.4	7.7	4.7	1.1	0.9	0.9	1.0	2.0	24	7.7	0.5	1.7	0	0
9	4.9	5.9	4.8	2.8	1.6	1.2	1.2	1.2	1.2	0.9	1.0	0.8	0.9	0.9	1.1	1.0	1.2	1.2	0.9	1.1	0.8	0.8	0.5	0.5	24	5.9	0.5	1.6	0	0
10	1.0	0.6	0.5	0.5	0.5	0.6	0.5	0.6	1.4	1.1	1.2	1.0	1.9	1.4	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.7	24	1.9	0.4	0.8	0	0	
11	0.9	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.7	0.5	0.5	0.5	0.5	0.8	1.2	0.5	0.5	0.4	0.5	0.9	1.0	1.0	0.6	24	1.2	0.4	0.6	0	0
12	0.7	0.6	0.6	0.6	0.5	0.6	0.8	1.0	1.1	1.1	1.3	1.8	1.7	3.0	4.1	3.1	3.4	1.9	1.4	1.7	1.8	1.6	1.6	1.3	24	4.1	0.5	1.5	0	0
13	1.0	0.9	1.1	1.1	1.0	0.7	1.1	1.0	0.8	0.7	0.5	0.5	0.5	0.4	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.6	0.6	0.6	24	1.1	0.4	0.7	0	0
14	1.0	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.4	1.1	2.6	0.5	0.5	0.5	0.6	0.6	24	2.6	0.4	0.6	0	0
15	0.6	0.5	0.5	0.5	0.5	0.5	0.7	0.6	1.1	2.4	3.1	3.1	2.0	2.9	1.9	1.1	1.2	0.6	0.8	0.6	0.4	0.5	0.6	0.6	24	3.1	0.4	1.1	0	0
16	0.6	0.5	0.5	0.5	0.6	0.7	0.6	1.0	2.2	3.4	4.3	4.5	7.0	8.8	7.8	4.0	2.8	2.9	1.9	0.8	0.5	0.5	0.7	0.7	24	8.8	0.5	2.4	0	0
17	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.7	2.6	2.4	5.8	14.8	5.9	2.8	1.7	2.3	2.0	2.3	2.6	1.4	0.5	0.5	0.6	0.6	24	14.8	0.5	2.2	0	0
18	0.7	0.6	0.5	0.6	0.6	0.6	0.6	0.7	1.6	5.1	2.0	1.0	0.8	1.1	1.2	1.2	1.2	1.2	1.0	0.7	0.6	0.6	0.6	0.6	24	5.1	0.5	1.1	0	0
19	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.9	1.3	1.6	1.8	2.1	3.3	4.4	6.8	4.7	6.0	4.4	2.9	2.6	3.8	4.5	3.0	1.4	24	6.8	0.5	2.5	0	0
20	1.1	0.6	0.6	0.6	0.6	0.5	0.7	1.3	2.3	3.0	3.7	6.0	8.4	8.7	10.0	6.7	4.8	3.9	3.7	2.7	2.1	2.0	2.0	1.5	24	10.0	0.5	3.2	0	0
21	0.7	0.8	0.5	0.9	1.0	0.5	1.2	3.7	6.5	6.8	14.3	6.7	4.2	4.2	2.9	4.8	4.0	3.0	1.3	1.2	1.5	3.6	2.2	2.0	24	14.3	0.5	3.3	0	0
22	2.1	1.2	1.2	1.2	1.6	2.0	2.5	2.1	3.0	3.3	2.5	2.3	1.5	0.9	0.7	1.1	1.2	0.8	0.5	1.2	2.0	2.9	2.1	1.3	24	3.3	0.5	1.7	0	0
23	1.3	1.2	0.7	0.6	0.5	0.6	0.5	0.5	0.6	0.3	1.0	0.7	0.9	1.4	1.0	0.5	0.5	0.5	0.6	0.5	1.1	0.5	0.7	0.7	24	1.4	0.3	0.7	0	0
24	0.7	0.5	0.5	0.4	0.5	0.3	0.5	0.5	6.7	9.0	3.2	5.8	2.8	1.7	0.9	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.6	24	9.0	0.3	1.6	0	0
25	0.6	0.6	0.6	0.5	0.4	0.4	0.6	0.9	0.8	0.6	0.5	1.2	1.2	1.3	1.3	1.4	1.4	1.2	1.5	2.1	2.9	1.7	1.3	2.0	24	2.9	0.4	1.1	0	0
26	2.2	1.6	1.7	1.8	1.7	1.3	0.7	1.0	1.7	1.9	1.1	0.9	0.9	0.8	0.7	1.1	0.7	0.6	0.9	0.7	0.9	0.6	0.6	0.7	24	2.2	0.6	1.1	0	0
27	1.1	1.1	0.8	0.5	0.5	0.5	0.6	0.6	0.5	1.2	1.8	0.8	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.6	0.5	0.5	0.6	24	1.8	0.4	0.7	0	0
28	0.9	0.8	0.5	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.4	0.4	0.8	0.6	0.6	0.7	33.6	4.8	1.1	0.8	1.0	0.7	0.8	0.6	24	33.6	0.4	2.2	0	0
29	1.2	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.8	0.5	0.4	0.5	0.5	0.6	0.9	1.1	1.1	0.7	0.6	0.7	0.6	0.7	24	1.2	0.4	0.6	0	0
30	0.9	0.8	0.7	0.6	0.6	0.5	0.7	0.7	1.2	0.8	0.8	1.2	1.7	2.1	2.5	0.7	2.4	4.2	3.9	4.4	3.2	2.1	1.3	1.2	24	4.4	0.5	1.6	0	0
31	1.3	1.0	0.8	0.9	0.7	0.6	0.6	0.5	0.6	0.6	0.5	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	24	1.3	0.5	0.6	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	31	31	31		
Maximum	4.9	5.9	4.8	2.8	1.7	2.0	9.0	3.7	6.7	9.0	14.3	14.8	11.0	8.8	10.0	6.7	33.6	7.7	4.7	4.4	3.8	4.5	3.0	2.0	24	33.6	1.7	7.5		
Minimum	0.2	0.4	0.5	0.4	0.4	0.3	0.5	0.5	0.5	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.5	24	0.9	0.2	0.4		
Average	1.1	0.9	0.8	0.7	0.7	0.6	1.0	0.9	1.5	1.9	2.1	2.4	2.3	2.2	1.9	1.8	2.8	1.8	1.5	1.1	1.1	1.1	0.9	0.9	24	6	0	1.4		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		0.5		0.5		0.6		0.6		0.7		1.0		1.2		1.8		3.0		4.5		8.9		33.6						33.6
Notes	C - Span Cycle		NA - No Data Available			T - Test			A- MOE Audit																					

SO2 - RUNDLE																															
September 2013																															
(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	1.2	0.6	0.5	0.6	0.6	0.5	0.5	0.6	0.6	0.7	0.5	0.6	2.0	5.6	1.1	0.8	0.8	0.6	0.6	0.8	0.6	0.9	0.6	0.7	24	5.6	0.5	0.9	0	0	
2	1.2	0.5	0.7	0.7	0.8	0.9	1.3	1.5	2.3	3.7	6.3	7.5	6.0	1.6	1.1	1.2	0.8	0.6	0.5	0.5	0.6	0.6	0.6	0.7	24	7.5	0.5	1.8	0	0	
3	1.0	0.6	0.6	0.7	0.7	0.6	0.6	0.5	0.6	0.5	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.5	0.5	0.7	24	1.0	0.4	0.6	0	0	
4	1.0	0.6	0.6	0.7	0.7	0.6	0.6	1.2	2.6	1.5	1.5	1.7	1.5	C	C	1.1	1.4	1.4	1.2	1.4	0.9	1.3	2.0	2.7	22	2.7	0.6	1.3	0	0	
5	2.4	1.7	1.3	1.6	1.6	1.3	1.3	1.2	1.3	1.2	1.1	1.2	1.1	1.2	1.2	1.1	1.3	1.2	1.2	1.3	1.2	1.8	1.5	1.5	24	2.4	1.1	1.4	0	0	
6	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	2.5	2.5	2.9	3.7	4.1	3.4	2.6	7.6	5.2	4.2	2.4	1.6	1.4	1.8	4.7	7.8	24	7.8	1.3	2.9	0	0	
7	3.6	2.9	2.5	4.0	2.6	5.2	5.0	4.3	2.9	2.6	4.0	4.1	2.4	3.1	5.1	4.4	4.8	3.0	2.3	1.9	1.9	1.9	1.9	2.1	24	5.2	1.9	3.3	0	0	
8	1.7	1.3	1.2	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.2	1.4	1.1	1.3	1.2	1.5	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.3	24	1.7	1.1	1.3	0	0	
9	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.7	1.9	2.0	1.9	2.6	15.1	1.9	1.8	19.0	14.1	2.0	1.7	1.3	1.3	1.3	1.4	1.3	24	19.0	1.3	3.4	0	0	
10	1.3	1.8	1.7	1.7	1.7	1.9	2.6	3.7	4.6	2.9	2.7	1.6	1.3	1.3	1.3	1.2	1.1	1.1	1.3	2.1	3.0	3.7	3.8	3.2	24	4.6	1.1	2.2	0	0	
11	2.4	2.7	2.8	2.6	2.1	2.0	1.9	2.6	3.2	3.4	2.2	1.7	1.4	2.2	3.9	2.9	2.1	1.9	1.9	2.0	2.0	1.9	1.8	1.5	24	3.9	1.4	2.3	0	0	
12	1.4	1.5	2.2	2.0	1.7	1.7	1.9	2.4	2.8	2.5	2.5	2.6	2.5	2.1	1.8	1.6	1.5	1.7	1.6	1.3	1.7	2.0	1.7	1.3	24	2.8	1.3	1.9	0	0	
13	1.3	1.4	1.3	1.3	1.5	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.3	1.3	1.3	24	1.5	1.2	1.3	0	0	
14	1.3	1.2	1.3	1.2	1.3	1.4	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.3	1.5	1.5	1.2	1.0	1.0	1.3	1.2	1.7	24	1.7	1.0	1.3	0	0	
15	1.8	1.3	1.3	1.3	1.4	1.3	1.4	1.7	2.7	4.1	5.1	16.0	12.6	8.3	5.4	4.3	3.9	2.6	2.0	1.5	1.3	1.4	1.3	1.3	24	16.0	1.3	3.6	0	0	
16	1.4	1.3	1.3	1.3	1.4	1.3	1.2	1.3	1.3	1.2	1.1	1.3	1.3	1.3	1.2	1.1	1.1	1.2	1.2	0.8	0.8	0.9	0.7	0.7	24	1.4	0.7	1.1	0	0	
17	0.7	0.8	0.7	0.7	0.7	0.9	0.9	1.3	0.8	27.1	8.3	1.2	1.3	1.2	1.2	22.4	25.2	2.7	1.4	1.3	1.1	1.2	1.1	1.3	24	27.1	0.7	4.4	0	0	
18	1.2	1.4	1.3	1.3	1.8	1.3	1.5	1.5	2.1	2.6	2.3	2.2	1.9	2.2	3.1	4.6	6.4	2.3	1.8	1.2	1.4	1.3	1.3	1.3	24	6.4	1.2	2.1	0	0	
19	1.3	1.3	1.3	1.3	1.4	1.3	1.6	2.1	2.2	2.9	3.4	3.1	3.2	3.1	2.6	2.0	1.9	2.0	1.9	1.8	1.7	1.5	1.3	1.3	24	3.4	1.3	2.0	0	0	
20	1.4	1.6	1.4	1.5	1.3	1.3	1.4	2.0	2.4	2.7	3.1	3.2	3.0	3.0	2.8	2.6	2.9	2.5	2.0	2.2	2.0	2.0	2.2	2.2	24	3.2	1.3	2.2	0	0	
21	2.0	1.9	2.0	2.0	1.7	1.8	1.8	1.7	1.8	1.8	1.6	1.8	2.0	1.9	1.9	1.7	1.5	1.4	1.4	1.5	1.6	1.5	1.5	1.3	24	2.0	1.3	1.7	0	0	
22	1.5	1.9	1.9	1.4	1.3	1.3	1.3	1.3	1.4	2.5	2.2	1.4	1.2	1.4	1.2	1.2	1.2	1.3	1.2	1.3	1.2	1.3	1.3	1.3	24	2.5	1.2	1.4	0	0	
23	1.3	1.2	1.2	0.8	1.1	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.1	1.2	1.7	1.3	1.3	1.2	1.3	1.2	1.3	1.3	1.3	1.3	24	1.7	0.8	1.2	0	0	
24	1.3	1.2	1.3	1.3	1.3	1.2	1.0	1.2	1.6	1.8	1.7	1.8	1.9	1.9	1.3	2.5	2.2	2.0	1.6	1.3	1.4	1.2	1.3	2.0	24	2.5	1.0	1.6	0	0	
25	3.4	3.5	2.7	2.4	2.0	2.0	1.8	2.0	1.9	1.6	3.2	C	2.7	9.3	2.9	3.8	1.6	1.2	0.5	0.6	0.5	0.5	0.5	0.5	23	9.3	0.5	2.2	0	0	
26	0.5	0.5	0.5	0.5	0.4	0.5	0.7	0.8	0.6	0.5	1.1	2.5	0.5	0.5	0.4	1.2	0.9	0.6	0.6	0.4	0.5	0.5	0.6	0.6	24	2.5	0.4	0.7	0	0	
27	0.6	0.4	0.4	0.4	0.1	0.4	0.3	0.5	0.5	0.9	6.1	15.3	21.8	3.0	1.7	1.5	0.9	0.4	0.0	0.3	0.4	0.3	0.3	0.2	24	21.8	0.0	2.4	0	0	
28	0.3	0.4	0.4	0.4	0.5	0.6	0.3	0.2	0.6	0.5	0.5	0.4	0.7	0.4	0.5	0.2	0.4	0.5	0.3	0.5	0.3	0.2	0.5	0.6	24	0.7	0.2	0.4	0	0	
29	0.5	0.5	0.3	0.5	0.6	0.6	0.7	0.7	0.9	1.9	2.5	2.8	2.6	8.0	2.5	1.4	2.2	1.5	0.5	0.5	0.6	0.5	0.5	0.5	24	8.0	0.3	1.4	0	0	
30	0.6	0.6	0.5	0.5	0.5	0.5	0.7	0.9	1.1	1.9	3.2	3.2	2.1	2.0	1.7	1.2	1.0	0.6	0.6	0.5	0.6	1.1	1.2	1.2	24	3.2	0.5	1.2	0	0	
31																									0	0.0	0.0		0	0	
Count	30	30	30	30	30	30	30	30	30	30	30	29	30	29	29	30	30	30	30	30	30	30	30	30	717	30	29	30			
Maximum	3.6	3.5	2.8	4.0	2.6	5.2	5.0	4.3	4.6	27.1	8.3	16.0	21.8	9.3	5.4	22.4	25.2	4.2	2.4	2.2	3.0	3.7	4.7	7.8	24	27.1	2.2	8.3			
Minimum	0.3	0.4	0.3	0.4	0.1	0.4	0.3	0.2	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.2	0.4	0.4	0.0	0.3	0.3	0.2	0.3	0.2	0	0.0	0.0				
Average	1.4	1.3	1.3	1.3	1.2	1.3	1.3	1.5	1.7	2.8	2.5	3.1	3.4	2.6	1.9	3.3	3.1	1.5	1.3	1.2	1.2	1.3	1.4	1.5	23	6	1	1.8			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum		
Data		0.5		0.7		1.2		1.3		1.3		1.4		1.8		2.1		3.0		4.1		14.9		27.1					27.1	4.4	1.8
Notes	C - Span Cycle NA - No Data Available T - Test A- MOE Audit																														

Figure A-1 Time History Plots – SO₂ – Courtice (WPCP) Station

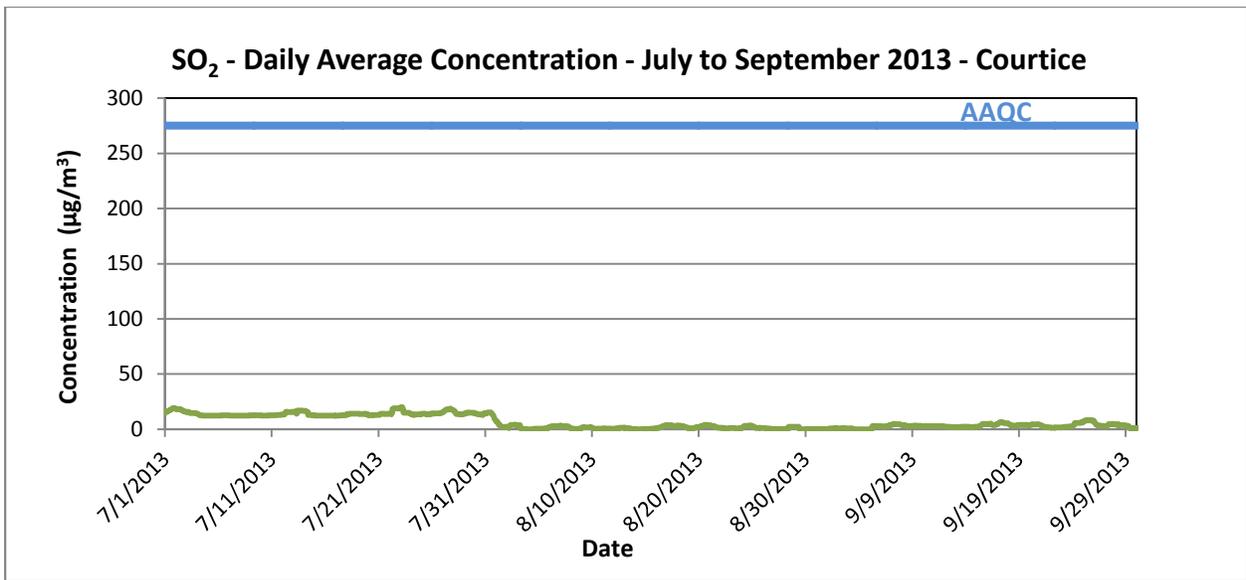
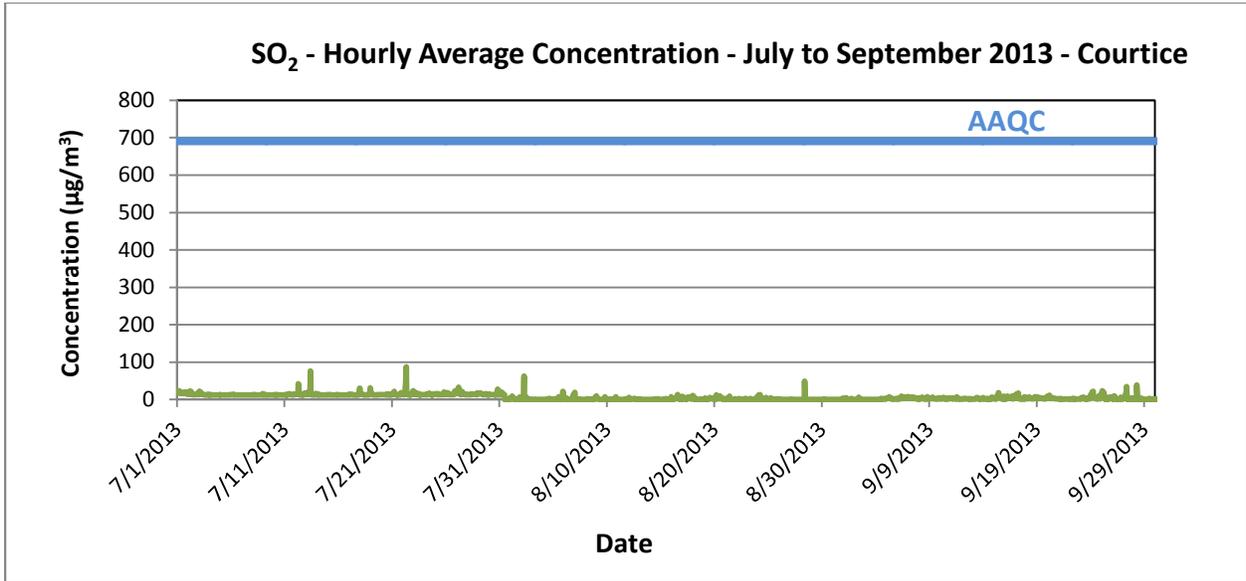
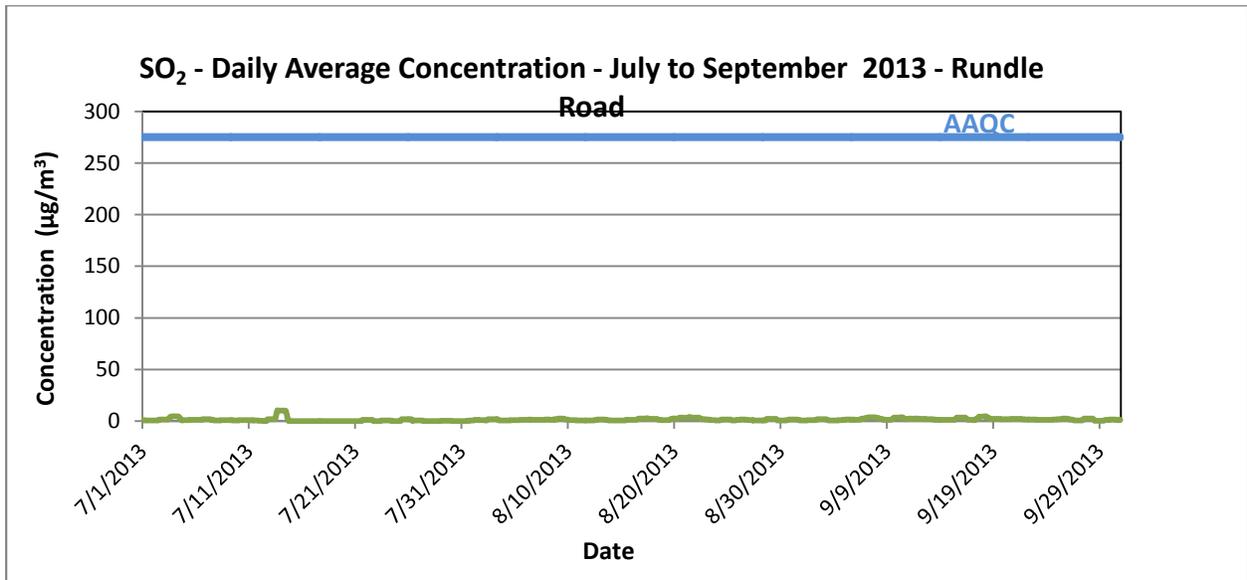
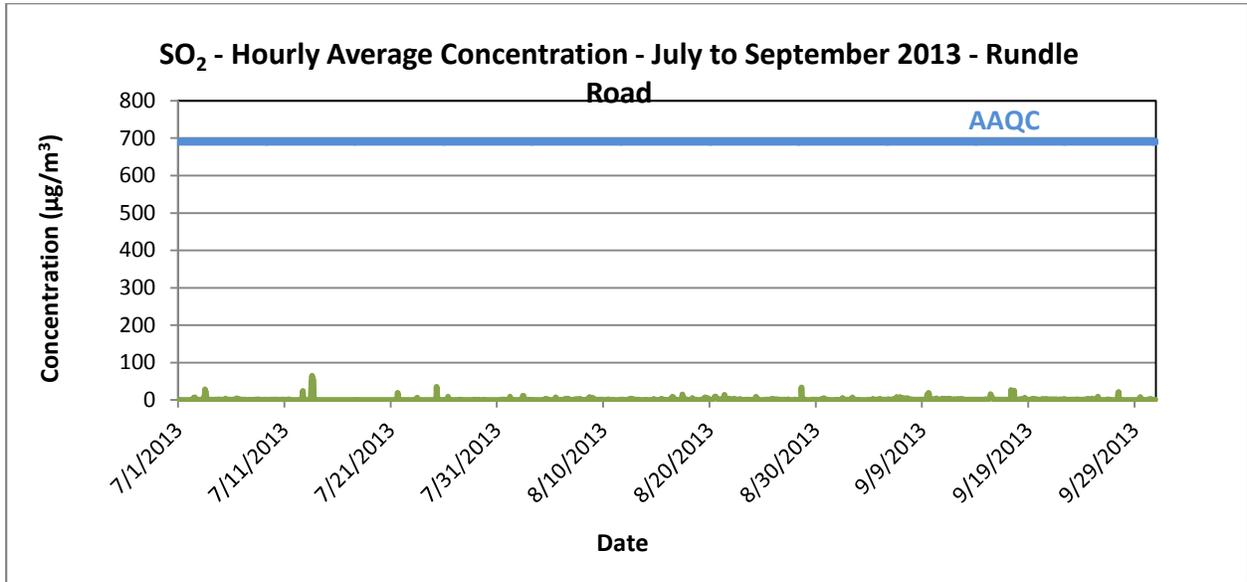


Figure A-2 Time History Plots – SO₂ – Rundle Road Station



**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY
CENTRE – JULY TO SEPTEMBER 2013**

Appendix B
NO₂ Data Summaries and Time History Plots
April 28, 2014

Appendix B
NO₂ Data Summaries and Time History Plots

NO₂ - COURTICE
July 2013
(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	3.6	4.2	3.8	3.6	9.1	6.9	3.3	2.4	2.2	2.0	2.6	2.8	2.6	2.9	3.9	2.1	2.0	2.1	1.9	3.3	2.4	5.1	2.6	2.4	24	9.1	1.9	3.3	0	0	
2	2.7	2.8	6.3	2.5	3.5	6.3	16.3	10.7	6.5	8.2	5.0	1.5	0.9	1.2	0.9	0.6	0.4	0.2	0.2	0.5	3.3	38.3	31.2	33.4	24	38.3	0.2	7.6	0	0	
3	18.1	15.2	14.5	26.2	26.4	16.4	12.8	6.9	3.9	2.8	1.7	1.1	0.5	0.4	0.0	0.0	0.0	0.4	0.0	4.2	21.7	33.8	35.3	39.2	24	39.2	0.0	11.7	0	0	
4	17.0	4.9	15.1	13.3	0.2	0.0	0.0	0.0	1.7	1.9	2.0	1.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	1.3	24	17.0	0.0	2.5	0	0	
5	0.9	0.7	0.9	2.9	2.6	2.7	2.2	2.4	0.8	3.1	1.8	1.9	0.7	1.5	0.0	0.0	0.6	1.3	1.3	1.6	3.8	13.2	41.3	51.6	24	51.6	0.0	5.8	0	0	
6	31.3	29.5	28.5	29.9	26.9	28.4	25.8	14.0	5.1	2.8	2.3	0.6	0.9	0.0	0.0	0.0	0.0	0.0	0.2	0.0	12.5	5.4	3.0	3.5	24	31.3	0.0	10.4	0	0	
7	12.8	13.1	1.2	5.7	0.0	0.0	0.0	0.9	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.1	0.0	0.4	3.1	3.0	19.9	1.1	24	19.9	0.0	2.7	0	0	
8	0.2	1.6	3.5	24.5	14.8	13.0	11.4	7.8	8.2	8.5	12.8	10.9	8.6	0.6	0.0	0.0	0.0	0.3	6.9	17.4	10.9	23.1	11.2	10.9	24	24.5	0.0	8.6	0	0	
9	5.4	5.1	16.8	22.4	22.3	26.8	7.1	3.6	1.8	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	2.0	1.7	7.8	24	26.8	0.0	5.7	0	0	
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	4.2	4.9	3.0	1.2	2.6	3.6	24	6.7	0.0	1.1	0	0	
11	3.0	2.1	3.1	3.8	6.6	6.0	3.4	2.6	1.6	0.6	1.3	0.5	1.3	1.2	1.4	1.1	0.8	0.7	1.3	10.3	7.4	4.7	2.7	3.9	24	10.3	0.5	3.0	0	0	
12	2.2	2.4	5.7	9.7	11.2	11.9	10.1	14.1	4.8	2.7	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	33.6	31.6	28.3	24	33.6	0.0	7.3	0	0	
13	17.2	14.6	14.2	8.6	6.2	6.2	8.9	3.5	2.4	3.3	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	7.9	18.5	18.8	10.1	24	18.8	0.0	6.4	0	0	
14	6.8	4.8	5.3	4.8	5.1	9.7	9.5	2.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.2	24.2	33.0	24	33.0	0.0	4.5	0	0	
15	30.3	26.3	24.8	22.3	28.2	24.8	12.2	11.1	7.3	13.0	6.0	2.3	1.1	0.2	0.0	0.2	0.6	0.0	0.0	0.0	61.1	86.9	76.1	57.0	24	86.9	0.0	20.5	0	0	
16	35.9	15.1	7.4	4.9	9.2	12.7	7.2	5.4	7.9	6.0	2.6	1.3	1.1	0.3	0.0	0.0	0.0	0.0	0.1	0.7	14.9	74.5	78.1	86.9	24	86.9	0.0	15.5	0	0	
17	72.4	49.3	40.5	49.0	44.9	43.7	30.9	23.3	13.1	9.1	6.2	4.4	2.9	2.6	2.7	2.6	3.7	5.2	1.9	5.2	22.6	21.1	35.8	65.1	24	72.4	1.9	23.3	0	0	
18	52.0	37.7	28.3	37.9	27.8	36.1	34.1	15.7	7.5	7.0	5.9	3.9	2.2	5.9	4.0	3.9	2.8	1.9	3.2	3.0	25.2	59.4	19.3	2.1	24	59.4	1.9	17.8	0	0	
19	0.6	1.6	1.2	1.4	0.9	1.1	1.2	0.5	2.8	2.1	1.2	0.3	0.0	0.3	0.0	2.1	6.0	3.4	0.6	0.8	1.3	0.6	1.0	2.2	24	6.0	0.0	1.4	0	0	
20	2.0	1.4	0.1	0.5	1.0	2.3	10.4	2.8	2.5	2.5	2.2	1.1	2.3	2.0	1.8	0.5	0.1	0.6	2.0	4.1	5.2	3.2	3.4	7.0	24	10.4	0.1	2.6	0	0	
21	4.2	3.5	1.2	1.4	1.1	1.8	1.1	0.4	0.5	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.9	31.8	22.5	10.5	24	31.8	0.0	4.0	0	0	
22	13.1	12.2	10.3	12.7	22.9	15.6	24.6	23.8	27.0	4.2	0.9	0.2	0.4	0.5	1.7	1.9	8.0	0.7	8.4	4.5	9.1	15.0	29.7	25.8	24	29.7	0.2	11.4	0	0	
23	24.7	20.2	14.1	23.5	30.6	28.7	27.7	14.3	8.5	6.6	9.3	14.7	6.8	0.9	0.4	0.6	3.0	1.9	2.5	2.8	2.0	11.6	7.1	3.2	24	30.6	0.4	11.1	0	0	
24	8.6	5.2	3.0	1.7	3.3	4.5	3.7	2.4	1.5	0.9	0.6	1.1	1.0	0.4	0.3	0.0	0.0	0.0	0.0	1.6	10.9	5.4	6.1	6.9	24	10.9	0.0	2.9	0	0	
25	4.9	2.4	4.0	6.8	10.2	8.5	13.8	12.0	6.9	3.9	2.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.6	43.2	34.8	29.3	24	45.6	0.0	9.6	0	0	
26	21.2	17.0	18.2	20.7	26.5	25.1	22.1	20.1	13.7	3.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.9	6.2	38.9	27.7	29.0	15.1	24	38.9	0.0	12.8	0	0	
27	13.9	12.7	8.1	7.2	11.3	13.1	12.5	10.2	5.0	3.4	1.7	1.0	1.1	3.4	7.8	2.5	0.2	0.2	1.4	0.7	9.2	7.6	1.3	4.7	24	13.9	0.2	5.8	0	0	
28	0.7	0.5	1.0	0.8	3.3	3.4	1.2	0.7	0.4	1.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.4	1.3	1.8	1.2	2.7	24	3.4	0.0	0.9	0	0	
29	9.5	30.6	24.6	14.6	12.0	28.4	21.1	7.3	7.8	9.5	11.6	5.7	3.9	3.7	2.2	1.3	0.2	0.5	4.0	5.1	35.5	16.0	11.0	35.2	24	35.5	0.2	12.5	0	0	
30	22.6	22.9	26.7	19.7	24.1	20.6	13.9	9.2	5.7	11.1	13.2	15.5	9.7	1.2	0.0	0.0	0.0	0.0	0.0	2.5	48.7	27.7	39.3	26.7	24	48.7	0.0	15.0	0	0	
31	15.5	21.2	16.4	12.5	14.5	22.4	22.9	8.3	2.0	0.0	0.0	A	A	0.8	0.4	0.6	2.9	0.6	2.0	0.0	0.3	17.2	13.0	27.6	22	27.6	0.0	9.1	0	0	
Count	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	742	31	30	31			
Maximum	72.4	49.3	40.5	49.0	44.9	43.7	34.1	23.8	27.0	13.0	13.2	15.5	9.7	5.9	7.8	3.9	8.0	6.7	8.4	17.4	61.1	86.9	78.1	86.9	24	86.9	3.9	33.6			
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.6	1.1	22	3.4	0.0	0.1			
Average	14.6	12.3	11.2	12.8	13.1	13.8	12.0	7.7	5.2	3.9	3.5	2.5	1.6	1.0	0.9	0.7	1.1	0.9	1.4	2.6	14.3	20.4	20.5	20.6	24	32	0	8.3			
Percentiles		10		20		30		40				50		60		70		80		90		95		99		100					Maximum
Data		0.0		0.2		0.8		1.7				2.8		4.8		8.2		13.9		25.7		33.4		60.4		86.9					86.9
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																					

NO₂ - COURTICE
August 2013
(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	7.9	6.2	5.2	11.6	10.8	16.8	8.4	9.1	10.5	4.0	2.0	1.9	1.1	0.8	0.3	0.0	0.3	15.1	24.5	45.8	40.8	25.0	20.1	24	45.8	0.0	11.2	0	0		
2	27.3	3.8	6.8	7.2	10.0	5.2	27.8	32.4	17.9	19.5	14.2	10.6	11.0	5.4	4.6	5.8	2.4	6.5	14.2	1.5	16.6	48.9	32.2	24.5	24	48.9	1.5	14.8	0	0	
3	28.8	21.8	16.1	22.5	14.0	8.8	5.9	2.7	0.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.0	2.4	5.7	5.2	9.7	4.4	24	28.8	0.0	6.3	0	0	
4	2.9	2.2	3.3	5.9	1.6	2.2	1.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.1	2.5	11.6	16.1	13.8	11.6	24	16.1	0.0	3.2	0	0	
5	12.8	11.2	8.8	11.6	17.4	17.2	8.2	9.4	1.7	1.6	2.8	4.2	2.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	1.5	24.7	41.9	38.7	24	41.9	0.0	9.1	0	0	
6	28.7	28.9	27.8	28.7	26.1	24.7	31.5	20.0	9.6	6.6	1.5	3.2	6.6	10.4	15.1	8.9	2.3	0.0	6.2	3.7	6.4	12.3	20.1	10.0	24	31.5	0.0	14.2	0	0	
7	20.5	13.2	1.9	3.1	2.9	2.8	21.6	28.4	20.1	18.7	19.5	6.4	7.5	3.9	12.9	15.7	2.2	0.1	0.8	0.8	0.3	7.2	27.1	27.4	24	28.4	0.1	11.0	0	0	
8	35.0	27.7	21.7	16.0	18.5	28.6	27.4	17.2	4.4	3.1	4.6	0.5	1.0	2.5	0.9	0.0	0.0	0.0	0.0	11.4	11.7	4.2	3.6	1.7	24	35.0	0.0	10.1	0	0	
9	1.1	0.4	0.9	3.6	2.8	3.3	3.3	3.7	2.1	2.1	0.4	0.0	0.0	0.0	3.1	2.4	3.1	2.1	0.0	2.1	28.1	19.7	19.5	16.8	24	28.1	0.0	5.0	0	0	
10	4.8	2.7	3.5	6.8	2.9	2.4	2.5	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	6.3	12.8	27.3	26.1	19.0	24	27.3	0.0	5.0	0	0	
11	17.8	16.5	15.6	14.1	7.8	13.6	8.0	2.9	1.0	2.9	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	3.0	0.0	0.0	12.5	33.5	24	33.5	0.0	6.3	0	0	
12	22.3	21.6	21.1	21.3	22.9	25.0	24.5	22.6	17.2	16.6	12.5	8.8	5.2	0.2	0.5	0.4	0.1	0.1	0.0	0.8	0.9	0.7	0.6	0.7	24	25.0	0.0	10.3	0	0	
13	34.9	20.6	2.7	3.4	17.6	23.1	18.9	5.8	3.1	1.9	0.8	0.9	1.7	1.1	0.7	0.8	0.9	1.3	2.1	2.9	5.3	4.1	4.5	3.1	24	34.9	0.7	6.8	0	0	
14	2.0	5.6	6.8	6.6	2.3	2.4	1.9	1.4	2.3	1.0	0.4	0.5	0.6	0.8	0.2	1.6	1.2	3.2	2.3	8.9	19.1	25.5	29.4	25.9	24	29.4	0.2	6.3	0	0	
15	28.8	27.0	14.1	16.5	29.1	28.0	22.8	16.0	12.3	15.8	11.9	14.5	12.2	6.3	1.1	0.0	0.0	0.0	0.2	1.0	23.2	45.3	41.7	37.7	24	45.3	0.0	16.9	0	0	
16	28.5	25.2	19.4	21.9	27.2	27.1	24.5	24.3	30.8	24.9	19.0	10.6	8.2	10.8	14.2	6.6	2.7	0.8	0.9	1.4	50.2	52.9	51.3	43.0	24	52.9	0.8	21.9	0	0	
17	27.1	18.6	19.4	20.7	22.4	17.6	11.6	9.2	6.6	1.1	0.7	0.5	1.5	1.8	1.1	0.3	0.0	0.0	0.0	21.5	30.7	22.8	16.6	13.8	24	30.7	0.0	11.1	0	0	
18	9.2	10.0	2.2	6.3	6.0	6.7	7.1	6.5	2.9	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	53.5	45.9	38.4	27.7	24	53.5	0.0	9.4	0	0	
19	26.5	25.1	26.3	29.9	37.5	35.0	31.7	20.0	17.0	24.3	16.9	14.5	17.8	12.9	13.0	6.6	1.4	0.7	0.7	1.1	1.8	1.7	2.7	4.1	24	37.5	0.7	15.4	0	0	
20	55.9	48.6	43.8	42.3	49.6	46.4	42.3	25.6	13.4	11.0	6.8	10.0	8.7	3.8	2.4	1.0	1.0	0.7	0.9	2.5	1.6	0.9	1.4	1.7	24	55.9	0.7	17.6	0	0	
21	20.8	40.1	36.7	33.4	3.5	0.8	0.3	1.8	1.1	1.7	5.0	2.7	0.7	0.0	0.2	0.0	0.0	0.0	0.0	0.5	2.1	2.7	3.2	24	40.1	0.0	6.6	0	0		
22	2.7	2.6	1.8	0.9	0.6	0.3	0.6	0.2	2.7	5.1	7.3	7.0	4.1	3.0	3.1	2.0	1.9	3.0	3.9	11.9	7.2	11.0	11.0	10.3	24	11.9	0.2	4.3	0	0	
23	7.3	7.7	8.2	10.5	9.8	6.9	9.3	7.6	2.3	3.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	34.7	37.4	24.2	23.3	24	37.4	0.0	8.1	0	0	
24	15.9	15.4	6.8	4.8	4.0	10.4	7.6	10.3	4.5	0.4	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	11.4	40.1	34.6	16.9	13.2	24	40.1	0.0	8.2	0	0	
25	10.6	12.1	7.9	11.1	11.8	9.0	5.8	7.2	2.0	0.2	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.0	0.0	1.4	1.9	0.5	24	12.1	0.0	3.4	0	0	
26	0.0	0.0	0.4	0.5	1.0	2.4	15.7	4.4	3.5	10.9	33.1	20.5	7.9	9.3	15.0	12.3	26.9	8.0	10.7	14.7	11.3	31.0	18.6	25.2	24	33.1	0.0	11.8	0	0	
27	20.5	23.5	23.0	20.2	22.3	25.0	20.0	11.3	7.4	5.2	4.4	1.4	2.7	3.0	8.7	22.8	1.4	2.8	2.1	0.1	1.3	0.4	14.3	30.6	24	30.6	0.1	11.4	0	0	
28	28.4	19.7	8.8	14.4	28.7	36.3	31.5	12.5	12.1	12.3	19.3	6.1	4.5	4.8	12.3	7.9	0.0	1.2	0.0	25.3	49.6	34.2	27.9	24.9	24	49.6	0.0	17.6	0	0	
29	24.0	13.6	7.8	7.3	16.7	13.5	11.8	8.4	8.5	2.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.2	33.7	41.0	41.4	35.3	24	41.4	0.0	11.2	0	0	
30	23.1	22.2	21.2	22.8	23.7	29.8	33.0	24.6	10.4	7.2	7.1	8.2	1.4	0.6	0.4	0.0	0.7	1.2	8.1	5.3	2.5	1.9	0.7	0.4	24	33.0	0.0	10.7	0	0	
31	1.5	1.0	8.8	12.7	6.5	3.3	3.0	6.1	2.2	0.8	2.0	2.6	0.5	0.0	0.4	0.0	1.1	3.2	1.4	3.4	20.6	23.5	21.5	19.0	24	23.5	0.0	6.0	0	0	
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	31	31	31			
Maximum	55.9	48.6	43.8	42.3	49.6	46.4	42.3	32.4	30.8	24.9	33.1	20.5	17.8	12.9	15.1	22.8	26.9	8.0	15.1	25.3	53.5	52.9	51.3	43.0	24	55.9	8.0	34.0			
Minimum	0.0	0.0	0.4	0.5	0.6	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	24	11.9	0.0	0.1				
Average	18.6	16.0	12.9	14.1	14.8	15.3	15.2	11.4	7.4	6.7	6.3	4.4	3.5	2.7	3.6	3.1	1.6	1.2	2.4	5.7	17.0	20.1	19.3	17.8	24	35	0	10.0			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum
Data		0.0		0.5		1.4		2.6		4.8		8.4		13.0		20.1		27.4		34.1		48.8		55.9							55.9
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																					

NO ₂ - COURTICE																																
September 2013																																
(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	9.4	5.8	4.7	4.8	1.2	2.4	3.5	6.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.9	5.1	0.0	0.0	1.8	0.0	0.0	24	9.4	0.0	2.0	0	0		
2	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.7	1.9	2.6	4.0	4.5	2.4	0.9	0.0	1.2	0.5	1.0	3.0	3.1	7.4	4.5	3.0	3.9	24	7.4	0.0	1.9	0	0		
3	3.9	4.4	3.0	3.3	2.4	3.5	8.8	7.7	3.6	2.2	3.6	M	M	M	M	M	M	M	M	M	M	M	M	11	8.8	2.2		0	0			
4	M	M	M	M	M	M	M	M	M	M	C	C	C	3.0	1.9	6.1	10.0	6.6	5.5	7.9	5.1	8.6	7.9	17.0	11	17.0	1.9		0	0		
5	18.4	30.7	18.5	23.8	30.1	31.9	14.4	5.0	3.8	4.1	3.4	3.5	3.2	3.6	5.2	3.6	4.8	4.6	15.4	27.4	26.4	20.3	17.4	11.2	24	31.9	3.2	13.8	0	0		
6	9.0	9.3	12.7	18.9	32.9	35.2	31.9	20.9	16.5	24.0	14.0	9.1	11.1	3.6	1.7	6.9	4.8	4.1	3.4	3.4	10.5	3.0	5.0	10.1	24	35.2	1.7	12.6	0	0		
7	15.9	23.2	14.3	6.2	5.3	7.5	8.2	9.5	8.1	7.8	8.0	8.9	10.3	12.1	17.9	17.9	13.0	12.7	9.9	4.0	5.1	3.7	4.3	20.1	24	23.2	3.7	10.6	0	0		
8	15.1	3.1	2.2	1.4	3.3	1.9	2.8	2.8	1.8	1.6	1.6	1.3	1.2	1.1	1.2	1.6	0.8	0.8	3.4	4.8	36.0	34.2	16.3	15.2	24	36.0	0.8	6.5	0	0		
9	12.9	15.2	17.9	21.0	25.6	24.0	24.5	27.4	28.9	7.8	2.0	2.0	2.2	2.1	1.7	2.2	1.8	6.1	13.6	6.2	10.5	29.3	35.8	26.3	24	35.8	1.7	14.5	0	0		
10	29.5	26.8	15.1	9.4	5.0	6.4	11.2	8.3	7.8	3.5	3.5	2.9	2.5	2.3	3.0	3.0	2.6	2.8	4.6	5.0	3.6	2.8	2.9	3.9	24	29.5	2.3	7.0	0	0		
11	5.7	3.2	2.9	3.1	4.3	8.3	3.4	7.4	5.5	4.5	3.4	2.9	2.7	2.9	3.4	2.8	2.9	5.4	10.6	27.5	60.7	52.1	20.0	30.1	24	60.7	2.7	11.5	0	0		
12	24.0	9.8	2.9	4.0	2.7	1.8	2.5	3.0	4.2	9.4	12.6	9.8	11.0	11.3	10.2	9.2	4.7	3.8	11.9	12.9	7.0	4.7	5.2	3.3	24	24.0	1.8	7.6	0	0		
13	3.4	3.0	2.5	3.0	6.1	9.1	9.1	10.1	6.5	5.3	4.4	6.3	4.4	6.5	6.9	5.9	10.5	7.0	6.8	6.4	9.1	13.5	15.5	16.9	24	16.9	2.5	7.4	0	0		
14	4.3	4.8	6.3	5.8	8.3	6.6	9.8	4.9	3.2	1.4	1.5	1.7	1.9	4.9	5.6	4.9	5.1	4.9	3.1	16.8	34.0	25.8	21.6	21.3	24	34.0	1.4	8.7	0	0		
15	22.4	27.2	21.6	20.1	26.4	23.9	22.5	25.7	21.6	14.7	10.3	12.3	7.5	3.7	4.4	5.8	4.5	3.7	11.4	12.4	8.6	9.3	26.2	47.0	24	47.0	3.7	16.4	0	0		
16	35.8	35.4	29.8	27.8	35.1	16.6	5.5	5.7	4.5	3.0	3.5	3.1	2.0	1.7	2.6	2.4	5.6	5.9	22.7	35.7	28.7	21.9	20.2	20.1	24	35.8	1.7	15.6	0	0		
17	21.1	19.2	14.7	23.1	25.1	32.7	29.9	20.2	14.2	9.9	11.0	5.2	1.6	4.7	5.7	10.1	2.3	2.8	12.1	51.4	43.8	31.6	31.3	22.4	24	51.4	1.6	18.6	0	0		
18	19.3	21.1	22.7	29.3	33.6	35.4	35.8	29.0	21.7	12.8	8.4	5.6	4.5	4.2	6.3	20.5	3.7	1.8	1.8	40.8	51.6	37.0	36.0	27.8	24	51.6	1.8	21.3	0	0		
19	30.3	22.2	27.6	40.3	44.2	44.0	42.7	39.2	17.5	10.5	6.3	9.0	5.3	3.5	3.8	3.3	2.9	2.9	2.6	5.6	14.5	40.6	43.0	32.2	24	44.2	2.6	20.6	0	0		
20	34.4	42.5	30.2	38.4	36.0	45.2	44.4	16.7	6.1	5.1	4.4	3.0	3.2	3.8	3.2	4.0	7.5	11.1	22.3	25.8	9.7	2.1	2.5	7.7	24	45.2	2.1	17.1	0	0		
21	14.2	14.5	3.0	2.4	4.6	7.2	24.1	1.5	1.3	0.6	0.9	1.1	1.9	2.0	2.9	2.1	2.2	2.5	3.8	7.7	6.0	5.9	6.5	6.6	24	24.1	0.6	5.2	0	0		
22	4.8	5.3	4.3	3.8	4.9	3.9	6.5	3.6	2.9	2.3	2.1	2.6	2.2	1.5	2.4	3.6	3.0	7.3	11.2	18.4	20.8	16.4	17.1	18.7	24	20.8	1.5	7.0	0	0		
23	13.6	6.3	4.8	12.2	18.7	16.9	16.3	10.8	3.0	2.7	2.1	2.4	2.2	2.0	2.7	3.4	4.6	7.7	21.8	24.1	29.4	25.0	9.4	12.7	24	29.4	2.0	10.6	0	0		
24	6.3	6.9	9.7	18.9	25.0	24.3	19.1	11.9	8.6	3.7	2.8	6.0	3.3	3.1	5.9	10.4	15.8	17.5	17.2	48.9	42.6	22.5	16.5	7.6	24	48.9	2.8	14.8	0	0		
25	4.1	6.1	8.7	9.4	18.8	18.8	23.7	20.0	C	C	7.1	4.3	3.5	1.9	2.7	2.5	1.3	2.8	21.3	55.5	46.8	45.4	45.0	39.7	22	55.5	1.3	17.7	0	0		
26	19.3	25.1	28.9	36.5	35.8	37.0	31.9	30.3	23.2	14.7	2.3	2.0	1.6	0.8	0.7	0.4	0.5	0.3	30.4	52.9	48.9	41.0	35.7	25.9	24	52.9	0.3	21.9	0	0		
27	22.2	18.2	13.9	19.3	28.6	21.6	25.7	R	24.0	11.2	1.2	0.8	1.1	0.8	0.7	0.5	0.4	0.7	19.9	45.0	40.1	34.1	27.8	20.2	23	45.0	0.4	16.4	0	0		
28	17.9	14.4	10.4	15.5	10.4	12.2	19.7	12.9	13.1	5.9	2.8	2.2	0.8	0.5	0.4	1.2	4.0	2.8	13.6	14.9	14.4	13.5	4.5	2.4	24	19.7	0.4	8.8	0	0		
29	2.3	2.7	1.7	1.5	1.7	2.1	2.4	2.3	2.7	2.5	2.0	1.6	1.5	1.4	2.5	7.4	13.1	5.9	12.7	5.2	32.5	33.9	36.7	35.7	24	36.7	1.4	8.9	0	0		
30	22.0	23.5	29.5	21.6	14.6	23.8	8.6	4.6	3.3	3.8	6.3	6.4	6.4	8.2	6.8	2.9	2.1	2.2	2.8	4.0	5.0	2.0	2.3	3.2	24	29.5	2.0	9.0	0	0		
31																									0	0.0	0.0				0	0
Count	29	29	29	29	29	29	29	28	28	28	29	28	28	29	29	29	29	29	29	29	29	29	29	29	29	691	29	28	29			
Maximum	35.8	42.5	30.2	40.3	44.2	45.2	44.4	39.2	28.9	24.0	14.0	12.3	11.1	12.1	17.9	20.5	15.8	17.5	30.4	55.5	60.7	52.1	45.0	47.0	24	60.7	11.1	32.8				
Minimum	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	1.8	0.0	0.0	1.8	0.0	0.0	0	0	0.0					
Average	15.2	14.8	12.6	14.6	16.9	17.4	16.9	12.4	9.3	6.3	4.7	4.3	3.6	3.4	3.9	5.0	4.7	4.8	11.2	19.8	22.7	20.2	17.8	17.6	22	32	2	11.9				
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum	
Data		1.7		2.6		3.4		4.6		6.3		9.4		14.5		21.6		30.1		36.0		48.9		60.7							60.7	
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																						

NO₂ - RUNDLE
July 2013
(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	3.5	3.5	3.3	3.7	3.9	3.4	3.4	3.4	3.2	2.9	3.1	3.0	3.3	3.2	3.2	3.1	2.9	3.0	2.8	2.8	3.0	3.7	2.5	2.4	24	3.9	2.4	3.2	0	0	
2	2.4	4.3	6.0	9.6	3.2	3.5	9.7	6.5	5.8	5.6	6.8	7.7	8.7	7.3	9.7	7.0	5.9	7.5	12.5	29.9	23.1	9.9	8.0	6.9	24	29.9	2.4	8.6	0	0	
3	6.3	5.2	4.7	12.1	8.1	6.2	11.9	12.2	17.3	11.5	9.3	9.8	12.4	21.2	20.5	22.8	9.7	13.5	8.7	17.0	10.6	12.3	10.1	9.0	24	22.8	4.7	11.8	0	0	
4	7.3	9.2	4.2	4.5	37.2	24.9	17.5	16.1	12.5	12.0	11.2	10.8	6.5	4.9	5.4	4.4	3.8	12.3	7.0	21.6	10.3	14.3	16.8	11.4	24	37.2	3.8	11.9	0	0	
5	10.2	10.6	13.2	9.9	23.0	16.4	18.7	14.6	10.5	14.3	10.0	9.1	9.8	11.3	9.7	12.5	10.9	8.6	14.8	19.6	25.8	24.2	10.5	6.2	24	25.8	6.2	13.5	0	0	
6	6.0	8.7	5.9	18.4	33.7	26.1	20.7	19.6	12.5	8.7	7.0	9.2	5.4	4.4	3.0	3.3	4.7	4.5	5.3	14.5	15.2	14.2	11.1	17.1	24	33.7	3.0	11.6	0	0	
7	7.8	10.7	3.3	4.3	8.3	4.3	6.3	5.9	4.9	4.3	3.9	7.0	2.8	2.7	2.7	3.1	5.9	1.9	4.4	15.3	12.4	8.9	11.0	10.6	24	15.3	1.9	6.4	0	0	
8	10.4	12.5	15.1	14.6	21.3	26.0	25.2	18.9	15.3	10.1	12.0	8.6	9.8	6.1	7.2	10.3	18.4	20.6	13.2	11.6	25.6	11.7	17.1	31.2	24	31.2	6.1	15.5	0	0	
9	30.8	20.6	15.3	9.7	30.6	14.9	18.7	17.9	10.2	6.8	6.4	6.1	4.3	5.6	6.8	5.0	6.2	6.9	7.9	18.2	15.6	18.8	21.3	8.3	24	30.8	4.3	13.0	0	0	
10	13.4	18.0	10.1	6.0	10.0	10.4	10.5	14.8	6.8	9.1	7.9	4.8	5.1	5.2	5.0	6.0	16.8	3.1	5.5	2.4	2.2	2.6	2.2	2.3	24	18.0	2.2	7.5	0	0	
11	3.0	2.9	2.7	2.9	3.2	3.4	4.0	3.9	2.9	3.0	2.9	3.7	7.9	10.8	7.0	7.5	7.1	12.5	14.6	2.7	3.1	2.9	2.9	3.0	24	14.6	2.7	5.0	0	0	
12	3.2	4.1	5.5	7.3	5.9	6.2	5.9	5.5	14.0	8.7	8.9	7.1	10.1	5.1	5.1	12.3	9.6	19.1	38.0	31.6	30.2	28.1	24.7	16.5	24	38.0	3.2	13.0	0	0	
13	10.3	5.9	5.3	4.3	3.9	5.2	4.4	4.1	5.1	6.1	4.1	6.1	11.4	23.8	17.2	27.6	10.3	31.3	17.8	9.1	15.3	10.4	7.5	5.1	24	31.3	3.9	10.5	0	0	
14	5.2	4.8	3.8	3.7	3.5	3.8	5.8	10.1	4.2	4.6	3.3	4.1	2.8	4.0	3.3	4.0	6.7	5.1	10.7	19.8	19.2	8.4	7.5	6.3	24	19.8	2.8	6.4	0	0	
15	4.7	4.6	5.0	5.9	5.3	5.3	5.5	5.4	4.0	8.2	11.0	7.1	7.6	5.6	6.2	8.6	6.4	8.6	9.8	16.9	20.5	15.0	20.6	12.9	24	20.6	4.0	8.8	0	0	
16	9.9	5.3	3.2	3.0	3.4	3.4	3.1	3.6	11.2	29.0	11.2	7.5	6.0	6.6	6.0	5.5	4.0	5.4	13.1	17.1	12.7	9.5	16.6	20.5	24	29.0	3.0	9.0	0	0	
17	14.7	14.7	8.9	6.7	7.7	8.7	26.1	29.0	15.2	13.6	15.8	12.3	10.0	9.0	10.6	9.0	5.4	4.7	3.0	2.9	3.2	3.4	4.9	9.8	24	29.0	2.9	10.4	0	0	
18	7.8	6.0	5.9	5.6	7.1	9.0	18.0	7.8	6.8	15.4	15.7	11.4	16.3	15.1	14.4	16.6	8.7	14.2	15.3	14.2	22.0	8.4	18.5	17.4	24	22.0	5.6	12.4	0	0	
19	6.1	17.7	5.6	7.2	7.7	9.6	10.0	11.9	7.5	8.5	6.3	4.9	4.7	6.4	4.2	3.9	6.3	11.1	9.4	12.1	9.5	17.3	12.8	10.4	24	17.7	3.9	8.8	0	0	
20	9.9	10.6	4.7	5.2	7.4	8.4	10.3	3.1	3.3	3.4	3.3	3.7	4.5	11.1	8.1	5.9	6.4	5.6	4.4	3.6	5.0	5.9	3.5	3.8	24	11.1	3.1	5.9	0	0	
21	3.5	3.6	3.5	2.6	2.7	2.8	5.7	4.5	2.6	3.9	4.1	6.1	3.0	3.4	2.8	2.8	11.2	7.8	5.8	12.5	11.3	8.1	6.2	5.1	24	12.5	2.6	5.2	0	0	
22	4.7	4.0	3.7	3.1	4.1	11.9	12.4	10.6	8.7	6.3	6.1	5.3	5.3	4.9	5.0	7.1	7.4	16.3	15.4	28.9	22.9	13.5	12.1	8.6	24	28.9	3.1	9.5	0	0	
23	6.1	4.7	4.7	4.2	4.1	7.6	7.4	16.7	9.5	9.0	16.1	19.9	11.4	8.5	8.9	15.6	5.9	2.8	2.4	2.4	2.3	2.8	4.6	8.4	24	19.9	2.3	7.7	0	0	
24	6.7	2.8	2.7	2.7	3.0	3.1	3.1	3.0	2.5	2.4	2.4	2.6	2.3	2.3	2.4	4.7	9.3	7.0	7.7	24.2	4.0	3.0	2.9	3.0	24	24.2	2.3	4.6	0	0	
25	2.4	2.4	2.2	2.1	3.0	10.6	12.5	8.4	22.1	11.0	5.1	4.2	8.5	4.0	3.9	4.0	5.7	7.2	7.2	11.9	9.4	8.8	7.7	5.9	24	22.1	2.1	7.1	0	0	
26	5.1	3.3	3.7	5.3	8.1	6.2	5.6	12.6	5.0	7.7	6.6	5.0	8.3	8.3	4.1	7.7	7.2	5.7	9.5	15.3	14.3	8.9	5.9	4.6	24	15.3	3.3	7.3	0	0	
27	6.8	7.0	5.5	4.3	4.0	4.3	5.1	6.1	13.0	12.6	5.7	9.2	10.4	8.2	8.5	10.2	9.5	6.5	13.7	14.6	12.2	10.8	5.2	4.2	24	14.6	4.0	8.2	0	0	
28	4.9	3.8	4.9	4.5	7.4	8.3	11.0	10.9	4.1	7.4	3.1	5.7	3.4	4.0	3.1	6.3	5.0	5.3	11.4	14.9	10.2	9.1	9.9	9.6	24	14.9	3.1	7.0	0	0	
29	16.9	23.4	30.4	26.1	19.2	21.7	22.6	17.9	13.2	14.2	16.2	12.2	11.8	11.3	6.7	7.1	6.3	7.1	16.3	17.6	13.3	5.4	5.9	4.0	24	30.4	4.0	14.4	0	0	
30	19.2	22.8	16.8	6.4	7.4	7.5	10.8	13.2	5.8	13.3	18.2	17.5	12.7	6.3	5.7	5.2	6.9	7.5	13.9	18.7	6.6	3.5	7.8	4.3	24	22.8	3.5	10.7	0	0	
31	3.9	6.7	4.6	4.0	7.0	22.0	12.8	16.4	11.6	5.8	A	11.2	10.7	9.7	11.3	7.9	14.8	28.0	35.0	28.8	22.5	12.9	15.2	9.9	23	35.0	3.9	13.6	0	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	743	31	30	31			
Maximum	30.8	23.4	30.4	26.1	37.2	26.1	26.1	29.0	22.1	29.0	18.2	19.9	16.3	23.8	20.5	27.6	18.4	31.3	38.0	31.6	30.2	28.1	24.7	31.2	24	38.0	16.3	26.7			
Minimum	2.4	2.4	2.2	2.1	2.7	2.8	3.1	3.0	2.5	2.4	2.4	2.6	2.3	2.3	2.4	2.8	2.9	1.9	2.4	2.4	2.2	2.6	2.2	2.3	23	3.9	1.9	2.5			
Average	8.2	8.5	6.9	6.8	9.8	9.8	11.1	10.8	8.7	9.0	8.1	7.8	7.7	7.8	7.0	8.3	7.9	9.7	11.5	15.2	13.3	10.2	10.1	9.0	24	23	3	9.3			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum
Data		3.1		4.0		5.1		6.1		7.4		9.1		10.8		13.5		17.9		22.6		30.7		38.0							38.0
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																					

NO₂ - RUNDLE
August 2013
(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	3.7	3.7	6.5	6.0	5.3	17.1	12.8	5.3	4.2	3.6	2.9	3.0	3.0	2.9	6.5	12.8	14.0	3.4	5.2	4.6	5.5	6.2	5.5	24	17.1	2.9	6.2	0	0	
2	3.1	2.7	2.8	2.8	11.3	26.4	28.9	20.1	17.7	17.8	18.1	15.9	18.7	12.5	15.8	11.6	18.0	14.4	20.3	31.6	34.6	19.8	11.7	8.5	24	34.6	2.7	16.0	0	0	
3	8.7	7.0	8.5	21.3	11.3	13.9	8.0	2.8	2.6	2.3	2.3	2.2	2.5	3.5	4.3	5.6	5.7	2.0	2.3	2.8	2.7	2.9	3.5	3.7	24	21.3	2.0	5.5	0	0	
4	8.0	10.0	6.3	4.8	2.3	2.3	2.1	1.9	1.7	1.8	1.8	1.9	1.8	1.7	2.0	2.0	2.0	2.0	2.2	2.6	4.3	4.2	4.7	4.7	24	10.0	1.7	3.3	0	0	
5	4.5	4.3	2.8	2.3	2.3	3.3	8.5	8.3	6.9	6.8	5.8	6.5	6.1	6.4	3.3	5.4	6.6	7.7	6.9	12.9	15.8	10.8	7.9	7.1	24	15.8	2.3	6.6	0	0	
6	9.2	20.9	12.1	8.5	7.2	7.6	8.3	16.6	14.4	7.5	5.6	4.3	7.0	3.5	5.7	7.2	5.7	8.1	11.8	10.0	10.7	12.5	22.5	12.0	24	22.5	3.5	10.0	0	0	
7	12.2	17.8	15.9	14.8	15.0	14.9	25.4	25.2	10.1	7.7	8.2	17.1	17.0	16.7	13.6	8.9	13.7	9.2	19.6	20.4	10.9	9.4	7.5	5.5	24	25.4	5.5	14.0	0	0	
8	5.4	5.4	14.3	4.5	4.6	5.7	8.8	11.8	3.7	3.4	10.5	6.2	6.1	6.3	8.0	8.5	6.7	11.3	13.4	5.4	7.7	3.0	2.7	2.7	24	14.3	2.7	6.9	0	0	
9	2.4	2.3	2.4	2.5	2.9	3.0	3.4	3.3	3.7	3.0	2.7	2.5	4.8	7.0	7.7	9.5	13.3	10.9	8.4	12.3	8.1	8.5	5.1	6.6	24	13.3	2.3	5.7	0	0	
10	4.1	3.2	2.9	3.3	3.1	3.3	2.9	2.6	2.5	2.2	2.3	2.1	2.2	2.7	6.4	4.3	3.2	1.9	2.5	2.7	10.2	7.2	4.3	4.0	24	10.2	1.9	3.6	0	0	
11	7.7	5.3	3.6	4.1	5.3	3.5	6.9	9.6	5.5	5.7	6.2	4.0	4.0	4.2	3.0	6.7	4.2	9.7	10.3	13.6	14.3	6.3	7.5	9.4	24	14.3	3.0	6.7	0	0	
12	9.2	7.3	6.1	5.8	5.3	5.3	6.8	16.6	19.0	17.3	11.6	7.8	8.5	9.0	7.6	9.5	8.7	7.8	17.5	18.7	11.9	8.5	12.0	14.3	24	19.0	5.3	10.5	0	0	
13	7.2	27.0	18.2	17.3	12.4	9.6	11.8	5.6	3.7	3.1	2.9	3.2	3.0	2.8	2.6	2.7	2.7	3.0	2.7	3.1	2.7	3.0	2.6	4.6	24	27.0	2.6	6.6	0	0	
14	5.1	3.0	2.8	2.7	2.5	2.6	2.4	3.0	3.1	2.4	2.3	2.2	2.1	2.1	2.2	2.6	2.5	2.8	2.8	3.2	4.4	4.1	6.9	7.8	24	7.8	2.1	3.2	0	0	
15	6.0	5.2	4.1	8.4	5.3	5.3	14.7	13.8	18.5	23.0	25.3	25.1	19.5	12.6	10.7	7.4	18.9	8.6	12.1	26.6	23.3	9.9	8.6	7.5	24	26.6	4.1	13.3	0	0	
16	3.8	3.7	3.2	4.1	4.3	5.5	5.6	15.9	29.9	28.3	22.4	22.5	21.0	17.1	14.2	10.5	10.6	8.7	12.0	10.5	11.5	6.5	6.9	6.8	24	29.9	3.2	11.9	0	0	
17	7.0	8.8	7.7	5.8	10.3	5.7	5.0	11.4	9.4	7.2	10.8	7.3	5.1	4.2	5.0	5.5	4.7	9.4	13.3	17.8	10.8	8.2	8.8	6.4	24	17.8	4.2	8.1	0	0	
18	6.9	4.9	3.6	3.2	4.2	3.3	3.7	5.4	7.3	5.5	5.6	3.8	3.5	3.9	4.1	8.9	4.9	8.3	12.2	16.7	13.7	14.8	7.0	5.4	24	16.7	3.2	6.7	0	0	
19	4.7	5.4	3.9	3.6	4.8	4.1	6.9	10.8	27.6	29.8	23.9	22.7	25.4	25.5	15.6	9.9	10.2	11.4	15.0	16.2	12.5	15.8	30.8	26.7	24	30.8	3.6	15.1	0	0	
20	35.2	23.8	14.7	10.4	6.6	8.7	8.7	18.2	14.6	16.4	25.1	20.5	14.7	10.5	11.2	10.0	10.5	10.7	22.1	27.2	16.8	13.4	19.6	14.1	24	35.2	6.6	16.0	0	0	
21	8.9	14.1	7.5	23.7	26.3	28.8	24.2	16.7	12.9	12.2	14.2	9.2	7.6	7.0	10.6	9.2	9.1	12.2	10.5	13.0	13.4	18.0	38.5	28.2	24	38.5	7.0	15.7	0	0	
22	24.4	19.2	12.3	15.8	20.1	18.4	14.2	14.0	12.1	17.2	17.7	21.1	9.2	5.7	4.1	3.7	3.4	2.9	2.8	2.7	3.0	3.1	3.5	3.7	24	24.4	2.7	10.6	0	0	
23	3.6	4.5	4.6	4.9	4.6	4.8	9.9	6.0	4.1	4.2	8.0	6.0	5.7	5.1	5.0	4.1	4.0	7.5	10.7	13.0	17.1	11.0	15.0	7.9	24	17.1	3.6	7.1	0	0	
24	9.1	6.3	5.7	4.3	4.2	4.1	5.6	5.0	11.9	6.8	3.8	3.8	4.2	3.6	3.5	5.7	4.1	3.4	15.5	12.5	8.2	8.3	7.4	6.7	24	15.5	3.4	6.4	0	0	
25	4.8	5.4	4.4	4.5	6.2	3.7	4.6	5.2	9.8	4.7	3.5	7.1	6.9	4.3	6.4	21.5	13.8	8.7	6.7	10.3	6.1	10.1	9.1	6.3	24	21.5	3.5	7.2	0	0	
26	9.3	6.8	10.5	9.1	13.2	19.3	19.1	18.5	12.9	17.5	37.9	27.0	16.9	30.6	23.7	20.4	20.3	23.7	22.9	19.7	21.4	20.6	17.9	14.4	24	37.9	6.8	18.9	0	0	
27	12.6	19.6	12.4	8.1	5.6	8.2	5.6	6.6	16.8	9.2	15.4	13.2	7.6	5.4	14.6	10.7	14.4	25.5	27.7	33.9	22.0	23.0	16.8	13.3	24	33.9	5.4	14.5	0	0	
28	8.6	7.1	4.7	4.8	5.8	10.2	8.8	11.0	10.9	10.0	6.8	5.0	10.1	5.6	7.9	7.3	23.2	14.0	15.8	16.7	21.1	12.6	7.8	5.2	24	23.2	4.7	10.0	0	0	
29	5.8	6.7	5.4	4.0	6.6	5.9	7.4	6.3	9.6	7.4	6.2	5.4	4.7	4.5	7.4	5.0	8.2	11.6	19.9	14.3	8.7	9.1	9.4	6.2	24	19.9	4.0	7.7	0	0	
30	7.2	8.8	5.4	5.8	7.0	6.4	8.7	16.4	17.1	15.3	14.9	14.5	15.8	10.2	7.6	10.5	8.9	10.0	13.7	16.9	15.6	13.6	11.9	18.2	24	18.2	5.4	11.7	0	0	
31	9.6	6.8	6.3	8.5	4.3	3.3	3.0	3.1	3.9	3.9	3.6	3.2	3.3	2.7	7.9	5.4	5.6	7.5	10.1	7.7	6.8	7.4	7.4	10.9	24	10.9	2.7	5.9	0	0	
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	31	31	31			
Maximum	35.2	27.0	18.2	23.7	26.3	28.8	28.9	25.2	29.9	29.8	37.9	27.0	25.4	30.6	23.7	21.5	23.2	25.5	27.7	33.9	34.6	23.0	38.5	28.2	24	38.5	18.2	28.1			
Minimum	2.4	2.3	2.4	2.3	2.3	2.3	2.1	1.9	1.7	1.8	1.8	1.9	1.8	1.7	2.0	2.0	2.0	1.9	2.2	2.6	2.7	2.9	2.6	2.7	24	7.8	1.7	2.2			
Average	8.4	8.9	7.1	7.4	7.4	8.1	9.6	10.5	10.6	9.8	10.6	9.6	8.6	7.7	7.9	8.0	9.0	9.3	11.8	13.6	12.1	10.0	10.7	9.2	24	22	4	9.4			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum
Data		2.8		3.8		5.0		6.1		7.4		8.9		11.0		14.4		19.0		23.6		30.3		38.5							38.5
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																					

NO ₂ - RUNDLE																															
September 2013																															
(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	8.7	5.6	4.2	4.2	4.3	3.6	3.7	4.6	4.5	5.7	2.6	5.4	4.2	6.5	3.5	2.9	3.4	3.4	8.3	10.4	6.2	4.9	5.7	6.8	24	10.4	2.6	5.1	0	0	
2	4.0	4.5	4.5	6.8	9.8	6.1	6.0	5.4	5.6	7.0	9.0	10.0	10.7	3.3	2.6	2.6	2.6	2.7	3.3	3.3	3.4	3.1	11.7	5.7	24	11.7	2.6	5.6	0	0	
3	9.9	11.9	11.2	14.3	12.4	14.0	16.6	9.3	6.2	5.5	5.6	5.1	5.2	4.3	4.5	4.1	4.3	4.3	6.9	14.8	8.7	19.9	22.8	27.4	24	27.4	4.1	10.4	0	0	
4	33.3	20.8	15.4	13.4	11.3	16.6	17.1	22.7	30.0	26.2	23.4	13.5	C	C	C	16.7	7.4	6.3	6.2	6.3	5.4	5.5	5.5	6.4	21	33.3	5.4	14.7	0	0	
5	8.1	5.9	10.9	27.7	12.5	15.5	7.3	6.2	5.5	5.4	5.2	5.3	5.4	5.6	5.6	6.1	5.6	5.6	6.9	8.7	9.8	8.4	6.8	6.3	24	27.7	5.2	8.2	0	0	
6	6.0	5.7	6.7	6.5	7.2	12.3	10.2	8.8	11.8	12.0	14.3	13.8	17.1	9.7	8.4	14.3	24.1	25.9	22.7	14.3	12.2	18.8	17.8	25.3	24	25.9	5.7	13.6	0	0	
7	20.8	29.7	27.2	19.2	18.4	19.8	16.8	20.6	28.4	20.3	17.7	17.4	17.4	19.8	25.2	23.9	21.9	23.1	15.1	13.2	15.0	15.1	24.3	20.6	24	29.7	13.2	20.5	0	0	
8	12.1	6.6	5.8	5.0	4.6	4.7	4.8	4.9	4.6	4.6	4.7	5.3	5.3	8.2	6.3	6.7	7.3	8.5	12.7	21.5	14.9	10.0	8.2	6.4	24	21.5	4.6	7.7	0	0	
9	8.1	5.8	6.1	5.8	6.2	8.4	11.1	19.4	23.5	21.0	11.5	12.8	15.7	10.2	10.9	25.7	20.5	17.8	29.1	14.4	21.0	29.3	15.4	10.3	24	29.3	5.8	15.0	0	0	
10	8.2	17.1	34.0	32.3	36.4	21.9	27.5	27.8	19.6	12.6	14.7	11.8	10.9	11.3	10.8	12.7	12.9	12.9	15.0	22.8	19.1	15.0	15.2	33.7	24	36.4	8.2	19.0	0	0	
11	37.6	13.5	20.7	22.9	21.7	19.5	21.3	28.9	20.1	13.8	16.0	11.6	13.8	14.8	12.9	13.6	20.2	12.5	15.6	30.5	25.6	25.0	26.1	18.2	24	37.6	11.6	19.9	0	0	
12	34.6	26.8	14.3	10.8	19.1	16.8	28.5	23.3	20.3	27.1	26.5	21.8	26.5	25.4	11.3	6.3	5.3	5.3	6.1	7.1	5.5	5.2	4.9	4.8	24	34.6	4.8	16.0	0	0	
13	4.8	4.6	4.6	4.6	5.4	7.0	7.9	8.4	7.9	7.6	7.2	7.4	6.8	6.7	6.5	6.2	6.1	6.3	6.4	6.5	6.8	5.9	7.3	5.9	24	8.4	4.6	6.5	0	0	
14	5.1	4.8	5.0	5.0	5.4	5.5	5.2	5.1	5.1	4.8	4.9	5.1	5.4	9.5	10.5	13.0	10.6	16.1	15.1	12.6	12.3	12.3	8.6	11.4	24	16.1	4.8	8.3	0	0	
15	18.6	17.1	13.0	10.5	13.2	11.7	9.6	14.8	25.5	20.4	15.0	19.8	13.8	11.9	12.9	16.1	15.6	12.4	15.0	14.2	18.0	22.2	30.6	22.8	24	30.6	9.6	16.5	0	0	
16	17.8	9.9	11.9	11.3	8.9	8.0	7.0	8.0	6.2	5.5	5.7	5.4	5.0	5.2	5.1	5.4	5.4	5.2	13.8	10.3	8.2	8.0	7.0	7.0	24	17.8	5.0	8.0	0	0	
17	8.4	7.2	5.8	6.7	7.8	10.3	15.3	21.9	10.5	15.1	8.5	6.2	9.2	6.1	6.5	20.6	17.6	11.2	13.5	14.1	10.4	8.7	8.4	8.6	24	21.9	5.8	10.8	0	0	
18	7.9	8.4	7.1	7.4	14.9	13.8	18.9	19.9	20.5	15.7	12.8	11.5	10.4	10.1	14.2	12.4	10.2	20.7	41.2	24.7	19.4	11.0	10.6	8.6	24	41.2	7.1	14.7	0	0	
19	8.8	7.1	9.5	12.0	10.5	13.1	19.6	31.8	21.9	14.9	14.6	16.8	12.1	11.1	15.4	13.1	15.2	26.5	35.7	31.2	43.1	24.7	15.7	12.3	24	43.1	7.1	18.2	0	0	
20	10.1	25.6	11.1	15.2	10.7	14.9	19.7	38.6	32.6	17.3	15.2	12.3	14.3	12.6	17.6	17.6	18.0	22.0	19.8	24.8	23.6	26.1	33.0	18.7	24	38.6	10.1	19.6	0	0	
21	15.8	23.6	16.6	8.7	5.1	16.9	17.2	25.6	19.2	11.3	11.5	12.9	8.7	10.0	16.2	9.2	13.5	7.6	5.9	6.6	7.1	13.1	13.4	10.0	24	25.6	5.1	12.7	0	0	
22	9.6	8.5	6.8	6.1	6.1	6.5	6.7	6.1	5.4	5.4	5.2	5.2	5.2	5.3	5.2	5.1	5.5	5.9	6.1	10.1	8.5	9.6	8.3	7.2	24	10.1	5.1	6.7	0	0	
23	5.7	5.2	5.2	5.4	6.4	6.5	7.9	7.5	6.1	5.7	5.3	5.3	5.5	6.1	9.2	9.3	6.4	6.3	8.2	9.2	7.3	7.2	6.2	5.7	24	9.3	5.2	6.6	0	0	
24	5.3	5.3	5.7	7.6	7.1	7.0	8.3	7.6	6.6	5.6	5.2	11.2	11.1	10.8	12.1	17.7	24.3	34.2	40.7	23.4	16.7	7.5	6.3	5.3	24	40.7	5.2	12.2	0	0	
25	5.3	5.7	5.5	5.5	5.8	10.7	8.9	9.1	8.9	8.5	12.7	C	6.0	7.8	6.2	6.1	4.5	13.4	15.1	10.8	8.4	9.8	7.5	7.6	23	15.1	4.5	8.2	0	0	
26	2.9	3.5	2.4	2.9	3.1	4.9	13.6	12.7	13.8	11.2	8.3	6.4	4.8	4.9	3.2	8.4	6.7	15.9	11.5	9.0	10.6	15.8	12.8	7.7	24	15.9	2.4	8.2	0	0	
27	3.7	3.1	2.4	2.5	2.9	6.2	9.2	7.9	3.8	7.7	4.5	14.4	10.5	2.8	3.2	13.3	3.2	8.8	10.7	8.1	7.0	6.5	4.5	3.6	24	14.4	2.4	6.3	0	0	
28	1.9	10.2	3.5	4.0	2.3	4.2	4.2	3.9	9.9	4.0	3.0	1.7	3.1	1.1	3.3	0.9	1.3	5.9	7.7	23.2	9.1	5.0	11.3	4.9	24	23.2	0.9	5.4	0	0	
29	4.6	4.1	2.1	5.4	3.6	5.6	5.5	5.4	4.4	10.8	3.5	3.2	2.3	7.2	8.2	3.3	5.5	7.8	8.7	22.0	7.7	5.3	4.3	4.7	24	22.0	2.1	6.1	0	0	
30	5.2	7.6	4.3	5.7	9.2	19.7	26.8	23.8	19.0	13.2	14.3	10.1	12.8	21.0	16.4	11.5	10.1	22.4	25.4	20.2	16.8	11.6	11.1	13.2	24	26.8	4.3	14.6	0	0	
31																									0	0	0	0	0	0	
Count	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30	30	30	30	30	716	30	29	30		
Maximum	37.6	29.7	34.0	32.3	36.4	21.9	28.5	38.6	32.6	27.1	26.5	21.8	26.5	25.4	25.2	25.7	24.3	34.2	41.2	31.2	43.1	29.3	33.0	33.7	24	43.1	21.8	30.8			
Minimum	1.9	3.1	2.1	2.5	2.3	3.6	3.7	3.9	3.8	4.0	2.6	1.7	2.3	1.1	2.6	0.9	1.3	2.7	3.3	3.3	3.4	3.1	4.3	3.6	0	0.0	0.9				
Average	11.1	10.5	9.4	9.9	9.7	11.1	12.7	14.7	13.6	11.5	10.3	10.0	9.6	9.3	9.5	10.8	10.5	12.6	15.0	14.9	12.9	12.3	12.4	11.2	23	24	5	11.5			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		4.5		5.4		6.2		7.4		9.1		11.3		13.8		17.1		22.7		26.5		34.6		43.1						43.1	
Notes	C - Span Cycle NA - No Data Available T - Test A- MOE Audit																														

Figure B-1 Time History Plots – NO₂ – Courtice (WPCP) Station

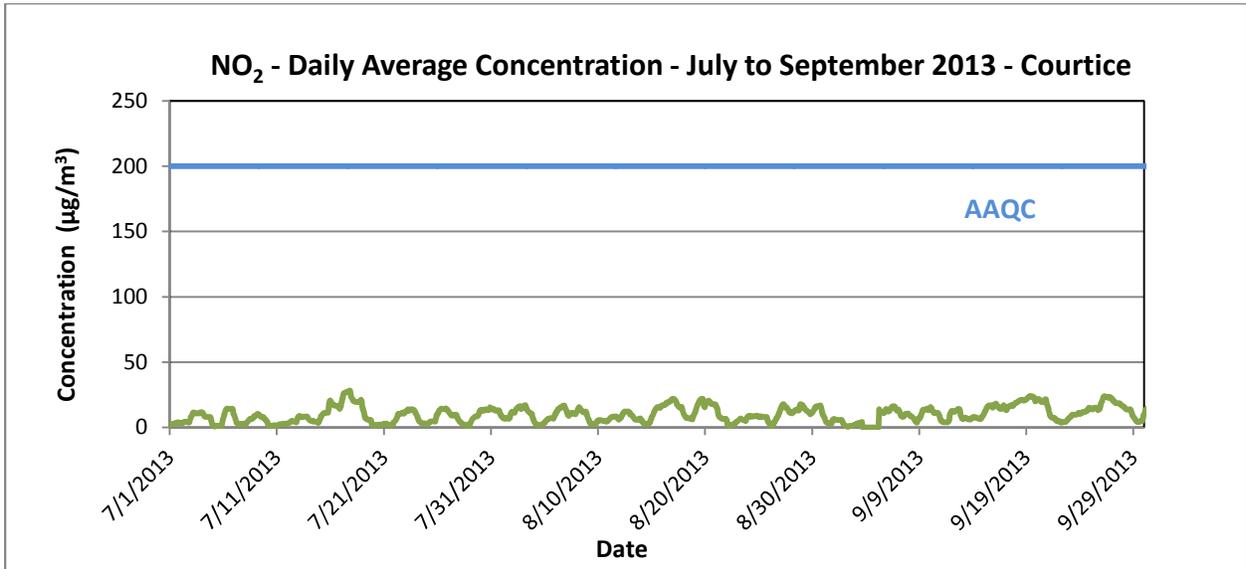
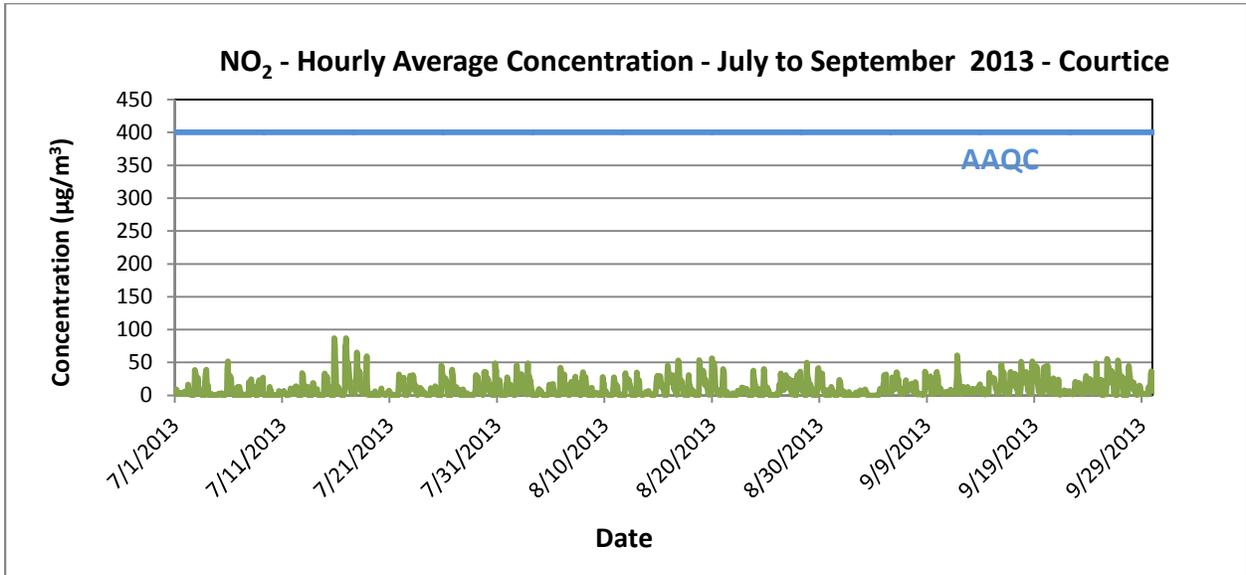
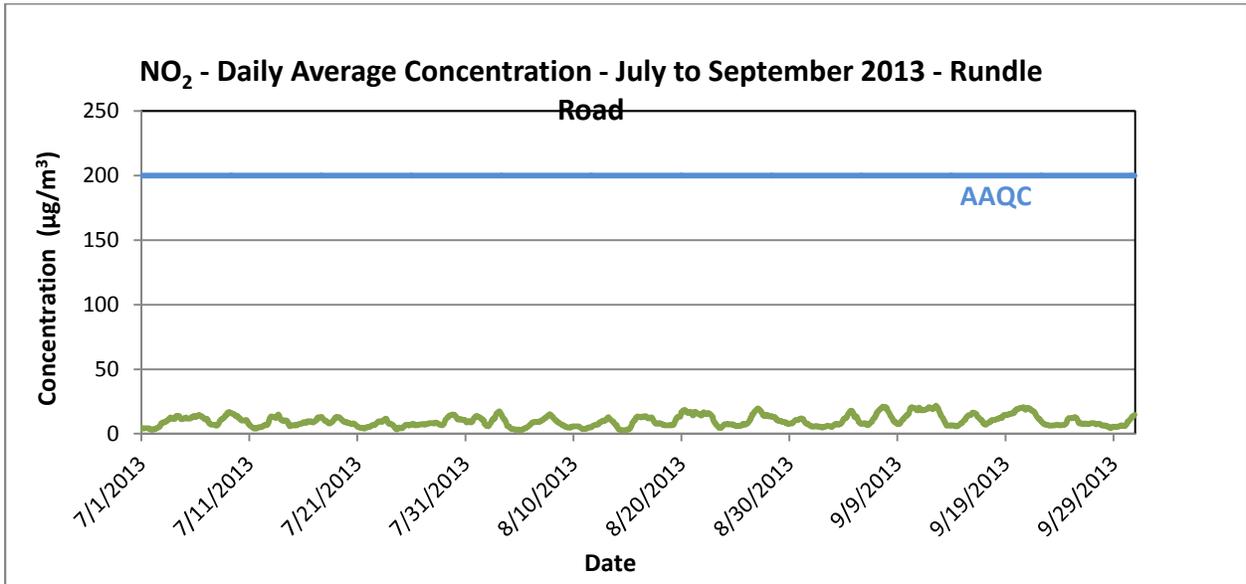
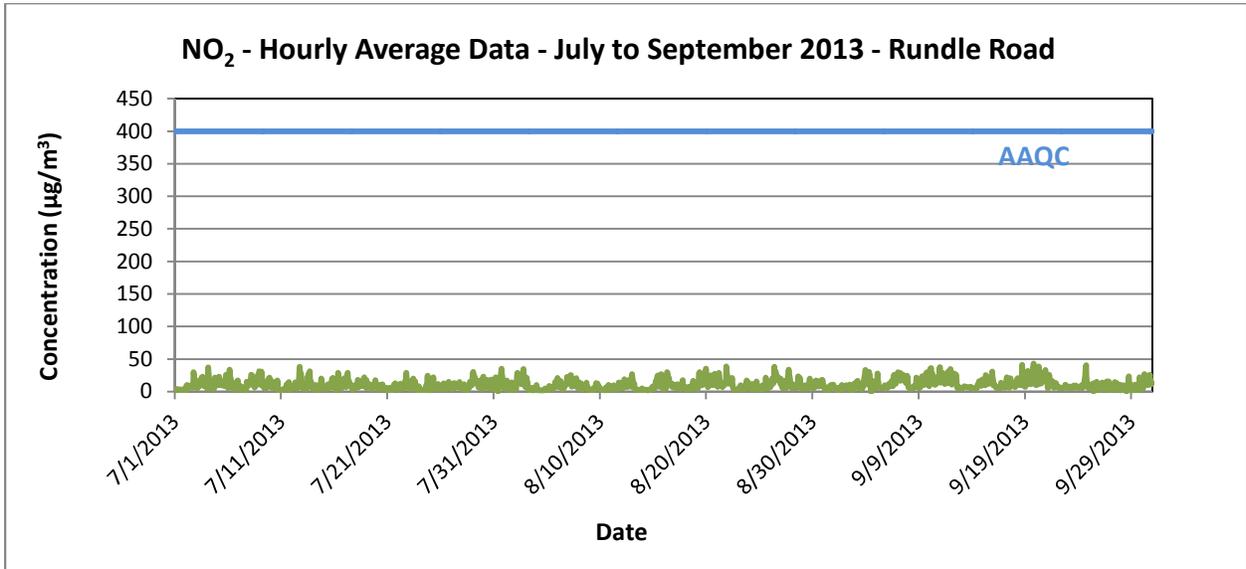


Figure B-2 Time History Plots – NO₂ – Rundle Road Station



**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY
CENTRE – JULY TO SEPTEMBER 2013**

Appendix C
NO_x Data Summaries and Time History Plots
April 28, 2014

Appendix C
NO_x Data Summaries and Time History Plots

NOx COURTICE July 2013 (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	5.6	6.2	7.1	5.1	17.0	13.2	6.6	4.2	4.2	4.5	5.4	5.8	4.6	7.0	8.1	5.3	4.6	5.7	3.5	6.3	4.9	7.2	4.2	6.3	24	17.0	3.5	6.4	0	0
2	6.0	4.4	8.8	5.0	7.2	11.3	22.6	14.6	10.3	13.0	8.7	3.2	2.6	2.7	2.5	2.2	2.0	2.6	1.5	1.8	4.6	42.6	33.3	39.0	24	42.6	1.5	10.5	0	0
3	21.3	17.4	18.9	29.4	30.4	20.2	17.5	11.9	6.8	5.0	3.3	2.7	2.2	1.5	2.5	1.0	1.3	1.9	1.4	5.9	23.7	37.1	37.8	43.1	24	43.1	1.0	14.4	0	0
4	19.0	6.3	16.7	15.1	2.5	1.0	1.4	1.1	3.5	3.8	3.9	5.0	2.2	1.0	1.5	1.4	0.8	0.7	1.5	1.1	1.1	1.9	1.8	2.7	24	19.0	0.7	4.0	0	0
5	2.5	3.4	2.3	4.1	3.9	4.3	3.9	4.1	3.7	5.6	3.6	3.9	2.5	3.2	0.7	2.2	2.4	3.0	2.7	3.0	5.5	15.5	46.3	65.3	24	65.3	0.7	8.2	0	0
6	39.3	52.1	55.0	48.5	42.7	99.6	61.1	22.0	10.2	6.2	4.3	2.7	3.5	1.5	1.4	0.9	1.1	1.4	2.0	2.5	14.1	6.9	4.2	4.7	24	99.6	0.9	20.3	0	0
7	14.8	14.6	3.6	8.0	0.8	0.2	1.5	2.9	2.7	4.0	1.0	1.2	0.8	0.7	0.5	0.4	4.7	3.3	1.3	1.8	4.4	4.3	21.8	3.8	24	21.8	0.2	4.3	0	0
8	1.7	2.9	5.1	32.4	17.1	16.6	18.8	12.9	14.0	13.8	18.2	15.8	12.8	3.2	1.3	0.8	1.0	1.6	8.3	19.3	13.7	25.2	12.9	12.2	24	32.4	0.8	11.7	0	0
9	7.2	6.8	18.6	25.7	28.6	33.7	9.1	5.6	3.5	1.7	3.7	1.1	0.7	0.4	0.3	0.3	0.3	1.8	1.0	0.6	15.3	3.3	3.4	9.8	24	33.7	0.3	7.6	0	0
10	2.4	1.3	1.3	1.1	0.9	1.6	1.2	2.7	1.8	2.6	1.3	0.7	1.1	0.9	2.1	0.4	1.0	9.1	5.8	8.0	4.5	3.6	4.3	5.5	24	9.1	0.4	2.7	0	0
11	4.7	3.7	5.0	5.8	10.9	9.3	6.7	7.8	3.3	3.1	1.8	3.3	2.8	2.7	3.0	2.8	2.5	2.6	4.6	18.2	9.9	7.0	4.8	8.6	24	18.2	1.8	5.6	0	0
12	4.4	5.1	9.6	13.9	15.4	20.0	17.1	32.8	11.0	5.8	2.9	2.6	1.9	1.4	1.3	2.2	1.0	1.2	1.1	1.3	7.8	81.6	70.7	60.4	24	81.6	1.0	15.5	0	0
13	27.1	21.4	25.6	15.8	8.0	10.3	18.9	7.2	4.7	6.6	23.8	1.7	2.7	1.3	1.3	0.7	0.6	0.7	0.9	4.1	10.4	21.5	23.6	12.5	24	27.1	0.6	10.5	0	0
14	8.4	6.6	9.1	7.0	7.2	13.8	15.1	6.2	3.4	2.5	1.6	1.3	1.0	0.8	0.6	1.2	2.4	1.5	1.3	0.7	2.2	2.2	26.5	54.1	24	54.1	0.6	7.4	0	0
15	38.8	32.1	31.1	30.2	38.2	35.4	19.3	18.0	12.0	20.5	9.0	4.1	2.8	2.9	1.4	1.7	2.3	0.5	0.4	1.4	80.0	118.8	100.4	68.9	24	118.8	0.4	27.9	0	0
16	38.4	17.0	9.2	7.7	11.9	17.2	10.1	8.7	11.9	9.8	5.6	3.1	2.9	1.8	1.1	1.0	0.2	2.0	1.8	2.2	16.7	77.1	87.8	95.0	24	95.0	0.2	18.4	0	0
17	77.5	58.5	43.3	62.0	65.7	83.2	59.4	34.1	19.3	14.4	10.2	7.0	4.6	4.5	4.8	4.6	6.1	7.9	3.6	7.4	24.9	23.8	51.4	102.6	24	102.6	3.6	32.5	0	0
18	68.7	42.9	30.5	56.8	31.8	74.9	72.6	24.7	11.7	11.1	9.8	6.9	4.0	8.0	5.8	5.7	4.6	3.5	5.6	4.3	27.4	65.2	21.2	3.7	24	74.9	3.5	25.1	0	0
19	2.2	3.9	2.8	2.9	2.5	2.7	2.7	2.1	5.9	4.0	2.9	1.9	1.5	1.9	1.6	4.4	8.3	5.1	2.3	2.4	2.8	2.5	3.2	3.9	24	8.3	1.5	3.2	0	0
20	3.8	3.2	1.3	2.3	2.7	5.2	13.7	5.1	5.0	4.8	4.5	3.0	5.0	4.0	3.7	2.4	1.8	2.3	4.2	7.1	7.3	5.2	5.6	10.8	24	13.7	1.3	4.8	0	0
21	6.2	5.3	4.0	5.2	4.4	3.9	3.2	3.6	2.9	2.8	2.0	2.6	1.8	1.4	1.1	0.7	1.7	0.7	1.0	2.0	20.6	61.2	33.5	15.0	24	61.2	0.7	7.8	0	0
22	21.0	15.6	13.4	16.9	35.4	20.8	46.8	51.3	69.4	9.3	3.5	2.9	2.7	4.6	5.5	5.1	14.7	2.9	12.4	7.1	12.4	17.6	33.8	30.9	24	69.4	2.7	19.0	0	0
23	27.9	24.0	16.7	30.3	44.1	58.2	71.5	25.8	16.3	12.9	18.5	24.8	10.8	2.7	2.2	2.4	5.0	5.3	5.8	4.8	3.8	13.7	9.2	5.3	24	71.5	2.2	18.4	0	0
24	12.1	8.2	5.1	4.4	6.2	8.3	8.0	7.8	6.2	4.3	3.4	4.1	4.7	2.8	3.4	2.0	1.4	1.2	1.4	3.4	13.5	9.3	8.9	11.5	24	13.5	1.2	5.9	0	0
25	9.6	4.4	7.3	13.4	14.4	11.4	28.6	25.8	16.2	9.7	6.2	3.7	2.1	1.3	1.4	0.5	1.7	0.2	1.3	1.8	75.4	87.7	58.9	41.2	24	87.7	0.2	17.7	0	0
26	26.1	22.2	21.8	26.3	34.9	35.1	46.7	38.6	29.8	7.2	2.8	1.9	1.5	2.2	0.9	2.5	2.6	0.2	3.1	9.4	42.0	31.8	33.1	17.6	24	46.7	0.2	18.4	0	0
27	16.0	14.6	10.0	10.3	14.0	16.6	16.2	15.4	9.5	6.3	4.2	3.3	3.7	5.9	10.8	4.3	2.2	2.0	2.9	3.2	11.1	9.8	3.3	6.8	24	16.6	2.0	8.4	0	0
28	2.1	2.1	3.5	2.6	5.4	5.2	3.0	2.7	2.6	4.4	2.0	2.9	1.9	1.5	1.1	1.4	2.0	1.6	3.2	2.2	3.0	3.4	2.7	5.7	24	5.7	1.1	2.8	0	0
29	11.9	33.5	26.8	16.7	14.0	51.2	41.2	14.5	17.4	21.4	23.8	9.9	6.9	9.0	6.1	3.8	1.9	2.7	6.1	6.9	43.0	18.7	13.2	56.7	24	56.7	1.9	19.0	0	0
30	26.1	28.7	62.6	34.2	54.7	47.3	31.7	21.9	15.2	26.7	28.7	30.6	18.8	4.0	0.9	1.5	1.1	1.7	1.3	4.6	58.4	30.7	106.4	47.7	24	106.4	0.9	28.6	0	0
31	19.9	26.6	19.8	15.9	18.1	43.9	72.7	19.0	6.2	2.0	1.6	A	A	3.0	3.6	2.4	5.0	2.3	4.3	1.7	2.1	21.1	15.2	32.4	22	72.7	1.6	15.4	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	742	31	30	31		
Maximum	77.5	58.5	62.6	62.0	65.7	99.6	72.7	51.3	69.4	26.7	28.7	30.6	18.8	9.0	10.8	5.7	14.7	9.1	12.4	19.3	80.0	118.8	106.4	102.6	24	118.8	5.7	50.5		
Minimum	1.7	1.3	1.3	1.1	0.8	0.2	1.2	1.1	1.8	1.7	1.0	0.7	0.7	0.4	0.3	0.3	0.2	0.2	0.4	0.6	1.1	1.9	1.8	2.7	22	5.7	0.2	1.0		
Average	18.5	16.0	16.0	17.9	19.1	25.0	24.2	14.7	11.0	8.1	7.2	5.5	3.9	2.9	2.7	2.2	2.8	2.6	3.1	4.7	18.3	27.7	28.5	28.5	24	51	1	13.0		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		1.3		2.0		2.8		3.9		5.1		7.3		12.9		19.2		34.1		55.0		85.8		118.8						118.8
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																				

NOx COURTICE
August 2013
(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	10.1	8.2	7.0	16.5	14.5	19.7	10.6	12.9	13.7	7.4	4.4	5.9	3.6	3.2	2.2	1.9	1.3	1.6	19.7	28.2	53.5	47.5	28.1	22.8	24	53.5	1.3	14.4	0	0
2	31.7	7.4	9.0	9.6	12.3	7.4	54.9	67.5	34.7	37.9	26.8	19.0	16.2	9.9	8.8	9.5	4.7	9.1	17.0	3.1	19.6	65.1	56.0	44.2	24	67.5	3.1	24.2	0	0
3	35.8	25.0	18.6	29.3	17.6	12.7	10.1	6.4	3.1	5.4	1.9	1.7	2.1	1.7	1.3	0.7	2.6	2.0	3.6	5.9	8.5	7.3	11.6	6.0	24	35.8	0.7	9.2	0	0
4	4.5	3.8	6.3	10.0	3.7	5.4	6.3	7.7	2.2	1.9	1.2	1.7	0.9	1.4	2.6	2.6	3.9	4.3	2.1	4.4	13.7	19.5	16.7	15.2	24	19.5	0.9	5.9	0	0
5	15.8	13.6	13.2	15.0	22.5	22.4	21.8	23.0	5.9	5.4	7.0	9.4	5.1	7.8	2.0	0.3	0.0	0.1	0.6	1.0	4.7	27.8	66.1	92.6	24	92.6	0.0	16.0	0	0
6	42.6	47.8	39.7	51.5	39.5	33.3	74.7	41.3	18.2	13.9	5.7	8.3	14.2	20.7	29.5	16.7	6.5	3.6	8.9	5.6	9.0	14.2	22.9	12.3	24	74.7	3.6	24.2	0	0
7	23.5	15.6	3.7	4.6	4.3	4.3	30.8	52.4	33.8	33.1	34.4	9.3	12.8	7.3	23.3	26.9	4.6	1.9	2.2	2.4	2.0	10.4	30.2	29.5	24	52.4	1.9	16.8	0	0
8	39.9	30.6	23.9	18.9	23.4	44.2	62.3	28.2	8.8	6.8	8.8	3.5	3.1	5.0	2.9	1.5	0.9	0.9	1.8	14.0	14.3	6.0	5.6	3.7	24	62.3	0.9	14.9	0	0
9	2.9	3.3	3.4	8.8	5.0	5.8	7.0	7.6	7.3	7.2	3.4	1.5	1.8	1.6	5.8	5.4	5.2	4.0	1.9	3.7	32.3	22.3	23.3	20.9	24	32.3	1.5	8.0	0	0
10	6.8	4.8	5.1	8.9	5.1	5.9	5.7	4.1	3.0	1.9	1.2	1.2	1.9	1.6	1.6	1.4	1.2	1.5	3.8	9.4	21.3	43.4	55.9	33.9	24	55.9	1.2	9.6	0	0
11	26.6	22.6	47.4	29.5	10.7	26.2	16.9	7.1	4.2	8.7	6.3	1.8	0.8	0.4	0.7	0.5	1.5	0.1	2.8	4.8	0.9	0.9	14.6	39.1	24	47.4	0.1	11.5	0	0
12	28.8	28.3	52.2	68.1	72.4	96.4	110.8	53.3	32.0	29.8	22.4	14.4	8.4	2.8	2.4	2.2	1.9	1.8	1.4	2.5	3.5	2.5	2.4	2.5	24	110.8	1.4	26.8	0	0
13	37.5	24.9	4.1	6.8	21.6	32.8	25.8	9.1	6.3	4.8	4.4	3.4	4.3	4.2	3.9	3.6	3.3	4.4	4.5	5.0	7.3	6.3	6.6	4.9	24	37.5	3.3	10.0	0	0
14	4.4	8.4	8.9	9.7	4.3	5.3	5.1	5.4	6.4	4.8	3.9	3.5	3.8	3.8	3.6	5.3	4.4	6.5	4.6	12.6	23.2	31.7	43.1	34.0	24	43.1	3.5	10.3	0	0
15	43.6	39.0	17.0	21.0	58.4	50.8	50.2	38.8	30.2	38.0	27.3	29.8	23.5	11.4	3.0	1.6	1.1	1.0	2.7	2.8	35.5	64.7	62.6	108.2	24	108.2	1.0	31.8	0	0
16	82.3	62.3	63.1	75.6	97.9	109.7	125.4	68.8	73.4	53.1	38.7	18.5	13.5	17.2	21.1	10.6	4.8	2.6	2.6	3.0	54.8	61.6	60.5	66.1	24	125.4	2.6	49.5	0	0
17	30.5	20.6	21.6	28.8	27.8	23.5	22.2	17.3	12.2	3.3	2.6	2.4	4.0	3.8	2.9	2.0	1.2	1.4	1.8	24.6	33.1	25.0	18.8	18.4	24	33.1	1.2	14.6	0	0
18	11.6	12.1	4.9	9.2	8.0	8.3	10.0	10.5	5.6	3.2	2.3	2.1	1.7	1.1	1.0	1.5	1.4	1.3	1.2	3.6	70.8	63.0	65.1	31.9	24	70.8	1.0	13.8	0	0
19	31.0	28.2	32.3	38.5	54.5	56.5	48.6	29.9	28.2	41.8	26.4	21.6	25.2	18.9	18.1	9.4	3.1	2.2	2.3	2.8	3.8	3.2	4.4	5.7	24	56.5	2.2	22.4	0	0
20	80.4	61.2	55.2	77.4	133.0	153.3	154.7	46.7	18.8	16.4	11.8	15.0	12.5	6.6	4.3	2.9	2.5	3.1	2.8	4.2	3.1	2.5	2.9	3.1	24	154.7	2.5	36.4	0	0
21	25.4	47.2	77.6	40.6	5.8	2.4	2.0	4.7	3.3	3.4	8.0	4.7	2.5	1.8	2.5	1.2	0.7	1.4	1.5	1.3	1.9	4.1	4.3	5.0	24	77.6	0.7	10.6	0	0
22	4.6	3.9	3.1	2.4	2.4	2.0	2.2	2.0	4.7	7.9	10.2	11.0	6.8	5.2	5.8	4.3	4.1	5.0	6.7	18.4	9.2	14.6	13.6	15.4	24	18.4	2.0	6.9	0	0
23	9.8	10.8	10.7	13.0	13.2	10.2	15.0	14.3	6.0	7.0	3.6	1.5	1.3	1.8	1.6	1.8	1.1	0.8	0.6	2.4	55.7	51.7	34.0	29.6	24	55.7	0.6	12.4	0	0
24	21.3	19.8	9.0	7.6	6.3	17.6	12.6	18.6	8.8	2.5	2.2	1.6	2.5	1.4	0.9	0.3	0.6	0.5	0.3	14.9	50.2	42.6	19.2	16.9	24	50.2	0.3	11.6	0	0
25	13.0	15.0	11.1	18.1	17.3	12.7	9.5	13.0	4.4	2.8	1.2	1.0	1.6	2.4	1.9	1.8	2.1	2.1	1.5	1.4	1.7	2.9	3.1	2.5	24	18.1	1.0	6.0	0	0
26	1.2	1.6	2.0	2.2	2.7	3.6	18.2	6.2	5.8	13.4	39.6	32.3	10.2	12.2	19.0	15.5	33.3	10.6	12.8	16.8	14.0	41.2	25.3	48.9	24	48.9	1.2	16.2	0	0
27	32.6	55.5	40.5	30.0	64.6	88.7	36.1	18.5	12.1	9.1	10.3	3.6	5.0	5.3	16.5	48.6	3.3	4.9	3.8	1.8	2.7	1.8	16.0	32.5	24	88.7	1.8	22.7	0	0
28	31.6	23.4	10.5	17.9	32.7	59.4	59.1	17.2	17.9	18.4	29.8	10.8	11.2	11.8	24.8	19.4	1.5	3.2	0.6	40.8	64.5	62.3	35.1	48.3	24	64.5	0.6	27.2	0	0
29	35.7	16.2	10.2	9.7	32.1	24.5	23.7	20.0	18.0	6.3	2.9	1.9	0.7	0.3	1.7	0.4	0.6	0.8	2.4	6.8	56.0	74.9	75.9	63.7	24	75.9	0.3	20.2	0	0
30	53.9	54.9	46.6	44.8	27.9	37.9	64.6	43.7	16.2	12.7	12.2	12.5	3.3	2.4	2.4	1.9	2.5	2.8	10.2	7.2	3.8	3.3	2.5	2.0	24	64.6	1.9	19.7	0	0
31	3.0	2.7	10.5	14.5	10.8	6.2	5.8	9.2	4.2	2.3	4.2	6.2	2.9	2.1	2.1	1.1	2.9	5.3	3.1	5.7	29.6	42.3	39.3	23.6	24	42.3	1.1	10.0	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	31	31	31		
Maximum	82.3	62.3	77.6	77.4	133.0	153.3	154.7	68.8	73.4	53.1	39.6	32.3	25.2	20.7	29.5	48.6	33.3	10.6	19.7	40.8	70.8	74.9	75.9	108.2	24	154.7	10.6	65.2		
Minimum	1.2	1.6	2.0	2.2	2.4	2.0	2.0	2.0	2.2	1.9	1.2	1.0	0.7	0.3	0.7	0.3	0.0	0.1	0.3	1.0	0.9	0.9	2.4	2.0	24	18.1	0.0	1.3		
Average	26.5	23.2	21.6	23.8	27.5	31.9	35.6	22.8	14.5	13.2	11.8	8.4	6.7	5.7	7.1	6.5	3.5	2.9	4.2	8.4	22.7	28.0	27.9	28.5	24	63	1	17.2		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		1.6		2.5		3.6		5.2		8.3		12.7		18.8		29.5		47.3		62.3		97.2		154.7						154.7
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																				

NOx COURTICE																															
September 2013																															
(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	11.9	8.1	7.4	9.6	2.9	4.0	5.6	12.8	4.5	2.1	2.5	1.0	0.6	0.5	0.5	0.4	3.0	4.1	7.0	1.0	0.8	3.2	0.9	1.2	24	12.8	0.4	4.0	0	0	
2	0.8	0.6	0.5	1.9	1.8	1.4	2.2	2.4	4.4	4.9	6.3	6.7	4.1	3.9	2.2	5.0	2.7	3.5	4.6	4.8	10.2	6.2	4.8	5.8	24	10.2	0.5	3.8	0	0	
3	5.7	6.3	5.0	6.0	4.1	5.3	11.6	13.1	8.6	6.2	8.7	M	M	M	M	M	M	M	M	M	M	M	M	M	11	13.1	4.1		0	0	
4	M	M	M	M	M	M	M	M	M	M	C	C	C	2.6	2.4	5.6	10.7	7.1	4.9	8.0	5.0	9.2	7.6	17.1	11	17.1	2.4		0	0	
5	18.4	39.8	19.1	29.3	51.8	87.9	25.1	8.1	5.2	5.5	3.8	5.1	4.0	4.1	7.2	4.6	6.3	5.3	17.8	27.9	30.8	22.0	18.9	12.7	24	87.9	3.8	19.2	0	0	
6	8.8	10.0	13.3	19.5	39.8	55.3	71.2	44.0	35.6	51.3	23.4	13.3	16.3	4.4	1.2	8.3	4.7	4.1	2.9	3.0	10.2	2.2	5.0	9.7	24	71.2	1.2	19.1	0	0	
7	15.5	22.7	13.8	5.9	4.5	7.8	7.9	9.2	8.0	7.8	8.7	8.9	11.3	12.3	18.4	18.4	13.4	12.4	9.3	3.7	4.6	3.4	3.8	25.6	24	25.6	3.4	10.7	0	0	
8	15.6	2.1	2.2	0.7	5.3	1.2	2.4	3.9	2.0	1.9	1.7	0.9	0.9	0.2	0.7	1.3	0.7	0.1	2.9	4.3	62.9	89.4	18.8	24.2	24	89.4	0.1	10.3	0	0	
9	12.9	17.7	24.4	49.2	68.7	64.6	71.5	76.9	64.2	13.6	1.4	2.0	2.1	2.4	1.2	1.9	1.5	6.5	13.7	6.2	10.5	33.8	38.3	28.0	24	76.9	1.2	25.6	0	0	
10	31.1	29.0	14.3	9.8	4.3	6.0	11.1	8.9	8.3	3.1	3.1	2.4	1.5	1.5	2.2	2.4	1.8	2.2	3.7	3.9	2.7	2.2	2.3	3.1	24	31.1	1.5	6.7	0	0	
11	5.2	2.7	2.6	2.5	3.6	7.5	3.0	7.1	5.7	4.5	2.9	2.1	2.0	2.4	2.9	2.0	2.4	4.7	9.9	27.1	79.8	96.6	19.9	29.7	24	96.6	2.0	13.7	0	0	
12	38.9	10.5	2.2	3.8	2.1	1.0	1.7	2.4	4.3	10.4	14.9	11.6	13.6	12.4	10.7	10.9	5.4	3.7	12.1	13.1	7.5	4.3	6.0	3.4	24	38.9	1.0	8.6	0	0	
13	3.6	3.1	2.4	2.9	6.4	11.3	11.1	13.0	7.5	6.2	5.4	11.7	5.6	9.2	14.6	7.1	17.4	8.5	7.5	6.3	12.8	13.4	15.6	17.5	24	17.5	2.4	9.2	0	0	
14	3.7	4.4	5.6	5.2	7.6	8.9	14.3	7.0	5.2	1.1	1.0	1.7	1.4	6.0	6.2	5.5	5.0	4.4	2.8	18.0	38.5	33.0	23.9	24.7	24	38.5	1.0	9.8	0	0	
15	22.0	28.2	25.1	29.4	27.4	25.3	29.0	40.5	28.5	19.8	11.6	13.4	8.0	3.6	3.8	5.2	3.7	3.0	10.8	11.4	7.3	8.4	25.8	50.7	24	50.7	3.0	18.4	0	0	
16	37.7	47.0	31.2	28.7	41.8	16.7	7.0	11.6	5.8	4.4	5.6	3.8	2.4	1.5	3.2	2.4	8.4	6.7	25.9	59.4	39.2	27.1	23.0	27.2	24	59.4	1.5	19.5	0	0	
17	24.7	21.4	15.1	33.9	30.2	49.0	48.4	33.6	24.3	20.6	26.0	10.3	1.9	10.1	10.9	18.1	2.8	2.0	12.9	59.8	55.8	36.0	37.5	23.9	24	59.8	1.9	25.4	0	0	
18	19.6	22.5	26.4	38.3	57.1	90.2	102.0	77.0	46.0	21.5	12.4	7.1	5.0	4.1	8.3	38.9	4.2	1.0	0.9	54.2	71.5	40.2	42.3	29.0	24	102.0	0.9	34.2	0	0	
19	31.1	21.7	31.4	67.8	67.5	72.1	71.0	69.4	27.9	12.5	7.1	9.8	5.3	3.2	3.8	3.0	2.0	2.4	1.7	4.8	13.4	48.6	46.0	32.3	24	72.1	1.7	27.3	0	0	
20	40.0	53.4	33.8	45.2	37.9	56.1	80.6	17.2	5.2	4.7	4.1	2.9	2.7	3.2	2.4	3.3	7.0	10.6	22.8	26.8	8.6	0.9	1.4	6.8	24	80.6	0.9	19.9	0	0	
21	13.9	14.9	1.9	1.4	3.5	7.0	25.2	0.6	0.2	0.0	0.0	0.0	1.0	0.9	2.0	1.5	1.1	1.7	3.3	8.7	5.0	5.0	5.6	5.9	24	25.2	0.0	4.6	0	0	
22	4.0	4.5	3.2	3.7	4.5	3.0	8.8	4.5	4.1	1.9	1.4	2.7	2.2	1.7	2.7	6.0	3.0	9.6	11.1	18.9	25.7	18.4	19.6	30.2	24	30.2	1.4	8.1	0	0	
23	16.9	6.8	4.6	18.7	28.4	25.9	24.8	19.3	3.9	3.6	2.0	2.9	1.9	1.5	2.8	3.6	4.9	7.6	22.9	27.1	41.1	34.7	9.6	18.1	24	41.1	1.5	13.9	0	0	
24	6.3	7.0	9.5	24.6	38.9	36.5	32.4	20.0	16.1	5.8	3.3	8.4	3.9	3.2	7.4	13.6	19.1	18.2	16.4	99.3	91.2	24.0	16.5	8.0	24	99.3	3.2	22.1	0	0	
25	3.6	5.2	8.8	10.9	23.0	21.5	31.2	37.2	C	C	13.4	8.0	6.6	3.3	4.6	3.9	2.8	3.9	37.9	112.9	119.7	77.9	91.4	88.8	22	119.7	2.8	32.6	0	0	
26	21.6	50.5	53.1	65.1	66.0	68.2	58.1	70.5	49.8	29.6	3.9	3.1	2.8	2.1	1.9	1.6	1.6	1.4	39.6	141.5	129.4	76.2	45.9	30.6	24	141.5	1.4	42.3	0	0	
27	25.2	22.4	14.9	21.6	40.2	31.4	36.0	R	65.9	21.6	2.3	2.0	2.2	1.9	1.6	1.2	1.4	1.3	34.2	82.7	74.9	42.5	40.8	24.0	23	82.7	1.2	25.8	0	0	
28	20.5	15.7	13.6	19.4	13.1	14.1	29.9	19.9	23.2	11.8	4.7	4.1	1.9	1.5	1.5	2.6	7.3	4.3	15.5	16.0	15.8	16.9	4.9	3.1	24	29.9	1.5	11.7	0	0	
29	3.1	3.2	2.3	2.5	2.7	2.9	3.4	3.3	4.1	4.1	3.3	2.8	2.4	2.4	3.3	10.0	15.6	7.2	16.0	5.7	34.4	37.8	38.4	40.6	24	40.6	2.3	10.5	0	0	
30	23.2	26.8	32.5	23.3	15.8	25.6	9.3	5.0	4.0	4.9	8.9	9.7	8.4	10.0	8.3	4.1	3.1	3.1	3.5	4.8	6.4	3.3	3.1	4.0	24	32.5	3.1	10.5	0	0	
31																									0	0	0	0	0	0	0
Count	29	29	29	29	29	29	29	28	28	28	29	28	28	29	29	29	29	29	29	29	29	29	29	29	29	691	29	28	29		
Maximum	40.0	53.4	53.1	67.8	68.7	90.2	102.0	77.0	65.9	51.3	26.0	13.4	16.3	12.4	18.4	38.9	19.1	18.2	39.6	141.5	129.4	96.6	91.4	88.8	24	141.5	12.4	59.1			
Minimum	0.8	0.6	0.5	0.7	1.8	1.0	1.7	0.6	0.2	0.0	0.0	0.0	0.6	0.2	0.5	0.4	0.7	0.1	0.9	1.0	0.8	0.9	0.9	1.2	0	0	0.0				
Average	16.7	17.5	14.5	20.0	24.2	27.9	28.8	22.8	16.9	10.2	6.7	5.7	4.4	4.0	4.8	6.6	5.6	5.2	12.9	29.7	35.0	28.2	21.3	21.6	22	55	2	16.7			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		1.9		2.8		3.9		5.2		7.5		11.1		17.7		26.0		40.5		64.9		91.9		141.5						141.5	
Notes	C - Span Cycle NA - No Data Available T - Test A- MOE Audit																														

NO_x - RUNDLE
July 2013
(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	3.7	3.9	3.8	3.8	4.2	4.0	3.5	3.7	3.7	3.3	3.5	3.6	3.7	3.8	3.9	3.6	3.2	3.9	3.2	3.2	3.1	3.8	2.7	2.5	24	4.2	2.5	3.6	0	0	
2	2.2	4.9	9.5	14.7	3.4	3.7	11.7	7.5	7.0	6.8	8.2	10.1	11.5	8.9	12.5	8.4	6.9	10.5	13.9	36.9	26.1	10.4	8.3	7.1	24	36.9	2.2	10.5	0	0	
3	6.7	5.5	4.9	14.3	8.2	6.6	14.5	16.0	26.1	16.0	11.7	12.7	16.1	31.6	28.1	31.9	11.8	19.0	10.0	17.6	11.1	12.5	11.5	9.6	24	31.9	4.9	14.8	0	0	
4	7.8	10.4	4.4	4.7	51.0	26.1	19.4	17.5	14.0	14.4	14.1	13.4	7.9	6.0	6.4	5.1	4.4	17.4	7.5	26.7	11.1	14.8	17.5	11.8	24	51.0	4.4	13.9	0	0	
5	10.6	11.7	13.7	10.3	23.3	17.4	24.2	17.7	12.4	17.8	12.8	11.3	12.4	14.1	15.7	16.1	12.2	10.6	19.4	22.7	31.0	25.6	11.4	7.2	24	31.0	7.2	15.9	0	0	
6	8.0	14.1	9.2	20.3	51.0	44.3	48.0	30.5	18.5	11.5	8.7	12.3	6.6	5.0	3.3	3.8	11.5	5.2	5.8	16.0	16.5	14.8	12.2	22.6	24	51.0	3.3	16.7	0	0	
7	8.8	11.9	3.3	4.4	9.0	4.6	6.8	6.5	5.9	5.1	5.6	11.7	3.3	3.0	3.2	3.6	7.2	2.3	5.0	16.4	12.7	9.3	11.3	10.8	24	16.4	2.3	7.2	0	0	
8	11.1	13.3	15.6	16.1	26.6	64.7	49.7	28.2	22.6	14.3	14.4	10.4	12.3	7.2	8.4	11.7	23.1	21.7	13.8	12.0	26.2	12.1	19.1	32.3	24	64.7	7.2	20.3	0	0	
9	32.0	22.3	15.7	10.2	39.4	16.1	20.5	21.3	12.5	8.1	7.2	7.0	5.2	7.4	9.4	5.9	9.3	8.1	8.5	25.4	17.0	19.9	21.9	8.7	24	39.4	5.2	15.0	0	0	
10	14.0	24.9	12.4	6.4	13.5	11.3	11.2	20.9	7.4	12.4	10.5	5.9	6.0	6.3	5.9	6.8	20.0	3.4	5.9	2.5	2.4	2.7	2.7	2.8	24	24.9	2.4	9.1	0	0	
11	3.4	3.1	3.1	3.2	3.5	4.0	5.3	5.1	3.5	4.5	3.9	4.6	10.1	15.1	8.7	8.9	8.2	15.0	22.4	2.9	3.8	3.1	3.2	3.0	24	22.4	2.9	6.3	0	0	
12	4.0	4.3	5.8	7.8	6.7	7.1	6.9	7.1	22.1	12.8	13.5	11.6	21.4	6.6	6.4	19.3	13.9	29.0	57.1	41.6	42.8	43.0	34.5	24.6	24	57.1	4.0	18.7	0	0	
13	14.0	7.3	6.1	4.7	4.3	5.9	5.2	5.0	6.5	8.7	5.0	8.7	15.9	49.7	27.9	56.9	14.5	44.8	26.7	11.5	17.9	11.3	8.3	5.6	24	56.9	4.3	15.5	0	0	
14	5.9	5.2	4.0	3.9	3.6	4.2	7.7	21.8	5.4	5.9	4.1	5.7	3.3	7.8	4.0	5.0	9.9	6.0	12.0	21.8	25.8	9.1	7.8	6.8	24	25.8	3.3	8.2	0	0	
15	5.5	5.9	6.1	6.3	6.8	7.7	6.8	6.7	4.9	10.6	13.4	8.3	8.9	6.7	7.2	10.8	7.3	10.1	10.7	17.7	20.8	15.5	22.2	13.0	24	22.2	4.9	10.0	0	0	
16	13.5	5.6	3.1	2.9	3.5	3.5	3.4	4.8	27.7	54.9	13.3	8.4	6.8	7.6	6.9	6.3	4.6	5.6	13.8	17.5	12.8	9.8	16.8	20.5	24	54.9	2.9	11.4	0	0	
17	15.0	18.2	8.6	6.7	8.4	9.5	32.3	36.2	19.1	17.4	19.9	14.3	11.1	10.2	12.2	9.9	6.3	5.1	3.2	2.8	3.1	3.7	4.7	9.7	24	36.2	2.8	12.0	0	0	
18	8.6	6.3	6.6	5.4	8.0	13.8	23.4	9.5	10.0	19.9	19.5	14.0	20.2	16.6	16.2	21.7	9.7	15.4	16.0	14.6	24.3	8.5	18.9	17.4	24	24.3	5.4	14.4	0	0	
19	6.7	21.5	5.9	7.3	8.2	10.1	11.1	16.7	9.4	10.5	7.4	5.9	5.4	9.9	5.1	4.3	6.6	11.8	9.8	12.9	9.8	17.8	13.3	11.1	24	21.5	4.3	9.9	0	0	
20	10.7	12.0	5.2	5.4	7.7	8.4	11.3	3.5	4.1	4.2	4.0	4.2	5.2	14.9	11.5	6.9	7.0	6.4	4.9	4.2	5.1	6.2	3.9	4.1	24	14.9	3.5	6.7	0	0	
21	4.5	4.0	3.7	2.9	2.9	3.3	9.3	11.8	3.3	5.8	5.8	12.0	3.4	8.5	3.5	3.2	27.5	11.8	9.6	15.7	14.5	10.5	7.1	5.5	24	27.5	2.9	7.9	0	0	
22	5.7	4.3	4.1	3.3	4.7	15.5	17.7	19.6	13.9	9.0	8.9	7.6	8.3	8.3	7.1	10.4	9.7	20.3	17.0	33.0	28.2	14.3	12.6	8.9	24	33.0	3.3	12.2	0	0	
23	7.1	5.1	4.8	4.5	5.5	12.7	13.5	30.5	14.9	12.6	24.3	28.2	13.7	9.6	9.8	19.1	6.3	3.2	2.7	3.0	2.8	3.2	4.8	9.0	24	30.5	2.7	10.5	0	0	
24	7.6	3.3	3.2	3.0	3.3	3.8	3.6	3.8	3.5	3.1	3.3	3.4	3.2	2.9	2.9	6.8	14.7	9.3	8.9	31.2	4.5	3.4	3.1	3.3	24	31.2	2.9	5.8	0	0	
25	2.8	2.7	2.6	2.3	3.5	21.6	24.6	13.6	44.9	18.9	7.1	5.5	17.1	5.4	5.5	5.6	11.4	12.1	8.4	13.2	9.9	9.4	8.2	6.3	24	44.9	2.3	10.9	0	0	
26	5.8	3.6	4.4	5.8	14.0	9.6	7.9	20.1	6.5	11.2	9.6	7.2	17.8	11.2	5.4	10.7	10.0	6.9	17.0	19.3	15.0	9.6	6.0	4.9	24	20.1	3.6	10.0	0	0	
27	7.7	7.2	5.5	4.4	4.2	4.6	5.4	7.6	20.1	23.6	6.7	11.2	13.2	10.0	9.6	13.3	10.4	7.0	15.6	24.9	12.7	11.4	5.5	4.5	24	24.9	4.2	10.3	0	0	
28	5.7	4.0	5.2	6.1	7.9	8.9	13.0	22.2	5.7	13.5	3.9	9.3	4.5	5.9	3.8	9.3	6.7	6.6	15.9	18.6	10.5	9.7	10.5	9.8	24	22.2	3.8	9.0	0	0	
29	18.1	24.4	53.4	28.1	24.2	28.0	36.5	31.9	25.3	27.7	29.9	17.5	16.3	15.7	9.6	11.8	7.5	8.8	18.0	18.6	14.0	5.6	6.1	4.3	24	53.4	4.3	20.1	0	0	
30	22.8	25.0	18.1	6.9	8.8	10.1	17.2	29.4	10.3	25.3	32.6	29.9	24.5	8.8	7.6	6.2	8.3	9.0	15.2	20.6	7.5	3.7	13.8	4.8	24	32.6	3.7	15.3	0	0	
31	4.4	10.1	4.6	4.3	14.2	69.5	29.5	33.9	17.9	7.7	A	14.7	13.8	12.2	15.0	9.8	16.5	33.1	42.2	32.0	24.0	14.0	21.6	11.4	23	69.5	4.3	19.8	0	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	743	31	30	31			
Maximum	32.0	25.0	53.4	28.1	51.0	69.5	49.7	36.2	44.9	54.9	32.6	29.9	24.5	49.7	28.1	56.9	27.5	44.8	57.1	41.6	42.8	43.0	34.5	32.3	24	69.5	24.5	41.3			
Minimum	2.2	2.7	2.6	2.3	2.9	3.3	3.4	3.5	3.3	3.1	3.3	3.4	3.2	2.9	2.9	3.2	3.2	2.3	2.7	2.5	2.4	2.7	2.7	2.5	23	4.2	2.2	2.9			
Average	9.2	9.9	8.3	7.4	12.4	14.9	16.2	16.5	13.2	13.5	11.1	10.7	10.6	10.9	9.1	11.4	10.5	12.2	14.2	18.0	15.1	11.2	11.3	9.8	24	35	4	12.0			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum
Data		3.5		4.7		6.0		7.4		9.3		11.3		13.8		17.4		24.2		30.4		50.4		69.5							69.5
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																					

NO_x - RUNDLE
August 2013
(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	5.7	4.6	4.4	7.3	6.9	6.1	19.3	14.4	6.6	5.6	4.6	3.6	3.6	3.8	3.7	7.7	15.8	16.2	4.2	6.2	5.7	7.1	7.3	6.2	24	19.3	3.6	7.4	0	0
2	3.9	3.5	3.4	3.9	14.1	34.2	49.3	28.4	29.0	27.4	35.1	23.8	24.6	17.2	24.3	16.7	22.4	17.0	22.7	33.2	53.0	26.6	13.2	9.7	24	53.0	3.4	22.4	0	0
3	9.6	8.0	9.6	22.5	12.4	16.6	10.0	3.6	3.6	3.3	3.4	3.2	3.4	4.8	5.6	6.8	7.2	3.0	3.1	3.6	3.1	3.3	4.5	4.8	24	22.5	3.0	6.6	0	0
4	9.3	11.8	8.1	5.8	3.0	2.7	2.7	2.9	2.7	2.6	2.6	3.0	2.6	2.8	3.0	3.0	2.4	2.9	3.1	3.8	5.3	5.1	5.5	5.4	24	11.8	2.4	4.3	0	0
5	5.5	5.1	3.6	3.0	3.2	4.2	13.6	15.1	11.5	13.6	9.1	9.9	9.6	9.3	4.4	9.4	9.9	11.4	8.3	14.0	17.8	12.6	10.1	8.4	24	17.8	3.0	9.3	0	0
6	14.6	28.7	13.7	9.9	8.8	9.6	12.9	27.9	23.0	10.5	7.5	5.6	9.9	5.0	11.0	10.5	7.6	9.8	14.9	12.1	11.4	14.4	29.2	12.7	24	29.2	5.0	13.4	0	0
7	15.1	22.7	16.7	15.4	15.5	17.4	32.6	32.2	12.6	9.7	10.1	27.8	22.4	20.5	16.6	10.7	17.3	10.5	21.0	23.1	11.8	10.0	8.4	6.3	24	32.6	6.3	16.9	0	0
8	6.7	6.2	25.7	5.3	5.7	7.6	16.5	15.7	5.3	4.4	14.7	8.0	23.0	8.9	9.7	10.2	8.3	12.8	15.7	6.5	9.1	3.5	3.3	3.2	24	25.7	3.2	9.8	0	0
9	3.3	3.1	3.0	3.1	3.4	3.5	4.4	4.6	6.5	4.7	3.9	3.5	6.6	10.6	9.9	11.7	16.6	12.6	9.9	13.2	8.8	11.6	6.0	6.9	24	16.6	3.0	7.1	0	0
10	4.7	3.8	3.5	4.2	3.6	4.1	3.8	3.3	3.2	3.2	3.3	2.7	2.9	4.1	9.7	5.5	4.3	2.7	3.5	3.4	13.5	9.7	5.1	4.7	24	13.5	2.7	4.7	0	0
11	20.5	10.7	4.9	5.3	6.3	5.0	12.3	17.2	8.7	9.0	9.6	5.7	6.4	8.6	3.9	12.3	5.3	14.0	11.7	14.8	19.1	6.9	8.5	12.9	24	20.5	3.9	10.0	0	0
12	13.2	8.9	7.9	7.6	11.7	11.5	21.0	28.8	31.3	25.8	17.1	10.7	11.1	16.6	9.9	13.3	10.4	8.8	21.2	25.8	12.7	9.0	13.0	14.9	24	31.3	7.6	15.1	0	0
13	8.2	36.3	19.6	18.4	15.2	11.5	13.9	7.2	4.9	3.8	3.9	4.4	4.2	4.0	3.5	4.0	3.8	4.0	3.8	4.1	3.8	3.8	3.1	5.7	24	36.3	3.1	8.1	0	0
14	6.2	3.6	3.7	3.5	3.4	3.4	3.7	5.1	6.6	3.9	3.5	3.4	3.2	3.2	3.2	4.0	3.6	3.9	3.4	4.1	6.2	5.2	8.4	10.1	24	10.1	3.2	4.5	0	0
15	7.7	5.9	4.9	9.9	6.2	6.7	29.8	27.1	37.5	47.7	58.1	51.6	32.7	17.4	15.7	9.8	26.3	10.4	13.4	28.6	26.2	11.0	9.7	11.2	24	58.1	4.9	21.1	0	0
16	5.1	4.8	4.1	8.1	6.5	15.3	11.6	30.2	54.9	48.4	36.0	32.7	30.9	22.7	17.8	13.2	13.6	10.0	13.5	11.5	14.8	7.4	7.6	7.6	24	54.9	4.1	17.8	0	0
17	8.0	9.9	8.4	6.8	13.5	7.5	6.9	19.9	13.0	9.1	21.7	9.2	6.3	5.4	6.3	6.8	5.8	11.7	14.4	22.1	12.0	9.0	9.4	6.9	24	22.1	5.4	10.4	0	0
18	8.3	5.6	4.4	3.7	5.2	4.0	4.5	6.7	9.2	6.6	7.1	4.2	4.2	4.7	5.0	11.4	5.6	9.4	13.0	20.4	16.7	19.0	8.0	6.3	24	20.4	3.7	8.0	0	0
19	5.7	5.9	4.4	4.3	6.7	6.1	9.3	14.3	41.9	43.0	31.6	29.7	33.0	32.9	18.7	11.6	12.2	12.7	16.1	16.9	13.3	16.9	32.1	29.8	24	43.0	4.3	18.7	0	0
20	37.6	25.6	16.4	11.6	8.8	11.9	14.8	23.5	18.1	20.8	34.7	25.6	17.4	12.1	12.9	11.4	12.1	11.8	23.1	29.3	17.5	13.9	20.2	14.6	24	37.6	8.8	18.6	0	0
21	10.0	29.4	9.0	25.4	27.0	30.2	25.7	18.7	16.2	15.0	17.7	10.7	8.9	8.3	13.0	11.2	10.7	14.8	14.3	15.7	14.5	20.3	41.4	29.0	24	41.4	8.3	18.2	0	0
22	25.7	20.2	13.1	16.8	20.9	19.1	15.3	16.7	14.3	21.7	20.6	27.3	11.2	6.7	4.6	4.8	4.2	3.7	3.5	3.5	3.8	3.7	4.0	4.8	24	27.3	3.5	12.1	0	0
23	4.6	5.6	5.3	5.6	5.2	5.8	15.5	7.7	5.6	5.7	11.6	8.9	8.0	7.2	7.0	5.3	5.5	11.5	13.0	16.7	44.1	14.4	21.4	9.8	24	44.1	4.6	10.5	0	0
24	14.6	7.5	7.4	5.0	5.0	5.3	7.7	6.8	22.6	9.9	4.5	4.7	6.2	4.3	4.3	8.2	5.1	4.2	23.0	16.0	9.7	9.6	8.6	7.8	24	23.0	4.2	8.7	0	0
25	6.1	8.4	5.4	6.3	9.4	4.8	7.0	7.0	15.6	6.7	4.4	10.9	14.9	5.1	7.6	28.7	16.5	10.0	7.2	13.1	6.4	10.7	10.0	7.0	24	28.7	4.4	9.5	0	0
26	10.9	7.4	11.5	10.0	14.0	20.2	20.2	19.9	15.0	19.5	44.3	39.7	19.0	33.7	28.8	23.4	23.5	26.9	24.1	21.3	24.2	21.7	21.8	18.3	24	44.3	7.4	21.6	0	0
27	14.4	36.5	20.3	10.5	10.6	11.8	6.7	8.8	23.1	11.8	21.5	18.3	9.9	6.6	20.3	12.6	17.1	29.0	29.7	35.9	23.3	23.5	17.2	13.7	24	36.5	6.6	18.1	0	0
28	9.8	7.7	5.1	5.3	7.3	13.6	11.6	12.9	13.1	12.6	8.5	6.3	19.3	7.3	10.5	9.8	30.5	15.5	17.6	18.4	27.9	14.4	9.5	6.1	24	30.5	5.1	12.5	0	0
29	6.9	11.0	6.0	4.8	8.9	8.2	12.8	10.2	16.6	10.8	8.5	7.2	6.9	5.7	10.0	6.0	14.7	14.6	24.6	20.5	11.2	16.9	12.3	7.9	24	24.6	4.8	11.0	0	0
30	9.7	18.5	8.9	7.8	9.3	7.6	11.1	21.4	22.7	21.7	19.9	18.7	23.6	12.1	11.5	14.9	10.4	10.9	14.9	20.8	17.0	14.2	12.4	24.3	24	24.3	7.6	15.2	0	0
31	10.5	7.5	7.0	9.4	4.9	3.7	3.4	3.7	4.4	4.6	4.2	3.9	4.1	3.2	10.7	6.4	6.5	8.5	11.7	8.9	9.7	9.9	12.3	13.1	24	13.1	3.2	7.2	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	31	31	31		
Maximum	37.6	36.5	25.7	25.4	27.0	34.2	49.3	32.2	54.9	48.4	58.1	51.6	33.0	33.7	28.8	28.7	30.5	29.0	29.7	35.9	53.0	26.6	41.4	29.8	24	58.1	25.4	36.7		
Minimum	3.3	3.1	3.0	3.0	3.0	2.7	2.7	2.9	2.7	2.6	2.6	2.7	2.6	2.8	3.0	3.0	2.4	2.7	3.1	3.4	3.1	3.3	3.1	3.2	24	10.06489	2.4	2.9		
Average	10.4	12.1	8.7	8.6	9.1	10.3	13.9	14.9	16.1	14.3	15.6	13.7	12.6	10.2	10.4	10.4	11.5	11.1	13.7	15.7	15.3	11.8	12.4	10.6	24	29	5	12.2		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		3.7		4.8		6.3		7.9		9.8		11.6		14.4		17.8		24.3		29.8		44.2		58.1						58.1
Notes	C - Span Cycle		NA - No Data Available				T - Test		A- MOE Audit																					

NO _x - RUNDLE																															
September 2013																															
(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	10.1	6.3	4.9	5.0	6.6	4.2	4.3	8.3	8.0	9.3	3.2	9.4	5.2	10.4	4.5	3.4	3.9	3.9	9.6	11.6	6.9	5.6	6.8	9.5	24	11.6	3.2	6.7	0	0	
2	4.9	5.5	5.0	8.9	12.2	6.8	6.7	6.4	6.8	8.4	10.2	11.4	15.6	4.0	3.4	3.4	3.6	3.5	4.6	4.1	4.4	3.9	14.1	7.1	24	15.6	3.4	6.9	0	0	
3	11.5	13.5	12.4	15.3	13.6	15.1	19.1	13.1	9.3	8.0	8.0	6.8	7.3	6.0	6.1	5.6	5.5	5.2	8.5	23.5	9.9	20.8	23.4	29.2	24	29.2	5.2	12.4	0	0	
4	34.8	21.9	16.5	14.2	12.5	18.1	20.4	36.7	53.9	43.6	37.7	18.6	C	C	C	17.6	8.0	6.9	6.1	6.6	5.7	6.0	5.6	7.2	21	53.9	5.6	19.0	0	0	
5	8.9	6.1	14.7	36.3	13.0	19.5	8.4	7.6	6.2	6.6	5.4	6.1	6.4	6.5	6.2	7.1	6.5	6.0	7.4	9.5	10.6	9.1	7.1	6.2	24	36.3	5.4	9.5	0	0	
6	6.1	5.8	7.1	6.8	8.5	15.9	13.3	11.1	15.8	16.1	19.7	20.5	24.7	11.9	9.5	16.6	31.8	29.6	23.3	14.1	13.7	19.7	19.5	25.6	24	31.8	5.8	16.1	0	0	
7	20.9	30.4	27.8	19.2	18.8	19.9	16.9	20.9	29.4	21.7	20.4	19.5	19.2	21.3	26.3	24.8	23.6	24.1	14.8	13.3	14.8	15.0	24.2	20.9	24	30.4	13.3	21.2	0	0	
8	12.3	6.6	5.8	4.8	4.5	4.7	5.2	4.9	4.6	4.8	5.4	6.9	6.3	11.7	7.4	11.1	9.0	9.4	13.2	26.2	16.4	10.3	8.4	6.2	24	26.2	4.5	8.6	0	0	
9	9.6	6.2	6.5	6.2	6.9	13.9	17.6	41.2	46.4	36.5	17.5	21.3	23.3	11.7	12.8	37.9	25.1	20.8	36.7	15.0	23.3	29.8	15.5	10.8	24	46.4	6.2	20.5	0	0	
10	8.3	27.4	35.9	35.7	41.6	22.9	29.2	37.4	25.2	14.5	17.3	12.7	11.6	12.0	11.3	13.8	13.4	13.1	14.7	22.6	19.1	14.9	15.0	34.0	24	41.6	8.3	21.0	0	0	
11	37.8	13.6	21.8	24.1	22.0	19.9	22.2	32.4	22.5	15.8	18.7	12.3	15.6	17.7	13.7	14.0	22.8	12.8	15.6	30.5	26.2	25.4	26.8	18.5	24	37.8	12.3	20.9	0	0	
12	34.8	30.0	14.4	11.7	19.1	17.2	30.0	25.6	24.8	34.5	34.8	28.1	36.0	31.6	12.4	6.8	5.5	5.4	6.7	7.4	5.6	5.1	4.9	4.7	24	36.0	4.7	18.2	0	0	
13	4.9	5.0	4.7	4.8	6.0	7.6	8.5	9.7	8.7	8.6	8.1	8.9	7.7	7.6	7.4	7.0	6.6	6.8	6.7	6.8	8.9	6.5	10.9	6.2	24	10.9	4.7	7.3	0	0	
14	5.5	5.0	5.1	5.5	6.0	6.2	6.0	5.8	5.6	5.2	5.5	5.7	5.8	12.5	13.1	17.6	12.6	19.0	16.4	15.1	13.6	16.3	9.0	11.8	24	19.0	5.0	9.6	0	0	
15	19.3	17.6	14.7	11.9	17.5	12.6	12.4	20.2	32.9	29.4	17.9	22.9	16.4	14.1	14.5	17.4	16.6	12.8	16.3	14.4	17.9	22.1	30.8	22.9	24	32.9	11.9	18.6	0	0	
16	25.9	10.0	12.4	11.4	9.1	8.5	7.8	9.6	7.4	6.4	7.1	6.4	6.1	6.2	5.7	6.5	6.2	5.4	18.1	13.2	9.0	10.4	7.1	7.6	24	25.9	5.4	9.3	0	0	
17	10.5	7.6	5.9	7.0	8.6	15.5	21.7	34.4	14.1	26.7	11.8	6.9	16.9	7.3	7.3	40.9	23.8	14.8	13.8	16.6	11.7	9.1	8.6	9.1	24	40.9	5.9	14.6	0	0	
18	8.5	8.8	7.3	8.1	40.6	18.4	37.9	35.3	34.4	22.5	17.2	14.1	12.4	11.8	17.0	13.9	10.9	24.3	45.2	31.6	24.0	11.3	10.6	8.7	24	45.2	7.3	19.8	0	0	
19	9.6	7.8	11.9	13.5	17.4	16.1	30.2	60.3	30.4	17.6	17.8	20.1	13.8	12.4	19.3	15.0	16.6	27.9	36.3	32.4	53.7	30.3	15.8	12.8	24	60.3	7.8	22.5	0	0	
20	11.3	36.3	14.7	20.6	11.0	15.5	20.9	56.0	50.5	19.7	17.5	14.0	15.7	13.7	22.1	18.7	18.6	24.5	19.5	32.8	23.5	26.3	36.5	18.7	24	56.0	11.0	23.3	0	0	
21	23.2	23.6	17.5	8.6	4.9	17.4	17.8	30.1	22.5	11.2	12.7	15.0	9.5	10.5	20.5	9.8	15.0	7.4	5.7	6.8	7.2	13.6	13.8	10.5	24	30.1	4.9	14.0	0	0	
22	9.9	8.8	6.9	6.3	6.4	6.6	6.7	6.8	5.7	5.8	5.7	5.6	5.8	6.1	6.0	5.9	6.5	7.1	6.5	13.7	9.5	12.3	8.5	8.4	24	13.7	5.6	7.4	0	0	
23	6.0	5.3	5.7	5.6	8.8	7.6	10.9	10.4	8.5	7.4	6.9	6.2	6.8	7.5	11.7	11.3	7.5	6.9	10.2	12.2	7.8	7.7	6.6	6.1	24	12.2	5.3	8.0	0	0	
24	5.2	5.6	6.0	9.7	7.7	8.9	11.4	9.5	7.9	6.4	5.6	16.1	14.9	14.3	15.5	23.2	30.4	38.1	44.3	24.7	23.7	7.7	6.4	5.5	24	44.3	5.2	14.5	0	0	
25	5.2	5.9	5.4	5.7	6.4	14.5	11.1	11.9	11.6	11.1	21.1	C	9.5	12.3	11.0	8.0	5.8	15.9	20.7	13.1	10.7	11.0	8.7	9.8	23	21.1	5.2	10.7	0	0	
26	2.9	4.2	2.1	2.9	3.8	11.2	30.7	31.0	24.8	19.9	14.7	10.2	6.7	8.8	3.9	16.7	15.3	18.1	15.5	10.2	11.7	17.8	18.7	12.6	24	31.0	2.1	13.1	0	0	
27	3.9	3.1	2.2	2.7	3.8	9.8	12.2	11.1	5.5	13.2	7.4	24.0	17.6	3.6	3.8	21.4	3.4	9.1	16.3	13.2	10.4	8.3	4.7	3.3	24	24.0	2.2	8.9	0	0	
28	1.7	16.7	3.4	3.7	2.0	4.5	4.6	4.7	18.6	5.4	3.6	1.8	17.6	1.1	10.8	1.1	1.2	12.3	7.8	29.5	9.3	5.1	15.1	4.7	24	29.5	1.1	7.8	0	0	
29	4.9	4.1	2.1	7.1	3.5	7.1	5.5	6.4	5.2	21.2	4.5	3.6	2.6	9.4	13.1	3.5	5.4	9.4	8.5	23.5	7.6	5.3	4.8	5.0	24	23.5	2.1	7.2	0	0	
30	5.3	7.6	4.1	6.1	9.1	20.8	32.8	31.5	22.2	15.9	22.8	13.6	16.3	24.2	18.3	13.1	10.1	22.8	25.9	20.4	22.2	11.9	11.3	13.6	24	32.8	4.1	16.7	0	0	
31																									0	0.0	0.0				
Count	30	30	30	30	30	30	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30	30	30	30	30	716	30	29	30		
Maximum	37.8	36.3	35.9	36.3	41.6	22.9	37.9	60.3	53.9	43.6	37.7	28.1	36.0	31.6	26.3	40.9	31.8	38.1	45.2	32.8	53.7	30.3	36.5	34.0	24	60.3	22.9	37.9			
Minimum	1.7	3.1	2.1	2.7	2.0	4.2	4.3	4.7	4.6	4.8	3.2	1.8	2.6	1.1	3.4	1.1	1.2	3.5	4.6	4.1	4.4	3.9	4.7	3.3	0	0	1.1				
Average	12.1	11.9	10.2	11.0	11.7	12.9	16.1	21.0	19.0	15.8	13.5	12.7	12.9	11.3	11.5	13.8	12.4	14.1	16.5	17.2	14.6	13.3	13.3	11.9	23	31	6	13.8			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		5.0		6.1		7.1		8.9		11.2		13.6		16.4		20.5		26.3		34.1		44.2		60.3						60.3	
Notes	C - Span Cycle NA - No Data Available T - Test A- MOE Audit																														

Figure C-1 Time History Plots – NO_x – Courtyce (WPCP) Station

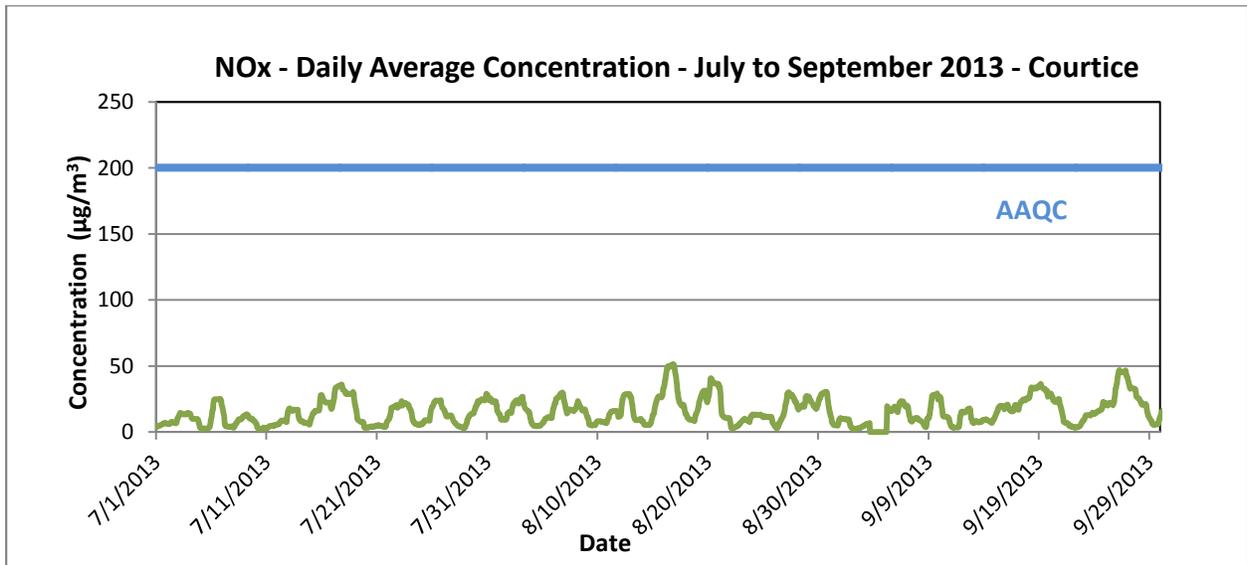
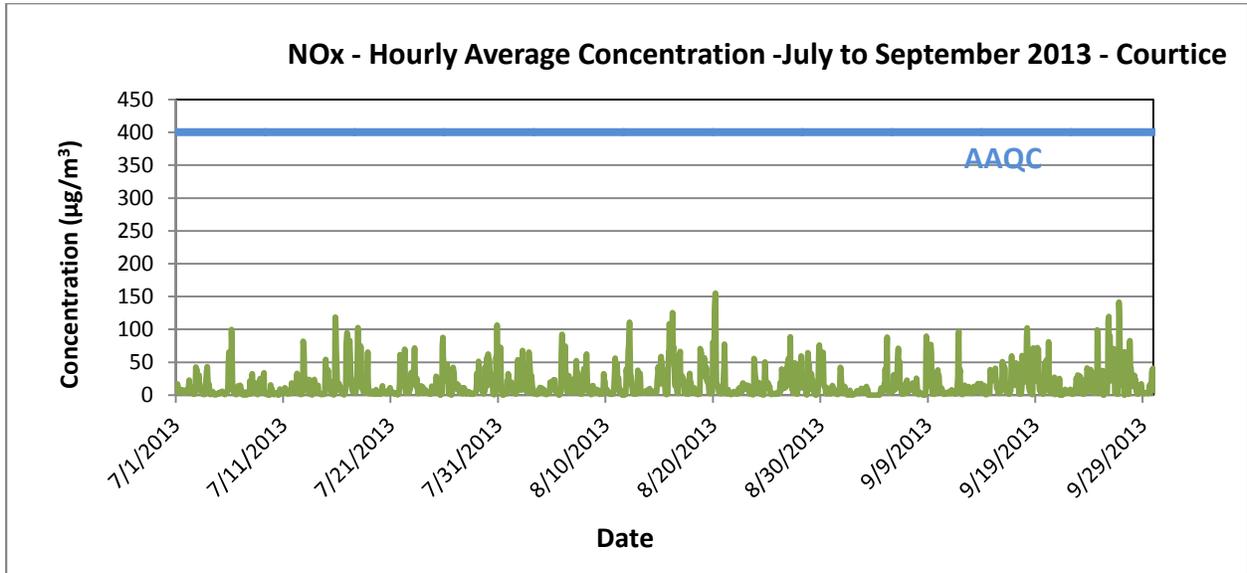
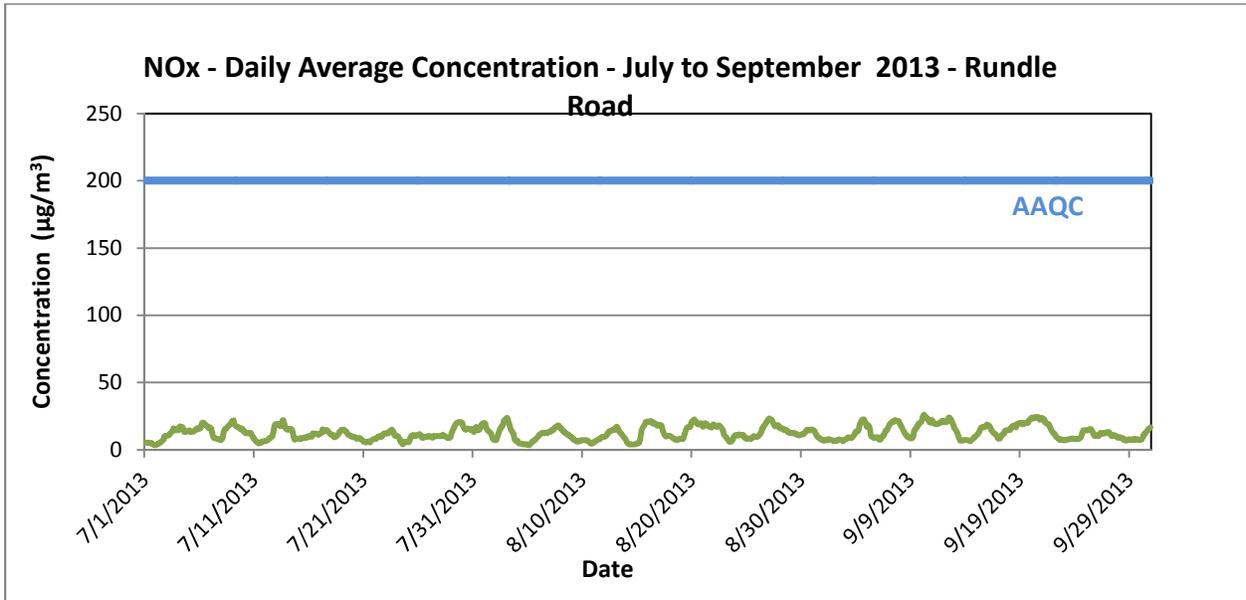
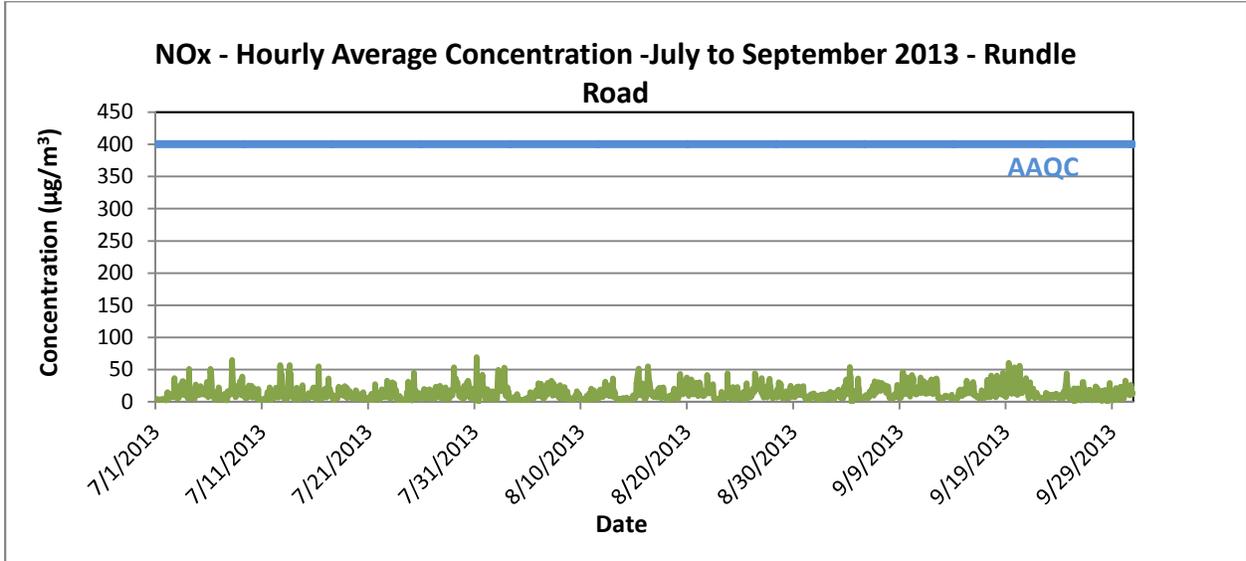


Figure C-2 Time History Plots – NO_x – Rundle Road Station



**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY
CENTRE – JULY TO SEPTEMBER 2013**

Appendix D
PM_{2.5} Data Summaries and Time History Plots
April 28, 2014

Appendix D
PM_{2.5} Data Summaries and Time History Plots

PM_{2.5} - COURTICE
July 2013
(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	18.7	18.7	18.6	18.6	18.6	18.6	18.6	18.6	18.6	15.5	13.4	14.4	14.2	12.7	11.2	11.3	10.0	8.5	8.4	8.7	8.2	9.8	7.1	7.7	24	18.7	7.1	13.7	
2	8.1	7.5	9.2	18.3	18.8	18.8	18.9	19.1	19.2	19.2	19.2	19.3	19.2	18.9	18.7	18.7	18.6	18.6	18.6	18.6	18.9	19.0	18.4	18.1	24	19.3	7.5	17.5	
3	17.9	17.9	17.9	17.8	17.8	17.7	17.6	17.6	17.6	18.6	19.0	18.9	19.0	19.3	19.5	20.2	21.8	22.1	22.1	19.7	22.6	21.9	22.7	22.2	24	22.7	17.6	19.5	
4	17.5	8.7	7.0	7.3	8.4	7.4	7.3	7.4	7.4	7.9	8.3	8.5	8.8	8.8	9.4	10.0	9.5	9.7	10.2	11.2	12.2	12.8	11.3	10.9	24	17.5	7.0	9.5	
5	11.8	10.8	10.7	11.4	11.6	11.6	10.1	10.3	10.7	10.3	10.2	10.4	10.0	10.4	7.2	8.1	9.7	7.8	8.9	8.1	9.2	14.0	14.8	14.4	24	14.8	7.2	10.5	
6	17.0	15.3	13.8	12.4	11.1	13.6	13.4	14.6	13.7	16.1	21.8	16.9	14.4	11.9	10.7	10.1	9.6	10.3	10.1	10.8	12.5	13.6	13.2	13.6	24	21.8	9.6	13.4	
7	14.3	13.5	9.2	8.9	8.5	7.6	8.2	8.6	8.9	8.2	7.9	7.8	7.9	10.0	12.7	10.5	8.5	6.2	6.5	8.0	7.6	7.5	8.1	9.7	24	14.3	6.2	9.0	
8	8.2	7.7	8.3	8.7	8.6	8.7	8.4	9.1	10.6	11.6	14.3	14.6	15.0	13.2	12.4	13.8	13.7	15.3	14.2	10.0	10.8	9.2	9.4	11.8	24	15.3	7.7	11.2	
9	10.9	10.4	12.5	14.9	16.3	13.6	9.8	10.2	10.4	10.0	9.7	8.6	7.5	7.4	7.5	7.7	8.3	8.7	9.3	10.9	14.1	17.2	15.7	15.3	24	17.2	7.4	11.1	
10	15.1	17.6	23.2	20.7	16.3	13.7	11.0	11.0	9.1	8.0	6.7	8.3	10.6	12.8	13.0	11.8	10.8	7.8	8.3	7.4	7.8	10.0	11.5	12.6	24	23.2	6.7	11.9	
11	14.2	13.8	13.0	12.0	10.9	9.8	9.2	8.4	7.9	8.3	8.9	8.3	8.7	9.2	9.1	8.6	7.9	8.3	8.4	5.7	5.5	5.4	5.2	5.0	24	14.2	5.0	8.8	
12	5.3	5.9	5.7	5.4	5.4	5.8	5.7	5.3	4.8	4.6	4.6	4.1	3.7	3.8	3.8	4.3	3.9	3.8	4.0	3.7	4.9	6.1	6.5	9.2	24	9.2	3.7	5.0	
13	9.5	9.1	8.4	8.4	8.1	7.9	6.9	6.9	5.2	5.8	6.2	7.1	7.0	6.8	6.3	6.2	5.3	5.1	4.9	5.5	6.5	6.9	9.6	8.7	24	9.6	4.9	7.0	
14	8.8	7.7	8.4	8.0	8.2	8.5	7.9	7.2	6.6	7.0	7.8	7.7	7.3	6.5	6.3	6.4	6.8	6.8	6.7	7.5	9.8	10.6	11.6	12.3	24	12.3	6.3	8.0	
15	13.1	12.9	13.8	14.7	16.4	15.8	13.8	12.5	12.1	13.8	13.1	12.2	12.2	11.5	11.8	12.9	13.1	11.1	10.8	11.2	13.5	15.7	16.5	17.0	24	17.0	10.8	13.4	
16	15.8	15.0	15.6	15.8	16.1	16.2	15.7	14.7	15.3	16.1	16.8	16.5	16.3	16.9	16.5	15.6	14.4	13.8	15.1	17.0	20.6	23.2	25.8	24.8	24	25.8	13.8	17.1	
17	25.7	26.4	26.7	25.1	25.5	27.4	25.7	24.4	23.6	22.7	24.0	28.0	25.3	23.1	22.0	17.8	15.0	14.3	13.7	14.4	15.4	15.1	16.7	17.9	24	28.0	13.7	21.5	
18	17.4	17.2	16.9	17.3	16.8	18.4	17.3	15.2	14.8	16.9	17.3	17.7	17.5	19.0	16.4	14.8	15.6	15.6	14.8	14.3	16.6	19.5	18.1	14.2	24	19.5	14.2	16.7	
19	14.5	15.4	16.6	16.6	16.8	16.6	16.3	16.0	16.8	17.7	18.2	18.2	17.2	15.6	15.5	13.2	10.1	12.2	10.3	8.9	9.8	9.6	9.4	10.0	24	18.2	8.9	14.2	
20	9.7	9.7	8.6	8.3	8.7	7.3	6.9	6.9	7.2	7.6	7.7	7.4	8.6	9.4	9.0	8.2	7.7	7.3	7.7	8.5	8.9	9.6	9.7	9.9	24	9.9	6.9	8.3	
21	9.8	9.8	9.9	9.1	8.5	8.2	7.3	6.1	5.6	5.6	5.4	5.2	4.8	4.4	4.2	3.9	3.3	3.2	3.3	3.6	4.5	6.5	6.1	6.4	24	9.9	3.2	6.0	
22	7.3	7.4	7.2	7.0	7.1	7.2	7.1	7.0	6.3	5.1	5.3	5.0	5.1	5.1	5.2	5.1	5.5	5.4	6.0	5.8	6.3	6.3	6.4	6.4	24	7.4	5.0	6.2	
23	5.6	5.1	5.4	5.9	5.6	5.9	5.0	3.3	3.3	3.5	4.1	4.6	6.7	9.4	11.2	11.1	9.9	6.4	6.1	6.0	6.2	6.4	6.4	6.2	24	11.2	3.3	6.2	
24	5.6	5.6	6.0	5.9	6.2	6.6	6.0	5.4	5.5	5.4	5.2	5.1	4.8	4.4	4.1	3.9	3.4	3.4	3.4	3.6	3.9	4.0	4.4	4.6	24	6.6	3.4	4.9	
25	3.9	3.8	3.8	3.8	3.8	3.6	3.7	3.9	3.7	3.5	3.5	3.4	3.3	3.2	3.1	2.9	2.9	2.9	2.9	3.6	5.8	6.1	6.5	7.0	24	7.0	2.9	3.9	
26	7.7	7.4	6.9	7.0	7.5	7.4	6.7	4.9	4.3	4.3	4.6	4.3	4.3	4.3	3.9	4.3	4.4	4.4	5.3	5.4	6.8	8.0	7.8	7.4	24	8.0	3.9	5.8	
27	8.3	8.1	7.4	6.6	6.1	5.5	5.0	4.1	3.8	3.7	4.0	4.1	4.8	6.2	6.7	8.9	10.8	9.7	9.4	10.8	13.2	13.6	13.8	13.5	24	13.8	3.7	7.8	
28	12.4	12.4	12.9	13.4	14.3	10.8	9.6	8.8	7.7	7.3	7.3	7.3	6.9	7.1	6.9	6.7	6.9	6.9	6.8	6.6	6.7	6.2	6.2	6.2	24	14.3	6.2	8.5	
29	5.7	5.6	5.2	5.5	5.7	6.9	6.6	5.3	5.4	5.8	5.6	5.6	5.8	5.0	3.7	3.4	3.5	3.6	5.3	5.3	5.3	4.8	4.7	5.5	24	6.9	3.4	5.2	
30	4.5	3.6	3.7	3.6	4.1	4.8	3.9	3.4	3.4	3.5	3.8	3.9	3.6	3.5	3.4	3.4	3.7	3.6	3.7	4.5	6.9	6.9	7.8	7.5	24	7.8	3.4	4.4	
31	8.36	8.57	8.1	7.9	7.5	7.6	7.6	5.8	5.0	4.9	5.0	5.0	A	5.1	5.1	4.7	5.3	7.1	6.3	6.7	7.0	10.3	9.0	8.6	23	10.3	4.7	6.8	
Count	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	743	31	30	31	
Maximum	25.7	26.4	26.7	25.1	25.5	27.4	25.7	24.4	23.6	22.7	24.0	28.0	25.3	23.1	22.0	20.2	21.8	22.1	22.1	19.7	22.6	23.2	25.8	24.8	24	28.0	19.7	24.1	
Minimum	3.9	3.6	3.7	3.6	3.8	3.6	3.7	3.3	3.3	3.5	3.5	3.4	3.3	3.2	3.1	2.9	2.9	2.9	2.9	3.6	3.9	4.0	4.4	4.6	23	6.6	2.9	3.5	
Average	11.4	10.9	11.0	11.2	11.1	10.9	10.2	9.8	9.5	9.6	10.0	10.0	10.0	9.8	9.6	9.3	9.0	8.7	8.8	8.8	9.9	10.8	11.0	11.1	24	15	7	10.1	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		4.3		5.5		6.6		7.5		8.5		10.0		12.4		15.1		17.9		19.2		25.5		28.0					28.0
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																			

PM_{2.5} - COURTICE
August 2013
(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	6.2	5.2	13.8	18.8	18.8	19.7	21.8	18.6	15.5	11.5	9.5	8.9	8.6	8.3	8.3	8.3	8.1	8.0	7.1	8.2	9.1	9.9	19.2	15.4	24	21.8	5.2	12.0	
2	11.1	9.4	9.7	9.6	9.6	8.7	8.6	8.9	7.4	6.9	7.9	8.0	8.5	8.0	8.1	8.4	8.9	9.6	8.8	8.3	8.4	9.0	9.6	9.8	24	11.1	6.9	8.8	
3	10.8	10.7	9.7	9.4	9.1	9.1	9.0	7.9	7.3	7.1	7.1	6.6	6.5	7.1	6.4	5.9	5.2	5.4	5.9	6.4	6.8	7.0	9.3	8.7	24	10.8	5.2	7.7	
4	8.7	8.1	7.7	7.2	6.5	5.8	5.0	4.4	3.8	3.7	3.9	5.0	5.7	5.9	6.5	6.3	6.3	6.4	6.4	7.2	9.1	8.9	8.7	8.5	24	9.1	3.7	6.5	
5	9.1	9.3	8.9	8.7	8.6	7.5	5.9	4.7	4.2	4.0	3.7	3.7	4.0	3.9	4.0	4.5	4.6	4.3	4.1	5.5	6.8	7.0	7.7	8.7	24	9.3	3.7	6.0	
6	7.2	6.4	6.7	6.5	6.8	6.4	9.0	5.9	5.2	5.1	5.5	5.5	5.5	5.8	6.2	6.4	6.2	6.4	6.9	7.1	7.1	7.4	8.6	8.5	24	9.0	5.1	6.6	
7	7.9	7.6	7.6	7.8	7.9	8.3	8.2	8.7	8.9	9.2	9.9	11.0	11.6	11.4	12.5	13.5	14.1	14.2	14.6	14.7	14.1	15.0	14.8	15.1	24	15.1	7.6	11.2	
8	11.5	12.0	12.1	11.1	10.4	10.0	10.4	10.5	7.3	8.4	11.8	11.4	11.3	10.2	8.5	8.2	7.3	7.6	10.6	9.2	9.5	11.7	12.0	14.2	24	14.2	7.3	10.3	
9	14.2	11.8	9.9	8.9	8.8	8.6	8.5	8.8	8.7	7.8	7.0	6.7	7.0	7.2	7.3	7.4	7.1	6.7	7.2	8.2	9.0	8.9	9.4	9.7	24	14.2	6.7	8.5	
10	8.9	8.2	8.2	8.1	8.3	7.9	7.2	6.0	5.6	5.4	5.3	5.4	5.5	5.9	5.4	4.6	4.0	3.5	4.2	6.2	10.7	9.3	9.2	9.5	24	10.7	3.5	6.8	
11	10.3	10.8	10.6	10.2	8.8	8.4	7.1	4.4	4.1	4.0	3.7	3.3	3.2	3.2	3.0	3.0	3.2	3.2	3.2	3.3	3.2	3.2	3.4	3.9	24	10.8	3.0	5.2	
12	5.3	6.0	6.7	7.6	8.5	9.0	9.7	7.0	7.2	7.4	8.0	7.9	8.0	7.7	7.4	7.4	8.0	8.1	9.0	9.9	10.1	9.6	10.1	10.5	24	10.5	5.3	8.2	
13	9.8	8.2	8.6	8.9	10.0	14.6	15.1	9.3	7.5	8.1	8.9	9.6	9.5	7.5	6.9	6.7	6.9	7.2	7.4	7.4	7.3	6.8	6.2	6.3	24	15.1	6.2	8.5	
14	5.4	4.4	3.7	3.4	3.3	3.6	3.5	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.9	4.4	4.5	4.7	5.6	6.4	6.9	6.4	6.7	6.2	24	6.9	3.3	4.5	
15	8.1	9.4	8.7	8.5	7.7	7.3	6.3	4.2	3.6	3.8	3.8	4.4	4.4	3.9	3.9	3.7	3.5	4.2	4.7	5.9	7.4	8.0	10.6	10.2	24	10.6	3.5	6.1	
16	10.2	10.5	9.9	10.3	12.4	11.4	10.3	8.1	8.2	9.7	9.7	8.5	8.3	8.6	9.0	9.0	8.3	8.6	10.2	14.0	14.0	16.4	18.4	19.0	24	19.0	8.1	11.0	
17	18.1	16.7	15.9	16.0	15.4	14.9	14.3	12.6	11.8	12.1	12.5	12.0	12.6	12.9	12.4	12.7	11.6	12.4	13.8	16.7	17.8	22.3	28.7	24.6	24	28.7	11.6	15.5	
18	23.8	23.0	21.8	20.8	19.8	19.5	18.6	16.8	15.8	15.6	15.2	14.3	13.5	13.6	14.2	14.7	13.1	12.2	13.0	13.1	15.2	17.5	19.8	18.5	24	23.8	12.2	16.8	
19	15.7	15.4	16.3	16.9	17.7	19.6	23.8	19.4	17.3	18.8	16.6	15.1	15.4	13.8	14.2	13.9	14.0	14.3	15.2	16.6	16.8	15.3	16.4	19.5	24	23.8	13.8	16.6	
20	21.2	20.4	21.4	22.9	25.6	28.1	30.7	26.5	22.7	22.0	21.7	22.4	22.4	20.6	21.7	21.5	22.0	21.1	20.7	21.7	20.8	20.4	21.4	22.7	24	30.7	20.4	22.6	
21	22.9	23.5	23.6	26.7	21.9	19.8	18.2	18.1	17.9	18.0	20.0	19.4	18.8	19.2	19.4	20.2	21.0	20.2	18.4	18.5	19.2	20.0	21.9	22.5	24	26.7	17.9	20.4	
22	22.3	22.3	23.1	23.9	24.0	25.0	25.4	24.8	25.0	25.0	25.4	25.8	24.2	22.0	21.1	20.4	16.6	10.6	9.6	10.2	10.4	11.4	12.1	12.2	24	25.8	9.6	19.7	
23	10.9	9.8	9.7	9.7	9.4	8.8	8.3	6.7	6.7	7.2	6.8	6.3	6.2	5.9	5.4	5.0	4.6	4.0	3.6	4.7	5.4	6.4	8.0	8.5	24	10.9	3.6	7.0	
24	8.0	6.7	6.4	6.3	6.2	6.1	6.3	5.2	3.9	3.6	3.7	3.7	4.0	4.4	4.6	4.3	3.8	4.0	4.2	5.0	6.3	7.0	8.3	9.2	24	9.2	3.6	5.5	
25	9.8	9.9	9.4	9.4	9.0	9.4	8.0	6.0	4.9	4.5	4.6	4.8	5.1	6.1	5.8	6.4	6.7	6.8	6.7	9.0	10.4	13.7	14.4	14.3	24	14.4	4.5	8.1	
26	14.4	14.8	15.6	16.3	17.0	20.3	21.7	19.6	18.0	18.5	20.4	19.8	19.2	16.6	18.2	21.5	19.6	19.2	19.6	21.0	23.5	23.5	24.6	21.5	24	24.6	14.4	19.4	
27	20.8	20.3	17.7	12.7	13.1	13.5	14.1	13.3	14.4	14.7	14.3	15.9	17.6	15.4	16.0	20.1	16.9	15.2	14.6	16.1	16.8	16.3	18.2	22.4	24	22.4	12.7	16.3	
28	23.5	24.1	22.1	20.1	19.3	18.3	18.1	24.9	20.4	22.0	19.7	17.9	21.4	26.5	19.4	20.2	17.7	17.7	18.4	19.9	21.9	20.8	21.9	22.2	24	26.5	17.7	20.8	
29	21.5	19.8	16.3	13.1	12.7	12.3	11.5	9.9	9.2	8.2	8.6	8.8	8.6	8.3	8.3	8.8	8.2	8.4	9.2	11.4	12.9	14.2	14.7	15.3	24	21.5	8.2	11.7	
30	14.2	13.8	14.1	14.1	12.9	11.8	10.9	14.4	21.1	20.6	16.6	16.8	14.4	13.3	13.3	13.3	13.9	15.4	16.7	18.0	17.9	18.6	18.2	17.1	24	21.1	10.9	15.5	
31	16.8	15.8	15.6	17.5	17.4	16.5	13.8	11.8	13.0	12.7	12.0	11.0	10.3	10.6	10.3	9.7	9.9	10.4	9.9	9.6	10.7	9.9	9.4	10.2	24	17.5	9.4	12.3	
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	31	31	31	
Maximum	23.8	24.1	23.6	26.7	25.6	28.1	30.7	26.5	25.0	25.0	25.4	25.8	24.2	26.5	21.7	21.5	22.0	21.1	20.7	21.7	23.5	23.5	28.7	24.6	24	30.7	20.7	24.6	
Minimum	5.3	4.4	3.7	3.4	3.3	3.6	3.5	3.4	3.5	3.5	3.5	3.3	3.2	3.0	3.0	3.0	3.2	3.2	3.2	3.3	3.2	3.2	3.4	3.9	24	6.9	3.0	3.5	
Average	13.2	12.7	12.6	12.6	12.5	12.6	12.6	11.3	10.7	10.6	10.6	10.4	10.5	10.2	10.1	10.3	9.9	9.7	10.0	10.9	11.8	12.3	13.6	13.7	24	17	8	11.5	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		4.6		6.4		7.5		8.6		9.6		11.4		14.3		17.6		20.6		22.4		25.5		30.7					30.7
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																			

PM_{2.5} - COURTICE
September 2013
(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	10.8	7.8	7.1	7.5	7.3	7.0	6.4	6.1	5.6	5.5	5.3	5.1	4.9	4.8	4.9	4.8	4.8	4.9	5.2	5.4	5.5	5.7	5.6	5.1	24	10.8	4.8	6.0	
2	5.0	5.0	4.6	5.5	7.0	7.7	9.0	10.6	11.4	14.6	19.4	18.8	15.6	M	M	M	M	M	M	M	M	M	M	M	13	19.4	4.6		
3	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		
4	M	M	M	M	M	M	M	M	M	M	M	C	C	2.3	2.2	2.4	3.0	3.7	6.0	7.9	8.9	6.3	4.9	4.8	11	8.9	2.2		
5	4.3	4.0	3.3	4.0	5.0	5.9	4.6	5.2	5.8	6.3	6.9	8.2	8.5	8.6	8.6	8.9	9.1	8.9	9.6	12.1	11.2	10.4	9.3	8.2	24	12.1	3.3	7.4	
6	9.1	9.0	8.3	7.5	7.9	8.6	11.8	4.5	4.0	4.2	3.1	3.0	3.2	2.8	2.6	3.2	3.2	3.1	3.2	3.3	3.7	2.8	3.4	4.6	24	11.8	2.6	5.0	
7	4.9	4.7	3.4	3.5	3.8	3.7	3.5	3.5	4.0	5.3	4.6	3.9	5.0	6.0	7.9	9.2	9.9	9.0	9.1	7.3	7.6	6.8	8.9	18.7	24	18.7	3.4	6.4	
8	11.4	4.1	4.6	4.9	4.1	3.7	3.8	3.7	3.8	4.2	4.4	4.7	4.4	4.0	4.1	4.5	4.1	4.3	6.1	7.0	10.4	13.0	11.6	7.9	24	13.0	3.7	5.8	
9	7.7	6.4	6.3	7.2	6.8	7.7	7.5	7.4	6.6	2.8	2.2	2.4	2.4	2.8	2.9	2.8	2.9	3.6	4.0	4.5	4.3	3.9	4.4	3.5	24	7.7	2.2	4.7	
10	3.6	3.8	4.9	8.6	12.3	12.6	11.1	12.9	14.8	14.8	16.4	18.7	20.7	24.9	31.3	32.5	30.1	27.7	27.5	27.8	27.3	26.8	27.8	28.0	24	32.5	3.6	19.4	
11	26.0	20.8	18.9	20.3	20.9	23.5	24.3	23.5	23.5	25.6	28.6	28.1	26.9	28.3	29.8	28.7	23.2	17.9	11.1	13.6	16.0	17.0	15.6	15.7	24	29.8	11.1	22.0	
12	21.0	11.8	4.8	3.7	5.1	6.3	4.0	2.8	3.7	7.8	11.3	13.2	12.6	11.3	6.3	4.2	3.6	3.5	3.7	3.4	3.1	3.5	3.2	2.6	24	21.0	2.6	6.5	
13	4.5	2.5	2.5	2.6	2.6	2.8	3.0	3.4	3.6	3.8	3.7	3.8	3.9	4.1	4.8	5.3	6.5	7.2	7.4	8.9	9.4	9.1	9.5	8.5	24	9.5	2.5	5.1	
14	5.5	5.6	6.2	6.3	6.5	6.7	6.6	5.5	3.9	3.4	3.2	3.3	3.5	4.5	4.5	4.0	3.7	3.5	3.3	3.6	7.2	9.9	10.5	8.5	24	10.5	3.2	5.4	
15	8.6	7.6	7.3	7.4	6.9	7.3	8.0	7.3	6.3	4.5	3.7	4.6	3.6	3.0	3.0	3.3	3.7	4.0	4.8	6.0	5.3	5.1	6.0	6.8	24	8.6	3.0	5.6	
16	5.5	4.8	5.2	4.8	4.6	3.8	2.5	2.8	3.3	3.0	3.2	3.8	4.2	3.9	4.7	5.1	5.7	6.4	9.0	14.4	11.7	10.4	9.8	9.6	24	14.4	2.5	5.9	
17	9.2	9.1	8.1	7.7	6.5	6.8	8.1	5.0	3.7	3.5	3.5	3.1	2.9	3.1	3.1	4.0	2.9	3.0	3.0	3.8	4.5	3.8	3.5	3.5	24	9.2	2.9	4.8	
18	3.2	3.2	3.1	3.2	3.5	4.1	4.5	4.5	4.3	3.8	3.3	3.3	3.3	3.3	3.5	4.0	2.9	2.8	2.8	5.1	8.0	7.0	8.0	7.8	24	8.0	2.8	4.3	
19	8.6	9.6	9.4	10.4	11.0	11.9	12.9	13.1	6.7	5.1	5.8	6.5	19.4	20.6	21.7	21.3	21.6	21.1	22.1	22.3	22.3	22.8	18.6	20.0	24	22.8	5.1	15.2	
20	18.5	16.3	16.1	14.2	12.4	12.7	16.8	15.3	17.8	18.9	20.4	23.3	25.5	26.9	25.3	24.3	24.1	23.7	21.5	20.6	19.2	18.6	21.1	25.1	24	26.9	12.4	19.9	
21	28.5	25.8	25.4	15.4	2.5	2.5	3.2	2.3	2.3	2.4	2.4	2.2	2.3	2.2	2.3	2.3	2.4	2.3	2.4	2.5	2.7	3.2	3.0	3.0	24	28.5	2.2	6.1	
22	10.5	3.3	3.6	3.4	3.5	3.6	4.1	3.7	4.2	5.3	5.6	5.4	5.5	5.8	6.4	7.0	7.6	8.4	8.4	9.3	9.0	8.5	7.0	6.6	24	10.5	3.3	6.1	
23	6.7	6.6	6.0	5.9	5.9	5.8	5.4	4.1	3.2	3.2	3.3	3.2	3.3	3.3	3.5	3.5	3.5	3.5	4.7	6.2	7.0	6.4	5.7	5.0	24	7.0	3.2	4.8	
24	3.8	3.8	3.8	4.0	4.8	5.8	5.8	4.2	3.8	3.9	4.0	4.5	4.3	4.2	4.4	4.7	5.1	4.6	4.4	5.5	4.2	3.6	3.4	3.3	24	5.8	3.3	4.3	
25	2.9	2.8	2.9	3.4	4.2	4.8	5.8	4.5	3.0	C	3.1	2.9	2.9	2.8	2.9	2.9	2.9	3.0	4.0	7.2	9.3	9.7	11.0	9.1	23	11.0	2.8	4.7	
26	6.6	7.0	7.1	7.6	7.4	8.0	8.1	7.2	5.1	3.5	3.5	3.5	3.2	2.7	2.8	2.7	2.6	2.6	4.9	8.0	8.4	9.2	8.2	7.3	24	9.2	2.6	5.7	
27	6.8	7.7	7.0	7.0	8.3	8.3	9.6	19.3	10.0	6.9	6.4	6.3	6.2	6.2	6.1	5.8	5.4	5.4	6.4	8.9	11.1	10.3	11.0	10.3	24	19.3	5.4	8.2	
28	10.0	9.3	9.2	9.3	8.8	9.3	10.4	9.1	15.8	7.5	5.9	5.7	4.4	3.8	3.7	3.9	3.7	3.6	4.6	5.7	6.8	6.6	5.6	6.1	24	15.8	3.6	7.0	
29	6.5	7.4	7.4	7.2	7.5	7.9	8.1	7.5	6.8	6.1	6.0	6.2	6.3	6.9	7.8	7.5	7.9	7.2	7.4	7.2	9.2	9.6	9.2	9.1	24	9.6	6.0	7.5	
30	10.8	13.1	12.7	14.1	13.8	18.1	15.6	10.8	9.1	8.9	9.0	10.0	11.6	12.4	12.7	11.2	11.8	12.1	11.7	12.0	13.6	12.2	14.0	14.1	24	18.1	8.9	12.3	
31																									0	0.0	0.0		
Count	28	28	28	28	28	28	28	28	28	27	28	28	28	28	28	28	28	28	28	28	28	28	28	28	671	28	27	28	
Maximum	28.5	25.8	25.4	20.3	20.9	23.5	24.3	23.5	23.5	25.6	28.6	28.1	26.9	28.3	31.3	32.5	30.1	27.7	27.5	27.8	27.3	26.8	27.8	28.0	24	32.5	20.3	26.7	
Minimum	2.9	2.5	2.5	2.6	2.5	2.5	2.5	2.3	2.3	2.4	2.2	2.2	2.3	2.2	2.2	2.3	2.4	2.3	2.4	2.5	2.7	2.8	3.2	2.6	0	0	2.2		
Average	9.3	8.0	7.5	7.4	7.2	7.7	8.0	7.5	7.0	6.8	7.1	7.4	7.9	7.7	8.0	8.0	7.8	7.5	7.8	8.9	9.5	9.4	9.3	9.4	22	14	4	8.0	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		3.0		3.5		4.0		4.9		6.0		7.2		8.5		10.6		17.9		23.2		28.3		32.5					32.5
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																			

PM_{2.5} - RUNDLE
July 2013
(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	50.0	51.0	49.0	45.9	40.2	39.4	38.2	32.5	20.0	12.6	10.2	11.9	11.9	9.9	9.3	9.2	7.6	6.0	5.7	5.4	4.7	6.6	2.1	3.4	24	51.0	2.1	20.1	
2	6.2	5.7	9.8	28.7	32.7	23.9	30.3	38.2	43.3	50.1	52.2	53.9	53.8	54.1	55.3	53.8	51.2	52.2	50.3	52.2	51.8	49.1	49.9	48.4	24	55.3	5.7	41.5	
3	49.1	46.8	45.6	44.2	46.3	47.8	46.6	51.1	52.4	54.6	52.8	51.2	49.7	47.5	36.6	32.6	28.9	32.8	23.5	22.9	23.0	21.5	18.9	18.0	24	54.6	18.0	39.3	
4	16.9	7.6	4.1	3.9	6.6	4.3	4.6	4.6	5.6	7.5	7.7	9.4	8.5	8.2	8.4	8.6	8.6	9.8	9.5	10.8	11.9	11.2	9.7	9.2	24	16.9	3.9	8.2	
5	11.4	11.8	11.5	12.9	13.0	12.5	10.4	10.7	11.1	11.2	9.4	7.3	10.3	7.5	4.4	6.9	7.8	5.3	8.2	8.3	10.8	13.1	10.5	8.5	24	13.1	4.4	9.8	
6	9.9	6.0	5.2	5.8	4.4	6.2	12.1	16.5	17.7	20.3	27.3	23.4	15.6	10.3	7.7	6.6	8.4	8.9	9.5	10.3	13.1	14.0	14.8	17.4	24	27.3	4.4	12.2	
7	13.1	12.2	7.1	4.9	4.3	4.4	6.7	6.2	7.9	7.1	6.8	6.1	5.7	9.1	14.8	9.8	7.2	2.4	3.1	6.1	5.9	4.1	4.4	9.8	24	14.8	2.4	7.1	
8	8.5	9.5	12.4	11.4	9.7	9.0	10.4	11.0	13.3	16.0	17.5	16.6	15.2	13.5	14.1	19.4	20.2	21.1	15.5	7.0	7.9	6.5	6.2	10.7	24	21.1	6.2	12.6	
9	12.2	13.9	13.4	13.3	15.4	13.3	13.3	11.6	12.9	12.5	9.2	7.4	6.4	5.7	5.3	5.1	6.3	8.0	8.6	11.7	15.1	19.5	18.2	15.6	24	19.5	5.1	11.4	
10	14.1	20.7	27.5	24.4	18.2	13.7	10.3	10.9	7.3	5.8	4.2	7.6	11.1	13.0	12.7	10.3	8.7	2.0	5.0	1.6	0.2	1.2	3.7	6.4	24	27.5	0.2	10.0	
11	9.4	10.2	9.4	8.0	6.3	5.2	5.7	6.6	7.1	9.2	9.8	9.5	11.3	12.8	12.6	11.1	10.1	10.3	5.4	1.2	1.4	0.8	0.6	0.3	24	12.8	0.3	7.3	
12	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.3	1.3	1.5	2.8	1.5	0.7	1.1	1.7	3.6	4.3	7.0	7.6	7.9	6.7	4.1	3.3	8.9	24	8.9	0.1	2.7	
13	10.8	5.5	3.6	3.0	3.1	4.3	4.5	5.1	3.1	3.2	3.5	6.4	5.9	6.4	6.7	6.8	5.6	5.2	4.1	4.9	6.4	7.4	7.7	9.6	24	10.8	3.0	5.5	
14	10.5	9.4	7.8	7.2	6.8	7.3	13.4	6.5	5.8	6.0	6.1	7.7	5.8	3.1	1.7	1.6	4.4	4.3	5.4	5.8	9.4	9.2	9.6	9.5	24	13.4	1.6	6.9	
15	9.3	11.0	13.2	14.1	13.5	14.1	13.9	11.2	10.0	10.8	13.8	13.2	13.6	13.9	12.4	13.0	10.8	8.3	8.6	9.5	13.6	14.5	14.0	15.0	24	15.0	8.3	12.3	
16	15.5	15.4	17.3	17.7	17.6	16.9	16.4	16.1	14.6	18.8	21.6	21.1	20.7	19.8	17.0	12.6	12.3	12.1	15.7	18.4	21.4	22.4	24.8	28.1	24	28.1	12.1	18.1	
17	24.5	24.0	22.3	21.4	19.8	20.2	24.6	28.5	29.1	27.4	28.8	32.7	27.1	23.2	19.0	16.6	12.5	11.1	10.9	10.1	10.0	11.7	11.5	12.0	24	32.7	10.0	20.0	
18	12.0	11.2	11.0	12.7	12.0	11.6	13.9	10.2	8.5	16.3	18.3	17.4	18.6	17.3	12.3	10.7	11.7	14.4	15.6	15.8	17.0	17.6	17.5	14.5	24	18.6	8.5	14.1	
19	15.8	16.5	17.1	16.6	16.1	17.2	17.3	18.0	19.1	20.5	21.2	20.5	18.5	16.7	16.0	8.4	3.0	6.1	1.8	1.1	3.1	4.8	5.0	7.2	24	21.2	1.1	12.8	
20	6.5	8.8	5.9	4.0	5.1	2.2	4.2	2.3	2.9	3.6	2.8	2.5	3.2	9.0	9.9	9.8	8.7	6.7	4.7	2.9	4.8	5.4	5.3	6.3	24	9.9	2.2	5.3	
21	8.0	9.7	12.1	7.7	4.6	2.4	2.2	2.4	1.1	1.9	2.5	2.1	1.4	2.0	2.3	7.2	8.2	6.0	6.0	7.1	7.2	8.3	8.4	7.4	24	12.1	1.1	5.3	
22	6.1	4.4	3.7	3.6	3.5	4.1	4.1	4.5	4.4	3.7	3.7	2.9	1.8	0.5	0.5	0.5	0.4	1.6	1.6	2.7	2.8	2.0	2.8	3.7	24	6.1	0.4	2.9	
23	3.7	2.4	2.4	2.7	2.9	3.7	4.2	4.3	5.2	8.6	9.1	10.2	12.5	14.2	14.5	13.9	7.0	0.8	0.2	0.2	0.2	0.2	0.2	0.2	24	14.5	0.2	5.1	
24	0.7	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	1.0	1.5	1.9	2.4	3.5	3.4	3.4	5.0	5.6	5.1	5.3	5.4	24	5.6	0.2	1.9	
25	4.5	4.3	4.0	4.1	3.9	4.1	3.3	3.1	4.2	3.2	3.6	4.2	3.2	2.1	1.7	1.5	1.8	2.6	2.4	3.6	4.8	5.1	5.3	6.4	24	6.4	1.5	3.6	
26	6.9	4.7	3.6	3.7	4.0	4.1	3.5	3.4	2.1	2.5	2.2	1.9	2.0	3.0	2.7	3.5	3.5	2.1	2.9	5.5	7.9	11.1	8.0	6.4	24	11.1	1.9	4.2	
27	5.2	4.2	4.3	3.9	3.8	3.4	3.3	3.1	3.1	2.9	2.8	3.1	3.6	5.1	6.0	9.4	10.8	10.7	11.2	11.1	15.3	13.3	13.4	12.7	24	15.3	2.8	6.9	
28	10.2	9.0	10.2	10.4	11.3	6.9	5.6	5.1	3.4	2.3	2.4	2.4	2.4	3.1	2.9	3.6	5.5	6.0	5.8	5.6	7.1	5.8	4.0	5.9	24	11.3	2.3	5.7	
29	6.2	6.6	7.8	6.2	6.3	6.5	8.1	7.4	6.6	8.2	8.1	5.0	4.5	4.7	3.3	3.0	3.7	5.3	6.6	4.4	4.0	3.1	2.4	2.6	24	8.2	2.4	5.4	
30	3.1	3.5	3.0	2.8	3.0	3.7	3.8	3.8	2.8	3.1	4.4	4.9	3.4	3.1	3.0	2.9	3.2	3.0	3.2	4.2	5.0	5.5	5.0	4.9	24	5.5	2.8	3.7	
31	5.4	5.7	4.6	4.7	5.2	7.0	5.9	5.9	4.1	3.6	A	4.9	5.2	6.0	6.9	4.9	5.9	7.4	8.2	7.1	8.3	11.0	7.3	5.9	23	11.0	3.6	6.1	
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	743	31	30	31	
Maximum	50.0	51.0	49.0	45.9	46.3	47.8	46.6	51.1	52.4	54.6	52.8	53.9	53.8	54.1	55.3	53.8	51.2	52.2	50.3	52.2	51.8	49.1	49.9	48.4	24	55.3	45.9	51.0	
Minimum	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.7	0.7	0.5	0.5	0.5	0.4	0.8	0.2	0.2	0.2	0.2	0.2	0.2	23	5.5	0.1	0.3	
Average	11.8	11.4	11.3	11.3	11.0	10.3	11.0	11.0	10.6	11.5	12.1	11.9	11.4	11.2	10.4	10.0	9.4	9.1	8.7	8.7	9.9	10.2	9.7	10.3	24	19	4	10.6	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		2.3		3.4		4.5		5.8		7.2		9.4		11.2		14.3		21.0		38.0		52.3		55.3					55.3
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																			

PM_{2.5} - RUNDLE
August 2013
(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	6.1	5.9	6.8	6.7	7.3	7.5	19.2	9.5	6.8	5.7	4.3	3.2	3.0	2.5	2.3	5.4	5.3	5.2	3.5	4.8	5.5	5.3	4.8	4.9	24	19.2	2.3	5.9	
2	4.3	2.9	3.8	4.7	5.4	6.6	7.5	6.1	6.5	5.4	7.0	10.9	10.5	7.7	7.0	6.4	8.3	9.6	9.7	9.6	10.1	9.9	7.1	5.2	24	10.9	2.9	7.2	
3	7.0	5.4	5.3	5.7	5.0	5.2	6.1	5.6	4.8	4.6	3.8	3.3	2.9	3.2	4.5	4.6	3.8	2.7	3.0	4.3	3.6	4.3	4.4	4.9	24	7.0	2.7	4.5	
4	5.2	5.1	4.9	3.8	3.7	3.2	2.3	1.7	1.1	1.1	1.0	2.7	4.3	4.3	4.9	5.4	4.5	3.6	3.9	4.7	6.3	7.6	8.8	13.2	24	13.2	1.0	4.5	
5	7.8	8.2	6.7	5.2	4.6	3.9	4.1	3.5	3.1	2.8	2.9	3.1	3.5	4.0	3.3	2.7	2.9	3.5	3.8	5.8	5.4	4.9	5.2	5.6	24	8.2	2.7	4.4	
6	7.5	9.3	8.1	7.3	6.7	6.6	6.4	7.0	5.5	5.1	4.7	4.5	4.3	4.0	3.6	4.4	5.6	6.5	6.0	5.4	5.5	12.0	9.0	8.5	24	12.0	3.6	6.4	
7	23.0	11.5	7.1	6.2	6.6	7.7	7.8	7.0	6.8	6.6	7.5	8.6	9.8	10.5	12.3	12.1	12.8	12.5	13.3	13.5	12.2	13.1	11.7	9.2	24	23.0	6.2	10.4	
8	9.5	8.5	10.6	10.9	9.2	11.3	17.3	9.1	4.2	3.7	10.3	10.4	7.3	5.8	5.6	5.3	5.3	6.8	9.3	7.3	7.6	9.7	10.0	13.5	24	17.3	3.7	8.7	
9	16.9	13.5	9.9	7.1	6.7	7.4	8.1	8.9	9.9	8.9	8.4	7.1	7.7	9.1	8.8	8.4	7.6	6.4	4.6	5.9	7.2	6.1	6.2	6.7	24	16.9	4.6	8.2	
10	6.9	6.5	4.3	4.2	3.4	2.6	2.1	2.1	2.0	2.1	1.0	0.3	1.1	2.3	4.6	4.0	2.4	0.8	0.7	1.0	4.3	4.4	6.0	9.4	24	9.4	0.3	3.3	
11	8.5	4.5	3.5	3.4	3.6	3.0	3.1	2.5	2.3	2.4	2.6	2.6	2.3	2.1	2.2	2.2	2.1	2.4	2.4	3.1	2.9	2.7	2.6	2.3	24	8.5	2.1	3.0	
12	2.1	2.1	2.0	2.4	3.5	4.1	5.8	4.3	3.3	4.3	5.1	4.6	5.1	6.6	6.7	7.2	8.0	10.2	11.5	12.0	11.2	10.1	9.4	8.6	24	12.0	2.0	6.3	
13	6.3	9.0	8.9	9.1	9.3	16.4	17.0	7.4	4.7	4.9	5.4	6.0	5.4	2.4	1.1	0.8	0.7	0.6	0.6	0.9	1.0	1.2	1.1	1.5	24	17.0	0.6	5.1	
14	1.7	2.2	2.5	2.5	2.2	1.8	1.7	2.3	4.2	1.9	1.6	1.3	1.7	1.8	1.7	1.7	2.0	3.4	4.0	4.3	5.9	6.0	6.4	5.7	24	6.4	1.3	2.9	
15	4.7	5.1	4.2	4.1	3.9	3.5	6.1	4.3	3.6	4.2	5.7	7.3	6.2	4.9	3.6	2.7	3.2	3.2	3.4	4.9	7.4	6.6	7.5	7.8	24	7.8	2.7	4.9	
16	7.3	6.9	6.1	7.2	7.3	7.3	8.1	7.8	8.1	9.3	9.7	9.8	9.7	9.5	8.0	7.8	7.1	8.0	9.5	12.3	13.3	12.9	13.2	22.6	24	22.6	6.1	9.5	
17	22.0	15.5	13.6	12.1	12.3	11.1	12.2	12.0	11.5	13.1	14.1	12.7	10.3	8.2	7.8	8.6	11.6	10.8	17.5	17.6	15.9	27.7	38.4	27.6	24	38.4	7.8	15.2	
18	23.4	21.1	20.3	18.2	18.2	17.2	17.7	16.7	16.3	15.7	13.3	12.3	11.5	11.0	10.4	11.3	9.0	8.4	11.5	14.2	14.4	15.3	16.2	14.6	24	23.4	8.4	14.9	
19	14.0	14.4	14.3	14.4	15.0	16.4	25.9	17.3	20.9	24.0	17.6	16.1	16.2	15.5	14.2	12.6	13.3	14.6	15.3	16.8	16.6	15.1	18.6	17.8	24	25.9	12.6	16.5	
20	19.3	16.6	17.0	17.3	17.2	18.2	20.6	28.8	25.0	23.9	24.7	25.0	23.0	19.9	22.9	22.8	21.8	21.7	20.3	20.7	20.0	19.6	21.1	21.2	24	28.8	16.6	21.2	
21	20.1	23.7	20.2	29.1	26.2	24.4	20.9	20.1	19.0	18.7	22.6	20.9	20.3	20.2	20.0	20.0	20.1	18.7	17.2	17.0	17.3	18.1	21.3	23.6	24	29.1	17.0	20.8	
22	19.9	19.2	19.4	21.8	22.9	24.0	25.1	25.4	25.2	25.7	25.5	26.9	22.5	20.6	20.0	18.0	13.7	4.6	2.4	2.7	3.5	4.4	5.4	6.8	24	26.9	2.4	16.9	
23	6.5	6.5	6.0	5.1	4.6	4.9	6.5	4.4	3.7	3.6	4.3	4.6	5.3	5.2	4.9	4.1	4.2	3.7	4.4	5.3	6.8	7.4	10.4	9.1	24	10.4	3.6	5.5	
24	11.7	8.6	6.6	5.9	5.7	4.8	5.1	4.7	4.4	3.8	3.6	3.4	4.1	4.3	3.1	3.1	2.9	2.9	3.4	4.5	5.3	6.6	11.7	9.3	24	11.7	2.9	5.4	
25	8.6	7.6	7.0	6.3	6.6	7.0	8.4	8.3	6.0	3.3	3.4	3.4	3.7	4.2	3.9	5.2	6.6	6.3	6.0	9.1	11.0	15.1	15.4	15.0	24	15.4	3.3	7.4	
26	14.9	14.7	15.6	16.3	16.8	20.4	20.3	20.0	17.0	16.9	19.5	18.7	18.3	17.1	14.6	22.5	20.2	19.6	19.8	19.5	17.3	20.8	14.8	15.6	24	22.5	14.6	18.0	
27	13.2	9.9	5.2	4.1	4.7	6.4	9.3	11.9	14.8	14.3	21.5	23.7	16.8	14.1	15.2	17.6	13.8	16.7	17.4	17.4	20.8	19.6	21.3	26.6	24	26.6	4.1	14.8	
28	22.1	21.3	18.9	16.0	13.3	11.1	12.0	20.1	17.2	16.9	15.8	11.3	14.6	20.3	22.6	14.9	14.7	13.7	14.9	15.0	15.4	14.3	13.6	13.9	24	22.6	11.1	16.0	
29	15.5	14.2	12.1	9.3	8.8	8.3	8.0	7.8	7.3	6.0	6.1	6.6	7.0	7.5	9.0	10.2	10.2	10.7	11.4	11.8	10.9	10.9	11.3	10.6	24	15.5	6.0	9.7	
30	11.9	14.3	14.4	14.4	12.1	11.0	19.2	12.8	25.2	27.0	21.0	19.1	15.3	14.7	14.9	13.9	13.4	15.4	16.9	17.3	16.0	17.2	16.6	15.9	24	27.0	11.0	16.2	
31	15.0	14.6	13.5	15.1	14.3	13.2	10.3	10.9	11.1	10.1	10.1	8.4	8.1	8.3	7.9	8.0	8.3	8.7	8.5	6.7	5.6	3.7	7.4	10.2	24	15.1	3.7	9.9	
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	744	31	31	31	
Maximum	23.4	23.7	20.3	29.1	26.2	24.4	25.9	28.8	25.2	27.0	25.5	26.9	23.0	20.6	22.9	22.8	21.8	21.7	20.3	20.7	20.8	27.7	38.4	27.6	24	38.4	20.3	24.8	
Minimum	1.7	2.1	2.0	2.4	2.2	1.8	1.7	1.7	1.1	1.1	1.0	0.3	1.1	1.8	1.1	0.8	0.7	0.6	0.6	0.9	1.0	1.2	1.1	1.5	24	6.4	0.3	1.3	
Average	11.7	10.6	9.6	9.5	9.3	9.6	11.1	10.0	9.7	9.5	9.8	9.6	9.1	8.8	8.8	8.8	8.6	8.4	8.9	9.5	9.9	10.7	11.5	11.9	24	18	5	9.8	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		2.9		4.2		5.2		6.5		7.8		9.8		12.9		15.8		20.0		22.1		26.5		38.4					38.4
Notes	C - Span Cycle		NA - No Data Available				T - Test			A- MOE Audit																			

PM _{2.5} - RUNDLE																													
September 2013																													
(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	5.8	4.5	4.0	4.5	5.7	4.5	4.0	4.4	4.1	4.1	3.9	4.0	4.0	4.4	4.1	4.2	4.5	4.4	5.2	5.2	5.3	5.0	5.5	3.9	24	5.8	3.9	4.6	
2	2.8	2.8	3.2	3.0	4.4	6.4	7.7	11.0	12.0	15.9	22.1	20.7	17.1	4.4	2.4	1.4	0.6	0.5	0.7	0.9	0.6	0.5	1.0	1.1	24	22.1	0.5	6.0	
3	1.0	0.7	0.3	0.6	0.5	0.7	1.0	1.2	1.0	0.9	0.7	0.9	1.1	1.1	1.7	1.6	1.8	1.6	1.9	3.5	3.4	3.2	3.5	4.9	24	4.9	0.3	1.6	
4	6.4	7.4	6.6	6.8	7.2	9.0	8.5	11.4	11.0	6.9	6.0	4.1	3.6	C	5.1	7.2	6.0	6.1	6.5	7.3	6.8	4.5	3.0	2.1	23	11.4	2.1	6.5	
5	2.6	2.6	3.6	5.1	4.8	6.0	4.4	4.1	3.4	3.4	3.3	4.1	4.7	5.0	4.5	4.3	3.9	3.9	7.0	10.8	11.9	10.6	10.0	9.1	24	11.9	2.6	5.5	
6	10.6	11.9	11.1	9.9	9.4	8.9	8.5	7.1	3.4	3.0	3.2	3.4	3.9	3.1	2.7	3.2	3.1	3.9	5.9	5.6	4.7	4.0	3.0	3.5	24	11.9	2.7	5.7	
7	3.5	2.9	2.8	2.4	2.5	2.9	2.8	3.0	3.9	4.0	3.9	3.6	4.0	4.5	5.8	6.0	6.9	7.0	5.9	5.7	5.7	5.7	6.9	10.5	24	10.5	2.4	4.7	
8	8.4	3.9	4.3	4.2	2.7	2.1	2.2	2.2	2.5	2.7	2.8	13.8	2.8	3.1	3.6	4.4	5.0	5.5	6.3	8.2	8.8	11.1	9.4	6.8	24	13.8	2.1	5.3	
9	6.3	5.6	5.6	6.4	6.3	6.5	6.8	6.8	3.5	3.0	1.8	2.1	2.4	1.8	2.1	3.1	2.8	2.4	3.5	3.9	4.5	4.1	3.3	2.6	24	6.8	1.8	4.1	
10	2.4	2.6	2.6	3.7	5.9	8.0	7.8	10.0	12.3	13.0	15.2	17.5	18.7	21.2	24.1	25.5	25.0	23.9	23.4	24.1	24.1	24.4	24.6	24.8	24	25.5	2.4	16.0	
11	24.4	19.1	17.6	19.1	20.0	22.5	23.6	24.6	23.8	25.8	29.7	29.4	28.3	29.1	28.8	27.6	24.5	18.0	12.9	14.3	14.4	15.6	15.3	12.7	24	29.7	12.7	21.7	
12	17.0	12.2	6.8	5.3	6.1	9.1	9.8	8.5	8.0	10.2	12.4	13.2	11.3	9.9	5.3	3.7	2.8	2.9	3.1	3.4	2.7	3.1	3.0	2.4	24	17.0	2.4	7.2	
13	4.5	2.5	2.8	2.7	2.7	3.1	3.4	3.6	3.9	3.6	3.7	4.1	4.0	4.6	5.1	6.8	9.7	11.2	12.1	13.4	14.0	12.1	11.3	10.6	24	14.0	2.5	6.5	
14	7.0	6.2	6.0	5.6	5.3	5.6	5.1	4.7	3.0	2.0	2.0	2.1	2.2	3.5	3.8	3.4	3.3	3.2	3.3	7.2	9.5	14.2	11.9	10.4	24	14.2	2.0	5.4	
15	11.6	11.6	10.9	10.1	9.5	8.6	8.4	8.0	5.9	4.4	2.9	3.1	2.6	2.3	2.2	2.5	2.9	2.9	3.2	4.6	3.7	4.1	4.5	4.4	24	11.6	2.2	5.6	
16	3.3	2.2	2.6	2.5	2.5	2.1	1.9	2.1	2.3	2.2	2.2	2.7	2.9	3.0	3.1	3.5	3.8	3.6	6.3	9.7	13.9	9.4	7.4	7.0	24	13.9	1.9	4.3	
17	6.4	5.9	6.1	5.6	4.6	5.2	5.1	4.9	2.3	2.8	2.2	2.2	2.4	2.4	2.5	3.2	3.3	2.8	2.8	3.9	5.8	6.8	5.8	5.3	24	6.8	2.2	4.2	
18	5.1	5.2	4.5	4.4	4.6	4.3	5.4	4.6	3.2	2.4	2.2	2.1	2.0	2.0	2.1	2.1	1.8	2.2	2.4	2.7	5.1	5.0	5.4	6.0	24	6.0	1.8	3.6	
19	6.0	5.3	5.7	5.6	6.7	7.3	8.9	9.8	4.9	2.4	2.1	2.3	7.7	8.6	9.8	11.3	13.3	15.9	18.9	21.7	14.5	10.2	8.6	6.7	24	21.7	2.1	8.9	
20	11.7	10.3	11.4	9.7	8.8	9.2	14.9	16.8	18.6	20.1	20.2	21.9	23.9	24.4	24.0	23.2	22.5	21.9	20.2	18.8	19.1	18.9	20.4	24.4	24	24.4	8.8	18.1	
21	24.5	19.7	19.8	11.1	3.2	3.4	3.7	3.8	3.8	3.5	3.7	3.4	3.3	3.2	3.1	2.8	2.9	2.7	2.2	2.2	2.2	2.5	2.7	2.9	24	24.5	2.2	5.7	
22	3.0	2.4	2.5	2.5	2.8	3.5	3.8	3.9	3.9	4.7	4.3	5.0	6.1	6.4	6.1	6.2	6.4	6.9	7.1	7.6	8.8	9.2	8.3	7.1	24	9.2	2.4	5.4	
23	6.9	7.1	5.9	5.6	4.7	4.7	4.4	3.8	2.3	2.1	2.2	2.1	2.1	2.1	2.6	2.6	2.4	2.4	2.7	2.7	4.0	4.0	4.8	4.8	24	7.1	2.1	3.7	
24	4.4	4.8	5.2	4.8	4.5	5.6	4.9	4.4	2.5	2.5	2.5	2.8	3.1	3.3	3.5	3.8	4.1	3.9	3.8	2.7	2.3	2.3	2.3	2.1	24	5.6	2.1	3.6	
25	1.9	1.8	2.2	2.5	2.9	3.5	4.0	3.6	2.3	1.7	2.0	C	1.7	2.0	2.1	2.0	2.0	2.1	3.0	4.3	11.7	8.0	8.3	8.7	23	11.7	1.7	3.7	
26	7.3	7.0	6.3	6.0	5.8	6.0	6.8	7.0	4.2	2.5	2.0	2.1	2.1	2.0	1.7	1.7	1.6	2.2	3.1	4.5	5.4	5.5	6.3	5.6	24	7.3	1.6	4.4	
27	4.5	4.0	3.7	3.9	3.9	4.8	5.9	6.4	4.3	3.6	3.3	3.4	3.5	3.0	3.2	3.3	3.0	3.9	4.7	5.5	8.0	8.9	9.1	8.9	24	9.1	3.0	4.9	
28	8.5	8.9	8.4	7.9	7.3	7.5	9.4	7.5	6.8	4.2	3.2	2.6	2.0	1.5	1.4	1.5	1.6	2.0	2.7	4.3	5.6	5.9	5.5	5.4	24	9.4	1.4	5.1	
29	5.5	6.1	6.7	6.7	6.2	6.9	7.0	6.7	6.7	6.3	5.6	5.4	5.3	6.1	7.1	6.9	6.9	7.0	6.7	7.3	8.1	7.4	7.1	6.9	24	8.1	5.3	6.6	
30	7.4	7.5	7.5	7.2	8.1	8.5	9.8	9.2	7.1	6.7	7.6	8.1	8.8	9.8	10.2	10.0	10.3	10.9	10.2	10.3	11.0	10.0	11.1	11.6	24	11.6	6.7	9.1	
31																									0	0.0	0.0		
Count	30	30	30	30	30	30	30	30	30	30	30	29	30	29	30	30	30	30	30	30	30	30	30	30	30	718	30	29	30
Maximum	24.5	19.7	19.8	19.1	20.0	22.5	23.6	24.6	23.8	25.8	29.7	29.4	28.3	29.1	28.8	27.6	25.0	23.9	23.4	24.1	24.1	24.4	24.6	24.8	24	29.7	19.1	24.6	
Minimum	1.0	0.7	0.3	0.6	0.5	0.7	1.0	1.2	1.0	0.9	0.7	0.9	1.1	1.1	1.4	1.4	0.6	0.5	0.7	0.9	0.6	0.5	1.0	1.1	0	0.0	0.3		
Average	7.4	6.5	6.2	5.8	5.7	6.2	6.7	6.8	5.9	5.7	6.0	6.6	6.3	6.1	6.1	6.3	6.3	6.3	6.6	7.5	8.2	7.9	7.6	7.4	23	12	3	6.6	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		2.1		2.7		3.2		3.9		4.7		5.8		6.9		9.1		13.3		20.4		25.4		29.7					29.7
Notes	C - Span Cycle NA - No Data Available T - Test A- MOE Audit																												

Figure D-1 Time History Plot – PM_{2.5} – Courtice (WPCP) Station

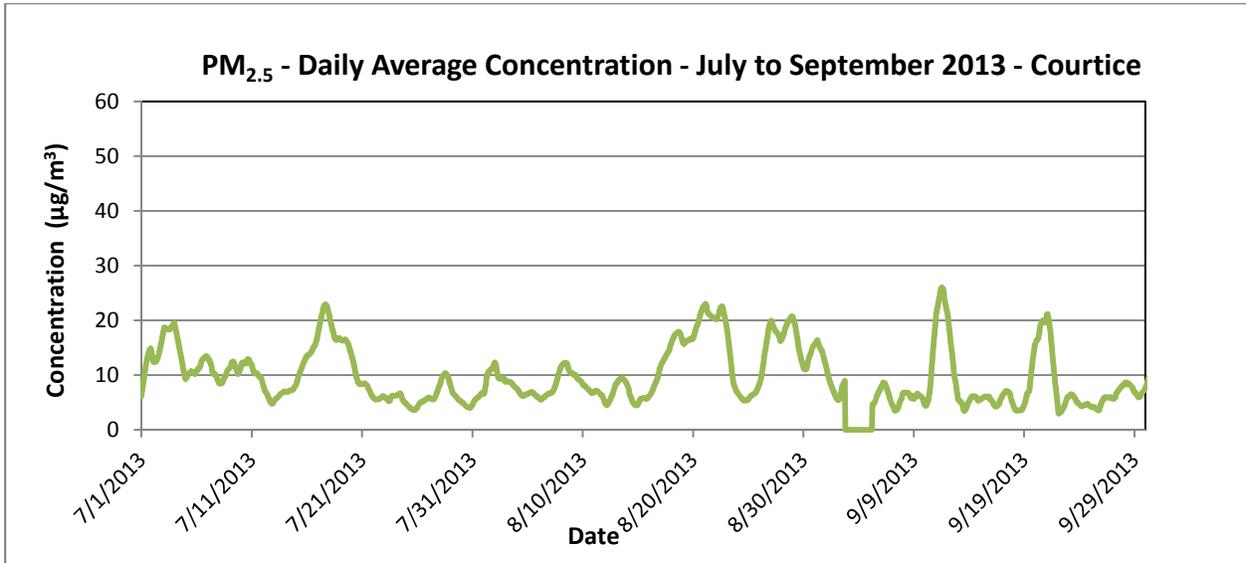
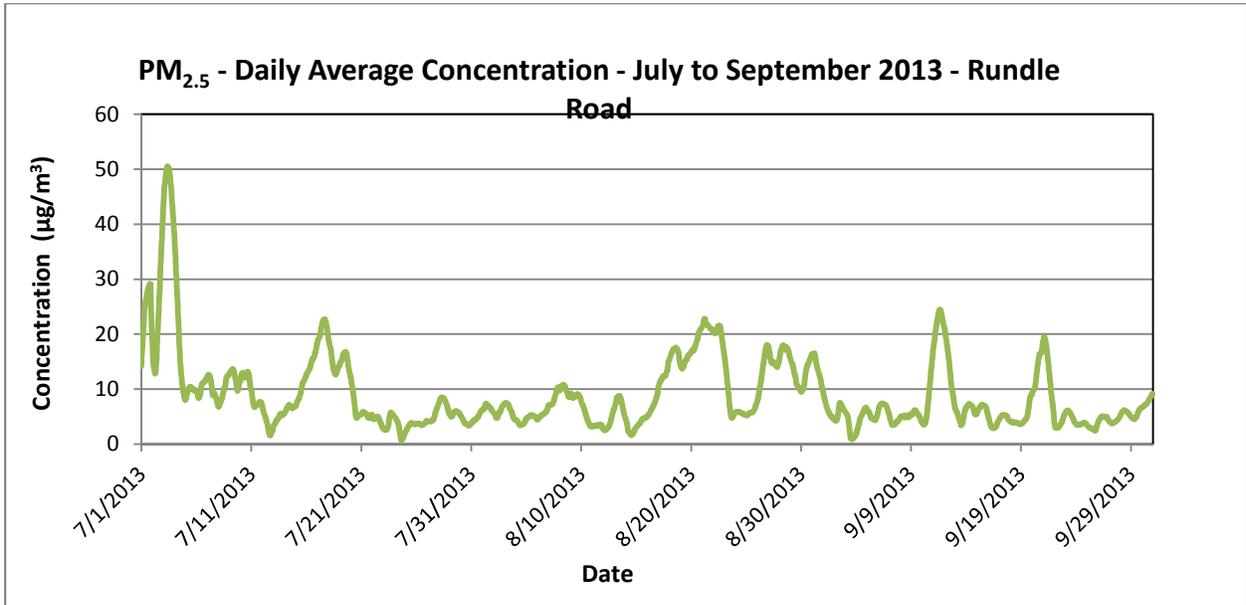


Figure D-2 Time History Plot – PM_{2.5} – Rundle Road Station



**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY
CENTRE – JULY TO SEPTEMBER 2013**

Appendix E
Continuous Parameter Edit Logs
April 28, 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 (Upwind)				
Station address:	Courtice Water Pollution Control Plant		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	SO2	Instrument make & model:	Teledyne Monitor Labs Sulphur Dioxide Analyzer Model T100			Serial Number:	565	
Data edit period	Start date:	13-Apr-13	End date:	30-Sep-13		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	18-Sep-13	CL	Invalidate data	17-May-13	09:00	17-May-13	09:00	Monthly calibration
2	18-Sep-13	CL	Invalidate data	26-Jun-13	09:00	26-Jun-13	10:00	Monthly calibration
3	23-Sep-13	CL	Invalidate data	1-May-13	01:00	1-Jul-13	01:00	Daily auto calibration occurs at hour 01:00.
4	8-Oct-13	CL	Invalidate data	31-Jul-13	13:00	31-Jul-13	14:00	Monthly calibration and MOE site audit.
5	8-Oct-13	CL	Invalidate data	4-Sep-13	12:19	30-Sep-13	23:59	Invalidate calibration minutes for daily auto calibration which occurs every 25th hour.
6	15-Oct-13	CL	Invalidate data	25-Sep-13	10:00	25-Sep-13	11:00	Monthly calibration
7	15-Oct-13	CL	Invalidate data	1-Jul-13	00:00	3-Sep-13	11:38	Invalidate calibration minutes for daily auto calibration which occurs at hour 0:00 to 01:00.
8	15-Oct-13	CL	Invalidate data	3-Sep-13	12:00	4-Sep-13	12:00	Loss of data from data logger due to changing over to a new program.
9	15-Oct-13	CL	Invalidate data	4-Sep-13	12:00	4-Sep-13	12:00	Monthly calibration

- 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 Plant		Emitter Address:		The Region of Durham, 605 Rossland Rd, Whitby, ON			
Pollutant or parameter:		NOx		Instrument make & model:		API Model 200E Chemiluminescence Analyzer		Serial Number:	675
Data edit period		Start date: 13-Apr-13		End date: 30-Sep-13		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	18-Sep-13	CL	Invalidate data	17-May-13	10:00	17-May-13	10:00	Monthly calibration	
2	18-Sep-13	CL	Invalidate data	26-Jun-13	10:00	26-Jun-13	10:00	Monthly calibration	
3	23-Sep-13	CL	Invalidate data	1-May-13	01:00	1-Jul-13	01:00	Daily auto calibration occurs at hour 01:00.	
4	2-Oct-13	CL	Invalidate data	1-May-13	00:00	30-Jun-13	23:59	Invalidate calibration minutes for daily auto calibration which occurs every 7th hour.	
5	8-Oct-13	CL	Invalidate data	2-Jul-13	00:00	3-Sep-13	11:38	Invalidate calibration minutes for daily auto calibration which occurs every 7th hour.	
6	8-Oct-13	CL	Invalidate data	4-Sep-13	12:19	30-Sep-13	23:59	Invalidate calibration minutes for daily auto calibration which occurs every 25th hour.	
7	8-Oct-13	CL	Invalidate data	31-Jul-13	12:00	31-Jul-13	13:00	Monthly calibration and MOE site audit.	
8	15-Oct-13	CL	Invalidate data	25-Sep-13	09:00	25-Sep-13	10:00	Monthly calibration	
9	15-Oct-13	CL	Invalidate data	3-Sep-13	12:00	4-Sep-13	12:00	Loss of data from data logger due to changing over to a new program.	
10	15-Oct-13	CL	Invalidate data	4-Sep-13	11:00	4-Sep-13	13:00	Monthly calibration	
11	13-Nov-13	CL	Invalidate data	27-Sep-13	08:00	27-Sep-13	08:00	Invalidate NOx measurement for this hour due to rate of change. Based on the NO/NO ₂ ratio, the short duration of the measured high NOx concentration and the rate of change, it is suspected that the high NOx concentration is due to a truck/vehicle parked in close proximity to the monitoring station.	

- 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	Durhama 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, south of Baseline Road		Emitter Address:	The Region of Durham, 605 Rosland 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:	25-Apr-13	End date:	30-Sep-13		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-Sep-13	CL	Invalidate data	10-May-13	21:00	31-May-13	13:00	Wind head malfunctioning due to internal problem.	

- Examples of Acceptable Edit Actions:
- Add offset of
 - Delete hours
 - Zero Correction
 - Slope Correction
 - Manual data entry for missing, but collected data
 - Invalidate span & zero check data
 - Invalidate data due to equipment malfunctions and power failures.
 - Invalidate 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 Plant		Emitter Address: The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:		PM2.5	Instrument make & model:	Thermo Sharp 5030 Synchronized Hybrid Ambient Real-time Particulate Monitor		Serial Number:	E-1569	
Data edit period		Start date:	13-Apr-13	End date:	30-Sep-13	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	18-Sep-13	CL	Invalidate data	26-Jun-13	10:00	26-Jun-13	13:00	Monthly calibration
2	23-Sep-13	CL	Invalidate data	13-Apr-13	13:00	20-Jun-13	12:00	Equipment malfunction
3	2-Oct-13	CL	Invalidate data	20-Jun-13	12:00	26-Jun-13	10:00	Equipment re-installed on Jun 20. Data invalidated until calibration day to allow for the equipment to stabilize.
4	8-Oct-13	CL	Invalidate data	2-Sep-13	14:00	3-Sep-13	11:00	Equipment malfunction
5	15-Oct-13	CL	Invalidate data	3-Sep-13	12:00	4-Sep-13	12:00	Loss of data from data logger due to changing over to a new program.
6	15-Oct-13	CL	Invalidate data	4-Sep-13	12:00	4-Sep-13	12:00	Monthly calibration
7	15-Oct-13	CL	Invalidate data	25-Sep-13	10:00	25-Sep-13	10:00	Monthly calibration
8	15-Oct-13	CL	Invalidate data	31-Jul-13	13:00	31-Jul-13	13:00	Monthly calibration and MOE site audit.

- 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

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY
CENTRE – JULY TO SEPTEMBER 2013**

Appendix F
Metals Data Summary
April 28, 2014

**Appendix F
Metals Data Summary**

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY
CENTRE – JULY TO SEPTEMBER 2013**

Appendix G
PAHs Data Summary
April 28, 2014

**Appendix G
PAHs Data Summary**

Rundle Road Station				July - Sept 2013	Rundle										
Location				Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	
Date				03/07/2013	15/07/2013	27/07/2013	08/08/2013	20/08/2013	01/09/2013	13/09/2013	25/09/2013				
Start Time				0:00		0:00		0:00		0:00		0:00		0:00	
Sample Duration				23.98		23.5		24.18		24.21		23.78		22.89	
Technician				TH		TZ		TH		TZ		TH		TH	
Filter Number				RU4051-01		SA4627-01		SA4850-01		SB5661-01		SB5729-01		SB5734-01	
Maxaam ID				SD6726		SH3355		SL8783		SQ0307		ST6710		SY5326	
Analytical Report #				B3A7931		B3B5407		B3C4356		B3D3196		B3E0054		B3E9599	
Total Volumetric Flow				Am ³ /sample		330.04		320.83		308.53		330.65		309.80	
Analytical Results				Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL
Benzo(a)pyrene	µg	0.011	0.001	0.00551	0.00056	0.007	0.00091	0.008	0.00067	0.02	0.00024	0.003	0.0013	0.003	0.0014
1-Methylnaphthalene	µg	3.66	0.15	4.32	0.3	2.01	0.15	8.79	0.15	3.96	0.2	1.96	0.15	0.67	0.2
2-Methylnaphthalene	µg	7.05	0.15	8.04	0.3	3.75	0.15	15	0.15	7.32	0.2	3.47	0.15	1.11	0.2
Acenaphthene	µg	4.65	0.075	6.06	0.15	2.64	0.075	3.81	0.075	3.36	0.1	2.34	0.075	0.68	0.1
Acenaphthylene	µg	<0.075	0.075	<0.15	0.15	<0.075	0.075	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1
Anthracene	µg	0.39	0.075	0.48	0.15	0.12	0.075	0.36	0.075	0.2	0.1	0.234	0.075	<0.10	0.1
Benzo(a)anthracene	µg	<0.075	0.075	<0.15	0.15	<0.075	0.075	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1
Benzo(a)fluorene	µg	<0.15	0.15	<0.30	0.3	<0.15	0.15	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2
Benzo(b)fluoranthene	µg	<0.075	0.075	<0.15	0.15	<0.075	0.075	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1
Benzo(b)fluorene	µg	<0.15	0.15	<0.30	0.3	<0.15	0.15	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2
Benzo(e)pyrene	µg	<0.15	0.15	<0.30	0.3	<0.15	0.15	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2
Benzo(g,h,i)perylene	µg	<0.075	0.075	<0.15	0.15	<0.075	0.075	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1
Benzo(k)fluoranthene	µg	<0.075	0.075	<0.15	0.15	<0.075	0.075	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1
Biphenyl	µg	2.07	0.15	2.04	0.3	0.99	0.15	2.43	0.15	1.48	0.2	0.83	0.15	0.28	0.2
Chrysene	µg	<0.075	0.075	<0.15	0.15	<0.075	0.075	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1
Dibenz(a,h)anthracene ¹	µg	<0.075	0.075	<0.15	0.15	<0.075	0.075	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1
Dibenzo(a,c)anthracene + Picene ²	µg	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.15
Fluoranthene	µg	1.59	0.075	2.46	0.15	0.9	0.075	1.77	0.075	1.04	0.1	0.87	0.075	0.1	0.1
Indeno(1,2,3-cd)pyrene	µg	<0.075	0.075	<0.15	0.15	<0.075	0.075	0.09	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1
Naphthalene	µg	11.7	0.11	16.3	0.22	7.38	0.11	12.1	0.11	18.1	0.14	8.56	0.11	3.36	0.14
o-Terphenyl	µg	<0.15	0.15	<0.30	0.3	<0.15	0.15	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2
Perylene	µg	<0.15	0.15	<0.30	0.3	<0.15	0.15	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2
Phenanthrene	µg	6.06	0.075	9.42	0.15	4.05	0.075	6.33	0.075	4.6	0.1	3.25	0.075	0.5	0.1
Pyrene	µg	0.72	0.075	1.02	0.15	0.36	0.075	0.81	0.075	0.44	0.1	0.393	0.075	<0.10	0.1
Tetralin	µg	0.81	0.15	0.96	0.3	0.54	0.15	0.78	0.15	1.08	0.2	0.59	0.15	0.44	0.2
Quarter 3 2013				Rundle		Rundle		Rundle		Rundle		Rundle		Rundle	
Calculated Concentrations				Units	Maximum	Minimum	03/07/2013	15/07/2013	27/07/2013	08/08/2013	20/08/2013	01/09/2013	13/09/2013	25/09/2013	
Benzo(a)pyrene	ng/m ³	6.46E-02	9.34E-03	3.33E-02	1.72E-02	2.27E-02	2.42E-02	6.46E-02	9.59E-03	9.34E-03	1.49E-02				
1-Methylnaphthalene	ng/m ³	2.66E+01	2.09E+00	1.11E+01	1.35E+01	6.51E+00	2.66E+01	1.28E+01	6.27E+00	2.09E+00	4.68E+00				
2-Methylnaphthalene	ng/m ³	4.54E+01	3.46E+00	2.14E+01	2.51E+01	1.22E+01	4.54E+01	2.36E+01	1.11E+01	3.46E+00	8.46E+00				
Acenaphthene	ng/m ³	1.89E+01	2.12E+00	1.41E+01	1.89E+01	8.56E+00	1.15E+01	1.08E+01	7.48E+00	2.12E+00	4.32E+00				
Acenaphthylene	ng/m ³	2.34E-01	1.12E-01	1.14E-01	2.34E-01	1.22E-01	1.13E-01	1.61E-01	1.20E-01	1.56E-01	1.12E-01				
Anthracene	ng/m ³	1.50E+00	1.56E-01	1.18E+00	1.50E+00	3.89E-01	1.09E+00	6.46E-01	7.48E-01	1.56E-01	2.77E-01				
Benzo(a)anthracene	ng/m ³	2.34E-01	1.12E-01	1.14E-01	2.34E-01	1.22E-01	1.13E-01	1.61E-01	1.20E-01	1.56E-01	1.12E-01				
Benzo(a)fluorene	ng/m ³	4.68E-01	2.23E-01	2.27E-01	4.68E-01	2.43E-01	2.27E-01	3.23E-01	2.40E-01	3.11E-01	2.23E-01				
Benzo(b)fluoranthene	ng/m ³	2.34E-01	1.12E-01	1.14E-01	2.34E-01	1.22E-01	1.13E-01	1.61E-01	1.20E-01	1.56E-01	1.12E-01				
Benzo(b)fluorene	ng/m ³	4.68E-01	2.23E-01	2.27E-01	4.68E-01	2.43E-01	2.27E-01	3.23E-01	2.40E-01	3.11E-01	2.23E-01				
Benzo(e)pyrene	ng/m ³	4.68E-01	2.23E-01	2.27E-01	4.68E-01	2.43E-01	2.27E-01	3.23E-01	2.40E-01	3.11E-01	2.23E-01				
Benzo(g,h,i)perylene	ng/m ³	2.34E-01	1.12E-01	1.14E-01	2.34E-01	1.22E-01	1.13E-01	1.61E-01	1.20E-01	1.56E-01	1.12E-01				
Benzo(k)fluoranthene	ng/m ³	2.34E-01	1.12E-01	1.14E-01	2.34E-01	1.22E-01	1.13E-01	1.61E-01	1.20E-01	1.56E-01	1.12E-01				
Biphenyl	ng/m ³	7.35E+00	8.72E-01	6.27E+00	6.36E+00	3.21E+00	7.35E+00	4.78E+00	2.65E+00	8.72E-01	1.58E+00				
Chrysene	ng/m ³	2.34E-01	1.12E-01	1.14E-01	2.34E-01	1.22E-01	1.13E-01	1.61E-01	1.20E-01	1.56E-01	1.12E-01				
Dibenz(a,h)anthracene ¹	ng/m ³	2.34E-01	1.12E-01	1.14E-01	2.34E-01	1.22E-01	1.13E-01	1.61E-01	1.20E-01	1.56E-01	1.12E-01				
Dibenzo(a,c)anthracene + Picene ¹	ng/m ⁴	2.23E-01	2.23E-01	-	-	-	-	-	-	-	2.23E-01				
Fluoranthene	ng/m ³	7.67E+00	3.11E-01	4.82E+00	7.67E+00	2.92E+00	5.35E+00	3.36E+00	2.78E+00	3.11E-01	1.03E+00				
Indeno(1,2,3-cd)pyrene	ng/m ³	2.72E-01	1.12E-01	1.14E-01	2.34E-01	1.22E-01	1.27E-01	1.61E-01	1.20E-01	1.56E-01	1.12E-01				
Naphthalene	ng/m ³	5.84E+01	1.05E+01	3.54E+01	5.08E+01	2.39E+01	3.66E+01	5.84E+01	2.74E+01	1.05E+01	2.03E+01				
o-Terphenyl	ng/m ³	4.68E-01	2.23E-01	2.27E-01	4.68E-01	2.43E-01	2.27E-01	3.23E-01	2.40E-01	3.11E-01	2.23E-01				
Perylene	ng/m ³	4.68E-01	2.23E-01	2.27E-01	4.68E-01	2.43E-01	2.27E-01	3.23E-01	2.40E-01	3.11E-01	2.23E-01				
Phenanthrene	ng/m ³	2.94E+01	1.56E+00	1.84E+01	2.94E+01	1.31E+01	1.91E+01	1.48E+01	1.04E+01	1.56E+00	4.71E+00				
Pyrene	ng/m ³	3.18E+00	1.56E-01	2.18E+00	3.18E+00	1.17E+00	2.45E+00	1.42E+00	1.26E+00	1.56E-01	4.74E-01				
Tetralin	ng/m ³	3.49E+00	1.37E+00	2.45E+00	2.99E+00	1.75E+00	2.36E+00	3.49E+00	1.89E+00	1.37E+00	1.79E+00				
Total PAH	ng/m ³	1.64E+02	2.54E+01	1.19E+02	1.64E+02	7.59E+01	1.60E+02	1.37E+02	7.41E+01	2.54E+01	4.99E+01				

Note:
RDL = Reportable Detection Limit
1. Dibenzo(a,c)anthracene was not reported for July, August, September 1, and September 13, 2013 samples. Based on laboratory analyses, dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene and a value is below estimated minimum detection limit.
2. Dibenzo(a,c)anthracene + Picene was reported for the September 25, 2013 sample. Based on the laboratory analyses report, 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.

Concentration exceeding the applicable criteria.

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY
CENTRE – JULY TO SEPTEMBER 2013**

Appendix H
Dioxins and Furans Data Summary
April 28, 2014

**Appendix H
Dioxins and Furans Data Summary**

Dioxins and Furans		Courtice WPCP Station			July to September 2013			Courtice			Courtice					
Location		Courtice			Courtice			Courtice			Courtice					
Date	dd/mm/yyyy	3/7/2013			27/07//2013			20/8/2013			13/9/2013					
Start Time	hh:mm	0:00			0:00			0:00			0:00					
Sample Duration	minutes	21.86			24.1			23.51			23.53					
Technician		TH			TH			TZ			TZ					
Filter Number		RU4052-01			SA4849-01			SB5730-01			SB5774-01					
Maxaam ID		SD6727			SL8782			ST6709			TC6617					
Analytical Report #		B3A7931			B3C4356			B3E0054			B3F7409					
Total Volumetric Flow	Am ³ /sample	271.98			261.34			339.60			331.03					
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	<2.9	2.9	1	<2.6	2.6	1	<4.2	4.2	1	<4.4	4.4	1			
1,2,3,7,8-Penta CDD	pg	<3.2	3.2	1	<3.4	3.4	1	<4.3	4.3	1	<4.1	4.1	1			
1,2,3,4,7,8-Hexa CDD	pg	<3.0	3	0.1	<3.2	3.2	0.1	<4.9	4.9	0.1	<4.2	4.2	0.1			
1,2,3,6,7,8-Hexa CDD	pg	3	2.5	0.1	<2.7	2.7	0.1	<4.1	4.1	0.1	8	4.5	0.1			
1,2,3,7,8,9-Hexa CDD	pg	<3.4 (1)	3.4	0.1	<2.8	2.8	0.1	<4.3	4.3	0.1	9	4	0.1			
1,2,3,4,6,7,8-Hepta CDD	pg	26	2.7	0.01	10	3.3	0.01	12	4.1	0.01	53	4.2	0.01			
Octa CDD	pg	84	4.5	0.0003	60	4.5	0.0003	86	4.2	0.0003	211	4.2	0.0003			
Total Tetra CDD	pg	<3.8 (1)	3.8		<2.6	2.6		<4.2	4.2		<4.4	4.4				
Total Penta CDD	pg	<7.9 (1)	7.9		<5.0 (1)	5		<4.3	4.3		17	4.1				
Total Hexa CDD	pg	10	2.7		4	2.9		<4.4	4.4		68	4.2				
Total Hepta CDD	pg	45	2.7		25	3.3		12	4.1		116	4.2				
2,3,7,8-Tetra CDF **	pg	<2.7	2.7	0.1	<5.0	5	0.1	<4.2	4.2	0.1	8	4.3	0.1			
1,2,3,7,8-Penta CDF	pg	<3.0	3	0.03	<3.0	3	0.03	<4.1	4.1	0.03	<4.3	4.3	0.03			
1,2,3,4,7,8-Penta CDF	pg	<2.9	2.9	0.3	<2.9	2.9	0.3	<4.0	4	0.3	5	4.4	0.3			
1,2,3,6,7,8-Hexa CDF	pg	<3.1	3.1	0.1	<3.1	3.1	0.1	<4.0	4	0.1	13 (1)	4.2	0.1			
1,2,3,6,7,8-Hexa CDF	pg	<2.7	2.7	0.1	<2.7	2.7	0.1	<3.5	3.5	0.1	5	4	0.1			
2,3,4,6,7,8-Hexa CDF	pg	<3.2	3.2	0.1	<3.2	3.2	0.1	<5.6 (1)	5.6	0.1	12	4.6	0.1			
1,2,3,7,8,9-Hexa CDF	pg	<3.4	3.4	0.1	<3.4	3.4	0.1	<4.5	4.5	0.1	<4.8	4.8	0.1			
1,2,3,4,6,7,8-Hepta CDF	pg	<4.0 (1)	4	0.01	5	2.3	0.01	<6.9 (1)	6.9	0.01	17	3.8	0.01			
1,2,3,4,7,8,9-Hepta CDF	pg	<2.7	2.7	0.01	<3.0	3	0.01	<4.6	4.6	0.01	<4.7	4.7	0.01			
Octa CDF	pg	7	3.2	0.0003	6	3.6	0.0003	8	4.1	0.0003	8	4.4	0.0003			
Total Tetra CDF	pg	<2.7	2.7		5	3.1		<4.2	4.2		8	4.3				
Total Penta CDF	pg	<3.0	3		<2.9	2.9		<4.0	4		26	4.3				
Total Hexa CDF	pg	<3.1	3.1		<3.1	3.1		<5.5 (1)	5.5		37	4.4				
Total Hepta CDF	pg	<4.5 (1)	4.5		5	2.6		<7.8 (1)	7.8		23	4.2				
Toxic Equivalency	pg	<2.7	2.7		<5.0	5		<4.2	4.2		8.8	4.3				
Calculated Concentrations		Quarter 3 2013		Courtice			Courtice			Courtice			Courtice			
		Units	Maximum	Minimum	3/7/2013			27/07//2013			20/8/2013			13/9/2013		
2,3,7,8-Tetra CDD *	pg/m ³	6.65E-03	4.97E-03	5.33E-03	4.97E-03			6.18E-03			6.65E-03					
1,2,3,7,8-Penta CDD	pg/m ³	6.51E-03	5.88E-03	5.88E-03	6.51E-03			6.33E-03			6.19E-03					
1,2,3,4,7,8-Hexa CDD	pg/m ³	7.21E-03	5.52E-03	5.52E-03	6.12E-03			7.21E-03			6.34E-03					
1,2,3,6,7,8-Hexa CDD	pg/m ³	2.42E-02	5.17E-03	1.10E-02	5.17E-03			6.04E-03			2.42E-02					
1,2,3,7,8,9-Hexa CDD	pg/m ³	2.72E-02	5.36E-03	6.25E-03	5.36E-03			6.33E-03			2.72E-02					
1,2,3,4,6,7,8-Hepta CDD	pg/m ³	1.60E-01	3.53E-02	9.56E-02	3.83E-02			3.53E-02			1.60E-01					
Octa CDD	pg/m ³	6.37E-01	2.30E-01	3.09E-01	2.30E-01			2.53E-01			6.37E-01					
Total Tetra CDD	pg/m ³	6.99E-03	4.97E-03	6.99E-03	4.97E-03			6.18E-03			6.65E-03					
Total Penta CDD	pg/m ³	5.14E-02	6.33E-03	1.45E-02	9.57E-03			6.33E-03			5.14E-02					
Total Hexa CDD	pg/m ³	2.05E-01	6.48E-03	3.68E-02	1.53E-02			6.48E-03			2.05E-01					
Total Hepta CDD	pg/m ³	3.50E-01	3.53E-02	1.65E-01	9.57E-02			3.53E-02			3.50E-01					
2,3,7,8-Tetra CDF **	pg/m ³	2.42E-02	4.96E-03	4.96E-03	9.57E-03			6.18E-03			2.42E-02					
1,2,3,7,8-Penta CDF	pg/m ³	6.49E-03	5.52E-03	5.52E-03	5.74E-03			6.04E-03			6.49E-03					
1,2,3,4,7,8-Penta CDF	pg/m ³	1.51E-02	5.33E-03	5.33E-03	5.55E-03			5.89E-03			1.51E-02					
1,2,3,6,7,8-Hexa CDF	pg/m ³	6.34E-03	5.70E-03	5.70E-03	5.93E-03			5.89E-03			6.34E-03					
1,2,3,6,7,8-Hexa CDF	pg/m ³	1.51E-02	4.96E-03	4.96E-03	5.17E-03			5.15E-03			1.51E-02					
2,3,4,6,7,8-Hexa CDF	pg/m ³	3.63E-02	5.88E-03	5.88E-03	6.12E-03			8.25E-03			3.63E-02					
1,2,3,7,8,9-Hexa CDF	pg/m ³	7.25E-03	6.25E-03	6.25E-03	6.51E-03			6.63E-03			7.25E-03					
1,2,3,4,6,7,8-Hepta CDF	pg/m ³	5.14E-02	7.35E-03	7.35E-03	1.91E-02			1.02E-02			5.14E-02					
1,2,3,4,7,8,9-Hepta CDF	pg/m ³	7.10E-03	4.96E-03	4.96E-03	5.74E-03			6.77E-03			7.10E-03					
Octa CDF	pg/m ³	2.57E-02	2.30E-02	2.57E-02	2.30E-02			2.36E-02			2.42E-02					
Total Tetra CDF	pg/m ³	2.42E-02	4.96E-03	4.96E-03	1.91E-02			6.18E-03			2.42E-02					
Total Penta CDF	pg/m ³	7.85E-02	5.52E-03	5.52E-03	5.55E-03			5.89E-03			7.85E-02					
Total Hexa CDF	pg/m ³	1.12E-01	5.70E-03	5.70E-03	5.93E-03			8.10E-03			1.12E-01					
Total Hepta CDF	pg/m ³	6.95E-02	8.27E-03	8.27E-03	1.91E-02			1.15E-02			6.95E-02					
Toxic Equivalency	pg/m ³	4.96E-03	4.96E-03	4.96E-03	9.57E-03			6.18E-03			2.66E-02					
TOTAL TOXIC EQUIVALENCY	pg TEQ/m ³	3.46E-02	1.90E-02	1.92E-02	1.90E-02			2.02E-02			3.46E-02					
Calculated TEQ Concentrations		Courtice		Courtice			Courtice			Courtice			Courtice			
		Units	Maximum	Minimum	3/7/2013			27/07//2013			20/8/2013			13/9/2013		
2,3,7,8-Tetra CDD *	pg TEQ/m ³			5.33E-03	4.97E-03			6.18E-03			6.65E-03					
1,2,3,7,8-Penta CDD	pg TEQ/m ³			5.88E-03	6.51E-03			6.33E-03			6.19E-03					
1,2,3,4,7,8-Hexa CDD	pg TEQ/m ³			5.52E-04	6.12E-04			7.21E-04			6.34E-04					
1,2,3,6,7,8-Hexa CDD	pg TEQ/m ³			1.10E-03	5.17E-04			6.04E-04			2.42E-03					
1,2,3,7,8,9-Hexa CDD	pg TEQ/m ³			6.25E-04	5.36E-04			6.33E-04			2.72E-03					
1,2,3,4,6,7,8-Hepta CDD	pg TEQ/m ³			9.56E-04	3.83E-04			3.53E-04			1.60E-03					
Octa CDD	pg TEQ/m ³			9.27E-05	6.89E-05			7.60E-05			1.91E-04					
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			4.96E-04	9.57E-04			6.18E-04			2.42E-03					
1,2,3,7,8-Penta CDF	pg TEQ/m ³			1.65E-04	1.72E-04			1.81E-04			1.95E-04					
1,2,3,4,7,8-Penta CDF	pg TEQ/m ³			1.60E-03	1.66E-03			1.77E-03			4.53E-03					
1,2,3,6,7,8-Hexa CDF	pg TEQ/m ³			5.70E-04	5.93E-04			5.89E-04			6.34E-04					
1,2,3,6,7,8-Hexa CDF	pg TEQ/m ³			4.96E-04	5.17E-04			5.15E-04			1.51E-03					
2,3,4,6,7,8-Hexa CDF	pg TEQ/m ³			5.88E-04	6.12E-04			8.25E-04			3.63E-03					
1,2,3,7,8,9-Hexa CDF	pg TEQ/m ³			6.25E-04	6.51E-04			6.63E-04			7.25E-04					
1,2,3,4,6,7,8-Hepta CDF	pg TEQ/m ³			7.35E-05	1.91E-04			1.02E-04			5.14E-04					
1,2,3,4,7,8,9-Hepta CDF	pg TEQ/m ³			4.96E-05	5.74E-05			6.77E-05			7.10E-05					
Octa CDF	pg TEQ/m ³			7.72E-06	6.89E-06			7.07E-06			7.25E-06					
Total Tetra CDF	pg TEQ/m ³															
Total Penta CDF	pg TEQ/m ³															
Total Hexa CDF	pg TEQ/m ³															
Total Hepta CDF	pg TEQ/m ³															
TOTAL TOXIC EQUIVALENCY	pg TEQ/m ³			1.92E-02	1.90E-02			2.02E-02			3.46E-02					

Notes:
EDL = Estimated Detection Limit
* CDD = Chloro Dibenzo-p-Dioxin, ** CDF = Chloro Dibenzo-p-Furan
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

Dioxins and Furans															
Rundle Road Station		July - September 2013			Rundle			Rundle			Rundle				
Location	dd/mm/yyyy	Value	RDL	WHO ₂₀₀₅ TEF	Value	RDL	WHO ₂₀₀₅ TEF	Value	RDL	WHO ₂₀₀₅ TEF	Value	RDL	WHO ₂₀₀₅ TEF		
Date	hh:mm	Value	RDL	WHO ₂₀₀₅ TEF	Value	RDL	WHO ₂₀₀₅ TEF	Value	RDL	WHO ₂₀₀₅ TEF	Value	RDL	WHO ₂₀₀₅ TEF		
Start Time	minutes														
Sample Duration	minutes														
Technician															
Filter Number															
Maxaam ID															
Analytical Report #															
Total Volumetric Flow	Am ³ /sample														
2,3,7,8-Tetra CDD *	pg	<2.4	2.4	1	<4.2	4.2	1	<4.2	4.2	1	<4.2	4.2	1		
1,2,3,7,8-Penta CDD	pg	<3.5	3.5	1	<4.1	4.1	1	<4.1	4.1	1	<4.1	4.1	1		
1,2,3,4,7,8-Hexa CDD	pg	<3.2	3.2	0.1	<4.7	4.7	0.1	<4.3	4.3	0.1	<4.3	4.3	0.1		
1,2,3,6,7,8-Hexa CDD	pg	<2.7	2.7	0.1	<3.9	3.9	0.1	<4.6	4.6	0.1	<4.6	4.6	0.1		
1,2,3,7,8,9-Hexa CDD	pg	<2.8	2.8	0.1	<4.1	4.1	0.1	<4.1	4.1	0.1	<4.1	4.1	0.1		
1,2,3,4,6,7,8-Hepta CDD	pg	13	2.7	0.001	33	4.3	0.01	<4.2	4.2	0.01	<4.2	4.2	0.01		
Octa CDD	pg	72	4.1	0.0003	594	4.1	0.0003	16	4.2		16	4.2	0.0003		
Total Tetra CDD	pg	<3.4	3.4		<4.2	4.2		<4.2	4.2		<4.2	4.2			
Total Penta CDD	pg	<6.0	6		<4.1	4.1		<4.1	4.1		<4.1	4.1			
Total Hexa CDD	pg	<14	14		<4.2	4.2		<4.4	4.4		<4.4	4.4			
Total Hepta CDD	pg	27	2.7		57	4.3		<4.2	4.2		<4.2	4.2			
2,3,7,8-Tetra CDF **	pg	4	2.2	0.1	<4.4	4.4	0.1	7	4.3		7	4.3	0.1		
1,2,3,7,8-Penta CDF	pg	<2.7	2.7	0.03	<4.4	4.4	0.03	<4.0	4.0		<4.0	4.0	0.03		
2,3,4,7,8-Penta CDF	pg	<2.6	2.6	0.3	<4.3	4.3	0.3	<4.1	4.1		<4.1	4.1	0.3		
1,2,3,4,7,8-Hexa CDF	pg	4	2.7	0.1	<4.7	4.7	0.1	<4.0	4		<4.0	4	0.1		
1,2,3,6,7,8-Hexa CDF	pg	<2.3	2.3	0.1	<4.1	4.1	0.1	<3.9	3.9		<3.9	3.9	0.1		
2,3,4,6,7,8-Hexa CDF	pg	<2.7	2.7	0.1	9	4.8	0.1	<4.4	4.4		<4.4	4.4	0.1		
1,2,3,7,8,9-Hexa CDF	pg	<2.9	2.9	0.1	<5.2	5.2	0.1	<4.6	4.6		<4.6	4.6	0.1		
1,2,3,4,6,7,8-Hepta CDF	pg	5	2.4	0.01	10	3.5	0.01	<3.8	3.8		<3.8	3.8	0.01		
1,2,3,4,7,8,9-Hepta CDF	pg	<3.1	3.1	0.01	<4.6	4.6	0.01	<4.8	4.8		<4.8	4.8	0.01		
Octa CDF	pg	<5.6	5.6	0.0003	<28	28	0.0003	<4.3	4.3		<4.3	4.3	0.0003		
Total Tetra CDF	pg	4	2.2		<4.4	4.4		5	4.3		5	4.3			
Total Penta CDF	pg	<2.7	2.7		<4.3	4.3		<4.1	4.1		<4.1	4.1			
Total Hexa CDF	pg	4	2.6		9	4.7		<4.2	4.2		<4.2	4.2			
Total Hepta CDF	pg	5	2.7		10	4		<4.2	4.2		<4.2	4.2			
Toxic Equivalency	pg	<2.2	2.2		<4.4	4.4		<4.3	4.3		<4.3	4.3			
Calculated Concentrations															
Units	Quarter 3 2013		Rundle			Rundle			Rundle			Rundle			
	Maximum	Minimum	7/3/2013			7/27/2013			8/20/2013			9/13/2013			
2,3,7,8-Tetra CDD *	pg/m ³	6.78E-03	3.89E-03	N/A			3.89E-03	6.78E-03			6.54E-03				
1,2,3,7,8-Penta CDD	pg/m ³	6.62E-03	5.67E-03	N/A			5.67E-03	6.62E-03			6.39E-03				
1,2,3,4,7,8-Hexa CDD	pg/m ³	7.59E-03	5.19E-03	N/A			5.19E-03	7.59E-03			6.70E-03				
1,2,3,6,7,8-Hexa CDD	pg/m ³	7.16E-03	4.38E-03	N/A			4.38E-03	6.29E-03			7.16E-03				
1,2,3,7,8,9-Hexa CDD	pg/m ³	6.62E-03	4.54E-03	N/A			4.54E-03	6.62E-03			6.39E-03				
1,2,3,4,6,7,8-Hepta CDD	pg/m ³	1.07E-01	6.54E-03	N/A			4.21E-02	1.07E-01			6.54E-03				
Octa CDD	pg/m ³	1.92E+00	4.98E-02	N/A			2.33E-01	1.92E+00			4.98E-02				
Total Tetra CDD	pg/m ³	6.78E-03	5.51E-03	N/A			5.51E-03	6.78E-03			6.54E-03				
Total Penta CDD	pg/m ³	9.72E-03	6.39E-03	N/A			9.72E-03	6.62E-03			6.39E-03				
Total Hexa CDD	pg/m ³	2.27E-02	6.78E-03	N/A			2.27E-02	6.78E-03			6.85E-03				
Total Hepta CDD	pg/m ³	1.84E-01	6.54E-03	N/A			8.75E-02	1.84E-01			6.54E-03				
2,3,7,8-Tetra CDF **	pg/m ³	2.18E-02	7.10E-03	N/A			1.30E-02	7.10E-03			2.18E-02				
1,2,3,7,8-Penta CDF	pg/m ³	7.10E-03	4.38E-03	N/A			4.38E-03	7.10E-03			6.23E-03				
2,3,4,7,8-Penta CDF	pg/m ³	6.94E-03	4.21E-03	N/A			4.21E-03	6.94E-03			6.39E-03				
1,2,3,4,7,8-Hexa CDF	pg/m ³	1.30E-02	6.23E-03	N/A			1.30E-02	7.59E-03			6.23E-03				
1,2,3,6,7,8-Hexa CDF	pg/m ³	6.62E-03	3.73E-03	N/A			3.73E-03	6.62E-03			6.07E-03				
2,3,4,6,7,8-Hexa CDF	pg/m ³	2.91E-02	4.38E-03	N/A			4.38E-03	2.91E-02			6.85E-03				
1,2,3,7,8,9-Hexa CDF	pg/m ³	8.39E-03	4.70E-03	N/A			4.70E-03	8.39E-03			7.16E-03				
1,2,3,4,6,7,8-Hepta CDF	pg/m ³	3.23E-02	5.92E-03	N/A			1.62E-02	3.23E-02			5.92E-03				
1,2,3,4,7,8,9-Hepta CDF	pg/m ³	7.48E-03	5.02E-03	N/A			5.02E-03	7.42E-03			7.48E-03				
Octa CDF	pg/m ³	4.52E-02	6.70E-03	N/A			9.08E-03	4.52E-02			6.70E-03				
Total Tetra CDF	pg/m ³	1.56E-02	7.10E-03	N/A			1.30E-02	7.10E-03			1.56E-02				
Total Penta CDF	pg/m ³	6.94E-03	4.38E-03	N/A			4.38E-03	6.94E-03			6.39E-03				
Total Hexa CDF	pg/m ³	2.91E-02	6.54E-03	N/A			1.30E-02	2.91E-02			6.54E-03				
Total Hepta CDF	pg/m ³	3.23E-02	6.54E-03	N/A			1.62E-02	3.23E-02			6.54E-03				
Toxic Equivalency	pg/m ³	N/A	N/A	N/A			3.57E-03	7.10E-03			6.70E-03				
TOTAL TOXIC EQUIVALENCY	pg TEQ/m ³	2.57E-02	1.69E-02	N/A			1.69E-02	2.57E-02			2.21E-02				
Calculated TEQ Concentrations		Units		Rundle			Rundle			Rundle			Rundle		
				41458			41482			41506			41530		
2,3,7,8-Tetra CDD *	pg TEQ/m ³	N/A		N/A			3.89E-03			6.78E-03			6.54E-03		
1,2,3,7,8-Penta CDD	pg TEQ/m ³	N/A		N/A			5.67E-03			6.62E-03			6.39E-03		
1,2,3,4,7,8-Hexa CDD	pg TEQ/m ³	N/A		N/A			5.19E-04			7.59E-04			6.70E-04		
1,2,3,6,7,8-Hexa CDD	pg TEQ/m ³	N/A		N/A			4.38E-04			6.29E-04			7.16E-04		
1,2,3,7,8,9-Hexa CDD	pg TEQ/m ³	N/A		N/A			4.54E-04			6.62E-04			6.39E-04		
1,2,3,4,6,7,8-Hepta CDD	pg TEQ/m ³	N/A		N/A			4.21E-04			1.07E-03			6.54E-05		
Octa CDD	pg TEQ/m ³	N/A		N/A			7.00E-05			5.75E-04			1.50E-05		
Total Tetra CDD	pg TEQ/m ³	N/A		N/A			N/A			N/A			N/A		
Total Penta CDD	pg TEQ/m ³	N/A		N/A			N/A			N/A			N/A		
Total Hexa CDD	pg TEQ/m ³	N/A		N/A			N/A			N/A			N/A		
Total Hepta CDD	pg TEQ/m ³	N/A		N/A			N/A			N/A			N/A		
2,3,7,8-Tetra CDF **	pg TEQ/m ³	N/A		N/A			1.30E-03			7.10E-04			2.18E-03		
1,2,3,7,8-Penta CDF	pg TEQ/m ³	N/A		N/A			1.31E-04			2.13E-04			1.87E-04		
2,3,4,7,8-Penta CDF	pg TEQ/m ³	N/A		N/A			1.26E-03			2.08E-03			1.92E-03		
1,2,3,4,7,8-Hexa CDF	pg TEQ/m ³	N/A		N/A			1.30E-03			7.59E-04			6.23E-04		
1,2,3,6,7,8-Hexa CDF	pg TEQ/m ³	N/A		N/A			3.73E-04			6.62E-04			6.07E-04		
2,3,4,6,7,8-Hexa CDF	pg TEQ/m ³	N/A		N/A			4.38E-04			2.91E-03			6.85E-04		
1,2,3,7,8,9-Hexa CDF	pg TEQ/m ³	N/A		N/A			4.70E-04			8.39E-04			7.16E-04		
1,2,3,4,6,7,8-Hepta CDF	pg TEQ/m ³	N/A		N/A			1.62E-04			3.23E-04			5.92E-05		
1,2,3,4,7,8,9-Hepta CDF	pg TEQ/m ³	N/A		N/A			5.02E-05			7.42E-05			7.48E-05		
Octa CDF	pg TEQ/m ³	N/A		N/A			2.72E-06			1.36E-05			2.01E-06		
Total Tetra CDF	pg TEQ/m ³	N/A		N/A			N/A			N/A			N/A		
Total Penta CDF	pg TEQ/m ³	N/A		N/A			N/A			N/A			N/A		
Total Hexa CDF	pg TEQ/m ³	N/A		N/A			N/A			N/A			N/A		
Total Hepta CDF	pg TEQ/m ³	N/A		N/A			N/A			N/A			N/A		
TOTAL TOXIC EQUIVALENCY	pg TEQ/m ³	0.00E+00		1.69E-02			2.57E-02			2.21E-02			2.21E-02		

Notes:
RDL = Reportable Detection Limit
* CDD = Chloro Dibenzo-p-Dioxin, ** CDF = Chloro Dibenzo-p-Furan
TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient
WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds

