Quarterly Ambient Air Quality Monitoring Report for the Durham York Energy Centre – October to December 2013

Durham York Energy Centre

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Sign-off Sheet

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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 Courtice Water Pollution Control Plant (WPCP). Since May 2013, the two stations have measured the following air contaminants:

- Sulphur Dioxide (SO_2);
- 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 Courtice WPCP 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.

This quarterly report provides a summary of the ambient air quality data collected at these two stations for the period October to December 2013 (Calendar Quarter 4). During this quarter, a few minor instrumentation issues (primarily associated with an ice storm and subsequent power outage in December) were encountered with well above acceptable data recovery rates for all parameters.

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

1. Measured levels of NO_2, SO_2 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 an annual 98th percentile level averaged over 3 years (i.e. requires 36 months of data), whereas the $PM_{2.5}$ measurement period at both stations in this quarterly report is three months, there is insufficient data to determine with any certainty if exceedances of the CWS would occur. Therefore no comparison of the measured $PM_{2.5}$ data to the CWS was conducted for this report, as it would not be scientifically accurate or representative. Discussion on expected compliance with the current CWS for $PM_{2.5}$ 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 with the exception of one benzo(a)pyrene measurement were well below their applicable criteria, which are shown in Table 2.4. One (1) measurement of benzo(a)pyrene (B(a)P) at the Rundle Station was exceeded the MOE Ambient Air Quality Criteria by 720%, however, it was well below the MOE Schedule 6 Upper Risk Threshold, the MOE O. Reg. 419 24-hour average guideline, and the HHRA health based standard (all shown in Table 2.4). Based on a review of the continuous monitoring data for other contaminants and meteorology, which showed elevated levels of particulate and nitrogen oxides during a portion of the 24-hour sampling period (along with consistently westerly winds), it is believed that the elevated B(a)P measurement was likely due to a nearby business or residence with a poorly controlled combustion source operating. Further discussion of this measurement is provided in Section 4.2.6;

5. The maximum measured toxic equivalent dioxin and furan concentrations at both stations were 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 October and December, 2013 with the exception of one benzo(a)pyrene measurement. All measured levels of all monitored contaminants were below their applicable HHRA health-based standards.

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

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

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 (SO_2);
- 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 October to December 2013.

1.2 LOCATIONS OF AMBIENT AIR QUALITY MONITORING STATIONS

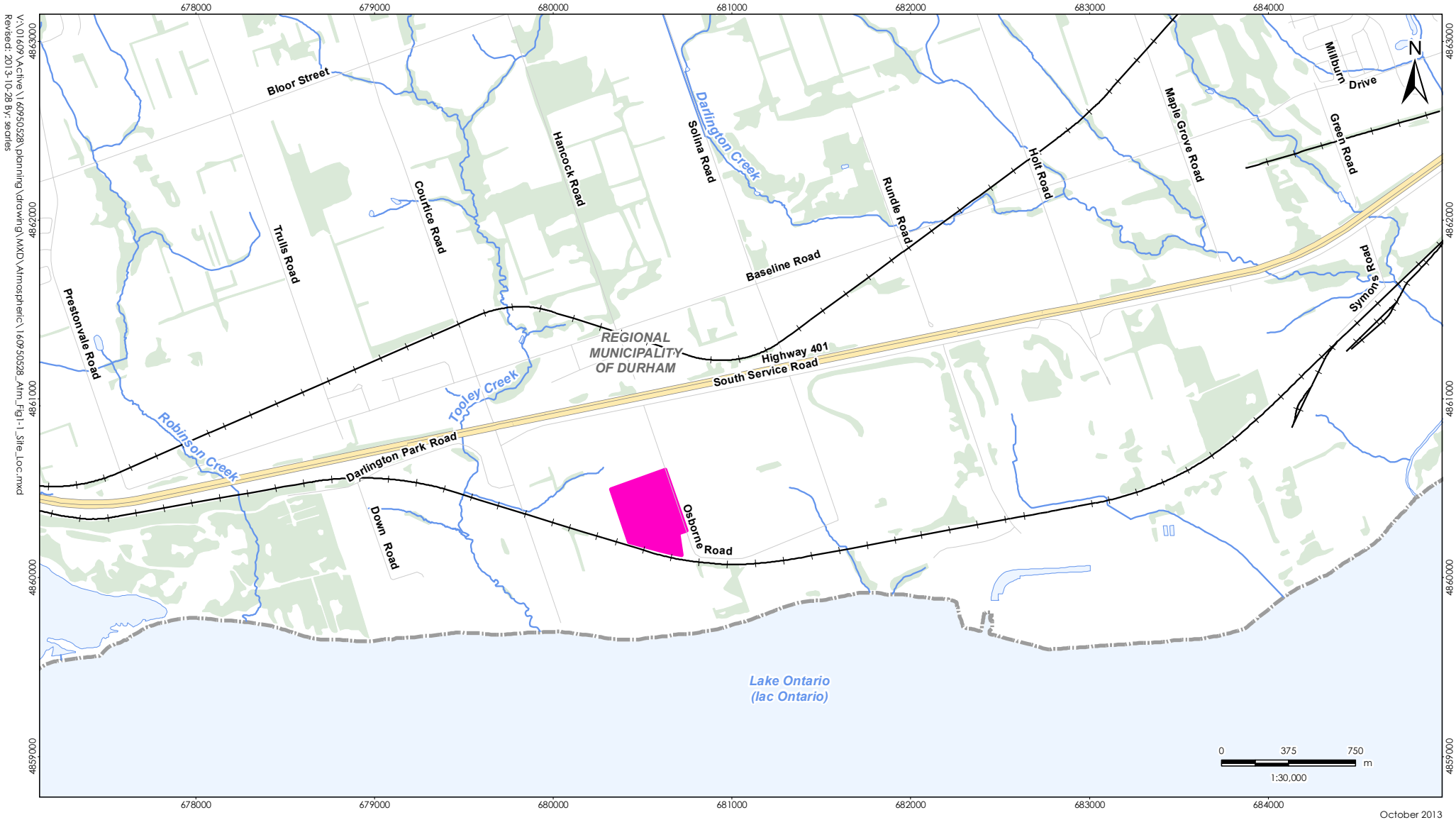
The selection of sites for the monitoring stations was done in consultation with the Ontario Ministry of Environment (MOE) and Durham/York representatives based on the results of air quality modelling done in support of the environmental assessment for the project, the locations of nearby sensitive receptors, 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 Section1.1, 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.



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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.

Legend

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

Client/Project

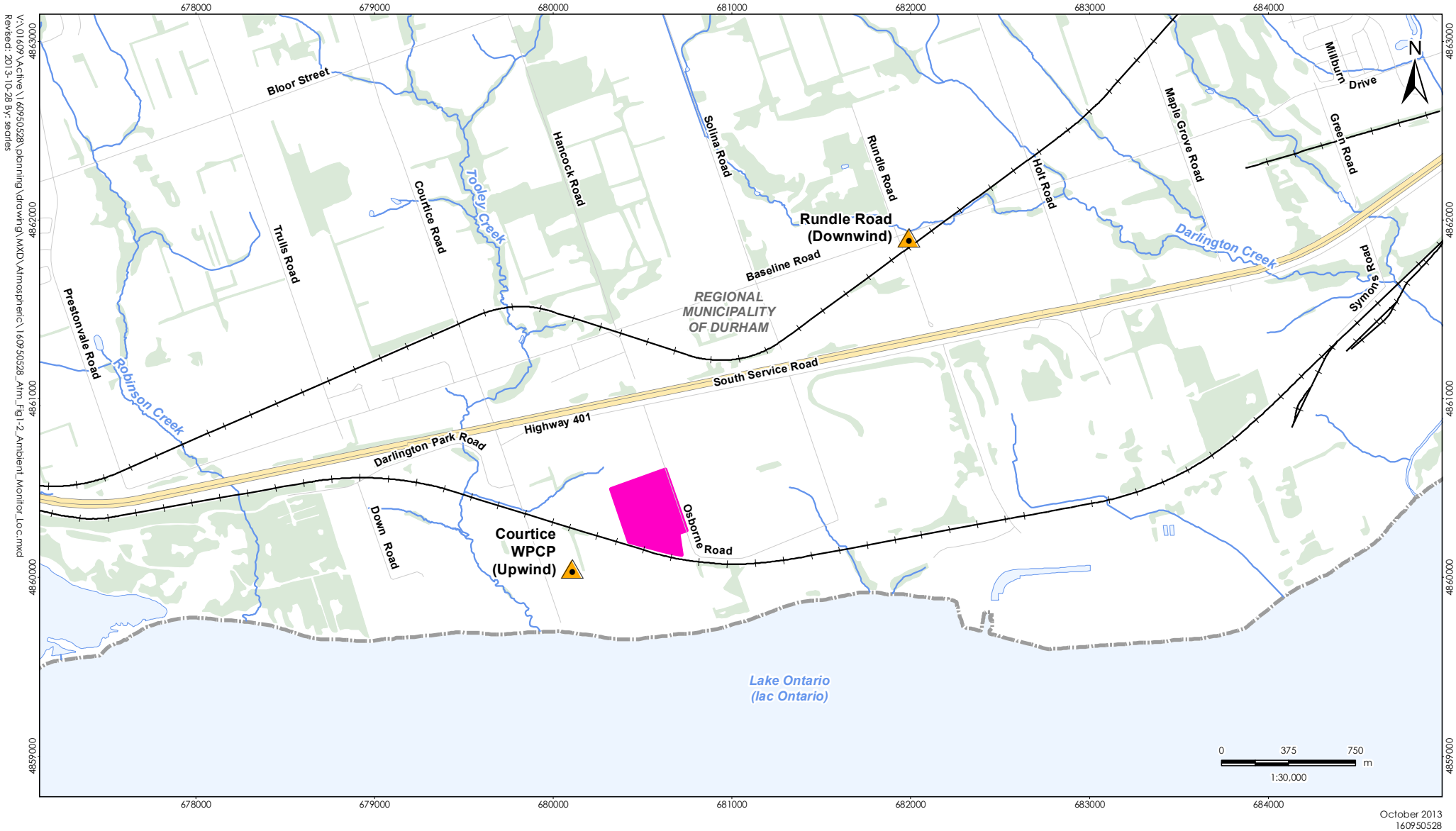
The Region of Durham
Durham York Energy Centre

Figure No.

1-1

Title

Site Location Plan



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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

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

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

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 (SO_2);
- 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)

- 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)

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/m^3 (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 PM2.5 would be 28 µg/m^3 by 2015 and 27 µg/m^3 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 NO_2, as NO_2 has adverse health effects at much lower concentrations than NO. Therefore the standard was compared to NO_2 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.

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/m³)	24-Hour (µg/m³)	Other time Period (µg/m³)	1-Hour (µg/m³)	24-Hour (µg/m³)	Annual (µg/m³)
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						6.4×10^7
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

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/m³)	24-Hour (µg/m³)	Other time Period (µg/m³)	1-Hour (µg/m³)	24-Hour (µg/m³)	Annual (µg/m³)
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/m³)	24-Hour (ng/m³)	Other time Period (ng/m³)	1-Hour (ng/m³)	24-Hour (ng/m³)	Annual (ng/m³)	Toxic Equivalency Factor Annual [A, G] (ng/m³)⁻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

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 (p(pg TEQ/m^3) [C]					

Notes:

A. Carcinogenic Annual Average. Units in $(ng/m^3)^{-1}$.
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 WHO_{2005} toxic equivalency factors (TEFs).
F. Ontario Ambient Air Quality Criteria
G. Toxic Equivalency Factors (TEFs) are shown as benzo(a)pyrene equivalents.

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 (SO_2) 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

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

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 HMP60
Relative Humidity	Campbell Scientific Model HMP60
Atmospheric Pressure	Campbell Scientific Model CS106
Rainfall	Texas Electronic TE525M

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

3.2 INSTRUMENTATION ISSUES

A few minor instrumentation issues were encountered during this quarter including issues stemming from a December ice storm and associated power outage at the Rundle Road station. Summary of operational issues for each measurement parameter and remedial actions taken during the monitoring period at each station are presented in Tables 3-4 and 3-5.

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

Parameter	Issues	Time Frame	Remedial Action
SO_2	Hydrocarbon kicker in the unit failed.	November 26 – 29, 2013	A new hydrocarbon kicker was installed on November 29 and the instrument was recalibrated.
NO_X	None		
$PM_{2.5}$	A spider web was found in the nephelometer chamber, causing the unit to not zero.	December 17 – December 20, 2013	Unit was removed on December 17, cleaned and re-installed on December 20. Zero offset was applied to data for the period the data was affected.
TSP/Metals Hi-Vol.	None		
PAH/ D/F Hi-Vol	None		

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

Parameter	Issues	Time Frame	Remedial Action
SO_2	Ruptured pump diaphragm. Monitor non-operational during power outage following ice storm.	December 17 - 20, 2013 December 21 – 23, 2013	Unit was removed, repaired and reinstalled on December 20. Checked equipment after power outage. Equipment operated normally after power was restored.
NO_X	Monitor non-operational due to a leak in the system causing low ozone level. NOx monitor non-operational during power outage following ice storm.	October 17 - 24, 2013 December 21 – 22, 2013 December 23 – 25, 2013	Repaired and reinstalled unit on October 24. Checked equipment after power outage. Equipment operated normally after power was restored.
$PM_{2.5}$	Monitor non-operational during power outage following ice storm.	December 23, 2013	Checked equipment after power outage. Equipment operated normally after power was restored.

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

Parameter	Issues	Time Frame	Remedial Action
TSP/Metals Hi-Vol.	TSP hi-vol did not start at the correct time due to power outage during the ice storm affecting the unit's timer.	Dec 24, 2013	Although the sample was not collected at the scheduled time, the collected sample was a valid 24-hour sample and was sent to the lab for analysis. Checked equipment and re-set timer for next run.
	TSP hi-vol failed in mid-sample due to worn motor brushes.	Dec 30, 2013	Replaced motor brushes and re-calibrated unit.
PAH/ D/F Hi-Vol	None		
Other – Met Tower	The anemometer froze due to ice accumulation in the ice storm and extreme cold.	Dec 22 to Dec 26, 2013	Checked equipment. Equipment functioned properly after the weather turned warmer.

3.3 INSTRUMENTATION RECOVERY RATES

Data recovery rates for each continuous monitor at the two monitoring stations during Quarter 4 (October to December 2013) are presented in Tables 3-5 and 3-6.

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

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO_2	2120	96.0%
NO_X	2201	99.7%
$PM_{2.5}$	2127	96.3%
Temperature	2208	100%
Rainfall	2208	100%
Relative Humidity	2208	100%
Pressure	2208	100%
Wind Speed/Direction	2208	100%
TSP/Metals	16 [A]	100%
PAHs	8 [A]	100%
Dioxins and Furans	4 [A]	100%

Note:

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

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

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO_2	2079	94.2%
NO_X	1969	89.2%
$PM_{2.5}$	2190	99.2%
Temperature	2208	100%
Rainfall	2208	100%
Relative Humidity	2208	100%
Wind Speed/Direction	2077	94.1%
TSP/Metals	15 [B]	94%
PAHs	8 [A]	100%
Dioxins and Furans	4 [A]	100%

Note:

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

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 October to December 2013 period are presented in Table 4-1.

Table 4-1 Summary of Hourly Meteorological Measurements – October to December 2013

Parameter		Courtice WPCP (Upwind)	Rundle Road (Downwind)	Units
Temperature	Max	23.4	24.6	C
	Min	-19.1	-20.0	C
	Mean (October)	10.8	10.3	C
	Mean (November)	2.3	1.9	C
	Mean (December)	-4.1	-4.6	C
	Mean (Period)	3.0	2.5	C
	Standard Deviation	8.3	8.4	C
Rainfall	Max	6.8	7.6	mm
	Min	0.0	0.0	mm
	Mean (October)	0.13	0.15	mm
	Mean (November)	0.05	0.05	mm
	Mean (December)	0.05	0.05	mm
	Mean (Period)	0.08	0.08	mm
	Standard Deviation	0.35	0.41	mm
Relative Humidity	Max	100.0	100.0	%
	Min	28.8	28.8	%
	Mean (October)	78.6	81.2	%
	Mean (November)	72.2	74.0	%
	Mean (December)	76.3	78.2	%
	Mean (Period)	75.8	77.8	%
	Standard Deviation	13.4	14.2	%

Table 4-1 Summary of Hourly Meteorological Measurements – October to December 2013

Parameter		Courtice WPCP (Upwind)	Rundle Road (Downwind)	Units
Pressure [A]	Max	30.4	-	in Hg
	Min	28.8	-	in Hg
	Mean (October)	29.7	-	in Hg
	Mean (November)	29.8		in Hg
	Mean (December)	29.8	-	in Hg
	Mean (Period)	29.8	-	in Hg
	Standard Deviation	0.3	-	in Hg
Wind Speed [B]	Max	46.1	37.4	km/hr
	Min	0.1	0.0	km/hr
	Mean (October)	11.2	9.2	km/hr
	Mean (November)	15.2	12.7	km/hr
	Mean (December)	12.5	11.2	km/hr
	Mean (Period)	12.9	11.0	km/hr
	Standard Deviation	7.5	7.0	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.

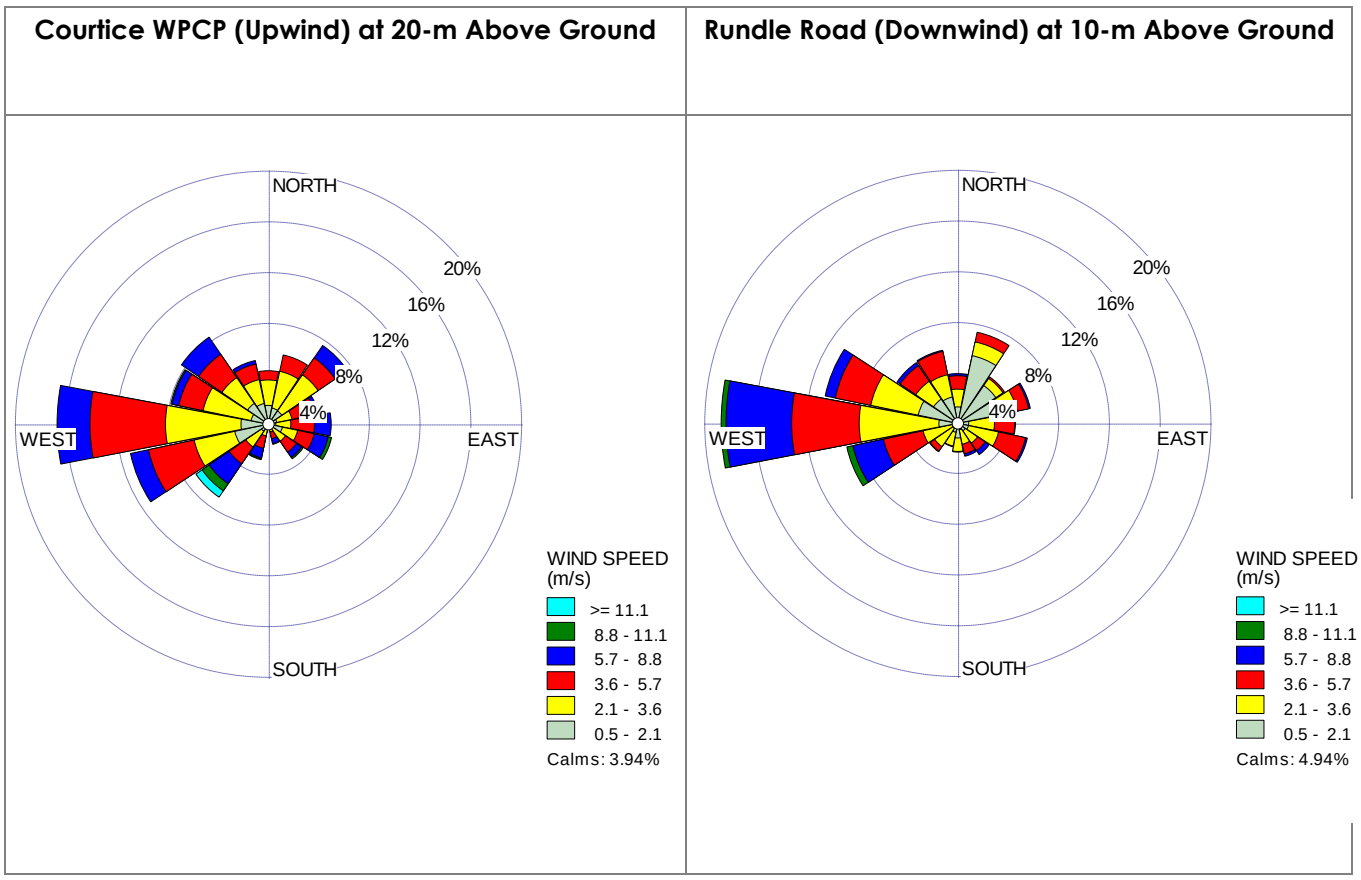
At the Courtice WPCP (Upwind) Station (located near Lake Ontario), wind data were measured and provided by the Courtice Water Pollution Control Plant on a 20-m tower, while at the Rundle Road (Downwind) Station they were measured on a 10-m tower.

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 October to December, 2013 period at the Courtice WPCP Station occurred predominantly from the westerly directions. The wind rose shows the highest wind speeds occurred from the southwest.

At the Rundle Road Station, the wind rose shows predominant winds occurred from the west. Similar to the previous quarter, higher wind speeds occurred from the west and southwest directions, and lower wind speeds from the north and east.

Figure 4-1 Wind Roses for October to December 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 October and December, 2013.

Nitric oxide (NO) has no regulatory criteria as discussed in Section 4.2.2 below. The hourly and 24-hour AAQC for NO_X are based on health effects of NO_2, therefore the AAQC were compared to measured NO_2 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.

Table 4-2 Summary of Ambient CAC Monitoring Data - October to December 2013

Pollutant	Averaging Period	AAQC / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		µg/m³	ppb		Concentration (µg/m³)	Concentration (ppbv)	Concentration (µg/m³)	Concentration (ppbv)
SO_2	1	690	250	Maximum	157.2	56.3	20.4	7.2
				Minimum	0.0	0.0	0.0	0.0
				Mean (October)	4.0	1.5	1.0	0.4
				Mean (November)	2.1	0.7	1.4	0.5
				Mean (December)	3.1	1.1	0.8	0.3
				Mean (Period)	3.1	1.1	1.1	0.4
				Standard Deviation	8.8	3.1	1.7	0.6
				# of Exceedances	0	0	0	0
	24	275	100	Maximum	35.3	13.2	4.8	1.7
				Minimum	0.0	0.0	0.0	0.0
				Mean (October)	4.0	1.4	1.0	0.4
				Mean (November)	2.1	0.7	1.4	0.5
				Mean (December)	3.1	1.1	0.8	0.3
				Mean (Period)	3.1	1.1	1.1	0.4
				Standard Deviation	5.0	1.8	0.9	0.3
				# of Exceedances	0	0	0	0
$PM_{2.5}$	24	30 [A]	NA	Maximum	27.0	-	30.1	-
				Minimum	1.8	-	1.6	-
				Mean (October)	7.4	-	6.6	-
				Mean (November)	6.6	-	6.4	-
				Mean (December)	8.0	-	10.4	-
				Mean (Period)	7.3	-	7.8	-
				Standard Deviation	3.9	-	5.2	-
				# of Exceedances	N/A	-	N/A	-

Table 4-2 Summary of Ambient CAC Monitoring Data - October to December 2013

Pollutant	Averaging Period	AAQC / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		µg/m³	ppb		Concentration (µg/m³)	Concentration (ppbv)	Concentration (µg/m³)	Concentration (ppbv)
NO_2	1	400 [B]	200 [B]	Maximum	82.4	40.3	66.0	33.0
				Minimum	0.0	0.0	0.0	0.0
				Mean (October)	15.7	8.0	12.4	6.3
				Mean (November)	11.8	5.8	15.0	7.4
				Mean (December)	21.3	10.3	15.5	7.4
				Mean (Period)	16.4	8.1	14.4	7.1
				Standard Deviation	14.6	7.2	11.4	5.6
				# of Exceedances	0	0	0	0
	24	200 [B]	100 [B]	Maximum	54.5	26.8	50.4	24.7
				Minimum	2.2	1.0	0.4	0.2
				Mean (October)	15.7	8.0	12.1	6.2
				Mean (November)	11.9	5.8	15.2	7.5
				Mean (December)	21.2	10.2	15.8	7.6
				Mean (Period)	16.3	8.1	14.5	7.2
				Standard Deviation	8.9	4.4	7.9	3.9
				# of Exceedances	0	0	0	0

Table 4-2 Summary of Ambient CAC Monitoring Data - October to December 2013

Pollutant	Averaging Period	AAQC / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		µg/m³	ppb		Concentration (µg/m³)	Concentration (ppbv)	Concentration (µg/m³)	Concentration (ppbv)
NO[C]	1	NA	NA	Maximum	148.1	111.1	53.5	40.7
				Minimum	0.0	0.0	0.0	0.0
				Mean (October)	6.3	4.9	2.8	2.2
				Mean (November)	3.2	2.4	2.2	1.6
				Mean (December)	6.2	4.6	3.1	2.3
				Mean (Period)	5.3	4.0	2.7	2.0
				Standard Deviation	10.3	7.8	4.4	3.3
				# of Exceedances	N/A	N/A	N/A	N/A
	24	NA	NA	Maximum	30.4	22.9	14.1	10.6
				Minimum	0.6	0.5	0.6	0.5
				Mean (October)	6.3	4.9	2.7	2.1
				Mean (November)	3.2	2.4	2.2	1.6
				Mean (December)	6.2	4.6	3.1	2.3
				Mean (Period)	5.3	4.0	2.7	2.0
				Standard Deviation	4.7	3.6	1.9	1.4
				# of Exceedances	N/A	N/A	N/A	N/A

Summary of Ambient Measurements
April 28, 2014

Table 4-2 Summary of Ambient CAC Monitoring Data - October to December 2013

Pollutant	Averaging Period	AAQC / HHRA Health-Based Standards			Courtice WPCP (Upwind)		Rundle Road (Downwind)	
		µg/m³	ppb		Concentration (µg/m³)	Concentration (ppbv)	Concentration (µg/m³)	Concentration (ppbv)
NO_X	1	400 B	200 B	Maximum	309.0	151.3	138.1	68.5
				Minimum	0.6	0.3	0.0	0.0
				Mean (October)	25.3	12.9	16.1	8.2
				Mean (November)	16.4	8.0	17.5	8.6
				Mean (December)	30.6	14.7	19.3	9.3
				Mean (Period)	24.2	11.9	17.7	8.7
				Standard Deviation	27.7	13.7	16.1	7.9
				# of Exceedances	0	0	0	0
	24	200 B	100 B	Maximum	100.8	49.6	71.2	34.9
				Minimum	3.9	1.9	0.7	0.3
				Mean (October)	25.2	12.8	15.8	8.0
				Mean (November)	16.4	8.1	17.7	8.7
				Mean (December)	30.4	14.6	19.7	9.5
				Mean (Period)	24.1	11.9	17.8	8.8
				Standard Deviation	15.3	7.6	10.1	5.0
				# of Exceedances	0	0	0	0

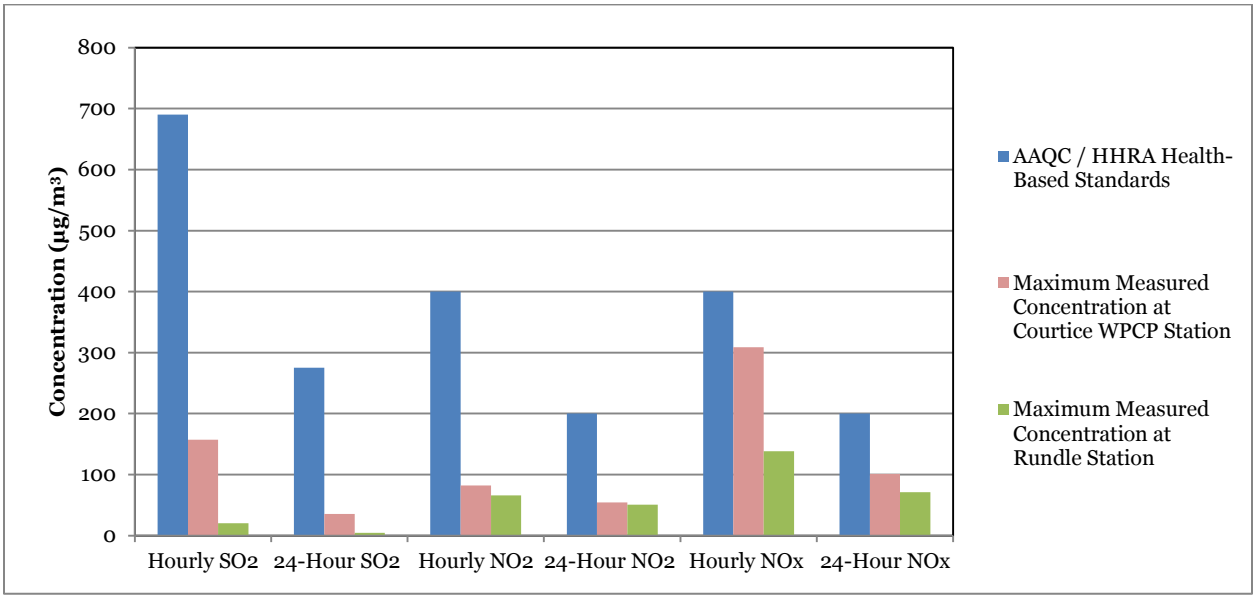
Note:

A. Canada-Wide Standards for Respirable Particulate Matter. The Respirable Particulate Matter Objective is referenced to the 98th percentile over 3 consecutive years.

B. As per current version (April 2012) of Reg 419 Summary of Standards and Guidelines, the air standard for NO_X is compared to a monitored NO_X concentration, although the Reg419 Schedule 3 standard for NO_X is based on health effects of NO_2.

C. NO has no regulatory criteria.

Figure 4-2 Comparison of NO_2 / NO_X and SO_2 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 (SO_2)

Data summaries are presented in Appendix A for sulphur dioxide for each station and month as well as time history plots of the hourly and 24-hour average SO_2 concentrations. For the hourly and 24-hour averages, the Ontario AAQCs of 690 µg/m³ and 275 µg/m³ are shown as blue lines on each plot. As shown in these figures, measured ambient SO_2 concentrations at both stations were well below the criteria.

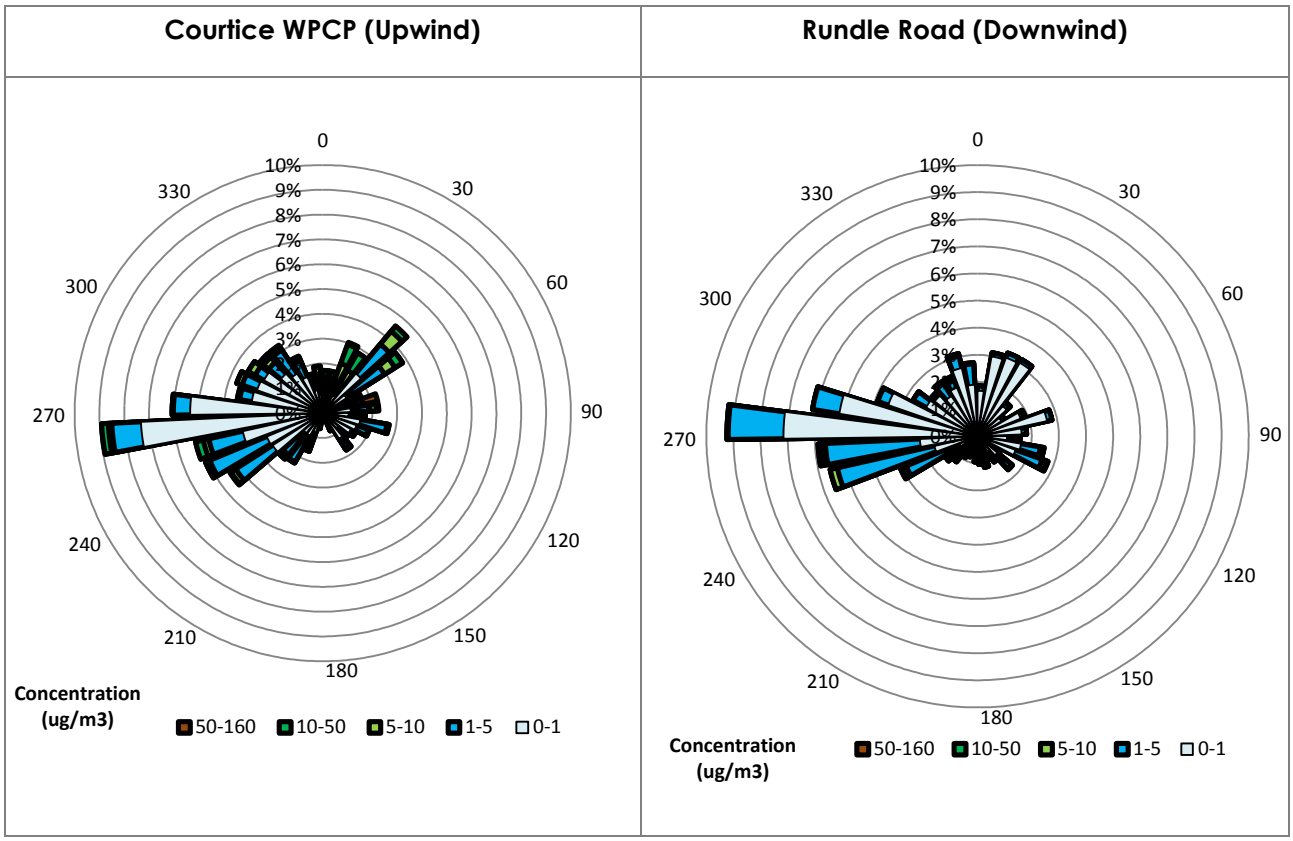
The maximum hourly and 24-hour average concentrations measured at the Courtice WPCP station during October to December were 157 and 35 µg/m³ respectively, which are 23% and 13% of the applicable ambient 1-hour and 24-hour air quality criteria.

The maximum hourly and 24-hour average concentrations measured at the Rundle Road station during this quarter were 20 and 5 µg/m³ respectively, which are 3% and 2% of the applicable ambient 1-hour and 24-hour air quality criteria.

Pollution roses of hourly average SO_2 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 10^0 wind sectors).

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

Figure 4-3 Pollution Roses for Measured Hourly Average SO_2 Concentrations – October to December 2013



4.2.2 Nitrogen Dioxide (NO_2)

Nitrogen oxides (NO_X) are almost entirely made up of nitric oxide (NO) and nitrogen dioxide (NO_2). Together, they are often referred to as NO_X. Most NO_2 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 NO_2 can result in adverse health effects to an exposed population. NO_2 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 NO_2, as health effects are seen at much lower concentrations of NO_2 than NO. In this report, because NO_2 is the regulated form of NO_X, the AAQC were compared to measured NO_2 concentrations. However, as per the current April 2012

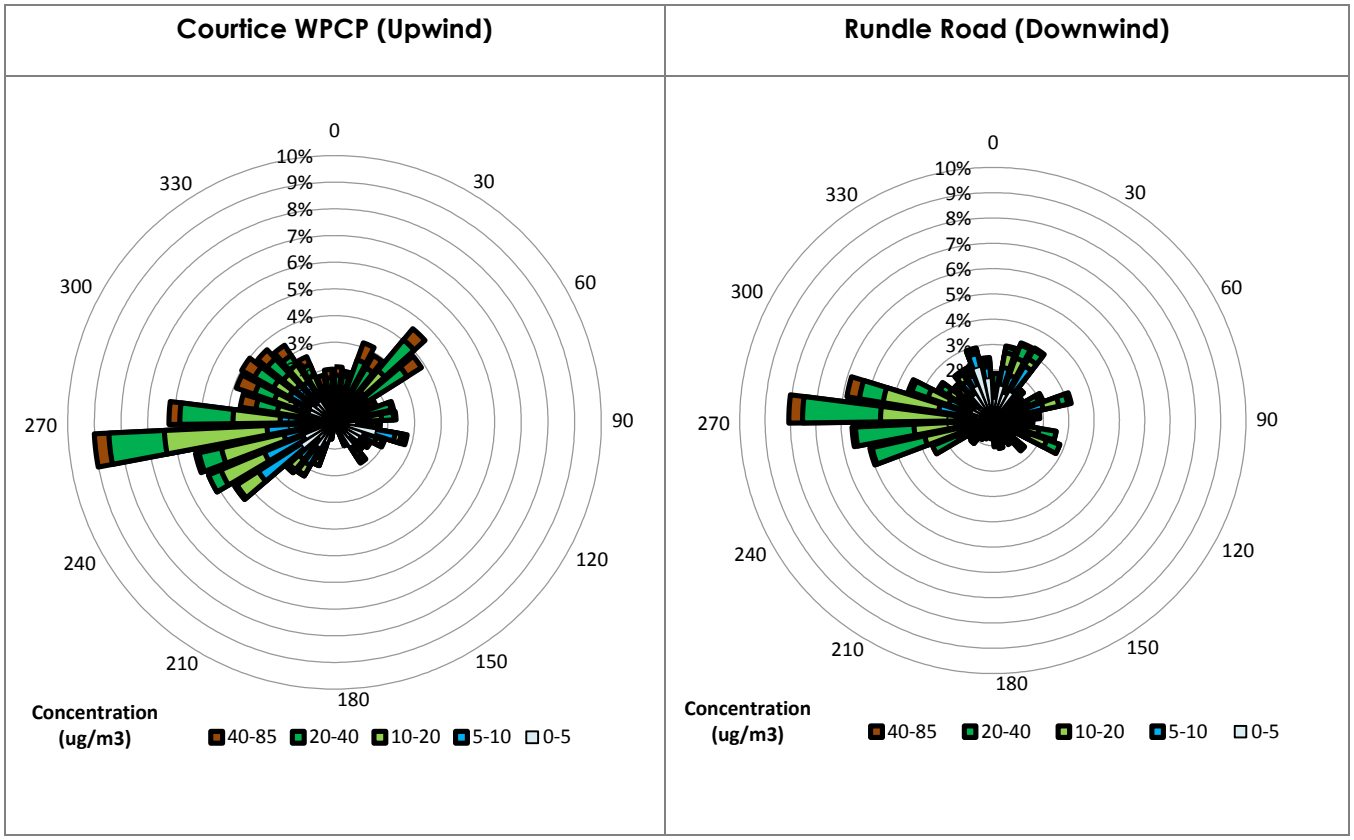
version of O. Reg. 419 Summary of Standards and Guidelines, the AAQC was also compared to the monitored NO_X concentrations (see Section 4.2.3 below).

Data summaries are presented in Appendix B for nitrogen dioxide for each station and month as well as time history plots of the hourly and 24-hour average NO_2 concentrations. For the hourly and 24-hour averages, the Ontario AAQCs of 400 µg/m^3 and 200 µg/m^3 are shown as blue lines on each plot. As shown in these figures, measured ambient NO_2 concentrations at both stations were well below the criteria.

The maximum hourly and 24-hour average NO_2 concentrations measured at the Courtice WPCP station during this quarter were 82 and 54 µg/m^3 respectively, which are 21% and 27% of the applicable ambient 1-hour and 24-hour air quality criteria. At Rundle Road, the maximum measured hourly and 24-hour average concentrations were 66 and 50 µg/m^3, which are 17% and 25% of the applicable ambient 1-hour and 24-hour air quality criteria.

Pollution roses of hourly NO_2 concentrations are presented in Figure 4-4. Higher hourly average concentrations at the Courtice WPCP Station were measured for northwesterly to northeasterly winds relative to other directions. For the Rundle Road Station, the maximum hourly average concentration occurred for winds blowing from the west.

Figure 4-4 Pollution Roses for Measured Hourly Average NO_2 Concentrations – October to December 2013



4.2.3 Nitrogen Oxides (NO_X)

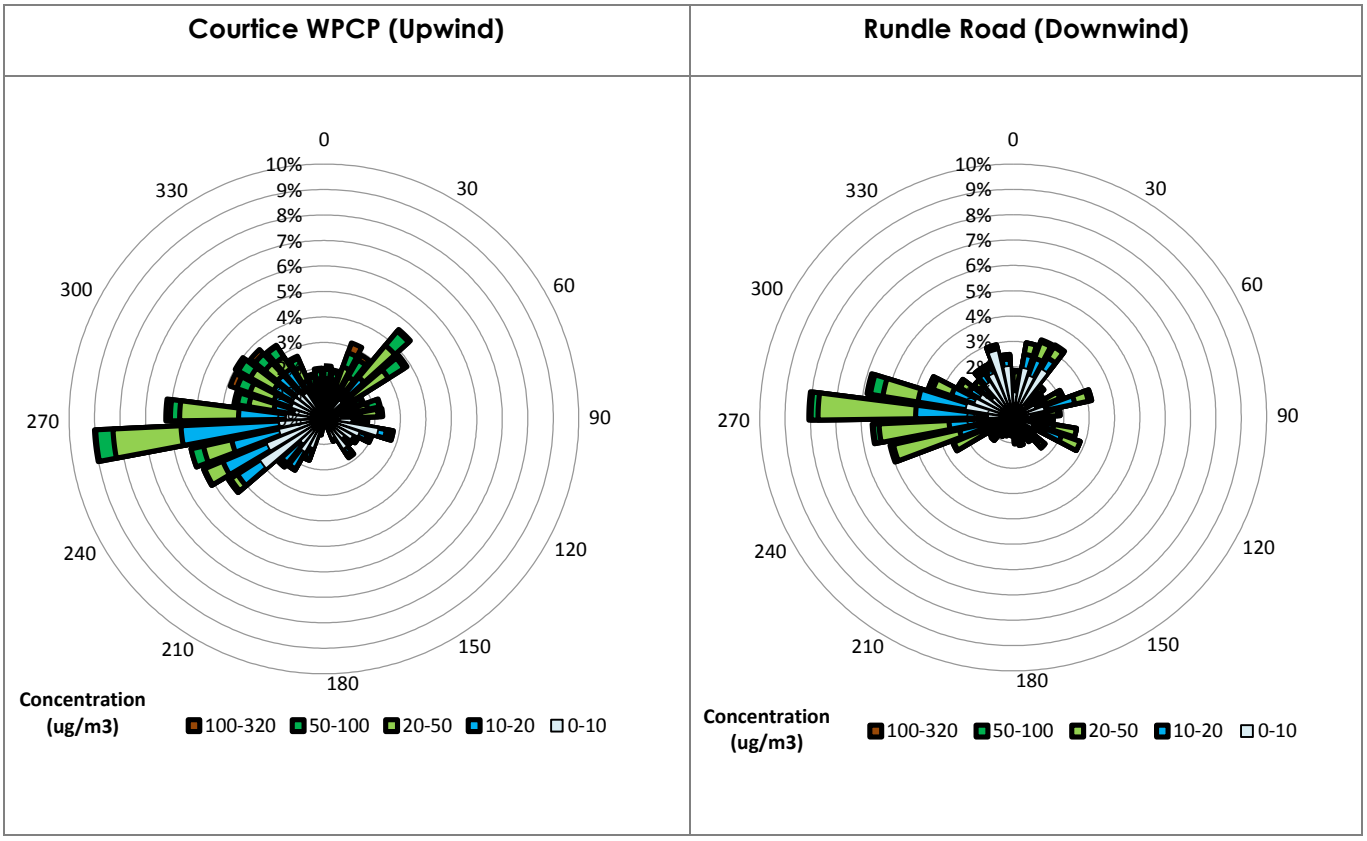
Data summaries are presented in Appendix C for nitrogen oxides for each station and month as well as time history plots of the hourly and 24-hour average NO_X concentrations. For the hourly and 24-hour averages, the Ontario AAQCs of 400 µg/m^3 and 200 µg/m^3 are shown as blue lines on each plot. As indicated 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 NO_2. As shown in these figures, the maximum measured ambient hourly and 24-hour 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 309 µg/m^3, which is 77% of the 1-hour ambient criteria. The 24-hour average NO_X concentration measured at this station was 101 µg/m^3, which is 50% of the

applicable ambient 24-hour air quality criteria. When this maximum value at the Courtice monitor was measured, low wind speeds with directions blowing from the WPCP to the monitoring station were occurring – this coupled with much higher measured NOx/NO levels relative to NO_2 suggests that the maximum NOx concentration in Q4 was due to a local combustion source in the WPCP or the DYEC construction site. At the Rundle Road Station, the maximum hourly and 24-hour average concentrations measured during this quarter were 138 and 71 µg/m^3, which are 35% and 36% 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 the Courtice WPCP occurred for winds blowing from the northeast. At the Rundle Road Station, higher hourly average concentrations occurred for westerly winds.

Figure 4-5 Pollution Roses for Measured Hourly Average NO_X Concentrations – October to December 2013



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

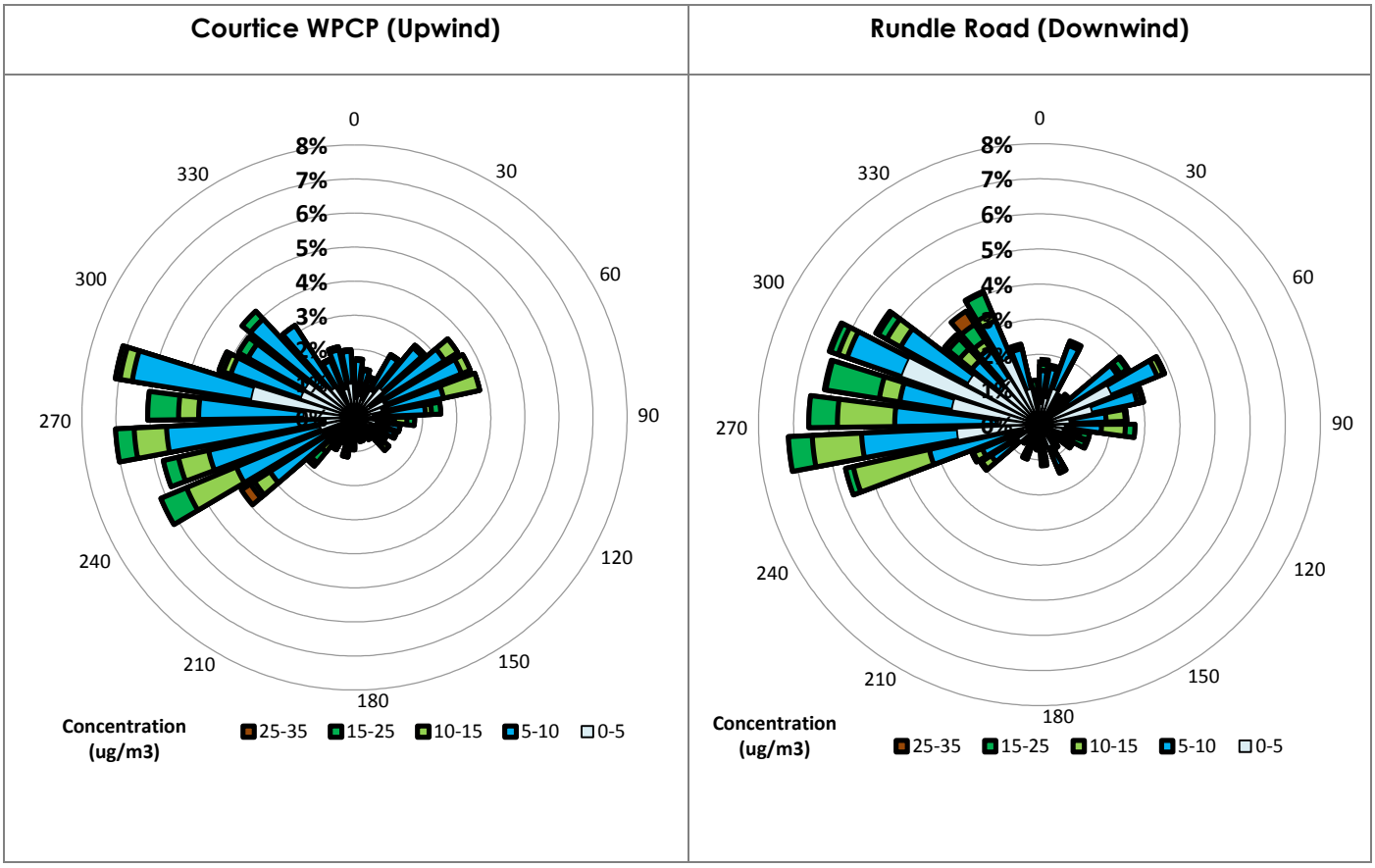
Data summaries are presented in Appendix D for $PM_{2.5}$ for the Courtice WPCP and Rundle Road stations.

The maximum measured 24-hour average $PM_{2.5}$ concentrations at the Rundle Road and Courtice stations were 30 µg/m^3 and 27 µg/m^3 during this quarter. It should be noted that since an exceedance of the CWS for $PM_{2.5}$ requires the average of the 98th percentile levels in each of three consecutive years to be greater than 30 µg/m^3, whereas the $PM_{2.5}$ measurement period at both stations in the report was three months, there is insufficient data in a quarter to determine with any certainty if exceedances of the CWS would occur. Discussion of $PM_{2.5}$ measurements with respect to the CWS will be provided in the 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. Higher measured concentrations

occurred for southwesterly and northwesterly winds for the Courtice WPCP Station. For the Rundle Road Station, the maximum measured 24-hour average concentration occurred for northwesterly winds.

Figure 4-6 Pollution Roses for Measured 24-hour Average $PM_{2.5}$ Concentrations – October to December 2013



4.2.5 Ambient TSP / Metals Concentrations

A summary of the maximum, minimum, and mean 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.

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 one measurement of benzo(a)pyrene (B(a)P) at the Rundle 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).

One (1) measurement of B(a)P at the Rundle Station exceeded the MOE Ambient Air Quality Criteria by 720%, however, it was well below the MOE Schedule 6 Upper Risk Threshold, the MOE O. Reg. 419 24-hour average guideline, and the HHRA health based standard (as shown in Table 4.4).

A review of the continuous monitoring data for other contaminants and meteorology at the Rundle Station showed elevated levels of particulate and nitrogen oxides during a portion of the 24-hour sampling period (along with consistently westerly winds). It is believed that the elevated B(a)P measurement may have been due to a nearby business or residence with a poorly controlled combustion source operating.

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.

4.2.7 Ambient Dioxin and Furan Concentrations

A summary of the maximum and minimum daily average ambient D/F concentrations 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 pg TEQ/m^3 (as shown in Table 4-5).

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/m³	120	120	38	5	0	63	6	0
Total Mercury (Hg)	µg/m³	2	2	2.27E-05	3.75E-06	0	5.14E-05	4.26E-06	0
Aluminum (Al)	µg/m³	4.8	-	1.25E-01	1.23E-02	0	3.49E-01	1.10E-02	0
Antimony (Sb)	µg/m³	25	25	2.69E-03	1.88E-03	0	2.86E-03	2.13E-03	0
Arsenic (As)	µg/m³	0.3	0.3	3.79E-03	1.13E-03	0	1.76E-03	1.28E-03	0
Barium (Ba)	µg/m³	10	10	1.40E-02	1.52E-03	0	1.30E-02	1.18E-03	0
Beryllium (Be)	µg/m³	0.01	0.01	2.69E-04	1.88E-04	0	2.86E-04	2.13E-04	0
Bismuth (Bi)	µg/m³	-	-	1.66E-03	1.13E-03	-	1.76E-03	1.28E-03	-
Boron (B)	µg/m³	120	-	1.66E-03	1.13E-03	0	3.73E-03	1.28E-03	0
Cadmium (Cd)	µg/m³	0.025	0.025	5.59E-04	3.75E-04	0	5.95E-04	4.26E-04	0
Chromium (Cr)	µg/m³	0.5	-	1.39E-03	9.38E-04	0	1.78E-02	1.07E-03	0
Cobalt (Co)	µg/m³	0.1	0.1	5.59E-04	3.75E-04	0	5.95E-04	4.26E-04	0
Copper (Cu)	µg/m³	50	-	7.68E-02	9.21E-03	0	2.36E-01	4.55E-02	0
Iron (Fe)	µg/m³	4	-	3.97E-01	6.23E-02	0	1.25E+00	4.47E-02	0
Lead (Pb)	µg/m³	0.5	0.5	4.19E-03	5.97E-04	0	5.65E-03	6.44E-04	0
Magnesium (Mg)	µg/m³	-	-	2.33E-01	2.89E-02	-	5.87E-01	2.98E-02	-
Manganese (Mn)	µg/m³	0.4	-	1.58E-02	2.01E-03	0	1.02E-01	2.15E-03	0
Molybdenum (Mo)	µg/m³	120	-	1.37E-03	5.63E-04	0	3.46E-03	6.93E-04	0

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
Nickel (Ni)	µg/m³	0.2	-	4.35E-03	5.63E-04	0	4.67E-03	6.40E-04	0
Phosphorus (P)	µg/m³	-	-	3.98E-02	4.69E-03	-	6.22E-02	5.35E-03	-
Selenium (Se)	µg/m³	10	10	2.69E-03	1.88E-03	0	2.86E-03	2.13E-03	0
Silver (Ag)	µg/m³	1	1	1.39E-03	9.38E-04	0	1.48E-03	1.07E-03	0
Strontium (Sr)	µg/m³	120	-	7.63E-03	8.34E-04	0	1.53E-02	8.77E-04	0
Thallium (Tl)	µg/m³	-	-	2.69E-03	1.88E-03	-	2.86E-03	2.13E-03	-
Tin (Sn)	µg/m³	10	10	2.69E-03	1.88E-03	0	2.86E-03	2.13E-03	0
Titanium (Ti)	µg/m³	120	-	8.38E-03	1.88E-03	0	2.40E-02	2.13E-03	0
Vanadium (V)	µg/m³	2	1	1.39E-03	9.38E-04	0	3.22E-03	1.07E-03	0
Zinc (Zn)	µg/m³	120	-	4.44E-02	8.04E-03	0	7.04E-02	9.74E-03	0
Zirconium (Zr)	µg/m³	20	-	1.39E-03	9.38E-04	0	1.48E-03	1.07E-03	0
Total Uranium (U)	µg/m³	1.5	-	1.24E-04	8.44E-05	0	1.32E-04	9.59E-05	0

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/m³	0.05 [A] 5 [B] 1.1 [C]	1	3.47E-02	8.71E-03	0 0 0	4.13E-01	6.00E-03	1 0 0
1-Methylnaphthalene	ng/m³	12,000	-	9.75E+00	1.48E+00	0	1.17E+01	1.36E+00	0
2-Methylnaphthalene	ng/m³	10,000	-	1.70E+01	2.67E+00	0	1.92E+01	2.19E+00	0
Acenaphthene	ng/m³	-	-	2.91E+00	1.44E-01	-	2.22E+00	1.11E-01	-
Acenaphthylene	ng/m³	3500	-	5.16E-01	1.11E-01	0	1.63E+00	1.39E-01	0
Anthracene	ng/m³	200	-	1.60E-01	1.11E-01	0	1.22E+00	1.10E-01	0
Benzo(a)anthracene	ng/m³	-	-	1.60E-01	1.11E-01	-	5.34E-01	1.10E-01	-
Benzo(a)fluorene	ng/m³	-	-	3.20E-01	2.22E-01	-	5.94E-01	2.21E-01	-
Benzo(b)fluoranthene	ng/m³	-	-	3.74E-01	1.11E-01	-	9.50E-01	1.10E-01	-
Benzo(b)fluorene	ng/m³	-	-	3.20E-01	2.22E-01	-	3.64E-01	2.21E-01	-
Benzo(e)pyrene	ng/m³	-	-	3.20E-01	2.22E-01	-	3.64E-01	2.21E-01	-
Benzo(g,h,i)perylene	ng/m³	-	-	1.60E-01	1.11E-01	-	5.64E-01	1.10E-01	-
Benzo(k)fluoranthene	ng/m³	-	-	4.31E-01	1.11E-01	-	3.26E-01	1.10E-01	-
Biphenyl	ng/m³	-	-	3.39E+00	7.11E-01	-	6.14E+00	9.19E-01	-
Chrysene	ng/m³	-	-	1.60E-01	1.11E-01	-	9.20E-01	1.10E-01	-
Dibenz(a,h) anthracene [D]	ng/m³	-	-	1.60E-01	1.11E-01	-	1.82E-01	1.10E-01	-
Dibenzo(a,c) anthracene + Picene [D]	ng/m³	-	-	3.20E-01	2.39E-02	-	3.64E-01	2.21E-01	-
Fluoranthene	ng/m³	-	-	1.04E+00	2.49E-01	-	4.16E+00	3.65E-01	-

Table 4-4 Summary of Measured Ambient PAH Concentrations

Contaminant	Units	MOE Criteria	HHRA Health Based Standard	Courtice WPCP (Upwind)			Rundle Road (Downwind)		
				Max	Min	No. of Exceedances	Max	Min	No. of Exceedances
Indeno (1,2,3-cd)pyrene	ng/m^3	-	-	1.60E-01	1.11E-01	-	4.75E-01	1.10E-01	-
Naphthalene	ng/m^3	22,500	22,500	5.83E+01	8.56E+00	0	9.41E+01	9.78E+00	0
o-Terphenyl	ng/m^3	-	-	3.20E-01	2.22E-01	-	3.64E-01	2.21E-01	-
Perylene	ng/m^3	-	-	3.20E-01	2.22E-01	-	3.64E-01	2.21E-01	-
Phenanthrene	ng/m^3	-	-	4.24E+00	8.89E-01	-	1.12E+01	1.24E+00	-
Pyrene	ng/m^3	-	-	5.93E-01	1.11E-01	-	3.12E+00	2.58E-01	-
Tetralin	ng/m^3	-	-	5.80E+00	8.00E-01	-	5.05E+00	6.52E-01	-
Total PAH [E]	ng/m^3	-	-	1.05E+02	1.85E+01	-	1.65E+02	1.96E+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. Based on laboratory analyses, dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene. Picene elutes after dibenz(a,h)anthracene.

E. The reported total PAH is the sum of all analysed PAH species.

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/m³			8.11E-03	5.51E-03		1.06E-02	4.45E-03	
1,2,3,7,8-Penta CDD	pg/m³			1.01E-02	5.80E-03		9.02E-03	5.64E-03	
1,2,3,4,7,8-Hexa CDD	pg/m³			6.72E-03	5.80E-03		7.82E-03	5.94E-03	
1,2,3,6,7,8-Hexa CDD	pg/m³			7.20E-03	5.80E-03		8.36E-03	6.10E-03	
1,2,3,7,8,9-Hexa CDD	pg/m³			6.24E-03	5.37E-03		1.90E-02	5.69E-03	
1,2,3,4,6,7,8-Hepta CDD	pg/m³			1.26E-01	4.16E-02		1.24E-01	7.46E-02	
Octa CDD	pg/m³			3.37E-01	1.87E-01		7.05E-01	1.63E-01	
Total Tetra CDD	pg/m³			8.11E-03	5.51E-03		1.06E-02	4.45E-03	
Total Penta CDD	pg/m³			1.01E-02	5.80E-03		9.02E-03	5.64E-03	
Total Hexa CDD	pg/m³			7.02E-02	6.72E-03		8.79E-02	1.02E-02	
Total Hepta CDD	pg/m³			2.90E-01	4.16E-02		2.63E-01	1.52E-01	
2,3,7,8-Tetra CDF **	pg/m³			9.06E-03	5.66E-03		8.76E-03	6.24E-03	
1,2,3,7,8-Penta CDF	pg/m³	-	-	7.66E-03	5.18E-03	N/A	7.82E-03	5.44E-03	N/A
2,3,4,7,8-Penta CDF	pg/m³			7.96E-03	5.18E-03		8.00E-03	5.55E-03	
1,2,3,4,7,8-Hexa CDF	pg/m³			6.33E-03	5.11E-03		2.18E-02	4.97E-03	
1,2,3,6,7,8-Hexa CDF	pg/m³			6.04E-03	4.81E-03		6.91E-03	4.66E-03	
2,3,4,6,7,8-Hexa CDF	pg/m³			6.76E-03	5.56E-03		8.00E-03	5.29E-03	
1,2,3,7,8,9-Hexa CDF	pg/m³			7.33E-03	5.71E-03		8.00E-03	5.44E-03	
1,2,3,4,6,7,8-Hepta CDF	pg/m³			1.11E-02	5.26E-03		3.45E-02	4.82E-03	
1,2,3,4,7,8,9-Hepta CDF	pg/m³			7.84E-03	6.65E-03		1.82E-02	5.49E-03	
Octa CDF	pg/m³			3.48E-02	1.44E-02		1.05E-01	1.87E-02	
Total Tetra CDF	pg/m³			1.81E-02	5.66E-03		1.75E-02	6.24E-03	
Total Penta CDF	pg/m³			7.81E-03	5.18E-03		1.60E-02	5.55E-03	
Total Hexa CDF	pg/m³			6.61E-03	5.26E-03		4.73E-02	5.13E-03	
Total Hepta CDF	pg/m³			1.24E-02	5.86E-03		5.45E-02	5.44E-03	
TOTAL TOXIC EQUIVALENCY [A]	pg TEQ/m³	0.1 [B] 1 [C]	-	0.026	0.019	0 0	0.029	0.019	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 WHO_{2005} 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

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 October to December 2013. The following observations and conclusions were made from a review of the measured ambient air quality monitoring data:

1. Measured levels of NO_2, SO_2 and $PM_{2.5}$ were below the applicable O.Reg. 419/05 criteria and 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 an annual 98th percentile level averaged over 3 years (i.e. requires 36 months of data), whereas the $PM_{2.5}$ measurement period at both stations in this quarterly report is three months, there is insufficient data to determine with any certainty if exceedances of the CWS would occur. Therefore no comparison of the measured $PM_{2.5}$ data to the CWS was conducted for this report, as it would not be scientifically accurate or representative. Discussion on expected compliance with the current CWS for $PM_{2.5}$ 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 with the exception of one benzo(a)pyrene measurement were well below their applicable criteria, which are shown in Table 2.4. One (1) measurement of benzo(a)pyrene (B(a)P) at the Rundle Station exceeded the MOE Ambient Air Quality Criteria by 720%, however, it was well below the MOE Schedule 6 Upper Risk Threshold, the MOE O. Reg. 419 24-hour average guideline, and the HHRA health based standard (all shown in Table 2.4). Based on a review of the continuous monitoring data for other contaminants and meteorology, which showed elevated levels of particulate and nitrogen oxides during a portion of the 24-hour sampling period (along with consistently westerly winds), it is believed that the elevated B(a)P measurement was likely due to a nearby business or residence with a poorly controlled combustion source operating;

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 October and December, 2013 with the exception of one benzo(a)pyrene measurement. All measured levels of all monitored contaminants were below their applicable HHRA health-based standards.

Appendix A
SO_2 Data Summaries and Time History Plots

SO2 - COURTICE
October 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	2.9	1.6	1.4	2.5	1.5	2.6	4.2	2.3	1.9	3.1	2.0	2.4	5.8	9.2	5.4	4.9	2.2	1.1	0.8	0.5	0.0	0.7	1.1	1.5	24	9.2	0.0	2.6	0	0
2	1.0	0.7	0.9	2.6	4.5	4.0	3.0	3.3	2.9	1.8	0.6	0.0	0.5	0.7	0.4	0.3	0.4	0.0	0.2	0.0	0.1	0.0	5.2	2.1	24	5.2	0.0	1.5	0	0
3	0.3	1.7	0.0	0.2	2.1	18.6	16.0	5.0	1.1	0.6	2.1	2.2	2.4	1.8	1.8	1.3	0.6	0.9	2.2	2.5	1.7	1.3	1.7	0.7	24	18.6	0.0	2.9	0	0
4	2.2	0.5	1.2	1.0	1.1	0.8	0.7	1.3	0.3	0.6	9.7	10.2	3.4	2.3	0.9	1.1	0.6	1.0	0.4	0.4	0.4	1.2	1.8	0.8	24	10.2	0.3	1.8	0	0
5	0.1	0.1	0.3	0.3	0.4	0.2	0.5	0.7	1.1	0.5	18.9	1.2	0.4	0.0	0.1	0.2	0.7	0.5	0.7	0.6	0.2	11.8	3.4	0.8	24	18.9	0.0	1.8	0	0
6	0.7	14.2	1.7	22.6	1.7	16.9	24.2	16.7	18.8	31.6	30.0	42.7	50.6	97.5	66.7	70.3	39.2	62.1	57.1	76.1	61.5	35.6	4.8	2.5	24	97.5	0.7	35.2	0	0
7	1.6	2.5	1.5	1.5	1.1	1.8	0.7	1.4	0.3	0.4	2.8	2.2	1.3	0.9	0.8	0.8	0.7	0.9	0.2	0.0	0.0	0.1	0.0	0.0	24	2.8	0.0	1.0	0	0
8	0.8	5.2	0.2	0.5	6.0	8.8	1.1	1.3	0.5	0.3	0.0	0.2	0.3	0.2	0.0	0.0	0.0	0.0	4.4	3.8	2.2	2.4	5.4	9.2	24	9.2	0.0	2.2	0	0
9	10.3	8.4	5.6	9.4	5.1	12.0	11.5	5.4	2.8	1.0	0.9	0.7	0.1	0.1	3.8	0.0	0.0	0.0	0.4	4.3	4.9	5.1	6.6	2.0	24	12.0	0.0	4.2	0	0
10	0.2	0.5	1.2	3.8	2.2	6.0	13.2	9.9	2.5	11.9	2.0	1.0	0.7	0.6	0.7	2.7	3.6	2.1	4.6	4.0	4.5	8.6	4.2	2.5	24	13.2	0.2	3.9	0	0
11	3.4	7.8	7.3	9.8	13.8	11.9	5.5	2.5	2.0	1.7	1.8	0.2	0.2	0.3	0.1	0.7	0.5	0.8	4.9	3.3	2.7	15.5	8.5	17.2	24	17.2	0.1	5.1	0	0
12	1.0	7.8	5.5	3.5	12.9	7.1	6.0	3.5	6.6	10.4	2.2	0.8	0.6	0.3	0.0	0.0	0.1	11.2	2.1	7.0	3.9	5.4	1.8	0.9	24	12.9	0.0	4.2	0	0
13	0.6	0.3	0.2	0.2	0.4	0.1	0.1	0.1	0.3	0.1	0.8	4.3	2.2	1.5	0.7	0.2	0.6	1.0	0.2	0.9	0.0	0.0	0.0	0.0	24	4.3	0.0	0.6	0	0
14	0.0	0.0	0.0	0.0	0.0	0.6	0.1	0.4	0.1	0.7	1.4	0.3	0.2	1.2	4.5	1.7	1.3	1.6	3.4	3.0	3.9	3.2	5.9	6.7	24	6.7	0.0	1.7	0	0
15	6.4	3.0	2.5	3.0	2.3	4.7	3.2	2.3	8.3	12.7	2.5	2.5	2.5	2.4	1.8	1.4	1.1	0.5	0.1	1.7	0.9	0.4	0.5	1.0	24	12.7	0.1	2.8	0	0
16	0.9	0.5	0.6	2.1	2.0	1.5	1.4	1.4	1.4	1.1	0.7	0.2	0.8	0.6	0.7	0.7	0.6	0.3	0.3	0.5	0.2	0.2	0.2	0.2	24	2.1	0.2	0.8	0	0
17	0.4	1.0	0.5	1.7	0.4	0.8	1.0	1.8	1.5	0.8	0.8	1.0	1.0	1.5	1.0	0.2	0.2	0.5	0.5	0.6	0.2	1.3	0.9	0.8	24	1.8	0.2	0.9	0	0
18	0.4	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.3	0.4	0.1	0.1	0.1	0.5	0.7	0.9	0.9	0.7	1.1	1.3	4.3	4.4	12.5	24	12.5	0.0	1.2	0	0
19	4.9	4.2	6.3	11.5	7.3	3.0	9.4	3.5	2.7	2.0	2.7	2.2	1.4	1.2	2.4	0.8	0.8	0.8	0.3	0.2	0.4	0.2	0.2	0.1	24	11.5	0.1	2.9	0	0
20	0.2	0.2	0.2	0.1	0.2	0.1	0.3	0.1	0.2	0.6	0.9	0.8	1.0	1.0	0.7	1.7	1.9	0.2	17.7	68.1	13.2	15.1	14.1	14.6	24	68.1	0.1	6.4	0	0
21	2.3	2.4	2.0	1.6	1.1	0.7	0.7	0.9	1.1	1.0	1.5	1.6	1.5	1.4	1.5	1.0	1.5	1.9	0.3	0.4	0.1	0.2	0.3	0.1	24	2.4	0.1	1.1	0	0
22	0.3	0.1	0.2	0.3	0.3	0.3	0.7	0.2	0.4	0.5	0.2	0.3	0.1	0.3	C	C	C	0.7	0.6	0.6	2.5	1.9	1.4	0.6	21	2.5	0.1	0.6	0	0
23	0.8	0.2	6.8	0.7	11.9	41.3	14.5	3.2	2.5	1.0	1.0	1.1	0.8	0.9	1.0	0.5	0.5	0.0	0.1	0.5	1.3	1.7	0.8	1.4	24	41.3	0.0	3.9	0	0
24	0.9	0.3	0.9	1.7	0.5	0.8	0.5	0.8	1.0	1.1	0.2	0.1	0.2	0.1	0.2	1.2	0.6	0.0	0.1	0.1	0.2	0.1	0.0	0.0	24	1.7	0.0	0.5	0	0
25	0.0	0.0	0.0	0.0	0.1	0.5	1.7	2.3	9.9	12.2	5.0	1.2	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	3.2	24	12.2	0.0	1.5	0	0
26	0.9	1.8	1.1	1.8	1.8	0.3	0.4	0.1	0.5	1.0	0.2	0.8	0.6	0.6	0.6	0.5	0.6	0.9	1.4	2.7	1.5	0.8	0.2	0.1	24	2.7	0.1	0.9	0	0
27	0.0	0.2	0.2	0.1	0.4	0.6	0.4	0.2	0.0	0.2	0.2	0.3	0.3	0.4	0.2	0.1	0.2	0.1	0.0	0.0	0.2	0.1	0.7	0.5	24	0.7	0.0	0.2	0	0
28	0.1	0.6	1.8	2.0	1.2	0.8	0.2	0.6	2.4	1.5	0.3	1.6	4.4	7.4	6.2	6.7	20.4	44.6	26.0	9.6	2.5	14.7	12.1	8.5	24	44.6	0.1	7.3	0	0
29	3.8	13.6	28.3	50.7	27.9	34.8	13.7	48.7	50.0	13.9	4.9	0.2	0.1	0.1	0.0	0.1	0.1	0.2	0.1	1.7	0.2	0.1	1.8	4.3	24	50.7	0.0	12.5	0	0
30	1.5	1.1	3.6	3.7	6.4	15.7	16.6	9.0	2.8	3.3	4.9	3.8	2.6	2.2	2.6	3.8	3.7	2.2	1.4	25.8	9.9	42.5	15.7	24.9	24	42.5	1.1	8.7	0	0
31	14.8	2.1	2.0	3.0	2.7	1.0	1.5	1.9	1.3	0.8	0.7	0.6	0.4	0.5	0.8	0.7	0.6	0.9	0.5	0.5	0.8	0.8	0.8	0.7	24	14.8	0.4	1.7	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	741	31	30	31		
Maximum	14.8	14.2	28.3	50.7	27.9	41.3	24.2	48.7	50.0	31.6	30.0	42.7	50.6	97.5	66.7	70.3	39.2	62.1	57.1	76.1	61.5	42.5	15.7	24.9	24	97.5	14.2	44.5		
Minimum	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21	0.7	0.0	0.0		
Average	2.1	2.7	2.7	4.6	3.8	6.4	4.9	4.2	4.1	3.8	3.3	2.8	2.8	4.4	3.5	3.5	2.8	4.5	4.2	7.1	3.9	5.7	3.4	3.9	24	18	0	4.0		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100	Maximum
													97.5
													35.2
Data	0.1	0.2	0.5	0.7	1.0	1.5	2.2	3.8	9.7	16.0	54.5	97.5	4.0

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

SO2 - COURTICE
November 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	0.7	0.8	0.7	0.8	1.2	1.3	1.1	1.1	1.4	1.4	1.8	1.4	0.8	2.0	1.0	0.9	0.7	0.7	0.2	0.5	0.8	0.8	1.2	1.2	24	2.0	0.2	1.0	0	0
2	0.3	0.3	0.9	1.1	0.3	1.1	1.6	2.1	2.5	7.8	6.4	4.7	4.8	5.9	8.6	7.5	4.7	5.8	5.6	3.4	1.0	2.6	1.7	0.2	24	8.6	0.2	3.4	0	0
3	0.2	9.8	8.5	9.9	17.6	14.9	3.7	8.2	6.3	7.1	2.7	2.4	0.1	0.0	0.1	0.0	0.0	0.0	0.5	0.2	0.2	1.0	4.4	12.0	24	17.6	0.0	4.6	0	0
4	14.2	0.8	0.3	0.3	0.3	0.4	0.0	0.3	11.3	68.1	12.7	0.4	0.0	0.4	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.3	24	68.1	0.0	4.6	0	0
5	0.9	0.4	0.3	1.4	1.7	2.3	2.6	2.5	3.0	3.4	4.0	4.5	4.6	4.1	3.0	2.2	1.8	2.8	3.0	2.1	7.5	14.9	3.0	2.7	24	14.9	0.3	3.3	0	0
6	3.8	2.8	1.5	1.1	1.0	1.5	1.7	2.5	3.1	4.1	3.6	3.4	2.4	2.4	1.4	1.0	0.8	0.9	0.4	0.3	1.3	0.4	0.3	1.4	24	4.1	0.3	1.8	0	0
7	1.0	0.3	0.3	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.1	0.3	0.1	0.1	0.0	0.0	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.0	24	1.0	0.0	0.2	0	0
8	0.2	0.0	0.2	0.1	0.2	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	24	0.2	0.0	0.1	0	0
9	0.3	0.0	0.6	0.6	0.7	0.8	4.3	8.9	4.4	1.7	2.8	1.3	1.2	0.9	0.9	1.5	2.9	2.4	2.2	1.9	1.5	1.6	1.0	0.3	24	8.9	0.0	1.9	0	0
10	0.5	0.4	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.4	0.2	0.1	0.8	0.7	0.2	0.1	0.2	0.2	0.0	0.1	0.1	0.0	0.0	0.0	24	0.8	0.0	0.2	0	0
11	0.0	0.0	0.1	0.2	0.5	4.2	2.1	4.7	6.9	4.5	4.5	5.5	2.7	1.7	0.9	0.8	0.2	0.2	0.2	0.2	0.2	0.2	1.2	2.1	24	6.9	0.0	1.8	0	0
12	2.0	1.8	2.1	3.7	3.1	2.1	2.7	3.2	4.2	10.9	5.7	5.0	6.4	5.2	5.4	2.7	0.8	0.5	0.8	2.8	4.5	2.5	1.9	3.4	24	10.9	0.5	3.5	0	0
13	3.7	3.9	3.9	2.4	2.1	1.3	0.9	1.2	2.2	2.8	1.3	0.8	0.2	1.0	1.5	3.9	3.8	3.1	2.1	1.0	1.0	3.0	1.4	1.0	24	3.9	0.2	2.1	0	0
14	2.4	1.6	2.7	3.2	3.5	3.4	3.7	4.5	4.3	4.3	4.7	5.6	4.3	3.3	4.2	3.9	3.7	2.3	1.1	2.3	2.2	2.6	2.6	2.4	24	5.6	1.1	3.3	0	0
15	2.8	2.6	3.4	2.9	2.4	2.1	1.7	2.0	1.6	1.7	2.4	3.2	3.8	2.7	3.1	2.9	3.1	3.1	3.9	2.6	1.9	1.5	14.0	9.2	24	14.0	1.5	3.4	0	0
16	25.4	3.4	2.8	8.7	8.2	4.1	4.7	7.6	5.9	5.1	3.7	3.1	3.2	4.3	3.4	3.0	3.0	4.7	3.0	2.8	2.3	1.8	2.1	1.8	24	25.4	1.8	4.9	0	0
17	0.9	0.9	1.2	1.7	2.2	0.9	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.6	0.9	0.7	0.8	0.8	24	2.2	0.2	0.6	0	0
18	0.8	0.8	0.7	1.2	1.2	0.7	0.3	0.3	0.3	0.4	0.2	0.1	0.5	0.3	0.3	0.2	0.3	0.2	0.2	0.0	0.2	0.0	0.0	0.1	24	1.2	0.0	0.4	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	1.1	3.2	2.5	4.1	3.2	3.0	2.5	2.7	1.2	1.3	24	4.1	0.0	1.0	0	0
20	1.9	18.5	21.5	25.8	4.9	1.6	13.0	19.2	14.9	27.9	56.2	1.6	0.9	0.6	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	56.2	0.0	8.7	0	0
21	0.0	0.8	1.7	0.6	0.2	0.2	0.3	0.3	0.7	0.9	1.6	1.2	1.1	0.4	0.2	0.2	0.1	0.5	1.0	1.1	0.4	0.7	0.2	0.2	24	1.7	0.0	0.6	0	0
22	0.9	0.9	0.9	0.9	0.9	1.0	2.4	2.4	1.8	1.2	1.9	1.7	1.2	1.4	1.5	1.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	2.4	0.0	0.9	0	0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	24	0.8	0.0	0.0	0	0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.1	1.0	1.5	1.9	3.9	3.7	3.0	1.4	1.7	0.9	0.0	0.0	24	3.9	0.0	0.8	0	0
26	0.2	0.6	0.2	0.0	0.2	0.7	0.2	0.6	1.0	C	M	M	M	M	M	M	M	M	M	M	M	M	M	M	9	1.0	0.0		0	0
27	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		0	0
28	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		0	0
29	M	M	M	M	M	M	M	M	M	M	M	M	M	M	C	C	C	C	9.1	3.3	0.9	0.0	4.1	8.3	6	9.1	0.0		0	0
30	5.2	3.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	5.2	0.0	0.4	0	0
31																									0	0.0	0.0		0	0
Count	27	27	27	27	27	27	27	27	27	26	26	26	26	26	26	26	26	26	27	27	27	27	27	27	639	27	26	27		
Maximum	25.4	18.5	21.5	25.8	17.6	14.9	13.0	19.2	14.9	68.1	56.2	5.6	6.4	5.9	8.6	7.5	4.7	5.8	9.1	3.4	7.5	14.9	14.0	12.0	24	68.1	3.4	16.7		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0			
Average	2.5	2.0	2.1	2.5	2.0	1.7	1.8	2.7	2.8	6.0	4.5	1.8	1.5	1.5	1.5	1.4	1.3	1.4	1.5	1.1	1.2	1.4	1.6	1.8	21	9	0	2.1		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100	Maximum
													68.1
													8.7
Data	0.0	0.0	0.2	0.3	0.8	1.2	2.1	3.0	4.5	7.5	18.9	68.1	2.1

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

SO2 - COURTICE
December 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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.5	0.0	0.0	0	0
2	3.4	5.7	3.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	5.7	0.0	0.5	0	0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	7.1	2.9	0.0	0.0	0.0	24	7.1	0.0	0.5	0	0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	12.1	12.9	17.0	16.4	23.5	66.0	41.1	0.0	4.9	34.6	2.0	0.0	68.4	86.7	157.2	24	157.2	0.0	22.6	0	0
5	112.3	88.7	44.8	12.0	17.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	112.3	0.0	11.5	0	0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
12	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.7	0.0	0.2	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	4.1	3.8	24	4.1	0.0	0.5	0	0
14	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.0	0.0	0.1	0	0
15	0.0	0.0	0.3	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	3.7	0.0	0.2	0	0
16	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	1.2	0.0	0.0	0.0	0.0	1.6	1.2	24	2.1	0.0	0.3	0	0
17	0.5	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	C	C	C	4.9	4.9	14.1	18.9	12.2	4.4	8.6	5.1	3.3	7.4	21	18.9	0.0	4.6	0	0
18	8.0	7.9	7.0	5.7	8.0	8.6	6.6	3.1	3.7	3.4	3.7	3.5	2.8	3.0	2.1	1.1	0.5	0.6	0.9	1.0	1.3	3.3	3.0	3.1	24	8.6	0.5	3.8	0	0
19	4.5	2.6	1.8	2.8	5.1	6.3	7.0	10.7	10.2	11.0	12.9	10.8	10.7	8.2	7.2	7.3	8.3	7.4	15.6	15.1	6.6	8.8	6.5	7.9	24	15.6	1.8	8.1	0	0
20	10.5	5.2	3.8	3.3	2.1	2.6	3.7	3.7	6.6	12.2	C	13.8	9.6	7.6	4.4	2.3	1.5	1.5	1.6	2.5	0.6	1.0	1.7	1.4	23	13.8	0.6	4.5	0	0
21	1.6	2.2	5.5	3.1	3.9	1.4	2.0	0.3	1.2	1.3	0.0	0.0	0.6	0.3	3.4	1.1	0.0	6.7	1.0	0.4	3.0	3.6	1.5	0.0	24	6.7	0.0	1.8	0	0
22	0.5	0.3	0.6	1.1	0.2	3.5	2.4	1.3	0.4	2.2	6.6	2.7	0.2	1.3	2.6	3.7	4.9	0.0	7.2	3.2	0.0	0.0	0.2	0.4	24	7.2	0.0	1.9	0	0
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4	0.2	0.5	0.5	0.1	0.0	0.0	24	0.5	0.0	0.1	0	0
24	0.9	4.6	6.7	9.5	14.1	6.5	4.5	3.8	3.2	3.0	4.5	2.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	14.1	0.0	2.7	0	0
25	0.0	0.0	6.3	4.4	2.0	0.0	0.0	0.0	30.3	9.1	4.2	2.8	3.6	1.9	0.5	0.4	0.8	0.4	0.4	0.4	0.8	0.9	0.6	1.0	24	30.3	0.0	2.9	0	0
26	1.7	1.9	2.1	3.5	7.6	8.8	28.6	3.5	1.9	1.4	1.9	3.1	3.1	3.0	2.6	1.1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	28.6	0.0	3.2	0	0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.6	3.1	4.3	4.3	3.6	1.6	0.7	0.6	0.0	0.0	0.0	0.0	0.9	4.6	3.0	4.9	1.9	24	4.9	0.0	1.5	0	0
28	1.5	6.2	1.7	2.7	5.6	2.7	1.8	2.5	2.3	1.4	1.3	1.1	1.4	1.7	2.1	0.7	0.0	0.0	0.0	6.9	9.7	2.7	4.5	14.7	24	14.7	0.0	3.1	0	0
29	20.5	27.0	12.2	29.5	6.1	3.7	44.4	14.1	18.9	12.2	9.2	6.0	12.0	16.7	14.8	8.5	5.9	4.4	5.0	3.0	0.0	1.2	4.4	6.1	24	44.4	0.0	11.9	0	0
30	5.8	4.5	2.5	1.3	0.3	0.0	0.0	0.0	0.0	0.3	2.4	5.5	5.1	4.1	2.8	2.8	3.7	2.4	3.1	16.1	24.3	21.7	23.1	6.6	24	24.3	0.0	5.8	0	0
31	5.1	13.5	3.9	17.6	10.9	18.2	13.8	25.5	6.5	4.3	2.2	3.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	25.5	0.0	5.2	0	0
Count	31	31	31	31	31	31	31	31	31	31	30	30	30	30	31	31	31	31	31	31	31	31	31	31	740	31	30	31		
Maximum	112.3	88.7	44.8	29.5	17.9	18.2	44.4	25.5	30.3	12.2	12.9	17.0	16.4	23.5	66.0	41.1	14.1	18.9	34.6	16.1	24.3	68.4	86.7	157.2	24	157.2	12.2	42.6		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21	0.0	0.0	0.0		
Average	5.8	5.6	3.3	3.3	2.7	2.0	3.9	2.3	2.9	2.5	2.5	2.5	2.3	2.4	3.7	2.5	1.3	1.6	2.7	2.0	2.0	4.0	4.7	6.9	24	18	0	3.2		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100	Maximum
													157.2
													22.6
Data	0.0	0.0	0.0	0.0	0.0	0.4	1.9	3.7	7.5	13.8	43.2	157.2	3.2

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

SO2 - RUNDLE
October 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	1.9	1.5	0.8	0.6	0.6	0.6	0.9	0.8	1.8	2.3	2.0	2.4	4.4	5.8	3.6	3.5	2.3	1.6	1.1	1.2	0.7	1.0	2.0	2.0	24	5.8	0.6	1.9	0	0
2	1.5	1.2	1.3	1.9	4.0	4.0	3.3	3.1	2.6	1.7	1.1	0.5	0.5	0.6	0.9	1.1	0.8	0.4	0.5	0.5	0.6	0.7	0.5	0.7	24	4.0	0.4	1.4	0	0
3	0.6	0.5	0.5	0.6	0.5	0.4	0.8	1.2	0.8	2.7	6.0	7.2	3.1	6.3	2.6	2.3	1.6	1.9	1.3	1.4	1.4	0.7	0.6	0.6	24	7.2	0.4	1.9	0	0
4	0.8	0.6	0.5	0.7	0.7	0.8	0.5	0.6	0.5	0.8	1.3	1.5	1.3	1.0	0.6	0.7	0.6	0.5	0.5	0.6	0.5	0.6	0.5	0.5	24	1.5	0.5	0.7	0	0
5	0.5	0.7	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	1.0	0.6	0.9	1.4	1.7	0.7	0.7	0.6	0.6	0.6	24	1.7	0.5	0.7	0	0
6	0.8	0.6	1.2	0.6	0.8	0.6	0.5	0.7	0.6	0.6	0.7	0.8	0.5	0.8	0.5	0.5	0.6	0.7	0.7	0.6	0.6	1.1	2.3	1.1	24	2.3	0.5	0.8	0	0
7	0.9	0.6	0.7	1.5	1.3	1.0	0.7	1.1	0.5	0.6	1.8	1.8	1.5	1.2	1.2	1.2	1.6	1.4	0.6	0.5	0.6	0.5	0.4	0.5	24	1.8	0.4	1.0	0	0
8	0.6	0.5	0.4	0.3	0.6	0.4	0.3	0.5	0.5	0.5	0.2	0.2	0.4	0.5	0.4	0.5	0.4	0.4	0.5	0.5	0.1	0.4	0.1	0.1	24	0.6	0.1	0.4	0	0
9	0.1	0.0	0.0	0.0	0.0	0.4	0.5	1.1	1.0	4.8	5.4	8.1	1.3	0.6	6.6	2.6	0.5	0.4	0.3	0.0	0.2	0.1	0.0	0.0	24	8.1	0.0	1.4	0	0
10	0.1	0.1	0.1	0.0	0.0	0.3	0.9	0.4	0.7	0.7	0.5	0.5	1.4	1.6	1.4	2.8	2.8	1.2	0.8	0.5	0.5	0.6	0.5	0.6	24	2.8	0.0	0.8	0	0
11	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.6	0.6	0.9	0.5	0.5	1.1	0.6	0.6	1.0	0.7	0.6	0.7	0.5	0.5	0.5	0.5	0.5	24	1.1	0.4	0.6	0	0
12	0.5	0.5	0.4	0.4	0.5	0.5	0.7	1.2	2.1	1.5	1.2	0.8	0.7	0.7	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.6	24	2.1	0.4	0.7	0	0
13	0.5	0.5	0.5	0.4	0.6	0.9	0.5	0.6	0.7	0.7	1.0	8.4	1.6	1.3	0.9	0.7	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	24	8.4	0.4	1.0	0	0
14	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.9	1.0	0.5	0.5	0.7	0.8	0.5	0.8	1.1	0.6	0.6	0.4	0.5	0.3	0.0	24	1.1	0.0	0.4	0	0
15	0.0	0.1	0.2	0.5	0.0	0.7	0.3	0.4	0.5	0.7	1.2	11.1	12.9	3.9	2.1	1.6	0.8	0.5	0.5	0.7	1.9	3.3	2.7	2.8	24	12.9	0.0	2.1	0	0
16	1.4	1.2	0.8	1.9	1.9	1.7	1.5	1.3	1.4	1.3	1.2	1.1	1.5	1.3	1.1	1.1	1.0	0.7	0.6	0.7	0.5	0.5	0.5	0.5	24	1.9	0.5	1.1	0	0
17	1.4	1.2	1.0	1.1	1.2	1.1	1.1	1.4	1.9	1.4	1.4	1.8	1.9	2.4	1.9	1.2	1.2	1.2	1.1	1.2	1.1	1.1	1.2	1.2	24	2.4	1.0	1.4	0	0
18	0.8	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.8	1.0	0.8	0.5	0.6	0.5	1.2	1.2	1.4	1.3	1.2	0.9	0.5	0.5	1.0	0.6	24	1.4	0.5	0.8	0	0
19	0.6	0.6	0.5	0.6	0.6	0.5	0.6	1.1	1.4	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.6	0.6	0.6	0.5	0.5	0.5	24	1.4	0.5	0.9	0	0
20	0.5	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.7	1.2	1.3	1.2	1.1	1.4	2.5	2.6	1.1	0.5	0.5	0.5	0.5	0.8	0.6	24	2.6	0.5	0.9	0	0
21	0.5	0.6	0.8	3.2	1.3	1.1	1.2	1.2	1.4	1.4	1.9	2.0	2.0	2.0	2.5	2.0	2.5	3.1	0.7	0.7	0.6	0.5	0.7	0.6	24	3.2	0.5	1.4	0	0
22	0.8	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	1.1	0.8	0.7	0.6	0.6	0.8	1.0	1.1	0.8	0.9	1.0	0.9	0.6	0.6	1.2	24	1.2	0.6	0.8	0	0
23	0.6	0.5	0.6	0.6	0.6	0.7	1.0	0.9	1.0	0.7	0.7	1.1	0.6	0.8	0.7	0.6	0.6	0.2	0.3	0.7	0.6	0.6	0.6	1.0	24	1.1	0.2	0.7	0	0
24	0.6	0.6	0.6	0.6	0.6	0.6	1.3	2.1	1.3	0.8	0.6	0.5	0.6	C	C	1.4	1.1	0.5	0.6	0.5	0.7	0.6	0.5	0.5	22	2.1	0.5	0.8	0	0
25	0.2	0.1	0.3	0.4	0.5	0.5	0.5	1.5	9.0	10.2	5.8	2.2	1.4	0.6	0.6	0.5	0.4	0.3	0.4	0.3	0.4	0.7	0.6	2.5	24	10.2	0.1	1.7	0	0
26	1.9	1.9	1.1	1.8	2.4	0.9	0.6	0.6	0.6	1.2	0.6	0.8	0.8	1.0	0.8	0.7	0.7	1.1	2.3	3.2	2.3	1.2	0.9	0.6	24	3.2	0.6	1.2	0	0
27	0.6	0.6	0.5	0.6	0.6	0.9	0.6	0.5	0.6	0.6	0.6	0.7	0.7	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.5	0.8	1.5	1.0	24	1.5	0.4	0.6	0	0
28	0.8	1.2	2.2	2.3	1.6	1.0	0.5	0.7	0.8	0.3	0.0	0.0	0.0	0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	2.3	0.0	0.5	0	0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	4.0	14.2	4.7	1.7	0.4	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.3	24	14.2	0.0	1.1	0	0
30	0.1	0.2	0.3	0.5	0.5	0.5	1.0	1.2	1.9	2.0	5.1	4.8	2.9	2.2	3.5	4.9	2.8	2.2	1.4	1.7	1.3	0.6	0.6	0.6	24	5.1	0.1	1.8	0	0
31	0.6	0.6	0.8	0.7	0.6	0.9	1.6	2.0	3.4	2.0	1.1	1.2	1.3	1.4	1.3	1.3	1.2	1.3	0.8	1.0	1.4	1.2	1.2	1.2	24	3.4	0.6	1.2	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	742	31	30	31		
Maximum	1.9	1.9	2.2	3.2	4.0	4.0	3.3	3.1	9.0	10.2	6.0	11.1	14.2	6.3	6.6	4.9	2.8	3.1	2.3	3.2	2.3	3.3	2.7	2.8	24	14.2	1.9	4.8		
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	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22	0.6	0.0	0.0		
Average	0.7	0.6	0.6	0.8	0.8	0.8	0.8	0.9	1.3	1.5	1.5	2.2	2.0	1.5	1.4	1.3	1.1	0.9	0.7	0.7	0.7	0.7	0.8	0.8	24	4	0	1.0		

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	0.3	0.5	0.5	0.6	0.6	0.8	1.1	1.3	2.0	2.8	6.9	14.2

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					14.2
Day					2.1
Month					1.0

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

SO2 - RUNDLE
November 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	1.0	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.6	1.4	1.6	1.3	1.3	1.9	1.2	1.2	1.0	1.2	0.9	0.6	1.2	1.2	1.3	1.5	24	1.9	0.6	1.2	0	0
2	0.7	0.6	1.3	1.3	1.4	1.5	1.3	1.4	1.2	0.6	0.5	0.5	0.5	0.6	0.5	0.6	0.3	0.4	0.0	0.0	0.0	0.1	0.0	0.1	24	1.5	0.0	0.6	0	0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.2	0.0	0.0	0	0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	4.8	17.8	16.3	1.5	0.6	0.4	0.0	0.0	0.5	24	17.8	0.0	1.8	0	0
5	1.2	0.5	0.3	1.0	1.6	1.9	2.1	2.1	2.8	3.7	3.9	4.2	4.8	5.8	4.2	3.0	1.9	1.9	2.4	2.6	0.9	1.0	2.0	2.5	24	5.8	0.3	2.4	0	0
6	3.6	3.1	1.7	1.1	1.2	1.2	1.7	2.5	3.6	4.6	4.1	4.0	2.9	2.8	2.1	1.5	1.1	1.0	0.6	0.6	0.7	0.6	0.6	1.3	24	4.6	0.6	2.0	0	0
7	1.1	0.5	0.5	0.4	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.4	0.2	0.5	0.3	0.2	0.1	0.0	0.1	0.2	0.2	0.2	0.1	24	1.1	0.0	0.3	0	0
8	0.3	0.0	0.1	0.0	0.1	0.1	0.0	0.3	0.6	0.3	0.1	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	24	0.6	0.0	0.1	0	0
9	0.0	0.0	0.5	0.7	0.6	0.3	0.1	0.3	1.7	1.4	2.0	1.3	0.9	0.9	1.2	1.7	2.6	2.3	2.0	2.3	1.5	1.5	0.9	0.6	24	2.6	0.0	1.1	0	0
10	0.6	0.5	0.6	0.6	0.6	0.6	0.5	0.4	0.5	0.6	0.5	0.5	0.9	0.8	0.6	0.6	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	24	0.9	0.0	0.4	0	0
11	0.0	0.0	0.1	0.0	0.3	2.5	1.7	3.6	6.1	3.5	3.4	4.3	2.6	1.5	1.2	1.1	0.6	0.4	0.4	0.4	0.1	0.0	1.3	1.9	24	6.1	0.0	1.5	0	0
12	1.7	1.4	2.1	3.0	3.4	2.1	2.4	3.0	4.6	12.2	5.1	4.7	5.6	4.0	4.9	2.5	0.8	0.6	0.6	3.6	3.9	2.4	1.4	2.8	24	12.2	0.6	3.3	0	0
13	3.2	3.4	1.8	1.5	0.9	0.6	0.6	0.9	1.6	1.8	1.2	1.1	0.7	1.0	1.9	4.0	4.0	3.5	2.8	1.4	1.3	2.2	1.5	1.3	24	4.0	0.6	1.8	0	0
14	2.2	2.3	3.0	3.4	3.6	3.6	3.5	4.0	4.4	4.7	4.8	5.9	5.1	4.4	4.8	4.4	4.2	2.9	1.9	2.9	3.8	3.1	3.4	3.2	24	5.9	1.9	3.7	0	0
15	3.2	2.9	3.6	3.4	3.0	2.5	2.3	2.8	2.7	3.0	4.1	5.9	10.9	7.7	4.3	3.9	4.0	4.6	5.2	3.3	2.9	2.3	0.7	0.6	24	10.9	0.6	3.7	0	0
16	0.5	0.7	0.6	0.7	0.5	0.6	0.6	0.6	1.1	3.0	5.0	4.9	5.1	4.9	3.3	2.8	2.9	5.3	3.5	4.6	8.6	6.0	2.9	2.9	24	8.6	0.5	3.0	0	0
17	2.7	2.1	9.3	5.4	1.3	1.0	0.8	0.6	0.9	0.6	0.7	0.6	0.6	1.2	0.7	1.2	0.9	0.8	0.7	1.3	1.4	1.2	1.3	0.9	24	9.3	0.6	1.6	0	0
18	1.1	1.0	0.9	1.2	1.4	1.1	0.7	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.0	0.6	0.4	0.1	0.1	24	1.4	0.0	0.7	0	0
19	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	1.2	2.9	2.6	4.0	3.5	3.4	2.4	0.4	0.0	0.0	24	4.0	0.0	0.9	0	0
20	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.9	0.2	0.1	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9	2.7	24	8.9	0.0	0.7	0	0
21	0.9	0.6	1.6	0.8	0.5	0.7	0.5	0.6	0.9	1.3	2.2	2.0	1.3	0.8	1.2	0.9	0.8	1.6	1.7	1.7	1.0	1.1	0.6	0.7	24	2.2	0.5	1.1	0	0
22	0.0	0.0	0.6	0.7	0.6	0.6	0.3	0.5	0.4	0.5	1.6	1.9	1.5	2.1	2.3	2.5	1.7	0.6	1.2	1.5	0.6	0.5	0.0	0.0	24	2.5	0.0	0.9	0	0
23	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.1	0.8	0.6	0.5	0.1	0.1	0.0	0.0	0.0	0.0	0.8	0.8	0.7	0.4	0.9	1.8	0.6	24	1.8	0.0	0.4	0	0
24	0.3	0.2	0.4	0.0	0.0	0.3	0.6	0.6	0.6	0.6	0.4	0.0	0.0	0.1	0.0	0.5	0.6	0.6	0.6	0.3	0.0	0.0	0.0	0.0	24	0.6	0.0	0.3	0	0
25	0.0	0.0	0.1	0.0	0.0	1.2	1.4	1.7	1.4	3.1	1.4	1.4	2.6	3.1	3.7	3.9	6.5	6.7	6.1	4.1	3.9	3.3	2.0	2.1	24	6.7	0.0	2.5	0	0
26	2.1	2.8	2.5	3.3	2.8	3.0	2.9	2.4	2.8	4.3	3.9	C	C	C	12.0	20.4	1.8	1.4	1.2	0.9	0.7	0.6	0.5	0.4	21	20.4	0.4	3.5	0	0
27	0.5	0.9	0.6	0.4	0.0	0.3	0.5	0.5	0.7	0.4	0.5	0.4	0.4	0.8	1.1	0.9	0.4	0.2	0.4	0.0	0.1	0.0	0.0	0.0	24	1.1	0.0	0.4	0	0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	3.1	2.1	1.4	1.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	24	3.1	0.0	0.4	0	0
29	0.3	0.5	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.9	0.5	0.7	1.1	1.1	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.1	0.0	0.3	0	0
30	0.0	0.0	0.0	0.0	0.5	0.8	0.5	0.3	0.0	0.0	0.6	0.8	0.5	0.9	1.2	1.3	1.8	2.0	2.0	1.8	2.4	2.7	3.3	3.5	24	3.5	0.0	1.1	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	30	30	30	29	29	29	30	30	30	30	30	30	30	30	30	30	717	30	29	30		
Maximum	3.6	3.4	9.3	5.4	3.6	3.6	3.5	4.0	6.1	12.2	5.1	5.9	10.9	7.7	12.0	20.4	17.8	16.3	6.1	4.6	8.6	6.0	8.9	3.5	24	20.4	3.4	7.9		
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	0	0.0	0.0			
Average	0.9	0.8	1.1	1.0	0.9	0.9	0.9	1.1	1.4	1.8	1.8	1.7	1.8	1.8	1.9	2.3	2.0	2.0	1.3	1.3	1.3	1.1	1.2	1.0	23	5	0	1.4		

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	0.0	0.0	0.3	0.5	0.6	1.1	1.5	2.5	3.6	4.6	8.8	20.4

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					20.4
Day					3.7
Month					1.4

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

SO2 - RUNDLE
December 2013
(ug/m3)

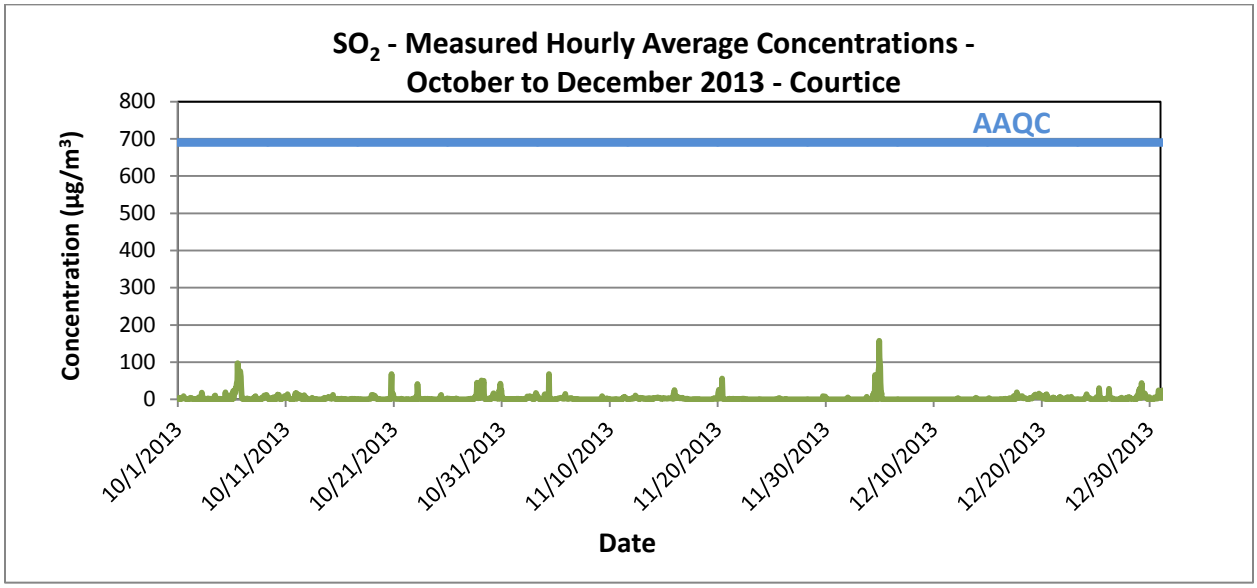
Day	Hour 0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>690	Days>275
1	4.2	4.1	3.0	1.8	0.6	0.4	0.4	0.5	1.1	2.5	3.6	3.2	2.1	2.0	2.0	2.1	2.2	2.0	2.1	2.4	2.8	2.5	1.5	0.9	24	4.2	0.4	2.1	0	0
2	0.5	0.4	0.4	0.5	0.4	0.4	0.5	1.6	1.9	0.9	0.5	0.5	0.7	1.0	0.6	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.5	24	1.9	0.4	0.6	0	0
3	0.4	0.5	0.5	0.4	0.5	0.5	0.3	0.5	0.4	0.8	1.0	1.2	1.9	1.8	1.4	1.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2	24	1.9	0.2	0.7	0	0
4	0.3	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.6	0.4	0.6	0.5	0.4	0.6	0.5	0.6	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.8	24	0.8	0.3	0.5	0	0
5	1.0	1.2	1.2	1.0	1.0	0.9	0.9	1.2	2.4	2.6	2.7	3.1	3.8	2.4	1.7	1.1	1.2	0.5	0.4	0.4	0.4	0.4	0.4	0.4	24	3.8	0.4	1.3	0	0
6	0.0	0.3	0.2	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.4	0.0	0.1	0	0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	2.0	24	11.4	0.0	0.7	0	0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	1.5	1.5	2.4	2.3	1.2	1.2	0.9	1.1	0.2	0.4	0.4	0.2	24	2.4	0.0	0.6	0	0
10	0.3	1.5	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.1	0.7	0.0	0.0	24	2.1	0.0	0.3	0	0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	1.2	0.9	0.4	24	1.2	0.0	0.2	0	0
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.7	0.0	0.1	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	3.8	2.1	0.5	0.7	2.2	2.8	1.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	24	3.8	0.0	0.6	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	0.1	1.0	M	M	M	M	M	M	M	M	M	M	14	1.0	0.0		0	0
18	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		0	0
19	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		0	0
20	M	M	M	M	M	M	M	M	C	C	0.3	0.5	0.1	0.1	0.1	0.2	0.0	0.0	0.1	0.2	0.2	0.1	0.1	0.1	14	0.5	0.0		0	0
21	0.1	0.0	0.0	0.1	0.1	0.2	0.2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	7	0.2	0.0		0	0
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0	0
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0.0	0.0	0.2	0.2	0.5	0.8	0.2	0.0	0.0	9	0.8	0.0		0	0
24	0.0	1.4	3.3	4.0	4.6	4.4	3.0	3.5	3.2	2.8	3.8	2.5	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	4.6	0.0	1.6	0	0
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	0.6	1.1	24	1.1	0.0	0.1	0	0
26	1.3	2.0	2.2	2.6	1.3	1.0	0.8	1.5	1.7	1.1	1.6	2.6	2.8	2.6	2.4	1.3	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	24	2.8	0.0	1.2	0	0
27	0.0	0.0	0.0	0.0	0.0	0.4	0.2	1.6	3.0	4.1	4.3	3.7	2.1	0.9	0.7	0.0	0.0	0.0	0.0	0.0	3.4	3.1	5.1	1.7	24	5.1	0.0	1.4	0	0
28	1.8	3.8	2.2	3.3	6.4	3.9	2.9	3.5	2.5	1.7	1.6	1.7	1.7	2.0	2.5	1.4	0.1	0.1	0.0	0.0	0.5	0.0	0.0	0.0	24	6.4	0.0	1.8	0	0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.3	4.1	3.8	12.5	18.2	14.7	9.2	5.7	3.4	3.5	2.0	0.1	0.6	4.2	5.1	24	18.2	0.0	3.7	0	0
30	5.8	4.0	2.9	1.4	0.5	0.0	0.0	0.0	0.1	0.5	2.2	5.6	6.6	5.1	3.2	3.0	3.4	1.6	1.3	1.8	1.5	0.8	0.5	0.0	24	6.6	0.0	2.2	0	0
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.9	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.9	0.0	0.1	0	0
Count	26	26	26	26	26	26	26	25	25	25	26	26	26	26	25	26	26	26	26	26	26	26	26	26	620	26	25	26		
Maximum	5.8	4.1	3.3	4.0	6.4	4.4	3.0	3.5	3.2	4.1	4.3	5.6	12.5	18.2	14.7	9.2	5.7	3.4	3.5	2.4	3.4	3.1	11.4	5.1	24	18.2	2.4	6.0		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0			
Average	0.6	0.8	0.7	0.6	0.6	0.5	0.4	0.6	0.7	0.8	1.2	1.3	1.5	1.6	1.5	1.0	0.7	0.4	0.4	0.4	0.5	0.5	1.0	0.5	20	3	0	0.8		

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	0.0	0.0	0.0	0.0	0.0	0.4	0.5	1.3	2.5	3.5	6.3	18.2

	Regs\cceptable	Desirable	Violations	Maximum
Hour				18.2
Day				3.7
Month				0.8

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

Figure A-1 Time History Plots of Measured Hourly Average and 24-Hour Average SO_2 Concentrations– Courtice (WPCP) Station



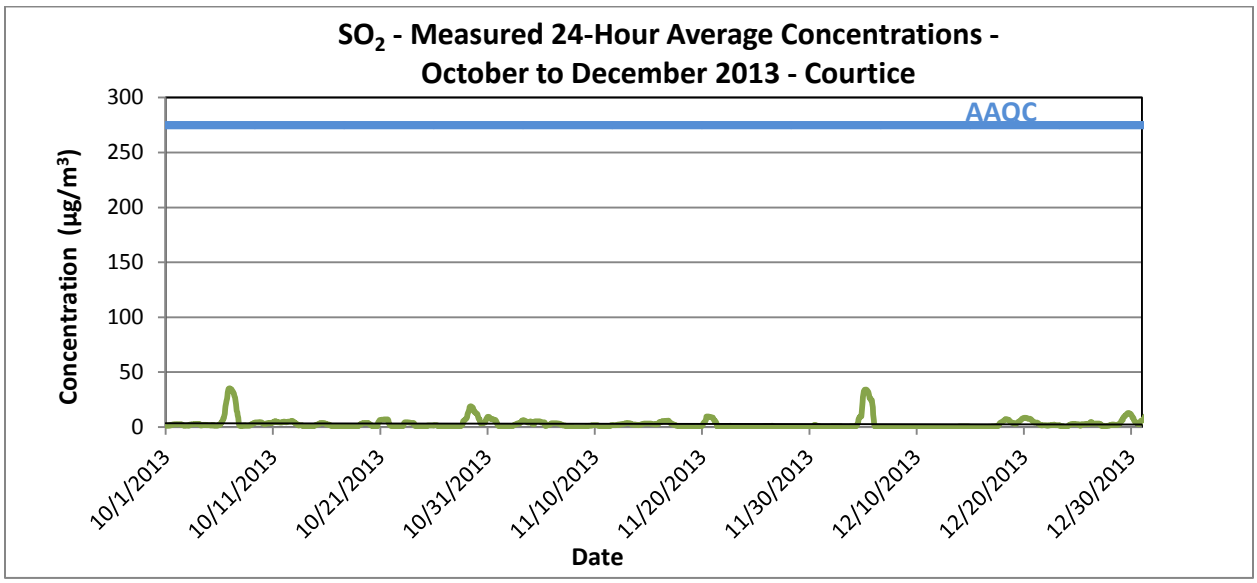
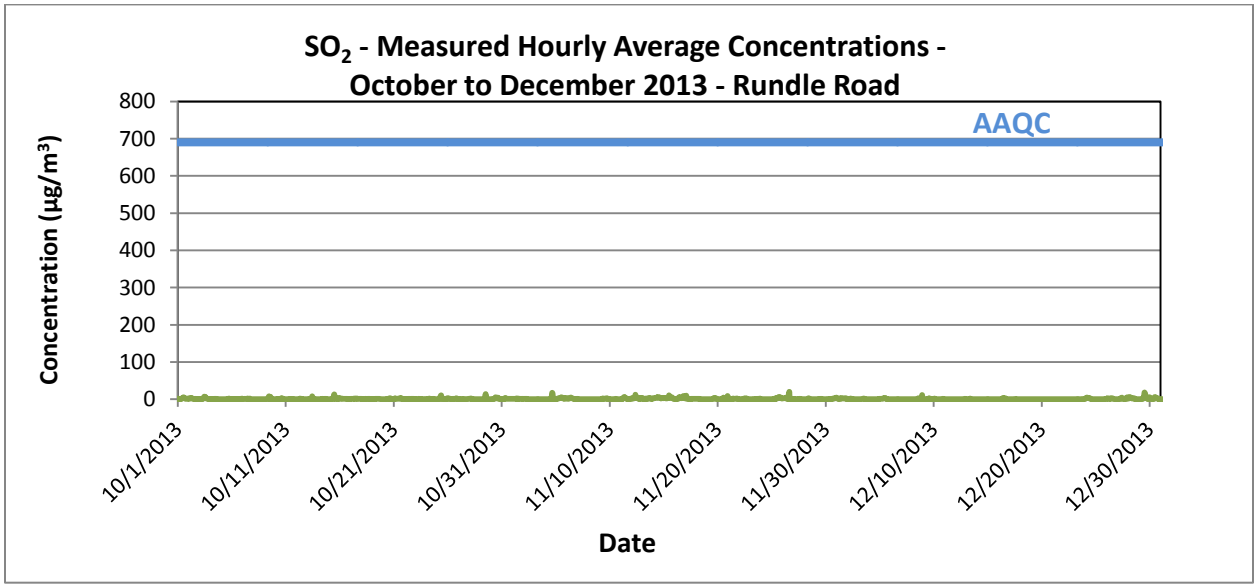
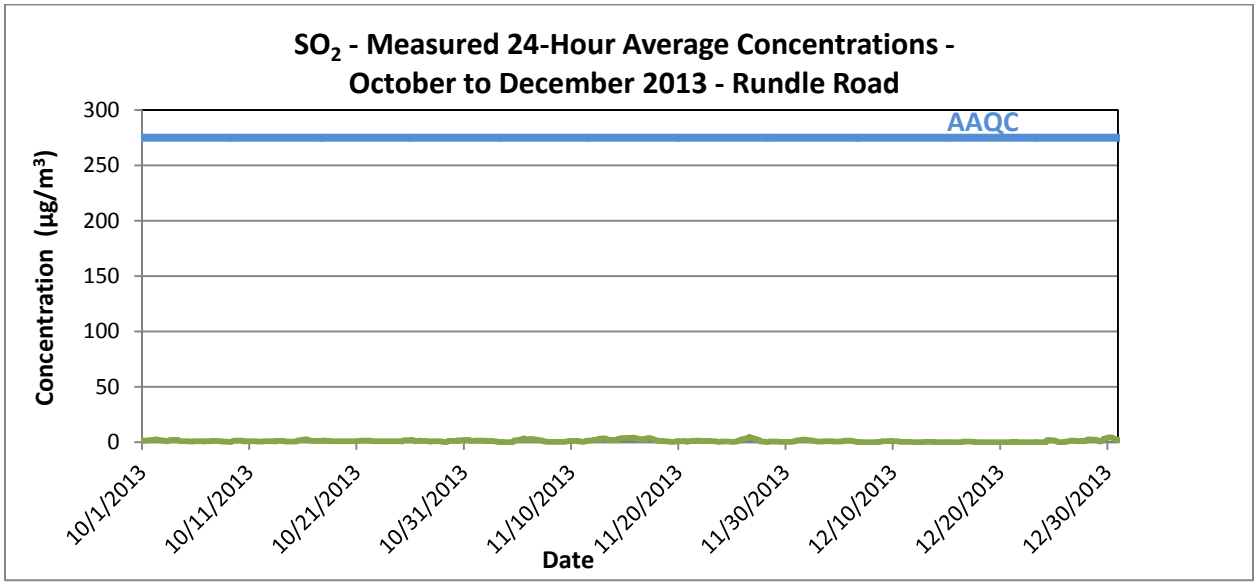


Figure A-2 Time History Plots of Measured Hourly Average and 24-Hour Average SO_2 Concentrations– Rundle Road Station





Appendix B
NO_2 Data Summaries and Time History Plots

NO_2 - COURTICE 2013

October (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>400	Days>200
1	7.3	16.1	39.1	29.8	26.2	23.0	21.8	19.0	17.6	19.8	7.2	8.4	8.8	7.1	4.7	5.2	3.0	3.8	2.1	1.4	1.9	2.1	2.3	3.7	24	39.1	1.4	11.7	0	0
2	5.3	8.7	5.1	5.6	8.0	8.2	10.3	34.7	35.9	19.5	7.1	3.2	6.2	7.1	3.6	2.5	5.0	12.4	37.9	27.7	14.9	26.8	57.5	43.8	24	57.5	2.5	16.6	0	0
3	19.6	9.7	19.2	23.2	32.3	41.5	54.0	45.1	22.8	18.1	11.3	7.1	3.7	2.9	2.2	1.7	1.2	5.0	4.0	24.2	53.0	32.4	35.3	31.8	24	54.0	1.2	20.9	0	0
4	20.1	8.2	15.1	19.5	26.0	23.1	25.1	28.9	20.6	18.3	17.1	18.2	12.3	13.0	6.3	8.2	6.6	14.7	17.7	9.5	16.2	18.4	18.6	14.5	24	28.9	6.3	16.5	0	0
5	7.4	7.4	6.4	8.0	6.4	5.6	13.3	11.7	11.7	5.7	8.8	5.1	2.0	1.5	1.2	2.1	1.5	3.2	3.2	9.9	8.0	13.7	9.0	5.1	24	13.7	1.2	6.6	0	0
6	3.3	10.0	4.9	17.2	4.8	11.4	15.4	12.5	14.0	18.8	14.0	20.0	23.0	22.0	21.6	22.0	17.7	31.1	28.7	34.9	20.4	18.4	4.6	2.1	24	34.9	2.1	16.4	0	0
7	2.5	2.9	3.0	4.5	3.7	3.5	3.2	4.6	17.4	15.3	7.5	3.0	2.9	3.9	4.4	5.1	7.0	9.5	5.5	5.7	5.6	12.2	18.8	17.6	24	18.8	2.5	7.0	0	0
8	28.9	25.8	25.1	26.9	27.6	29.7	27.1	28.0	16.3	13.9	4.1	6.4	5.2	8.9	4.6	6.3	10.8	13.4	45.3	52.6	47.3	43.9	40.5	40.3	24	52.6	4.1	24.1	0	0
9	34.9	33.0	29.6	29.1	38.6	36.4	44.7	40.2	26.6	8.8	3.4	1.5	2.1	2.0	2.8	1.2	2.1	2.4	20.1	56.1	48.7	35.0	28.2	19.7	24	56.1	1.2	22.8	0	0
10	24.2	21.9	14.4	27.5	32.8	39.2	49.2	39.4	21.3	20.1	5.1	3.5	3.3	2.8	4.4	7.0	16.8	14.3	57.7	55.6	47.4	42.4	41.8	35.5	24	57.7	2.8	26.1	0	0
11	33.6	29.6	21.6	29.7	32.8	24.5	44.9	46.0	36.2	24.1	12.7	8.9	3.2	1.6	1.0	1.1	1.0	5.0	60.3	51.4	49.1	42.2	49.8	42.0	24	60.3	1.0	27.2	0	0
12	37.2	35.2	28.6	32.1	25.4	37.7	36.0	36.6	20.0	15.7	4.4	4.5	4.8	4.1	2.8	4.2	3.7	18.6	16.7	20.3	15.6	13.9	5.7	4.9	24	37.7	2.8	17.9	0	0
13	14.2	4.9	4.8	12.5	2.6	2.2	1.9	2.4	4.1	2.5	3.0	14.0	12.2	9.9	13.5	2.8	3.7	7.0	15.7	14.5	17.6	4.4	2.4	2.4	24	17.6	1.9	7.3	0	0
14	1.1	1.3	1.6	3.2	7.1	11.3	23.0	24.9	7.5	1.4	0.6	1.0	1.7	1.1	0.9	2.0	1.5	2.4	30.9	47.9	38.8	26.5	8.9	21.7	24	47.9	0.6	11.2	0	0
15	12.6	9.0	13.7	20.4	22.2	23.4	30.0	33.0	23.5	11.8	4.5	3.0	2.3	2.6	1.2	1.9	16.4	4.6	5.6	20.1	10.2	7.6	5.6	11.0	24	33.0	1.2	12.3	0	0
16	11.4	4.8	2.2	3.2	3.4	4.5	4.6	5.2	4.8	5.4	4.7	4.8	3.4	4.5	2.8	3.0	2.6	3.6	17.8	39.6	28.1	22.9	17.4	12.8	24	39.6	2.2	9.1	0	0
17	12.6	20.2	15.7	16.1	10.2	17.9	30.0	32.4	31.0	26.0	16.9	16.2	11.2	3.4	2.4	1.7	1.5	1.7	2.7	3.6	2.9	9.6	24.0	19.8	24	32.4	1.5	13.7	0	0
18	23.2	13.6	8.8	9.8	28.7	13.7	21.3	21.5	14.4	10.0	6.7	4.1	3.5	4.1	5.1	6.4	4.4	5.1	7.6	9.9	57.1	60.3	47.0	40.2	24	60.3	3.5	17.8	0	0
19	30.4	35.8	39.4	34.4	26.8	23.1	34.7	34.0	42.3	36.1	37.6	35.6	26.5	15.0	22.3	13.6	20.4	29.3	18.8	13.0	11.3	8.4	7.5	9.4	24	42.3	7.5	25.2	0	0
20	9.9	10.3	9.3	9.8	13.1	16.7	29.3	14.9	13.7	12.3	14.4	11.4	11.1	9.0	5.0	4.5	4.5	2.6	40.9	49.7	41.8	34.6	28.5	19.8	24	49.7	2.6	17.4	0	0
21	21.8	16.1	15.4	5.0	4.4	3.5	2.6	3.2	3.0	3.8	3.6	2.9	3.3	3.6	3.6	3.8	4.4	10.9	9.6	10.5	6.3	4.3	3.1	1.9	24	21.8	1.9	6.3	0	0
22	16.8	13.8	8.3	10.8	7.9	5.7	16.9	15.3	12.4	9.7	6.2	5.7	3.6	C	C	C	3.4	4.8	5.0	6.2	23.6	18.0	15.1	16.5	21	23.6	3.4	10.7	0	0
23	42.3	31.3	33.9	33.7	33.8	32.7	37.4	39.6	30.0	15.6	12.3	18.0	8.2	4.6	6.4	5.1	4.7	10.1	19.8	47.3	53.6	51.6	35.2	16.8	24	53.6	4.6	26.0	0	0
24	20.9	28.7	24.2	39.5	41.4	17.2	14.4	22.6	24.0	17.6	5.5	5.0	5.7	4.0	4.1	5.0	6.3	8.8	17.9	25.3	25.5	20.7	23.7	14.4	24	41.4	4.0	17.6	0	0
25	32.0	33.8	19.7	28.1	33.3	35.5	43.0	34.1	14.6	5.5	13.3	15.7	18.5	9.6	6.6	7.6	6.1	16.6	20.9	11.8	15.9	14.0	6.0	11.2	24	43.0	5.5	18.9	0	0
26	9.0	6.0	5.2	3.3	4.0	1.4	3.7	3.5	2.9	3.6	3.6	5.6	4.7	5.2	5.4	5.4	7.6	9.1	10.1	11.8	8.7	16.0	12.9	12.1	24	16.0	1.4	6.7	0	0
27	9.3	7.7	9.7	8.0	10.9	23.1	21.0	10.2	8.9	10.3	8.9	13.8	8.5	7.3	2.9	3.1	4.0	3.9	4.7	4.6	3.8	2.6	2.9	3.4	24	23.1	2.6	8.1	0	0
28	2.0	1.8	4.8	13.2	11.4	14.8	20.4	13.5	6.6	4.7	4.5	3.9	3.7	3.2	2.8	6.7	6.5	22.4	45.6	33.7	22.8	18.4	21.1	30.9	24	45.6	1.8	13.3	0	0
29	18.9	14.5	19.5	21.6	27.6	34.0	38.4	47.9	18.0	14.0	5.0	1.5	0.6	0.1	0.2	0.0	0.4	0.5	0.8	6.6	1.3	0.3	9.1	45.6	24	47.9	0.0	13.6	0	0
30	38.8	38.6	30.2	27.0	25.1	30.3	42.6	42.1	30.7	21.1	17.4	5.9	3.5	4.3	4.1	6.6	17.5	22.6	13.0	44.2	44.7	42.4	39.2	34.5	24	44.7	3.5	26.1	0	0
31	36.2	27.3	23.2	27.8	27.7	18.1	10.0	27.9	24.4	11.4	7.6	6.3	5.5	4.8	4.6	4.3	5.9	4.8	2.2	2.4	3.9	5.3	3.7	3.8	24	36.2	2.2	12.5	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	741	31	30	31		
Maximum	42.3	38.6	39.4	39.5	41.4	41.5	54.0	47.9	42.3	36.1	37.6	35.6	26.5	22.0	22.3	22.0	20.4	31.1	60.3	56.1	57.1	60.3	57.5	45.6	24	60.3	20.4	40.7		
Minimum	1.1	1.3	1.6	3.2	2.6	1.4	1.9	2.4	2.9	1.4	0.6	1.0	0.6	0.1	0.2	0.0	0.4	0.5	0.8	1.4	1.3	0.3	2.3	1.9	21	13.70339	0.0	1.3		
Average	19.0	17.0	16.2	18.7	19.6	19.8	24.8	25.0	18.6	13.6	9.0	8.5	6.9	5.8	5.1	5.0	6.4	9.8	19.0	24.3	24.1	21.6	20.2	19.0	24	40	3	15.7		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

																		Maximum
Percentiles	10		20		30		40		50		60		70		80		90		95		99		100	60.3
																								27.2
Data	2.7		3.9		5.1		7.7		11.4		15.7		20.4		27.7		36.2		42.4		53.8		60.3	15.7

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NO_2 - COURTICE
November 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>400	Days>200
1	2.9	2.7	2.4	2.2	2.2	2.1	2.2	3.4	4.1	4.7	6.1	6.0	5.7	8.7	7.2	6.7	6.6	7.9	7.5	7.9	9.1	10.5	11.1	8.4	24	11.1	2.1	5.8	0	0
2	5.6	5.2	4.7	7.6	12.5	11.2	13.0	13.1	16.4	4.8	2.7	4.3	2.4	2.3	6.0	2.8	2.4	4.2	5.1	2.6	7.8	3.5	3.1	7.1	24	16.4	2.3	6.3	0	0
3	24.3	16.3	3.1	2.2	2.1	2.7	5.1	7.6	1.1	1.1	0.4	0.3	0.0	0.0	0.3	0.3	8.6	24.3	47.1	36.3	42.7	37.4	16.1	13.6	24	47.1	0.0	12.2	0	0
4	14.2	15.8	5.6	9.4	12.9	21.0	14.1	28.8	31.5	36.2	10.2	0.7	0.2	0.9	0.0	0.0	0.0	0.0	0.1	1.6	1.9	2.0	2.4	2.8	24	36.2	0.0	8.8	0	0
5	4.1	4.4	2.8	3.3	4.5	5.0	4.6	5.4	5.0	5.7	7.1	8.3	9.3	8.7	6.7	9.2	7.8	12.5	10.5	7.9	8.1	15.9	11.4	8.9	24	15.9	2.8	7.4	0	0
6	8.0	7.5	8.7	4.6	3.7	4.2	4.2	5.4	6.9	7.5	7.9	8.0	8.4	10.6	7.0	6.2	5.8	4.9	4.3	3.6	2.9	2.8	2.9	4.2	24	10.6	2.8	5.9	0	0
7	5.7	3.8	3.2	2.4	4.3	12.9	8.5	13.5	13.4	4.4	3.0	6.7	5.2	5.3	5.9	9.9	6.4	12.4	20.6	14.8	11.1	16.2	17.1	11.6	24	20.6	2.4	9.1	0	0
8	11.8	11.3	21.8	29.4	14.4	19.0	38.3	43.3	27.9	16.1	13.8	2.7	4.1	4.1	4.0	5.5	14.2	18.9	18.2	28.1	19.0	16.4	37.2	33.5	24	43.3	2.7	18.9	0	0
9	45.6	26.0	26.3	26.2	45.6	48.1	46.5	41.0	8.5	4.1	4.5	3.4	3.3	3.5	3.4	3.9	5.8	7.9	6.0	5.4	4.6	4.5	7.0	6.1	24	48.1	3.3	16.1	0	0
10	5.3	5.4	3.3	3.2	4.1	4.5	5.7	7.3	6.3	5.4	4.6	3.0	1.3	2.4	2.0	3.4	5.1	4.8	6.1	5.8	4.9	4.9	5.0	5.8	24	7.3	1.3	4.6	0	0
11	8.0	9.5	12.0	10.9	13.4	7.3	5.3	8.0	9.0	11.8	10.3	11.3	10.6	6.8	10.1	20.0	7.9	4.4	4.6	6.9	7.8	3.7	4.2	3.0	24	20.0	3.0	8.6	0	0
12	3.9	3.1	2.5	5.5	6.7	6.9	11.7	11.6	8.0	4.3	3.1	2.4	2.6	3.2	6.7	6.4	6.6	11.6	7.7	13.3	9.1	9.4	15.4	23.9	24	23.9	2.4	7.7	0	0
13	51.1	54.5	53.6	40.1	49.2	50.9	58.2	56.0	58.0	47.7	27.3	17.8	6.4	5.7	5.7	8.3	10.3	9.6	8.3	8.5	8.0	7.6	5.6	5.2	24	58.2	5.2	27.2	0	0
14	8.6	10.2	10.2	10.3	10.8	9.6	9.8	11.2	13.2	11.9	12.7	11.1	9.8	8.5	8.2	10.2	11.8	10.3	9.0	9.7	10.2	10.3	9.4	7.4	24	13.2	7.4	10.2	0	0
15	7.2	7.4	7.1	6.6	6.4	5.2	4.2	5.1	5.5	6.7	10.1	9.6	10.4	10.1	9.4	11.2	11.9	11.4	10.9	8.6	7.6	7.4	10.8	38.8	24	38.8	4.2	9.6	0	0
16	51.7	28.4	15.1	11.1	29.1	31.6	32.7	34.2	39.0	23.8	13.4	9.5	10.0	11.7	13.8	13.1	20.8	12.2	10.3	15.8	6.6	6.4	6.2	7.8	24	51.7	6.2	18.9	0	0
17	3.6	3.2	5.2	6.8	11.9	14.0	4.5	5.6	3.5	10.2	4.9	4.8	6.5	7.2	2.7	2.7	2.9	2.8	2.6	3.2	4.2	2.2	2.2	1.8	24	14.0	1.8	5.0	0	0
18	1.3	1.3	2.3	4.1	5.1	4.3	3.4	5.4	5.3	3.4	4.4	5.6	6.8	8.4	6.4	6.9	7.3	7.5	7.9	6.4	5.1	3.9	3.1	4.5	24	8.4	1.3	5.0	0	0
19	7.0	3.7	4.9	2.2	2.2	6.2	4.9	9.2	10.7	5.9	5.2	3.7	3.5	3.6	3.6	6.7	10.9	15.2	19.7	33.0	68.1	61.8	45.9	35.4	24	68.1	2.2	15.5	0	0
20	24.0	23.2	21.7	21.4	21.8	29.6	25.7	32.4	31.4	33.6	28.2	3.1	2.6	2.9	7.3	4.8	6.2	4.4	2.8	4.9	3.1	3.4	2.6	2.4	24	33.6	2.4	14.3	0	0
21	3.2	4.4	6.6	6.1	5.2	4.0	3.6	4.1	6.8	7.7	9.5	10.6	11.5	9.8	8.0	9.0	10.0	9.9	8.6	9.0	10.2	8.8	7.4	5.3	24	11.5	3.2	7.5	0	0
22	7.5	6.2	6.7	5.0	5.6	7.2	10.3	24.5	20.2	17.9	15.7	20.3	10.5	27.2	38.0	37.3	29.9	11.1	6.3	4.4	3.8	4.9	3.5	3.5	24	38.0	3.5	13.6	0	0
23	7.6	6.1	7.5	10.3	20.3	23.6	12.7	3.1	5.0	4.7	9.4	2.7	2.6	1.6	1.5	1.5	2.7	3.3	4.9	3.7	4.8	2.1	1.4	1.8	24	23.6	1.4	6.0	0	0
24	2.9	1.2	1.3	1.4	1.3	2.9	4.5	2.3	1.2	0.8	2.8	0.9	0.9	1.3	2.7	3.3	5.5	12.5	12.2	13.4	24.2	31.0	22.9	26.8	24	31.0	0.8	7.5	0	0
25	28.9	25.2	43.0	53.8	48.3	26.0	4.5	3.9	4.2	5.7	3.2	3.6	3.5	5.1	6.8	8.5	10.5	9.9	8.8	6.9	7.0	15.2	11.9	8.7	24	53.8	3.2	14.7	0	0
26	7.9	9.1	9.6	13.4	16.2	19.7	17.5	23.1	C	C	C	16.0	11.2	10.6	8.7	7.6	6.0	7.7	5.8	3.6	4.4	4.5	4.2	37.3	21	37.3	3.6	11.6	0	0
27	50.6	36.6	17.5	10.6	18.8	26.6	32.6	40.0	29.7	12.6	7.6	6.1	5.6	4.9	6.1	6.1	6.5	6.3	5.3	5.7	6.3	4.0	4.0	3.4	24	50.6	3.4	14.7	0	0
28	4.0	5.3	6.7	15.8	11.1	33.5	43.3	42.6	36.3	21.0	14.5	11.3	11.7	19.5	30.8	27.0	24.3	44.7	43.5	40.6	31.5	28.4	32.5	35.5	24	44.7	4.0	25.6	0	0
29	28.7	16.5	11.6	14.4	14.2	17.4	34.8	44.3	22.5	25.8	8.8	4.2	5.8	5.4	5.0	6.6	28.7	63.6	69.8	65.0	59.3	54.1	46.1	30.7	24	69.8	4.2	28.5	0	0
30	21.0	48.1	24.5	22.3	1.0	1.4	0.8	0.2	0.4	0.5	0.6	1.4	2.0	2.4	2.6	3.4	4.5	5.6	5.6	5.6	7.6	8.0	9.0	9.5	24	48.1	0.2	7.8	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	29	29	29	30	30	30	30	30	30	30	30	30	30	30	30	30	717	30	29	30		
Maximum	51.7	54.5	53.6	53.8	49.2	50.9	58.2	56.0	58.0	47.7	28.2	20.3	11.7	27.2	38.0	37.3	29.9	63.6	69.8	65.0	68.1	61.8	46.1	38.8	24	69.8	11.7	47.5		
Minimum	1.3	1.2	1.3	1.4	1.0	1.4	0.8	0.2	0.4	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.6	1.9	2.0	1.4	1.8	0	0.0	0.0			
Average	15.2	13.4	11.7	12.1	13.5	15.3	15.6	17.9	14.9	11.9	8.7	6.6	5.8	6.7	7.6	8.3	9.6	12.1	12.7	12.7	13.4	13.0	12.1	13.2	23	32	3	11.8		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100	Maximum
													69.8
													28.5
Data	2.6	3.6	4.8	5.8	7.3	9.0	11.2	16.2	29.8	41.4	57.7	69.8	11.8

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NO_2 - COURTICE
December 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>400	Days>200
1	9.6	10.0	9.6	9.8	9.7	9.3	21.6	30.9	12.6	11.8	12.5	12.8	12.8	12.3	14.6	15.0	14.3	13.4	12.6	12.7	9.4	9.7	12.5	20.6	24	30.9	9.3	13.3	0	0
2	46.8	40.1	37.9	33.5	35.0	39.6	39.8	45.0	44.5	27.6	15.0	11.5	13.4	13.1	17.3	20.6	25.5	35.1	29.7	30.7	46.9	47.8	48.1	46.7	24	48.1	11.5	33.0	0	0
3	37.9	36.3	18.6	11.8	23.2	27.7	44.4	61.4	45.8	31.6	28.4	11.0	4.1	3.4	3.1	3.9	8.6	67.0	67.5	48.5	30.3	13.9	23.1	21.7	24	67.5	3.1	28.1	0	0
4	19.3	14.7	9.7	10.0	19.1	26.3	25.4	23.5	25.5	26.9	21.3	29.2	25.3	25.5	30.2	28.5	24.0	38.0	32.4	24.9	28.7	37.5	34.7	42.2	24	42.2	9.7	26.0	0	0
5	36.5	39.3	34.2	20.9	22.4	11.7	12.8	25.4	25.7	14.8	9.4	6.6	6.1	6.4	10.0	16.5	15.7	19.9	21.7	17.9	18.3	14.8	14.8	8.9	24	39.3	6.1	17.9	0	0
6	10.0	6.6	7.4	7.8	9.2	7.1	9.6	14.1	12.9	11.5	8.5	6.9	6.9	6.1	7.9	10.1	14.8	15.3	15.4	12.8	8.4	9.2	8.3	10.8	24	15.4	6.1	9.9	0	0
7	8.5	6.7	8.4	9.8	6.6	6.6	11.0	17.5	19.8	11.8	3.9	2.3	2.0	2.4	3.0	4.8	4.3	8.3	5.6	4.6	5.3	10.3	7.2	14.2	24	19.8	2.0	7.7	0	0
8	22.0	29.9	35.0	35.6	40.6	28.0	24.2	18.1	18.8	14.5	4.1	1.5	2.7	3.9	5.5	5.9	12.4	20.8	18.2	14.7	15.5	10.7	2.6	3.1	24	40.6	1.5	16.2	0	0
9	3.5	3.2	3.7	4.1	4.1	4.3	4.0	3.8	4.6	8.0	10.4	11.4	16.2	22.5	17.5	19.4	16.2	16.1	14.0	13.4	13.8	13.9	12.8	15.3	24	22.5	3.2	10.7	0	0
10	16.2	16.0	19.4	14.6	9.7	9.8	11.6	17.7	26.2	18.8	17.3	12.2	12.2	10.8	12.3	17.4	24.2	38.0	36.1	30.8	30.8	22.3	16.2	14.0	24	38.0	9.7	18.9	0	0
11	13.8	10.8	7.8	6.0	5.2	7.7	10.4	10.7	11.4	13.8	12.6	10.3	7.8	8.5	7.9	11.9	13.0	15.1	17.1	24.6	46.8	38.5	31.2	31.4	24	46.8	5.2	15.6	0	0
12	44.5	46.0	40.2	44.4	47.8	56.1	59.2	64.4	48.8	25.1	21.9	18.7	15.6	11.8	12.8	16.2	17.5	17.5	17.7	25.5	28.8	23.8	21.8	20.8	24	64.4	11.8	31.1	0	0
13	18.1	16.9	16.4	14.7	11.6	14.7	17.9	18.2	8.9	9.2	10.7	9.2	7.6	8.7	9.1	11.1	19.5	14.0	12.9	9.6	8.1	8.8	11.1	9.6	24	19.5	7.6	12.4	0	0
14	8.1	11.0	5.8	5.1	3.9	3.8	3.9	4.7	6.5	6.7	4.9	4.7	5.6	5.3	5.5	6.3	5.5	5.2	5.8	5.6	6.0	6.4	7.3	7.8	24	11.0	3.8	5.9	0	0
15	8.4	8.3	7.7	6.5	11.3	5.4	7.1	5.3	8.6	6.9	9.4	7.3	12.5	13.9	18.6	42.4	65.5	64.6	66.1	33.9	14.0	13.8	7.9	9.0	24	66.1	5.3	18.9	0	0
16	7.4	5.7	6.8	4.0	9.9	25.4	64.8	52.6	69.6	40.9	14.7	6.4	6.2	5.9	5.3	10.6	27.8	42.5	29.5	33.8	42.7	62.2	69.6	56.5	24	69.6	4.0	29.2	0	0
17	32.2	17.1	10.9	9.3	8.1	13.2	20.4	20.0	21.8	22.0	20.3	18.4	16.2	12.1	15.4	19.6	55.2	62.6	59.3	64.2	53.4	56.3	42.4	37.8	24	64.2	8.1	29.5	0	0
18	40.0	47.0	48.8	48.8	55.8	55.6	57.0	57.3	53.5	44.9	39.4	36.8	30.8	20.0	13.4	16.6	15.9	15.8	23.8	18.0	31.6	20.6	12.5	11.4	24	57.3	11.4	34.0	0	0
19	10.0	6.1	7.5	9.2	9.9	11.1	13.6	25.9	49.4	53.5	45.6	32.8	34.3	32.7	37.7	47.4	69.9	78.8	76.9	74.6	76.7	82.4	75.1	66.3	24	82.4	6.1	42.8	0	0
20	62.9	61.2	57.6	49.9	38.1	39.9	36.3	27.5	35.5	32.9	C	33.1	27.5	26.4	25.1	25.5	25.4	23.1	22.1	24.4	22.1	20.1	23.7	20.5	23	62.9	20.1	33.1	0	0
21	20.8	19.5	16.2	15.1	18.3	20.9	21.2	26.9	17.9	21.6	21.4	20.6	19.6	17.1	16.8	23.2	21.6	15.9	16.3	19.2	17.2	14.9	12.3	11.5	24	26.9	11.5	18.6	0	0
22	9.5	7.1	6.7	7.5	7.3	12.6	9.6	13.2	7.6	8.5	12.3	11.6	11.0	17.5	21.9	16.6	21.5	21.0	27.5	34.0	24.5	23.0	38.4	46.7	24	46.7	6.7	17.4	0	0
23	46.1	42.2	32.6	39.5	43.3	17.6	12.4	10.6	12.0	14.4	12.1	12.5	14.8	15.3	16.1	16.7	20.1	26.6	26.0	30.6	35.5	24.4	12.4	15.8	24	46.1	10.6	22.9	0	0
24	13.8	10.8	19.6	15.7	13.0	13.5	13.1	11.4	12.5	10.3	9.6	7.5	10.5	7.0	6.0	6.9	9.9	13.4	10.5	9.3	9.7	8.7	11.4	9.9	24	19.6	6.0	11.0	0	0
25	9.0	8.3	6.0	6.5	7.5	9.8	10.0	13.7	11.3	14.1	17.5	16.6	16.0	12.9	5.6	7.4	13.7	4.3	3.9	3.2	4.0	4.3	4.6	6.9	24	17.5	3.2	9.0	0	0
26	7.1	9.1	9.5	15.1	23.7	25.8	26.4	33.0	27.1	34.2	40.0	33.4	39.9	37.2	27.0	21.8	27.7	19.9	19.4	20.2	21.5	24.8	27.2	28.0	24	40.0	7.1	25.0	0	0
27	24.4	30.4	25.0	26.5	48.7	59.5	70.3	75.7	71.4	57.0	41.0	30.1	22.5	23.2	20.6	20.7	23.7	36.4	44.4	22.4	13.2	11.5	10.4	12.3	24	75.7	10.4	34.2	0	0
28	13.6	14.1	14.7	14.5	22.6	16.6	12.3	15.7	20.6	24.8	21.5	20.0	19.0	18.6	20.0	19.4	17.2	18.3	20.6	54.1	55.3	49.1	51.1	48.3	24	55.3	12.3	25.1	0	0
29	44.2	37.3	39.1	35.8	34.3	35.7	43.5	38.8	33.9	36.3	24.4	17.1	15.0	16.8	18.1	20.3	20.6	33.2	66.9	60.3	9.3	5.7	5.7	4.3	24	66.9	4.3	29.0	0	0
30	5.1	3.0	3.4	3.1	9.3	7.4	13.0	15.1	21.6	13.8	9.4	7.8	8.8	9.7	8.5	11.4	14.7	23.0	30.1	24.4	21.8	25.6	25.7	31.5	24	31.5	3.0	14.5	0	0
31	43.1	28.6	23.4	19.2	18.5	20.7	25.0	35.1	34.7	29.8	41.0	40.9	12.7	7.6	7.4	8.2	9.3	8.5	10.7	14.6	18.7	17.9	14.5	10.2	24	43.1	7.4	20.9	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	62.9	61.2	57.6	49.9	55.8	59.5	70.3	75.7	71.4	57.0	45.6	40.9	39.9	37.2	37.7	47.4	69.9	78.8	76.9	74.6	76.7	82.4	75.1	66.3	24	82.4	37.2	61.3		
Minimum	3.5	3.0	3.4	3.1	3.9	3.8	3.9	3.8	4.6	6.7	3.9	1.5	2.0	2.4	3.0	3.9	4.3	4.3	3.9	3.2	4.0	4.3	2.6	3.1	23	11.0	1.5	3.6		
Average	22.3	20.8	19.0	17.9	20.2	20.8	24.2	26.9	26.5	22.5	18.7	16.2	14.7	14.0	14.2	16.8	21.8	26.8	27.8	26.4	24.8	23.6	22.5	22.4	24	44	7	21.3		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100	Maximum
													82.4
													42.8
Data	6.2	8.8	11.0	13.5	16.2	20.1	24.8	33.0	44.5	56.1	70.9	82.4	21.3

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NO_2 - RUNDLE
October 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>400	Days>200
1	17.6	13.8	16.8	10.6	8.4	5.3	5.0	5.2	22.9	20.7	12.2	12.7	12.2	10.7	7.8	12.6	13.2	23.6	14.0	9.4	17.1	9.4	9.0	10.4	24	23.6	5.0	12.5	0	0
2	12.0	18.7	10.2	12.7	19.4	16.2	24.9	31.9	29.5	16.1	5.3	2.8	2.8	3.1	9.0	10.4	8.2	7.1	6.2	4.2	2.8	21.6	13.2	4.3	24	31.9	2.8	12.2	0	0
3	2.4	2.2	2.2	1.8	2.2	6.2	22.0	29.8	23.5	27.5	13.2	10.5	10.0	6.8	4.0	7.4	20.2	39.6	47.9	25.7	35.9	19.3	14.0	12.6	24	47.9	1.8	16.1	0	0
4	6.0	9.3	7.9	5.3	6.0	5.3	5.1	6.2	5.5	7.4	5.4	11.9	12.0	8.5	7.9	9.4	8.4	10.2	3.7	11.0	5.0	6.3	5.7	4.2	24	12.0	3.7	7.2	0	0
5	5.9	3.5	3.8	3.6	3.3	2.8	2.6	4.9	6.9	2.3	2.2	1.9	2.4	3.6	3.3	6.0	4.1	6.1	5.5	11.7	20.6	4.0	2.8	2.5	24	20.6	1.9	4.8	0	0
6	3.4	2.4	1.3	2.7	5.8	2.5	3.0	5.0	4.8	10.9	14.6	8.5	5.4	11.5	5.0	6.3	7.7	8.9	9.9	11.4	10.2	21.0	8.3	5.7	24	21.0	1.3	7.3	0	0
7	6.8	12.4	16.2	15.6	9.3	9.7	9.3	12.7	14.5	29.8	20.1	7.4	6.2	8.6	9.2	9.9	15.0	13.0	4.6	4.0	3.5	3.7	5.1	10.1	24	29.8	3.5	10.7	0	0
8	2.9	7.0	4.3	5.4	3.5	6.7	10.5	10.8	12.8	11.7	3.2	3.1	6.4	13.4	9.3	9.2	16.4	28.4	20.6	20.3	14.3	9.6	7.1	5.1	24	28.4	2.9	10.1	0	0
9	5.6	7.6	5.6	4.0	4.8	5.7	9.4	22.5	13.6	12.8	6.6	7.2	3.9	3.0	8.6	9.7	5.0	14.5	15.8	13.2	9.9	6.2	4.4	3.2	24	22.5	3.0	8.4	0	0
10	3.2	5.3	3.1	3.4	7.5	5.3	12.8	11.3	21.4	10.7	9.3	5.4	7.7	7.4	8.3	14.9	18.8	29.3	22.0	22.7	16.4	6.8	7.0	3.8	24	29.3	3.1	11.0	0	0
11	2.1	3.9	2.2	2.3	3.8	4.8	8.4	6.3	17.6	25.8	11.8	6.3	8.0	4.6	9.5	5.4	8.1	15.0	18.3	10.1	14.9	9.1	9.0	10.3	24	25.8	2.1	9.1	0	0
12	6.9	12.1	3.4	3.0	3.8	3.8	7.9	8.5	10.3	8.7	4.2	5.9	7.5	6.2	4.8	7.7	6.4	4.6	6.2	16.2	21.1	7.9	6.3	3.7	24	21.1	3.0	7.4	0	0
13	4.4	4.6	11.0	9.6	6.5	21.1	10.2	7.8	6.5	6.7	14.1	21.6	12.6	7.4	12.6	12.6	13.8	12.3	20.2	10.4	6.1	1.4	1.2	0.8	24	21.6	0.8	9.8	0	0
14	0.6	0.3	0.4	0.5	1.0	5.9	7.1	6.4	1.5	0.5	0.5	0.6	0.9	0.9	0.9	1.0	5.2	15.9	19.2	18.3	9.7	12.0	2.4	0.6	24	19.2	0.3	4.7	0	0
15	0.8	1.0	2.9	6.0	2.5	11.6	12.4	14.7	9.4	7.6	5.0	7.5	8.6	4.5	6.1	5.4	8.5	9.7	8.8	7.7	15.4	15.0	24.4	18.8	24	24.4	0.8	8.9	0	0
16	25.4	27.9	18.7	7.9	9.9	9.0	8.2	9.2	10.0	11.2	10.1	9.9	9.7	13.0	8.8	9.9	12.5	9.3	11.8	9.3	5.1	5.6	8.0	19.5	24	27.9	5.1	11.7	0	0
17	21.6	24.0	26.8	19.1	19.4	18.7	27.8	28.1	31.1	20.1	12.4	17.5	13.3	7.0	M	M	M	M	M	M	M	M	M	M	14	31.1	7.0		0	0
18	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		0	0
19	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		0	0
20	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		0	0
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0	0
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0	0
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0	0
24	M	M	M	M	M	M	M	M	M	M	M	M	M	C	C	12.4	12.3	14.0	13.0	13.3	17.6	13.9	14.4	12.6	9	17.6	12.3		0	0
25	11.9	11.7	11.7	11.2	11.8	11.3	12.0	15.9	20.2	14.5	19.0	28.2	22.1	24.1	13.2	14.0	17.7	25.2	30.8	32.3	31.9	33.9	26.0	24.6	24	33.9	11.2	19.8	0	0
26	24.4	16.8	20.2	14.9	14.8	11.2	13.6	16.9	15.9	15.1	15.8	17.4	18.0	17.9	16.4	18.6	17.1	20.8	22.0	22.5	19.1	24.6	20.9	11.7	24	24.6	11.2	17.8	0	0
27	10.4	8.0	11.2	12.0	14.1	24.3	17.0	16.5	17.0	14.0	12.2	23.5	22.1	17.9	14.2	16.9	18.0	17.6	22.5	24.7	25.1	16.6	19.2	21.1	24	25.1	8.0	17.3	0	0
28	15.2	11.0	14.2	23.9	26.9	19.5	17.6	8.2	5.8	4.5	5.4	7.7	3.9	4.5	4.7	6.2	6.4	9.7	11.1	9.5	7.3	5.6	4.6	7.0	24	26.9	3.9	10.0	0	0
29	7.8	5.6	5.9	4.9	6.7	8.3	12.0	21.7	13.8	9.0	12.5	13.9	22.3	12.2	11.1	12.5	13.2	24.9	35.2	31.9	20.8	24.3	26.2	20.8	24	35.2	4.9	15.7	0	0
30	16.2	11.9	11.6	8.6	8.4	9.8	25.2	31.5	36.3	34.3	35.0	26.6	14.2	14.7	14.2	19.5	27.5	33.5	40.1	36.3	33.7	22.7	18.2	16.4	24	40.1	8.4	22.8	0	0
31	14.4	18.6	14.0	17.2	13.9	25.7	32.1	24.6	30.1	35.8	27.3	27.6	27.7	26.9	34.2	24.9	21.3	20.1	20.2	22.1	29.1	28.9	21.8	18.0	24	35.8	13.9	24.0	0	0
Count	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	24	24	24	24	24	24	24	24	24	575	24	23	24		
Maximum	25.4	27.9	26.8	23.9	26.9	25.7	32.1	31.9	36.3	35.8	35.0	28.2	27.7	26.9	34.2	24.9	27.5	39.6	47.9	36.3	35.9	33.9	26.2	24.6	24	47.9	23.9	30.9		
Minimum	0.6	0.3	0.4	0.5	1.0	2.5	2.6	4.9	1.5	0.5	0.5	0.6	0.9	0.9	0.9	1.0	4.1	4.6	3.7	4.0	2.8	1.4	1.2	0.6	0	0.0	0.3			
Average	9.5	10.0	9.4	8.6	8.9	10.4	13.2	14.9	15.9	14.9	11.6	11.9	10.8	9.9	9.7	10.9	12.7	17.2	17.9	16.6	16.4	13.7	11.6	10.3	19	22	4	12.1		

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				47.9
	Day				24.0
	Month				12.1

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	3.4	5.2	6.7	8.6	10.4	12.6	15.0	19.3	24.6	28.5	35.9	47.9

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NO_2 - RUNDLE
November 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>400	Days>200
1	22.1	19.1	20.2	12.4	13.1	11.8	11.4	13.7	14.6	14.1	15.7	14.5	17.9	17.5	18.1	17.4	16.6	17.3	18.1	20.1	23.1	21.8	20.6	20.5	24	23.1	11.4	17.2	0	0
2	16.2	13.4	13.3	16.2	15.6	24.4	21.7	22.4	22.0	6.3	5.8	5.3	4.4	3.9	4.3	3.9	3.7	3.5	3.5	3.2	3.2	2.8	2.8	3.2	24	24.4	2.8	9.4	0	0
3	2.5	4.9	2.6	2.6	2.4	2.3	2.7	2.8	2.5	2.7	2.7	2.5	3.1	8.3	14.1	10.3	7.5	8.0	9.6	6.4	7.1	6.9	4.7	4.3	24	14.1	2.3	5.1	0	0
4	4.9	7.3	5.3	3.8	4.9	6.6	31.0	12.5	12.4	11.0	20.7	11.1	15.7	7.6	9.9	15.8	24.5	24.8	11.4	13.5	25.1	24.2	11.2	28.6	24	31.0	3.8	14.3	0	0
5	18.8	20.5	17.3	17.5	18.4	23.9	26.1	25.7	24.0	21.4	22.2	17.6	19.0	22.0	26.4	25.3	22.1	36.7	49.7	51.6	30.5	25.1	32.3	42.5	24	51.6	17.3	26.5	0	0
6	32.5	34.3	31.2	29.2	30.5	34.3	39.4	30.7	31.0	27.1	28.1	34.9	30.1	34.6	34.2	40.0	35.7	24.9	21.9	19.4	22.0	16.1	16.8	21.7	24	40.0	16.1	29.2	0	0
7	16.0	8.6	6.8	5.7	5.2	5.2	7.2	7.6	9.4	6.9	5.4	5.7	5.6	5.3	9.8	11.6	10.7	16.5	16.7	13.5	15.2	15.6	17.3	11.0	24	17.3	5.2	9.9	0	0
8	13.0	8.0	6.8	7.4	5.7	6.7	7.4	12.6	14.6	20.3	20.4	6.1	4.7	4.3	4.3	5.6	8.9	7.6	7.2	24.0	20.7	18.0	17.7	23.4	24	24.0	4.3	11.5	0	0
9	25.9	19.6	26.6	30.0	24.4	15.3	11.6	11.9	14.2	21.2	17.5	13.8	10.9	15.1	11.7	18.8	15.6	17.5	18.1	28.0	21.8	17.8	12.5	12.7	24	30.0	10.9	18.0	0	0
10	14.6	10.1	6.6	6.4	7.5	6.5	10.0	11.2	10.4	10.5	8.9	7.8	5.5	4.6	4.4	4.8	5.3	5.5	5.1	5.2	5.2	4.9	8.0	12.6	24	14.6	4.4	7.6	0	0
11	12.3	15.9	30.9	18.5	27.0	22.3	18.2	20.9	30.6	23.0	28.4	25.4	24.4	22.5	21.4	30.2	13.7	5.7	5.4	4.9	3.5	3.0	2.8	2.5	24	30.9	2.5	17.2	0	0
12	2.7	2.2	2.2	2.5	2.4	2.7	3.0	3.5	4.0	4.6	3.7	3.9	4.3	4.5	4.3	5.0	5.8	5.9	4.7	3.9	3.2	3.3	3.1	6.2	24	6.2	2.2	3.8	0	0
13	2.9	3.8	4.4	8.3	10.8	11.6	29.1	33.5	46.9	60.7	52.1	35.7	20.9	18.7	17.6	20.6	22.8	21.4	20.3	17.5	16.4	16.6	15.3	13.6	24	60.7	2.9	21.7	0	0
14	16.1	18.4	17.5	17.2	19.1	20.5	22.1	24.2	25.2	24.0	29.4	24.5	25.9	24.2	21.1	22.2	26.6	22.4	25.3	24.8	29.1	27.6	24.9	23.0	24	29.4	16.1	23.1	0	0
15	19.1	21.5	22.6	18.9	21.5	23.3	21.5	28.5	29.6	24.4	30.2	32.3	27.8	30.1	26.5	24.6	22.8	33.2	36.0	37.9	46.9	56.9	31.7	20.1	24	56.9	18.9	28.7	0	0
16	12.8	10.4	10.7	12.2	15.4	14.6	10.8	6.3	11.5	25.9	22.7	17.9	23.7	24.2	26.7	33.1	14.4	14.2	9.8	11.6	25.8	19.6	16.5	27.4	24	33.1	6.3	17.4	0	0
17	11.3	11.2	26.8	19.6	10.1	10.9	10.4	10.0	18.7	9.5	11.9	13.0	15.9	13.7	19.3	22.0	15.8	16.4	11.8	17.8	19.6	12.9	14.2	21.8	24	26.8	9.5	15.2	0	0
18	9.4	10.9	7.5	9.9	12.5	11.6	11.1	14.4	16.4	15.5	13.6	14.6	14.7	12.2	12.8	15.4	13.9	6.5	10.1	8.7	7.4	7.1	5.7	4.8	24	16.4	4.8	11.1	0	0
19	4.8	4.4	4.4	3.8	3.8	3.9	3.8	5.1	4.9	4.9	4.6	5.4	5.3	5.0	4.5	4.9	6.0	9.3	9.3	8.1	8.6	6.8	7.3	8.5	24	9.3	3.8	5.7	0	0
20	4.9	13.7	5.7	6.6	25.0	24.2	10.1	12.0	15.0	15.4	20.1	21.2	9.1	10.6	11.0	8.3	7.9	10.4	9.5	7.7	13.5	18.6	17.2	20.9	24	25.0	4.9	13.3	0	0
21	29.1	14.0	14.7	18.2	24.5	28.3	26.8	33.2	26.9	28.2	44.4	37.5	26.7	29.6	33.4	42.1	41.6	47.9	36.2	38.3	32.7	32.1	26.3	26.2	24	47.9	14.0	30.8	0	0
22	32.9	27.2	31.9	30.5	23.9	29.6	21.6	21.3	25.5	23.7	29.3	33.5	31.7	36.1	41.3	38.9	34.3	13.0	9.2	6.9	5.6	4.6	3.7	3.5	24	41.3	3.5	23.3	0	0
23	3.9	3.9	4.2	4.7	6.5	12.8	31.1	14.2	15.7	12.4	15.7	6.1	4.8	4.8	4.3	4.8	4.6	4.7	3.8	3.5	3.3	3.0	2.8	2.9	24	31.1	2.8	7.4	0	0
24	3.0	2.7	3.0	2.8	3.0	3.0	3.1	3.3	3.3	3.4	3.4	3.8	3.5	3.8	3.5	3.7	4.6	6.6	6.2	7.5	7.5	9.4	11.9	8.7	24	11.9	2.7	4.8	0	0
25	6.6	4.4	8.6	39.8	43.5	32.2	17.2	17.0	16.8	16.7	15.5	16.0	13.7	14.6	17.8	20.4	24.1	18.3	16.4	15.9	15.1	21.2	23.7	18.8	24	43.5	4.4	18.9	0	0
26	16.7	16.6	16.8	20.5	21.5	28.6	34.2	31.7	42.7	32.4	27.0	28.1	C	C	18.5	18.3	21.8	18.4	16.9	19.7	27.7	45.1	35.6	32.6	22	45.1	16.6	26.0	0	0
27	18.9	7.8	4.5	3.7	3.7	5.5	10.0	18.6	16.1	6.6	4.7	2.2	1.5	1.4	1.8	1.4	1.8	1.3	0.4	0.1	0.0	0.0	0.0	0.0	24	18.9	0.0	4.7	0	0
28	0.0	0.0	0.0	2.7	3.7	26.5	26.4	21.3	20.1	15.9	5.7	7.5	8.8	15.9	30.3	19.1	23.1	13.2	9.6	7.5	7.5	6.3	4.8	5.6	24	30.3	0.0	11.7	0	0
29	5.9	3.6	2.0	1.4	1.2	1.5	2.2	4.5	4.3	3.5	1.3	0.9	0.5	0.4	1.9	2.3	9.0	10.6	23.1	25.6	19.9	11.9	9.6	10.2	24	25.6	0.4	6.6	0	0
30	10.6	9.4	13.1	13.1	7.4	19.4	5.0	3.0	3.0	2.9	9.3	16.5	5.3	14.5	6.4	9.8	12.1	11.4	11.9	14.2	13.2	11.1	12.2	13.3	24	19.4	2.9	10.3	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	30	30	30	30	29	29	30	30	30	30	30	30	30	30	30	30	718	30	29	30		
Maximum	32.9	34.3	31.9	39.8	43.5	34.3	39.4	33.5	46.9	60.7	52.1	37.5	31.7	36.1	41.3	42.1	41.6	47.9	49.7	51.6	46.9	56.9	35.6	42.5	24	60.7	31.7	42.1		
Minimum	0.0	0.0	0.0	1.4	1.2	1.5	2.2	2.8	2.5	2.7	1.3	0.9	0.5	0.4	1.8	1.4	1.8	1.3	0.4	0.1	0.0	0.0	0.0	0.0	0	0.0	0.0			
Average	13.0	11.6	12.3	12.9	13.8	15.7	16.2	15.9	17.7	16.5	17.3	15.5	13.3	14.1	15.4	16.7	15.9	15.1	14.6	15.6	16.0	15.7	13.8	15.0	23	28	6	15.0		

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	3.3	4.8	6.8	10.1	13.2	16.5	20.1	24.1	29.7	34.2	46.6	60.7

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					60.7
Day					30.8
Month					15.0

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NO_2 - RUNDLE
December 2013
(ug/m3)

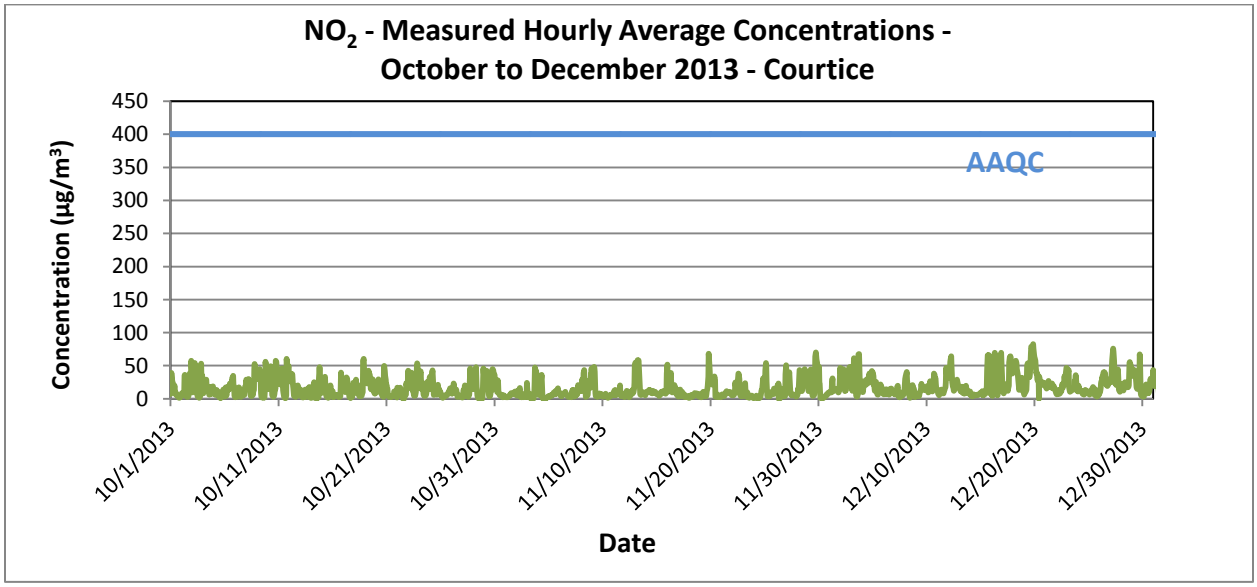
Day	Hour 0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>400	Days>200
1	12.1	13.6	12.0	27.0	10.6	20.4	23.8	19.3	24.0	20.6	18.1	22.7	26.0	25.0	27.9	29.9	30.3	39.8	22.3	25.4	27.7	22.3	23.1	25.4	24	39.8	10.6	22.9	0	0
2	20.8	23.3	19.2	18.0	14.6	12.0	16.6	37.6	41.7	22.2	10.8	7.4	7.5	6.5	6.9	6.4	11.1	8.5	12.3	13.4	9.1	9.2	13.9	13.2	24	41.7	6.4	15.1	0	0
3	10.7	6.2	2.6	1.6	1.3	2.4	6.8	15.9	13.1	5.7	6.6	7.1	7.9	6.7	10.4	12.1	27.7	23.0	26.0	22.4	18.0	5.8	3.6	2.8	24	27.7	1.3	10.3	0	0
4	2.0	6.5	4.6	6.2	3.5	4.7	8.1	12.0	18.4	18.5	16.4	18.6	14.2	27.3	12.9	15.5	11.5	8.9	12.3	10.2	8.4	12.6	18.0	18.5	24	27.3	2.0	12.1	0	0
5	17.9	24.9	24.7	18.5	20.9	26.7	35.7	35.0	43.4	43.6	22.6	13.1	13.5	16.3	27.1	15.6	16.4	12.3	18.6	13.6	15.8	17.6	10.6	7.7	24	43.6	7.7	21.3	0	0
6	6.0	3.3	3.0	2.5	2.8	6.4	8.0	7.2	5.9	6.0	3.0	2.8	2.9	3.1	3.2	4.2	5.1	4.4	4.7	4.8	4.2	3.8	2.5	2.5	24	8.0	2.5	4.3	0	0
7	4.5	4.5	4.6	2.9	1.7	2.8	9.0	13.7	15.2	8.7	4.0	1.3	1.8	1.9	1.9	2.2	1.9	3.7	3.5	2.6	4.3	17.7	15.7	21.8	24	21.8	1.3	6.3	0	0
8	29.0	33.1	33.9	26.9	26.2	21.5	17.4	11.3	6.1	2.8	0.8	0.5	4.2	7.9	6.8	6.4	10.2	10.6	8.0	9.2	5.5	29.5	11.7	5.3	24	33.9	0.5	13.5	0	0
9	4.8	4.9	5.0	6.9	9.4	8.5	11.5	14.4	17.4	15.9	15.0	16.6	20.2	27.4	21.5	24.0	20.6	20.6	19.1	17.9	19.5	16.9	16.0	17.7	24	27.4	4.8	15.5	0	0
10	20.6	19.6	23.6	13.5	10.4	6.1	4.9	12.5	26.1	16.9	14.4	11.6	11.1	9.3	12.9	20.8	31.3	37.7	44.1	41.4	41.6	32.0	20.2	18.2	24	44.1	4.9	20.9	0	0
11	17.5	17.0	12.3	10.7	9.2	15.5	17.3	16.7	17.9	20.3	17.8	11.7	6.7	9.5	9.5	7.5	11.6	12.5	15.6	14.0	17.1	13.0	8.5	3.8	24	20.3	3.8	13.0	0	0
12	3.5	1.5	1.8	2.0	1.2	2.7	10.4	42.4	42.8	19.5	24.7	22.2	17.5	15.3	16.7	22.0	25.2	26.9	23.8	34.4	36.6	31.9	28.7	25.2	24	42.8	1.2	19.9	0	0
13	22.1	21.3	20.1	18.0	16.0	18.2	23.7	17.7	3.9	2.7	1.5	1.2	1.0	1.3	1.4	1.8	3.1	4.3	2.5	2.9	1.8	3.2	3.7	2.8	24	23.7	1.0	8.2	0	0
14	2.5	4.0	2.0	1.6	1.3	1.3	4.5	1.5	8.8	2.4	9.2	6.0	3.4	3.0	6.6	3.5	3.0	4.1	6.3	3.5	11.2	6.9	9.7	9.6	24	11.2	1.3	4.8	0	0
15	7.4	6.8	6.1	5.9	5.0	4.6	3.9	4.0	4.2	3.8	5.3	5.8	11.9	17.2	20.3	32.9	40.3	36.6	35.7	44.1	21.0	13.2	3.2	2.6	24	44.1	2.6	14.2	0	0
16	2.3	1.3	0.6	0.5	0.8	1.0	4.9	11.0	26.9	44.2	5.3	1.9	1.7	1.2	1.1	2.9	7.4	23.1	10.8	6.5	10.6	12.8	19.1	40.8	24	44.2	0.5	9.9	0	0
17	23.7	7.4	7.0	10.1	3.4	4.5	6.0	8.7	14.0	12.1	9.3	8.0	7.9	9.4	17.0	35.3	52.4	43.9	45.3	47.7	29.8	41.4	23.1	29.2	24	52.4	3.4	20.7	0	0
18	27.2	23.9	25.6	33.8	29.3	27.3	25.9	26.3	59.7	65.6	50.8	45.2	39.0	21.1	11.0	10.9	9.2	13.5	27.6	28.8	27.3	29.7	20.7	18.1	24	65.6	9.2	29.1	0	0
19	21.0	12.7	12.7	12.9	18.8	25.0	26.0	40.8	63.2	61.5	60.0	47.5	40.4	35.8	39.6	49.2	61.8	56.2	62.3	61.9	63.0	65.8	63.8	58.9	24	65.8	12.7	44.2	0	0
20	55.2	51.1	51.0	43.7	26.4	22.4	18.4	19.9	C	C	18.9	13.6	9.4	8.6	7.8	12.0	7.6	6.3	6.8	8.5	7.9	8.3	5.1	6.8	22	55.2	5.1	18.9	0	0
21	7.8	4.5	3.4	4.0	5.2	8.1	8.3	6.9	1.8	2.3	3.0	2.9	2.5	2.3	2.6	3.1	1.8	3.6	5.6	6.2	1.3	1.1	M	M	22	8.3	1.1	4.0	0	0
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	7.6	1.7	8.5	9.0	5.6	36.5	31.7	38.0	47.1	9	47.1	1.7		0	0
23	46.7	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0.0	0.6	1.4	2.6	2.3	0.5	M	M	M	7	46.7	0.0		0	0
24	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		0	0
25	M	M	M	M	M	M	M	M	2.4	3.3	0.8	0.0	0.3	3.3	4.5	3.5	6.8	5.1	2.1	0.5	7.8	9.1	1.5	2.7	16	9.1	0.0		0	0
26	3.9	5.6	3.9	9.1	12.0	10.0	11.8	7.8	6.5	12.1	18.7	19.2	20.8	24.0	12.8	17.7	28.3	21.7	20.2	21.5	25.8	37.7	37.2	20.2	24	37.7	3.9	17.0	0	0
27	27.8	21.4	21.5	21.0	25.8	39.8	42.6	49.7	55.6	29.9	19.7	14.3	8.7	8.1	6.4	9.8	17.6	19.2	38.0	40.0	23.1	16.0	10.9	10.8	24	55.6	6.4	24.1	0	0
28	15.4	13.2	12.8	15.1	25.7	17.6	13.2	18.9	21.6	32.1	21.9	19.2	19.3	18.8	20.0	26.3	18.9	22.9	30.6	34.4	48.7	49.9	47.0	44.1	24	49.9	12.8	25.3	0	0
29	34.2	30.8	25.7	23.9	20.0	19.4	18.5	21.7	25.1	17.4	19.5	13.0	14.9	17.7	18.7	27.1	23.8	34.0	66.0	46.3	0.0	0.0	0.0	0.0	24	66.0	0.0	21.6	0	0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	4.2	3.7	7.5	8.6	7.2	24	8.6	0.0	1.5	0	0
31	1.9	8.0	3.4	10.3	2.4	2.1	5.5	12.7	12.2	6.0	13.9	18.6	3.2	2.6	2.5	3.9	6.3	8.1	9.1	9.3	8.2	7.7	5.1	9.4	24	18.6	1.9	7.2	0	0
Count	28	27	27	27	27	27	27	27	27	27	28	28	28	28	28	30	30	30	30	30	30	29	28	28	676	30	27	28		
Maximum	55.2	51.1	51.0	43.7	29.3	39.8	42.6	49.7	63.2	65.6	60.0	47.5	40.4	35.8	39.6	49.2	61.8	56.2	66.0	61.9	63.0	65.8	63.8	58.9	24	66.0	29.3	52.5		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.5	0.0	0.0	0.0	0.0	0	0.0	0.0			
Average	16.0	13.7	12.7	12.8	11.2	12.3	14.2	18.0	21.5	18.4	14.7	12.6	11.4	11.8	11.8	13.8	16.5	17.4	19.8	19.4	17.9	19.1	16.8	16.9	22	35	4	15.8		

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	1.9	3.5	6.0	8.5	11.9	16.0	19.6	24.9	35.5	44.1	62.0	66.0

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					66.0
Day					44.2
Month					15.8

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

Figure B-1 Time History Plots of Measured Hourly Average and 24-Hour Average NO_2 Concentrations – Courtice (WPCP) Station



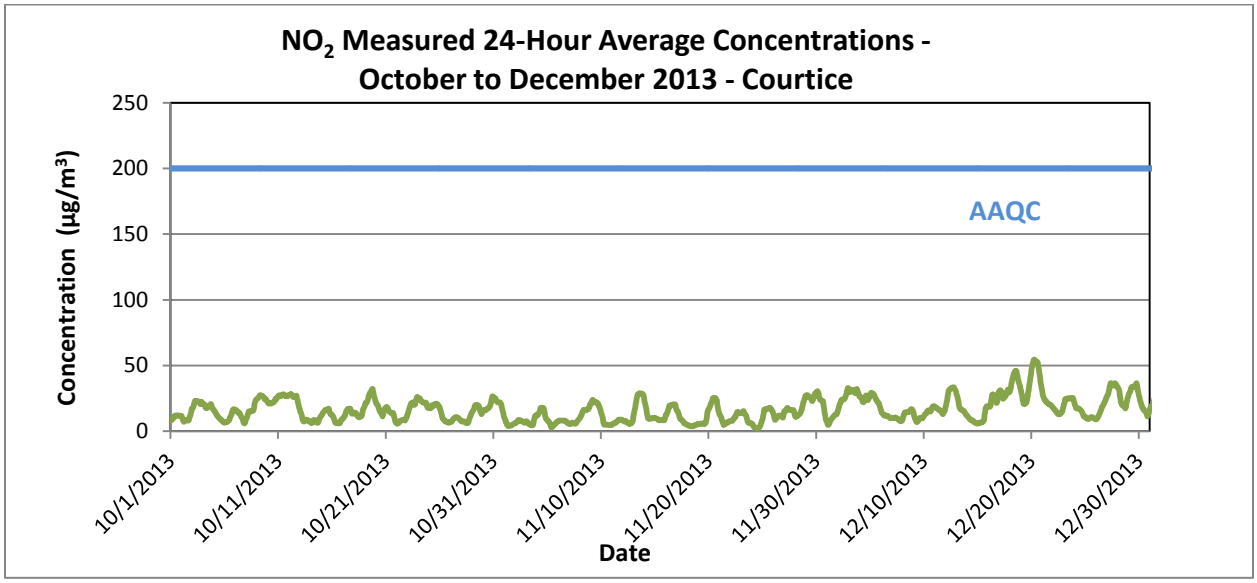
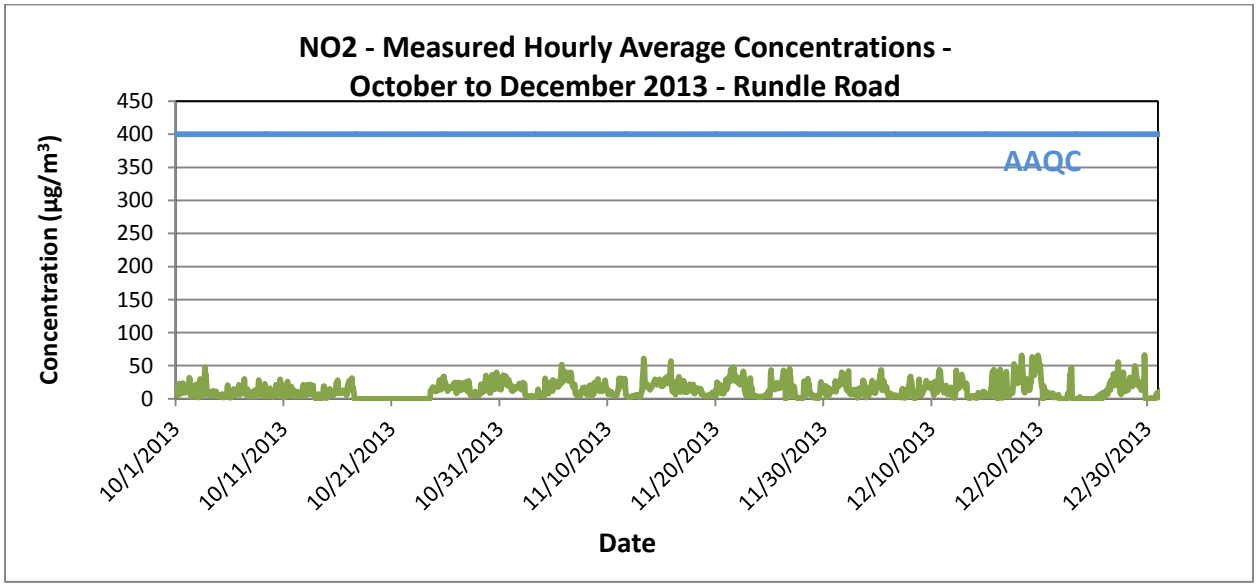
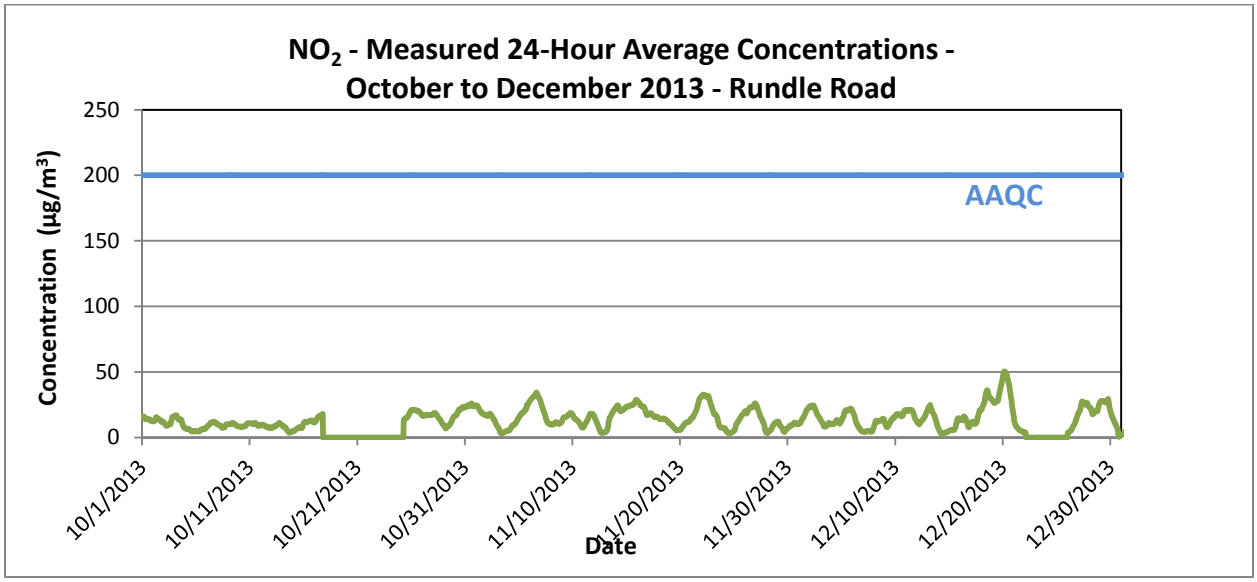


Figure B-2 Time History Plots of Measured Hourly Average and 24-Hour Average NO_2 Concentrations – Rundle Road Station





Appendix C
NO_X Data Summaries and Time History Plots

NOx COURTICE
October 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>400	Days>200
1	8.2	17.3	47.5	53.0	72.1	85.7	131.6	113.1	43.5	34.4	9.3	10.7	10.9	9.7	5.8	6.7	3.7	4.6	2.7	2.1	2.6	2.8	3.4	4.5	24	131.6	2.1	28.6	0	0
2	6.1	9.6	5.7	6.6	8.7	9.0	11.3	62.7	77.0	36.1	9.7	4.4	9.3	9.9	4.9	3.1	6.3	14.3	42.0	32.5	16.3	28.5	93.1	62.1	24	93.1	3.1	23.7	0	0
3	28.8	11.3	21.6	26.1	34.4	50.6	141.8	120.4	36.0	29.1	17.5	10.6	4.9	3.8	3.3	2.5	1.9	6.0	4.9	25.9	60.4	35.6	39.2	36.4	24	141.8	1.9	31.4	0	0
4	21.6	9.0	15.8	20.4	28.4	24.6	30.7	37.7	29.1	27.2	23.2	26.6	16.0	17.1	8.0	10.5	7.9	16.8	21.9	10.3	19.2	19.5	19.7	18.0	24	37.7	7.9	20.0	0	0
5	8.7	8.5	6.9	12.5	7.1	7.5	21.3	15.7	17.4	9.5	13.9	7.8	3.2	2.1	2.3	2.9	2.4	4.6	4.4	10.9	9.1	15.2	10.0	6.3	24	21.3	2.1	8.8	0	0
6	4.0	12.0	7.7	22.8	6.5	13.3	20.8	15.5	21.2	32.1	21.3	39.1	51.9	55.7	53.9	45.2	25.3	44.4	40.7	47.3	26.5	27.0	5.5	1.8	24	55.7	1.8	26.7	0	0
7	2.8	3.1	3.0	5.3	4.0	3.9	3.9	5.3	19.8	17.4	8.8	4.1	4.8	5.4	6.1	7.5	8.8	10.8	6.4	6.2	6.3	13.3	20.3	19.2	24	20.3	2.8	8.2	0	0
8	34.6	29.6	31.9	50.1	37.6	59.5	49.7	79.6	32.3	26.8	7.0	10.2	8.3	14.1	7.2	8.9	13.2	14.7	109.5	102.3	86.7	92.4	84.3	81.4	24	109.5	7.0	44.7	0	0
9	52.0	49.3	42.7	48.0	78.4	65.8	136.0	89.8	53.8	15.1	5.3	2.9	5.1	3.4	4.4	2.2	3.6	3.0	25.5	76.7	77.6	41.6	31.3	22.2	24	136.0	2.2	39.0	0	0
10	30.2	24.1	16.2	36.9	39.9	59.1	180.7	120.7	48.1	42.1	8.2	5.4	5.0	4.4	6.7	10.0	22.0	16.1	93.4	110.8	90.8	70.8	56.5	48.5	24	180.7	4.4	47.8	0	0
11	39.3	34.6	24.1	33.1	44.1	29.8	80.7	92.8	68.1	39.4	19.6	14.2	4.0	2.5	2.0	1.6	1.9	7.1	90.8	75.7	70.1	66.1	122.5	63.7	24	122.5	1.6	42.8	0	0
12	52.7	37.9	31.4	40.1	28.5	45.0	53.0	52.6	31.8	24.4	6.2	7.0	7.2	6.2	4.6	5.9	5.4	20.3	17.4	23.8	16.3	16.3	6.4	6.3	24	53.0	4.6	22.8	0	0
13	18.4	5.1	5.1	16.8	2.9	2.6	2.6	3.0	4.9	3.4	3.6	19.1	16.3	11.3	16.3	3.1	4.1	8.0	17.1	15.4	18.3	4.6	2.8	3.3	24	19.1	2.6	8.7	0	0
14	1.7	2.1	2.5	4.1	8.2	23.2	33.5	68.8	14.2	3.3	2.8	2.3	3.3	2.0	2.2	4.0	2.5	3.2	74.9	130.3	102.7	51.9	11.4	75.8	24	130.3	1.7	26.3	0	0
15	34.3	12.0	18.7	34.4	38.4	46.7	90.2	93.1	59.6	27.4	8.3	5.3	3.3	3.9	1.9	2.8	20.7	5.1	7.2	21.8	11.3	8.1	6.3	12.4	24	93.1	1.9	23.9	0	0
16	12.8	5.5	2.6	3.6	3.7	5.1	4.9	5.9	6.3	7.2	6.9	6.7	5.5	5.7	3.6	3.8	3.1	4.5	19.9	44.3	29.9	24.5	18.4	13.4	24	44.3	2.6	10.3	0	0
17	13.6	20.9	16.7	18.9	12.6	21.2	52.7	83.1	64.0	43.7	27.7	26.8	18.0	5.8	3.5	2.4	2.1	2.3	3.3	4.3	3.3	9.9	27.2	21.0	24	83.1	2.1	21.0	0	0
18	25.4	14.7	9.4	10.5	30.6	14.4	22.7	25.8	19.9	14.5	10.1	6.3	5.1	6.2	7.8	8.2	5.2	5.9	7.9	10.7	80.7	92.7	86.3	100.3	24	100.3	5.1	25.9	0	0
19	64.2	53.4	53.8	74.7	73.4	59.3	110.8	102.7	63.7	56.3	55.7	55.6	34.5	18.3	27.2	15.6	22.0	30.9	20.0	14.0	12.6	9.4	8.1	10.3	24	110.8	8.1	43.6	0	0
20	10.5	11.1	10.0	10.8	14.2	17.8	37.4	19.7	24.3	21.4	25.5	19.1	18.3	14.0	6.4	6.0	5.9	3.1	57.7	95.2	156.5	84.4	69.7	25.8	24	156.5	3.1	31.9	0	0
21	23.4	17.5	16.6	5.2	4.9	3.8	3.1	3.8	4.0	4.9	5.1	4.1	4.6	4.9	5.0	4.9	5.8	12.2	10.0	11.0	7.1	5.4	3.7	2.3	24	23.4	2.3	7.2	0	0
22	18.0	15.0	8.9	11.9	8.9	6.5	17.8	18.5	17.9	15.1	10.7	9.5	5.9	C	C	C	4.3	5.8	6.2	7.3	24.9	19.4	16.2	19.1	21	24.9	4.3	12.8	0	0
23	65.1	34.5	42.7	47.0	52.1	81.4	219.9	153.7	82.7	28.3	24.2	29.3	14.8	8.5	10.4	8.7	6.6	12.2	22.4	66.1	112.8	125.2	53.3	18.1	24	219.9	6.6	55.0	0	0
24	22.4	30.8	26.0	54.4	55.4	18.6	15.7	27.9	39.3	31.5	8.8	8.5	9.0	7.3	8.2	8.2	8.1	10.3	19.8	28.3	28.5	22.7	26.2	15.4	24	55.4	7.3	22.1	0	0
25	34.9	38.2	23.8	37.1	50.7	67.9	124.3	89.1	25.6	11.5	30.2	31.5	30.4	12.9	9.2	9.9	7.1	17.8	21.8	13.0	16.8	15.5	7.1	12.4	24	124.3	7.1	30.8	0	0
26	9.8	6.3	6.0	3.8	4.9	2.4	4.7	4.6	3.4	4.3	4.1	6.7	5.6	7.1	6.7	6.5	8.7	10.3	10.9	13.0	9.3	16.6	14.5	13.3	24	16.6	2.4	7.6	0	0
27	10.2	8.8	10.7	8.6	15.0	30.2	31.7	12.3	13.0	18.6	15.8	25.9	17.2	10.8	4.1	3.9	5.1	4.7	5.8	5.9	4.7	3.1	4.0	4.9	24	31.7	3.1	11.5	0	0
28	2.8	2.6	5.4	14.3	12.3	16.2	30.4	24.2	14.6	13.3	10.9	8.3	7.8	6.3	5.6	12.3	9.4	27.6	63.3	41.1	28.8	21.5	24.7	44.1	24	63.3	2.6	18.7	0	0
29	22.1	16.4	22.9	30.4	33.0	46.4	70.4	161.5	40.9	28.1	10.3	3.4	1.9	1.3	2.9	1.2	1.0	1.6	1.5	8.2	2.0	1.2	20.2	74.2	24	161.5	1.0	25.1	0	0
30	48.4	72.9	75.4	35.8	31.2	40.3	84.8	77.9	48.8	31.3	25.0	10.1	5.7	6.2	6.0	8.5	21.2	25.9	14.7	70.1	60.7	61.5	52.5	44.3	24	84.8	5.7	40.0	0	0
31	41.7	29.5	27.3	35.9	30.2	19.1	10.7	56.6	39.2	15.2	8.2	7.1	6.1	5.7	5.2	4.5	6.7	4.9	2.5	2.8	4.2	5.4	4.0	4.1	24	56.6	2.5	15.7	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	741	31	30	31		
Maximum	65.1	72.9	75.4	74.7	78.4	85.7	219.9	161.5	82.7	56.3	55.7	55.6	51.9	55.7	53.9	45.2	25.3	44.4	109.5	130.3	156.5	125.2	122.5	100.3	24	219.9	25.3	87.7		
Minimum	1.7	2.1	2.5	3.6	2.9	2.4	2.6	3.0	3.4	3.3	2.8	2.3	1.9	1.3	1.9	1.2	1.0	1.6	1.5	2.1	2.0	1.2	2.8	1.8	21	16.6	1.0	2.2		
Average	24.8	20.8	20.6	26.2	28.1	31.5	59.0	59.3	34.3	23.0	14.3	13.8	11.1	9.1	8.0	7.4	8.1	11.6	27.3	36.4	38.6	32.6	30.6	28.5	24	87	4	25.2		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100	Maximum
													219.9
													55.0
Data	3.4	5.1	7.1	10.0	14.6	19.7	27.4	39.4	64.2	85.7	131.1	219.9	25.2

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NOx COURTICE
November 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>400	Days>200
1	3.2	3.1	2.8	3.7	2.4	2.4	2.8	4.0	4.9	5.7	7.2	7.1	8.1	10.9	9.8	8.4	7.5	8.8	8.5	9.2	10.1	11.7	12.5	9.5	24	12.5	2.4	6.8	0	0
2	6.4	6.3	5.9	9.0	14.9	12.7	14.0	14.8	22.5	10.3	4.4	11.1	4.1	3.7	14.8	4.6	3.7	8.7	7.3	3.6	13.9	4.7	4.1	8.0	24	22.5	3.6	8.9	0	0
3	29.7	18.7	3.9	3.2	3.9	3.7	10.5	18.0	2.7	3.4	2.1	1.9	0.8	1.0	1.5	1.6	13.5	30.7	73.6	50.2	67.6	69.3	18.6	15.5	24	73.6	0.8	18.6	0	0
4	18.7	18.9	7.6	12.7	16.3	28.9	16.9	42.6	53.3	69.8	16.1	2.0	1.3	2.1	0.9	0.6	1.0	0.9	1.1	2.5	2.6	2.5	2.8	3.3	24	69.8	0.6	13.6	0	0
5	5.2	5.0	3.3	3.9	5.3	5.9	5.4	6.3	7.4	9.6	11.7	13.9	15.3	12.9	9.3	10.9	8.1	13.2	11.4	8.8	9.0	17.1	12.1	9.4	24	17.1	3.3	9.2	0	0
6	9.0	8.0	9.5	5.2	4.5	4.9	5.2	5.7	8.2	9.7	9.7	9.9	9.3	12.0	7.8	7.1	6.6	5.6	4.5	4.3	3.6	2.8	3.2	4.9	24	12.0	2.8	6.7	0	0
7	7.1	4.5	4.3	3.2	5.0	13.9	9.3	15.4	19.2	7.8	6.1	11.1	8.8	8.0	7.9	12.4	7.6	13.5	22.2	16.5	12.5	17.5	18.2	12.1	24	22.2	3.2	11.0	0	0
8	12.9	12.1	24.9	33.2	16.5	21.3	49.3	60.8	34.9	20.9	21.9	5.6	6.8	7.7	6.3	7.9	16.7	20.4	19.6	29.5	20.7	17.9	39.4	34.8	24	60.8	5.6	22.6	0	0
9	48.2	27.4	28.2	30.3	49.9	54.7	67.8	88.5	13.5	5.3	6.4	5.4	4.5	5.3	4.1	4.9	6.3	9.0	7.1	6.1	5.2	5.1	7.8	6.6	24	88.5	4.1	20.7	0	0
10	5.8	5.7	3.9	3.5	4.7	5.5	6.7	8.3	7.5	6.4	6.2	4.8	3.5	3.9	3.4	5.1	6.6	5.9	7.2	6.7	5.9	5.7	5.8	6.9	24	8.3	3.4	5.6	0	0
11	9.0	10.5	13.0	11.9	14.7	7.9	6.0	8.9	10.3	13.4	12.5	13.6	12.7	9.0	11.5	22.9	10.3	6.1	5.7	8.9	12.5	4.8	5.8	4.5	24	22.9	4.5	10.3	0	0
12	6.7	5.6	3.9	11.6	8.4	8.9	15.1	17.8	13.6	8.5	6.1	5.3	5.3	6.0	12.9	9.8	9.0	13.5	9.2	17.6	12.3	11.4	17.1	25.7	24	25.7	3.9	10.9	0	0
13	73.1	80.2	81.2	48.8	62.7	68.3	85.7	79.7	98.9	72.9	37.0	27.2	10.4	9.6	9.1	11.3	12.5	10.9	9.3	9.4	8.6	8.7	6.7	6.5	24	98.9	6.5	38.7	0	0
14	9.5	11.5	11.3	11.3	11.8	10.6	10.9	12.6	17.1	18.5	21.3	18.1	14.8	13.4	11.4	12.8	14.0	11.4	9.9	10.8	10.9	11.4	9.9	8.6	24	21.3	8.6	12.7	0	0
15	7.9	7.9	8.2	7.3	7.1	6.3	5.1	5.7	6.4	8.6	14.1	13.6	15.5	13.9	11.6	12.6	13.2	13.1	11.9	9.5	8.4	8.3	11.7	49.7	24	49.7	5.1	11.6	0	0
16	69.5	32.6	15.8	12.0	50.2	62.7	87.0	146.3	164.0	39.1	21.4	13.8	14.1	15.9	17.5	15.7	26.7	13.9	12.5	19.1	7.6	7.1	6.9	8.7	24	164.0	6.9	36.7	0	0
17	4.6	3.8	5.9	7.6	14.1	19.0	5.3	7.2	4.0	14.1	7.1	5.9	8.8	8.6	3.3	3.1	3.4	3.0	3.1	4.7	5.3	3.1	2.9	2.6	24	19.0	2.6	6.3	0	0
18	2.3	2.2	3.0	4.9	5.8	5.1	4.3	6.7	6.4	4.4	6.4	7.2	8.3	9.6	8.1	8.4	9.2	8.9	9.1	7.6	6.9	5.1	3.9	5.7	24	9.6	2.2	6.2	0	0
19	8.1	4.8	6.0	3.2	3.2	8.5	6.0	11.3	13.3	7.9	7.9	5.8	6.3	5.8	6.2	10.6	14.7	19.4	21.9	35.4	113.8	145.4	60.2	41.6	24	145.4	3.2	23.6	0	0
20	32.6	28.1	27.4	26.2	27.2	35.2	30.4	44.8	50.8	61.9	61.2	5.5	4.6	5.4	11.8	8.3	10.5	6.6	4.7	7.9	4.3	4.0	4.1	3.3	24	61.9	3.3	21.1	0	0
21	4.3	5.4	7.7	6.9	6.4	4.9	4.7	5.1	8.2	9.9	12.0	13.4	14.1	12.1	9.6	10.2	10.7	10.6	9.5	9.4	11.0	9.8	7.8	7.1	24	14.1	4.3	8.8	0	0
22	8.5	7.0	7.5	5.5	6.2	8.0	11.3	36.8	23.3	22.8	22.5	33.9	14.0	39.9	57.1	55.7	46.1	13.7	7.7	6.6	5.5	7.5	4.7	5.2	24	57.1	4.7	19.0	0	0
23	9.7	7.4	9.1	11.6	22.5	25.6	14.2	4.2	6.2	6.6	12.8	4.5	5.0	3.2	2.9	3.2	5.0	5.3	8.1	6.2	9.8	3.2	3.0	3.1	24	25.6	2.9	8.0	0	0
24	5.9	3.5	2.7	3.0	2.4	4.9	7.7	4.0	3.3	2.8	7.6	3.5	3.2	3.2	5.9	5.5	7.1	14.8	14.2	15.6	26.5	34.2	25.3	30.5	24	34.2	2.4	9.9	0	0
25	35.6	37.1	49.4	61.8	55.9	30.3	6.0	5.4	5.8	7.9	5.3	5.8	5.6	7.0	8.7	10.1	11.7	11.3	10.2	8.0	8.3	16.3	13.3	9.7	24	61.8	5.3	17.8	0	0
26	8.9	10.1	10.8	15.9	18.0	21.5	19.2	24.7	C	C	C	23.1	16.0	13.9	10.9	8.9	7.3	8.9	6.8	4.8	5.8	5.2	5.0	54.9	21	54.9	4.8	14.3	0	0
27	77.1	41.8	19.8	12.2	21.6	29.7	42.6	49.0	45.0	19.6	13.6	11.5	9.8	8.4	10.5	9.8	9.0	10.2	7.9	8.6	10.2	6.2	6.7	5.9	24	77.1	5.9	20.3	0	0
28	6.4	6.6	8.0	17.8	12.7	36.8	47.9	50.3	55.4	36.9	26.9	22.7	22.5	36.2	48.4	34.1	28.0	52.6	54.3	49.6	34.9	32.5	44.9	39.3	24	55.4	6.4	33.6	0	0
29	32.9	21.8	13.8	17.4	16.0	20.7	44.2	70.0	36.0	47.0	18.7	9.3	13.5	11.5	9.3	10.5	42.4	114.0	137.2	137.1	104.2	87.5	71.9	40.1	24	137.2	9.3	46.9	0	0
30	23.6	69.2	26.9	25.5	2.4	2.3	2.4	2.1	2.0	1.8	2.3	2.7	3.1	3.3	3.7	4.7	6.0	6.8	6.2	6.6	8.8	9.1	10.2	10.0	24	69.2	1.8	10.1	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	29	29	29	30	30	30	30	30	30	30	30	30	30	30	30	30	717	30	29	30		
Maximum	77.1	80.2	81.2	61.8	62.7	68.3	87.0	146.3	164.0	72.9	61.2	33.9	22.5	39.9	57.1	55.7	46.1	114.0	137.2	137.1	113.8	145.4	71.9	54.9	24	164.0	22.5	83.0		
Minimum	2.3	2.2	2.7	3.0	2.4	2.3	2.4	2.1	2.0	1.8	2.1	1.9	0.8	1.0	0.9	0.6	1.0	0.9	1.1	2.5	2.6	2.5	2.8	2.6	0	0.0	0.6			
Average	19.4	16.9	14.2	14.3	16.4	19.0	21.5	28.6	25.7	19.1	14.1	10.6	9.0	10.1	11.2	11.1	12.5	15.7	17.4	17.4	18.9	19.2	14.9	15.8	23	51	4	16.3		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

											Maximum
Percentiles	10	20	30	40	50	60	70	80	90	95	99	100	164.0
													46.9
Data	3.5	5.2	6.3	7.8	9.1	11.3	13.9	20.7	39.6	57.8	103.3	164.0	16.3

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NOx COURTICE
December 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>400	Days>200
1	10.5	10.8	10.7	10.9	11.0	10.1	27.5	42.6	15.0	14.2	15.2	15.1	15.0	14.1	16.7	16.3	15.2	14.7	13.2	13.7	10.7	10.9	13.3	23.4	24	42.6	10.1	15.5	0	0
2	74.7	49.5	49.0	40.0	50.8	103.7	101.3	94.9	76.8	44.5	22.7	16.1	18.6	17.8	24.7	28.6	30.5	45.9	34.5	38.3	71.9	107.1	153.9	105.2	24	153.9	16.1	58.4	0	0
3	48.9	49.1	24.0	13.5	31.6	30.9	55.9	126.5	95.2	54.6	54.0	19.0	6.7	5.6	4.6	5.7	10.3	135.4	125.8	65.5	35.9	15.7	28.4	23.3	24	135.4	4.6	44.4	0	0
4	23.1	16.3	10.8	11.5	22.6	28.9	29.2	31.8	34.6	45.1	37.2	60.0	51.3	47.2	56.4	48.2	29.8	53.2	39.4	28.4	33.4	66.6	60.8	100.8	24	100.8	10.8	40.3	0	0
5	69.9	69.8	48.4	23.2	26.9	12.4	13.5	30.8	34.1	17.8	12.6	8.2	7.9	7.9	11.1	18.6	16.6	22.7	23.8	18.9	19.2	15.4	15.4	9.6	24	69.9	7.9	23.1	0	0
6	10.8	7.5	8.1	8.6	9.9	7.9	10.7	15.1	14.3	14.1	11.9	9.4	8.7	8.4	10.7	12.0	17.4	16.6	17.3	14.3	9.9	11.0	9.4	12.2	24	17.4	7.5	11.5	0	0
7	9.5	7.8	9.4	10.8	7.9	7.6	12.2	19.1	23.8	16.1	6.4	3.6	3.7	3.4	4.8	7.2	5.4	9.6	6.9	5.8	6.3	11.6	8.7	15.1	24	23.8	3.4	9.3	0	0
8	23.4	32.0	37.1	37.5	44.5	30.0	27.0	19.7	22.2	20.5	6.8	2.9	4.5	6.1	7.8	9.4	16.0	23.4	20.0	17.6	17.2	12.6	3.3	4.2	24	44.5	2.9	18.6	0	0
9	4.5	4.6	4.8	5.0	4.5	4.6	4.6	4.5	5.2	8.7	11.9	13.1	19.3	26.8	21.7	22.2	17.8	17.3	15.0	14.5	14.8	15.2	13.9	16.5	24	26.8	4.5	12.1	0	0
10	17.2	16.9	20.6	15.6	11.3	11.5	12.9	18.9	31.5	25.9	27.3	20.0	19.5	15.4	15.6	20.9	26.8	40.5	38.2	32.2	32.5	24.1	17.9	15.7	24	40.5	11.3	22.0	0	0
11	15.2	11.8	9.1	7.3	6.5	8.9	11.5	12.4	13.8	17.5	17.0	14.0	10.7	11.5	10.7	15.2	15.0	16.8	19.8	27.3	53.4	43.1	38.9	36.2	24	53.4	6.5	18.5	0	0
12	54.1	69.8	48.9	52.6	62.3	126.3	171.0	137.0	68.6	36.7	31.5	29.0	23.7	17.7	17.6	19.7	19.5	19.0	19.8	27.9	30.4	25.6	23.6	22.4	24	171.0	17.6	48.1	0	0
13	19.1	18.0	17.9	16.0	13.0	15.9	18.8	21.2	11.6	14.9	18.9	16.2	13.8	14.8	14.4	16.4	27.8	16.4	16.7	14.5	10.5	10.7	12.8	13.6	24	27.8	10.5	16.0	0	0
14	11.2	16.6	7.8	7.7	6.1	6.7	5.3	7.6	10.4	12.0	8.1	7.6	9.2	7.8	7.8	11.3	7.6	7.7	8.6	9.2	8.0	9.2	9.2	10.5	24	16.6	5.3	8.9	0	0
15	10.3	10.0	8.9	7.9	21.1	6.7	11.3	6.5	11.6	9.5	15.2	12.7	22.1	23.9	30.5	67.5	98.7	80.5	88.1	40.9	15.1	15.0	10.2	11.1	24	98.7	6.5	26.5	0	0
16	8.9	8.5	9.5	5.7	16.5	33.1	116.0	87.7	211.2	105.2	32.8	14.4	14.0	13.2	10.6	17.8	42.0	56.5	39.6	44.1	51.4	86.2	105.2	83.5	24	211.2	5.7	50.6	0	0
17	38.9	20.4	14.0	11.6	10.4	15.3	26.4	24.7	29.4	29.9	29.7	32.4	28.7	22.4	25.4	26.1	80.0	83.5	73.0	95.8	64.1	70.0	50.5	43.9	24	95.8	10.4	39.4	0	0
18	50.4	54.3	58.0	64.4	75.9	76.5	86.7	132.3	93.6	66.5	65.7	61.0	48.5	30.9	20.6	20.8	17.6	17.5	25.1	19.1	33.6	22.1	13.5	12.1	24	132.3	12.1	48.6	0	0
19	10.9	7.3	8.3	10.1	11.4	11.7	14.5	27.7	60.1	87.5	79.9	51.6	58.4	51.1	54.4	62.4	140.3	177.5	174.9	172.4	172.6	309.0	182.3	101.4	24	309.0	7.3	84.9	0	0
20	92.9	89.5	71.0	59.5	43.0	46.2	46.8	34.4	45.4	41.5	C	55.4	39.3	35.4	33.3	34.1	32.9	29.5	27.8	31.4	27.5	25.7	29.6	25.5	23	92.9	25.5	43.4	0	0
21	26.0	24.6	21.1	21.0	23.5	26.1	26.8	35.3	24.5	30.9	31.4	29.2	27.7	24.0	22.7	33.4	29.8	21.9	22.1	28.5	24.6	21.4	17.9	16.2	24	35.3	16.2	25.4	0	0
22	14.1	10.8	10.4	10.9	11.3	16.6	12.7	17.2	11.0	12.3	16.2	15.4	14.6	21.8	26.4	20.2	26.0	25.5	32.4	42.2	29.7	28.8	67.5	104.1	24	104.1	10.4	24.9	0	0
23	81.6	59.8	42.4	50.6	70.6	23.3	16.5	14.5	15.8	19.0	16.4	16.7	19.6	19.9	20.2	20.9	24.9	31.9	30.4	35.9	41.0	28.8	16.1	19.8	24	81.6	14.5	30.7	0	0
24	18.3	14.3	24.3	20.9	16.6	17.8	17.5	16.5	17.0	14.5	14.3	12.2	16.0	11.5	9.7	10.8	14.1	17.6	14.4	12.9	13.2	12.0	15.5	13.6	24	24.3	9.7	15.2	0	0
25	12.6	12.4	10.0	10.2	11.3	13.5	14.0	19.4	16.1	19.3	22.7	22.0	21.6	17.3	9.0	11.5	17.5	7.4	7.3	5.9	7.1	7.5	7.6	10.2	24	22.7	5.9	13.1	0	0
26	10.3	12.3	13.3	19.1	28.7	31.5	33.5	42.8	34.0	43.7	53.3	44.8	54.8	48.4	35.8	28.2	33.7	24.6	23.4	24.1	26.0	29.2	31.1	31.6	24	54.8	10.3	31.6	0	0
27	28.6	34.6	29.3	30.5	54.1	67.6	86.4	96.8	94.2	81.1	53.6	39.0	28.5	28.8	25.5	25.5	27.9	41.5	49.1	26.7	16.4	14.8	14.1	16.5	24	96.8	14.1	42.1	0	0
28	18.2	17.9	18.9	18.7	27.7	21.2	16.2	19.8	25.0	30.6	27.8	25.1	23.9	23.6	25.4	23.8	21.3	22.5	25.3	84.6	118.8	86.9	93.9	75.9	24	118.8	16.2	37.2	0	0
29	69.1	50.8	65.9	64.0	49.6	44.4	73.3	53.0	42.3	47.9	30.2	22.4	19.5	20.9	22.2	24.5	24.8	41.6	121.9	122.2	14.1	9.4	9.1	7.7	24	122.2	7.7	43.8	0	0
30	8.2	5.3	6.0	6.1	13.3	10.6	16.9	18.4	26.6	18.6	13.4	12.1	13.9	14.2	12.7	15.6	18.9	28.4	36.6	29.8	26.4	30.1	30.6	37.2	24	37.2	5.3	18.7	0	0
31	51.3	36.2	28.7	23.7	23.4	25.4	30.3	42.1	41.0	36.0	53.4	52.8	16.8	12.2	11.7	12.7	13.2	12.1	14.4	18.7	22.5	21.7	18.6	14.5	24	53.4	11.7	26.4	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	92.9	89.5	71.0	64.4	75.9	126.3	171.0	137.0	211.2	105.2	79.9	61.0	58.4	51.1	56.4	67.5	140.3	177.5	174.9	172.4	172.6	309.0	182.3	105.2	24	309.0	51.1	123.0		
Minimum	4.5	4.6	4.8	5.0	4.5	4.6	4.6	4.5	5.2	8.7	6.4	2.9	3.7	3.4	4.6	5.7	5.4	7.4	6.9	5.8	6.3	7.5	3.3	4.2	23	16.6	2.9	5.2		
Average	30.4	27.4	24.1	22.4	26.4	28.8	37.0	41.0	40.5	33.4	27.9	24.3	22.0	20.1	20.0	22.8	29.7	37.4	38.9	37.5	34.1	38.6	36.2	33.3	24	84	10	30.6		
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						

																					Maximum
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100	309.0
																									84.9
Data		8.7		11.5		14.3		16.7		20.2		25.2		30.5		42.5		66.4		92.6		163.8		309.0	30.6

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NO_X - RUNDLE — October 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>400	Days>200
1	18.2	13.8	17.4	12.0	9.2	8.0	29.6	23.8	53.1	34.4	16.5	16.1	14.7	13.3	9.4	17.1	14.0	26.2	14.0	9.8	20.5	9.5	9.1	10.6	24	53.1	8.0	17.5	0	0
2	12.0	18.8	10.1	12.7	19.3	16.7	28.4	47.7	51.4	24.0	6.7	3.3	3.4	3.4	10.2	11.5	8.9	8.2	6.4	4.2	2.8	32.9	15.0	4.5	24	51.4	2.8	15.1	0	0
3	2.3	2.0	2.2	1.7	2.2	7.5	45.4	68.2	35.6	45.4	19.5	16.2	15.2	8.7	4.7	8.8	24.2	47.1	53.3	26.3	47.0	20.5	13.9	12.8	24	68.2	1.7	22.1	0	0
4	6.1	13.1	7.7	5.0	5.7	5.1	5.0	6.0	6.0	10.5	6.4	27.7	18.8	9.9	8.0	10.5	10.7	10.3	3.4	16.8	4.6	7.9	5.1	3.8	24	27.7	3.4	8.9	0	0
5	9.0	3.2	3.4	3.4	3.3	2.7	2.5	5.7	10.2	2.8	2.4	2.2	2.3	4.9	3.6	13.4	4.4	6.4	5.6	18.3	32.2	4.0	2.6	2.6	24	32.2	2.2	6.3	0	0
6	4.1	2.2	1.5	2.7	13.9	2.2	2.8	8.3	4.4	13.9	22.7	13.1	6.3	29.6	6.6	6.8	8.2	12.2	14.5	14.4	9.9	33.9	7.8	5.2	24	33.9	1.5	10.3	0	0
7	6.4	12.1	25.8	16.5	9.1	9.4	9.3	17.0	15.9	33.9	22.0	10.2	9.4	12.1	12.0	14.3	18.1	14.1	4.7	4.2	3.6	3.9	5.2	10.7	24	33.9	3.6	12.5	0	0
8	3.2	8.5	4.6	6.8	3.7	11.5	17.0	18.9	22.1	24.4	8.2	4.9	9.9	20.9	14.5	12.3	20.6	35.0	39.4	22.9	15.7	11.8	8.3	5.9	24	39.4	3.2	14.6	0	0
9	6.1	8.0	6.2	3.8	6.7	8.0	11.9	43.7	21.6	21.3	10.1	11.0	6.7	3.6	13.3	16.1	5.6	17.9	17.5	16.0	11.2	6.5	4.3	3.4	24	43.7	3.4	11.7	0	0
10	3.1	5.3	3.4	3.4	7.8	5.3	35.7	24.5	44.2	17.5	15.2	7.3	12.3	10.8	11.9	22.0	20.6	37.4	41.4	28.4	19.8	6.9	7.6	3.9	24	44.2	3.1	16.5	0	0
11	2.3	4.0	2.1	2.3	4.7	5.4	9.4	9.1	27.5	43.9	17.0	8.2	11.2	5.8	12.6	6.0	9.2	19.7	34.5	14.5	18.9	9.4	13.2	12.2	24	43.9	2.1	12.6	0	0
12	7.2	16.1	3.4	3.1	4.0	6.6	12.9	10.2	16.1	11.7	4.7	10.5	10.8	9.5	5.4	13.3	11.4	4.6	6.4	18.5	23.5	8.0	6.0	3.4	24	23.5	3.1	9.5	0	0
13	4.0	4.5	13.3	9.5	6.5	36.2	10.5	8.7	6.3	9.2	23.0	26.5	18.0	7.9	13.8	14.0	15.4	11.6	19.9	10.1	5.4	0.7	1.0	0.6	24	36.2	0.6	11.5	0	0
14	1.0	0.1	0.2	0.7	0.7	6.1	10.5	8.5	1.8	0.7	1.0	1.1	1.4	1.5	1.6	1.8	6.1	18.2	26.8	35.7	18.2	14.8	2.5	0.4	24	35.7	0.1	6.7	0	0
15	0.6	0.8	3.7	16.4	4.6	29.2	26.5	24.7	15.5	16.1	8.4	13.3	14.5	8.2	10.9	6.3	8.7	10.1	8.6	11.4	16.1	15.0	29.6	20.5	24	29.6	0.6	13.3	0	0
16	26.9	44.6	20.3	12.1	10.3	9.6	9.0	10.7	13.0	15.2	14.1	14.3	14.5	15.8	10.4	11.4	15.0	9.6	11.9	9.0	5.0	5.5	8.4	20.7	24	44.6	5.0	14.0	0	0
17	21.9	24.6	30.4	19.5	20.2	20.1	39.8	58.7	70.7	32.7	18.8	28.2	22.1	13.7	M	M	M	M	M	M	M	M	M	M	14	70.7	13.7		0	0
18	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		0	0
19	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		0	0
20	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		0	0
21	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0	0
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0	0
23	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0	0
24	M	M	M	M	M	M	M	M	M	M	M	M	M	C	C	16.0	15.5	17.9	17.4	19.9	23.7	19.2	19.2	17.0	9	23.7	15.5		0	0
25	16.4	16.5	17.4	17.5	20.1	17.5	23.7	25.2	29.3	19.5	26.6	38.8	29.3	30.8	16.3	16.6	20.8	30.6	36.8	38.0	35.8	38.3	29.8	27.1	24	38.8	16.3	25.8	0	0
26	26.5	18.9	23.2	16.6	16.6	12.7	15.2	19.0	17.6	16.3	17.2	19.0	20.1	20.3	18.2	21.1	19.1	23.3	24.7	25.1	21.5	28.7	24.2	14.3	24	28.7	12.7	20.0	0	0
27	12.6	10.2	14.8	15.1	17.4	31.4	20.0	21.0	23.2	18.7	15.6	32.2	28.4	21.1	16.4	20.3	20.5	19.3	25.5	27.6	28.6	17.9	20.9	23.3	24	32.2	10.2	20.9	0	0
28	16.6	12.0	15.9	26.7	32.0	22.3	20.1	9.1	7.5	5.9	6.4	8.5	4.6	4.9	5.3	7.0	6.8	11.0	15.9	12.9	8.9	5.8	5.7	8.0	24	32.0	4.6	11.7	0	0
29	8.7	6.4	7.0	5.5	7.7	10.0	14.3	25.8	16.0	10.5	16.5	15.7	26.4	13.8	12.2	13.5	14.1	26.4	39.4	35.6	24.4	30.9	30.4	25.1	24	39.4	5.5	18.2	0	0
30	18.9	15.6	14.7	11.5	11.4	12.9	44.7	59.6	80.9	51.8	48.4	33.4	15.8	16.2	15.7	21.8	29.3	37.0	50.1	77.8	91.2	31.1	21.3	19.4	24	91.2	11.4	34.6	0	0
31	16.4	23.0	15.7	21.8	16.0	29.5	37.2	26.8	34.0	43.6	31.2	32.2	31.7	31.0	41.1	26.6	22.8	21.5	21.8	23.7	32.3	33.8	23.0	19.7	24	43.6	15.7	27.4	0	0
Count	24	24	24	24	24	24	24	24	24	24	24	24	24	24	23	24	24	24	24	24	24	24	24	24	575	24	23	24		
Maximum	26.9	44.6	30.4	26.7	32.0	36.2	45.4	68.2	80.9	51.8	48.4	38.8	31.7	31.0	41.1	26.6	29.3	47.1	53.3	77.8	91.2	38.3	30.4	27.1	24	91.2	26.6	44.0		
Minimum	0.6	0.1	0.2	0.7	0.7	2.2	2.5	5.7	1.8	0.7	1.0	1.1	1.4	1.5	1.6	1.8	4.4	4.6	3.4	4.2	2.8	0.7	1.0	0.4	0	0	0.1			
Average	10.4	11.8	11.0	10.3	10.5	13.6	20.1	24.2	26.0	21.8	15.8	16.4	14.5	13.2	11.9	13.7	14.6	19.8	22.5	21.7	21.7	16.5	13.1	11.5	19	34	5	15.7		

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	3.5	6.0	8.4	10.7	13.9	16.3	19.5	23.8	31.6	38.9	59.0	91.2

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					91.2
Day					34.6
Month					15.7

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NO_X - RUNDLE
November 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>400	Days>200
1	25.2	20.8	22.2	13.3	14.5	13.0	12.3	14.8	15.5	14.9	17.3	16.1	20.7	19.8	20.5	18.9	18.0	18.5	19.5	21.8	25.6	23.7	22.5	23.7	24	25.6	12.3	18.9	0	0
2	19.3	16.3	15.5	18.2	18.8	45.2	29.8	30.0	32.3	8.2	7.5	6.8	5.5	4.7	5.1	4.5	4.1	4.0	3.9	3.8	3.5	3.1	3.1	3.6	24	45.2	3.1	12.4	0	0
3	3.1	9.6	3.0	2.8	2.9	2.0	3.1	2.9	3.1	2.7	2.7	2.6	3.1	10.4	16.7	11.2	7.8	9.9	14.9	8.8	10.5	11.2	5.5	4.7	24	16.7	2.0	6.5	0	0
4	5.4	8.1	5.2	3.9	5.3	7.2	36.1	13.7	13.8	12.0	23.4	12.2	19.3	8.3	10.7	18.4	26.7	28.5	11.9	14.7	41.6	27.6	11.9	43.6	24	43.6	3.9	17.1	0	0
5	19.5	21.7	18.1	18.3	18.9	25.0	27.8	27.2	26.5	28.2	25.4	19.7	21.4	24.8	35.3	27.9	23.4	39.3	55.9	60.2	42.2	37.0	35.6	58.2	24	60.2	18.1	30.7	0	0
6	35.3	38.7	33.0	30.6	32.1	36.0	42.1	33.4	34.9	29.7	30.8	41.4	32.7	37.3	38.7	43.8	38.3	27.7	23.2	21.0	24.6	17.3	18.2	24.6	24	43.8	17.3	31.9	0	0
7	17.6	10.1	7.8	7.0	5.5	5.5	7.7	8.5	10.3	7.8	6.7	7.0	6.4	6.1	11.4	12.3	11.5	17.4	17.8	14.4	16.3	16.6	18.5	11.9	24	18.5	5.5	10.9	0	0
8	13.9	9.0	7.5	8.3	6.2	7.7	8.5	13.8	15.4	22.4	23.5	6.8	5.2	4.2	4.3	5.8	9.5	8.0	7.6	24.6	21.7	18.6	18.7	24.7	24	24.7	4.2	12.3	0	0
9	27.0	20.4	27.5	31.7	26.3	17.6	14.4	16.5	16.1	26.9	19.3	14.8	11.8	16.9	12.5	21.8	16.2	18.1	18.9	36.9	24.2	19.4	13.5	13.7	24	36.9	11.8	20.1	0	0
10	15.7	11.2	7.5	7.3	8.1	6.8	10.8	12.0	11.4	11.3	9.7	8.6	6.3	4.7	5.0	5.4	5.8	6.1	5.4	5.5	5.4	5.2	8.3	13.0	24	15.7	4.7	8.2	0	0
11	12.7	16.9	32.7	19.6	28.5	23.6	19.3	22.6	34.6	24.3	30.7	27.9	27.8	24.2	23.2	33.7	14.8	6.5	5.5	5.5	3.8	3.2	3.2	2.5	24	34.6	2.5	18.6	0	0
12	2.9	2.4	2.3	2.5	2.8	3.2	2.9	3.7	4.0	4.9	3.7	4.0	4.6	5.1	4.7	5.4	6.2	6.4	4.8	4.2	3.3	3.6	3.7	7.4	24	7.4	2.3	4.1	0	0
13	3.4	4.6	5.1	10.2	12.2	12.8	31.2	36.6	57.3	92.4	66.3	40.5	23.0	20.6	19.1	22.4	24.3	22.6	21.5	18.5	17.7	17.7	16.2	14.7	24	92.4	3.4	25.5	0	0
14	16.6	19.2	18.7	17.9	20.1	21.7	23.6	26.7	28.2	27.6	35.9	28.4	29.8	27.4	23.2	23.9	29.8	23.6	26.2	25.9	30.8	28.7	26.3	24.2	24	35.9	16.6	25.2	0	0
15	20.0	22.9	24.2	19.8	22.5	24.8	22.7	30.8	32.1	26.6	37.0	35.9	30.8	32.4	28.6	25.6	23.8	37.1	42.1	39.2	54.6	138.1	57.5	26.6	24	138.1	19.8	35.6	0	0
16	17.0	17.6	17.2	15.9	18.5	18.3	15.6	15.7	26.1	32.4	25.8	19.4	27.7	26.7	28.4	40.5	14.9	14.7	10.1	12.3	28.0	20.0	18.0	34.9	24	40.5	10.1	21.5	0	0
17	12.0	12.2	29.5	20.1	10.9	11.7	11.6	10.8	22.7	10.9	13.6	15.2	18.3	14.9	21.6	26.0	17.1	17.9	12.9	20.8	24.5	14.3	16.7	27.6	24	29.5	10.8	17.2	0	0
18	10.1	11.8	7.9	11.3	16.3	13.5	11.8	15.5	17.5	16.6	14.6	15.6	15.6	12.9	13.8	16.3	15.0	7.1	10.8	9.3	8.0	7.4	6.4	5.0	24	17.5	5.0	12.1	0	0
19	5.2	4.6	4.3	4.1	3.8	4.2	3.7	5.2	5.2	5.2	4.5	5.9	5.5	5.0	4.4	4.9	6.3	10.0	10.2	8.6	9.4	8.8	9.2	11.9	24	11.9	3.7	6.3	0	0
20	5.5	15.6	6.2	6.7	40.7	35.7	10.5	12.7	16.4	17.6	27.0	28.8	9.9	11.7	12.0	8.9	8.0	10.8	9.9	8.0	14.1	20.5	18.6	24.0	24	40.7	5.5	15.8	0	0
21	43.5	15.1	15.4	19.2	26.2	31.0	28.2	35.8	28.9	30.7	64.3	42.9	29.0	32.0	38.6	48.8	46.9	58.2	38.2	41.7	34.6	37.4	28.3	28.2	24	64.3	15.1	35.1	0	0
22	37.3	30.2	36.9	34.5	26.2	34.0	24.5	26.8	34.6	31.8	45.6	52.9	46.0	60.4	92.0	102.1	77.1	15.9	11.1	8.1	6.3	4.8	4.0	3.6	24	102.1	3.6	35.3	0	0
23	4.4	4.3	4.5	4.9	6.8	15.6	39.8	15.0	16.2	13.5	16.9	6.7	5.3	5.1	4.6	5.2	4.7	4.6	3.9	3.5	3.4	3.3	2.9	2.8	24	39.8	2.8	8.2	0	0
24	3.3	2.7	3.4	3.1	3.3	3.4	3.5	3.6	3.3	3.7	3.8	4.1	3.9	4.0	3.6	4.1	4.9	7.2	6.8	8.0	8.0	10.2	12.5	9.7	24	12.5	2.7	5.2	0	0
25	7.5	5.6	9.7	42.2	46.1	33.4	18.3	18.2	18.2	18.7	16.8	17.3	14.8	16.0	19.1	22.5	26.2	19.6	17.2	17.1	15.9	22.4	25.1	19.8	24	46.1	5.6	20.3	0	0
26	17.7	17.7	18.1	22.3	22.9	30.8	37.8	35.7	59.9	38.8	30.7	33.0	C	C	24.2	25.8	25.5	22.2	20.5	21.3	32.6	48.8	36.9	33.0	22	59.9	17.7	29.8	0	0
27	18.8	7.8	4.2	3.4	3.5	5.5	11.5	21.8	19.4	9.2	7.1	3.1	2.0	1.7	3.0	2.3	2.2	1.0	0.1	0.0	0.0	0.0	0.0	0.0	24	21.8	0.0	5.3	0	0
28	0.0	0.0	0.0	2.0	3.4	27.0	28.8	25.1	27.2	24.1	9.5	13.9	16.1	27.9	45.2	22.9	27.7	15.2	11.4	8.3	8.1	6.0	4.7	5.2	24	45.2	0.0	15.0	0	0
29	5.4	3.3	1.7	1.1	0.5	1.6	2.0	6.7	5.3	5.2	2.7	1.8	0.9	1.0	3.1	3.1	10.3	13.0	28.0	31.8	22.4	12.5	9.1	10.2	24	31.8	0.5	7.6	0	0
30	10.4	9.3	13.7	13.2	7.6	25.1	5.0	3.3	3.3	3.1	19.8	26.4	6.9	26.8	7.4	10.8	13.2	11.6	14.8	15.8	18.2	11.1	13.6	18.0	24	26.8	3.1	12.9	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	30	30	30	30	29	29	30	30	30	30	30	30	30	30	30	30	718	30	29	30		
Maximum	43.5	38.7	36.9	42.2	46.1	45.2	42.1	36.6	59.9	92.4	66.3	52.9	46.0	60.4	92.0	102.1	77.1	58.2	55.9	60.2	54.6	138.1	57.5	58.2	24	138.1	36.6	61.0		
Minimum	0.0	0.0	0.0	1.1	0.5	1.6	2.0	2.9	3.1	2.7	2.7	1.8	0.9	1.0	3.0	2.3	2.2	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0	0	0.0			
Average	14.5	13.0	13.4	13.8	15.4	18.1	18.2	18.2	21.3	20.0	21.4	18.7	15.5	17.0	19.3	20.8	18.7	16.8	16.2	17.3	18.6	19.9	15.6	17.7	23	40	7	17.5		

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	3.5	5.2	7.8	11.4	15.1	18.2	22.5	27.1	34.6	40.8	60.3	138.1

Regs	Acceptable	Desirable	Violations	Maximum
Hour				138.1
Day				35.6
Month				17.5

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

NO_X - RUNDLE
December 2013
(ug/m3)

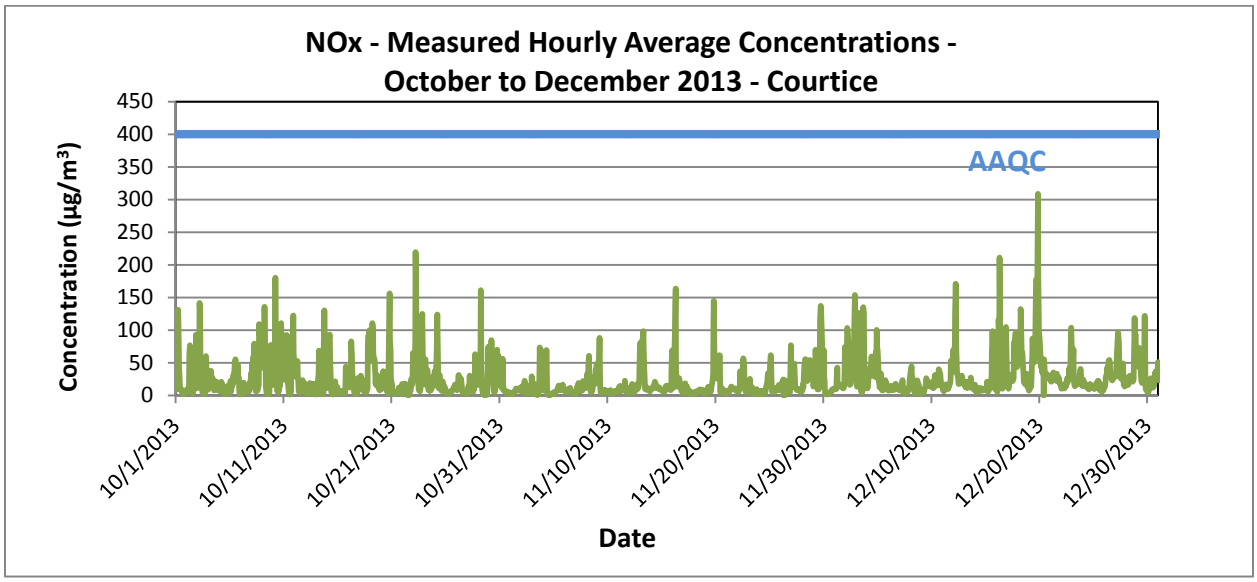
Day	Hour 0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>400	Days>200
1	12.3	13.7	11.9	43.8	12.6	20.6	24.1	21.3	38.3	24.5	22.6	29.1	33.0	29.0	31.7	34.1	31.7	43.2	22.8	26.1	38.9	24.1	24.0	25.5	24	43.8	11.9	26.6	0	0
2	20.6	23.3	19.4	17.8	14.3	12.1	21.9	70.9	54.7	27.1	13.5	8.5	9.7	7.6	7.5	6.8	12.9	9.8	13.5	14.3	9.0	10.1	17.9	13.1	24	70.9	6.8	18.2	0	0
3	10.7	5.7	2.3	1.2	0.5	2.0	7.1	33.8	17.8	7.6	9.9	10.5	12.9	9.0	20.2	15.0	30.1	30.2	30.6	24.5	22.1	5.5	3.5	2.6	24	33.8	0.5	13.1	0	0
4	1.5	11.1	16.7	14.9	3.3	4.8	10.0	12.2	28.1	22.5	25.1	24.6	19.7	39.3	16.3	22.2	12.2	9.6	12.8	16.2	10.3	17.4	18.4	18.8	24	39.3	1.5	16.2	0	0
5	18.3	31.4	32.4	18.3	20.7	26.8	41.8	45.1	69.3	90.3	31.8	17.7	18.0	21.1	31.9	17.0	17.9	12.7	19.8	13.6	16.0	17.4	10.4	7.4	24	90.3	7.4	27.0	0	0
6	5.8	3.0	2.8	1.9	2.9	6.4	8.0	7.8	6.3	6.7	3.3	3.4	3.7	3.8	4.0	4.7	5.3	4.3	4.8	4.3	4.0	3.6	2.4	2.3	24	8.0	1.9	4.4	0	0
7	4.2	4.2	4.7	2.6	1.5	2.4	9.0	14.1	16.9	11.0	5.2	2.1	2.6	2.3	2.1	2.1	1.7	3.6	3.1	2.1	3.6	17.8	15.8	21.8	24	21.8	1.5	6.5	0	0
8	29.4	33.6	33.9	26.7	25.8	21.3	17.5	11.7	6.4	3.2	1.0	0.3	4.6	9.1	7.8	7.1	10.6	10.8	8.2	13.7	5.9	43.9	16.9	5.7	24	43.9	0.3	14.8	0	0
9	4.7	10.7	4.7	8.3	12.9	9.0	12.1	15.7	21.9	20.3	19.0	22.4	26.8	37.3	29.2	28.7	22.0	22.7	20.7	19.1	20.9	17.3	16.1	17.3	24	37.3	4.7	18.3	0	0
10	20.5	19.8	23.8	13.6	10.5	5.9	4.5	12.9	31.6	22.9	21.8	17.8	17.4	12.8	15.6	24.7	34.5	38.5	45.0	42.2	42.6	33.1	20.6	18.4	24	45.0	4.5	23.0	0	0
11	17.3	16.9	12.3	11.7	9.3	16.4	17.6	17.7	20.4	25.2	22.9	14.7	8.3	12.4	12.1	8.2	12.5	12.8	15.8	14.5	17.4	13.2	8.6	3.5	24	25.2	3.5	14.2	0	0
12	2.9	1.0	1.5	1.6	0.6	3.5	12.8	59.1	55.5	27.8	35.3	34.3	27.4	21.6	22.4	25.5	26.7	28.0	24.0	35.5	37.3	33.1	29.8	25.8	24	59.1	0.6	23.9	0	0
13	22.5	21.4	20.1	18.1	15.9	18.5	24.1	19.4	4.7	2.8	2.5	1.7	1.5	1.3	1.8	2.2	3.7	4.4	2.7	2.6	1.3	2.6	3.3	2.7	24	24.1	1.3	8.4	0	0
14	2.4	4.0	1.5	1.3	1.1	1.0	9.0	1.4	19.4	2.6	23.3	13.7	4.0	3.4	11.2	3.7	2.9	9.8	13.1	3.6	21.3	13.1	17.3	14.9	24	23.3	1.0	8.3	0	0
15	8.1	6.8	5.5	5.8	4.4	4.3	3.7	4.1	4.9	4.8	7.3	8.7	18.8	27.6	31.5	44.1	43.9	37.0	36.0	47.0	21.1	13.4	3.7	2.6	24	47.0	2.6	16.5	0	0
16	1.9	1.1	0.2	0.1	0.4	0.7	6.5	14.1	41.7	103.6	9.8	3.7	3.5	2.4	1.5	5.0	9.7	28.9	11.5	6.5	12.0	13.5	21.1	43.9	24	103.6	0.1	14.3	0	0
17	23.7	7.2	8.2	14.4	3.3	4.2	5.8	9.2	17.4	15.4	12.9	11.8	12.9	14.9	24.2	45.7	63.5	47.4	47.1	49.4	30.1	67.3	23.2	46.4	24	67.3	3.3	25.2	0	0
18	28.1	23.7	25.8	43.6	30.6	29.5	26.6	31.3	110.4	135.6	92.6	78.3	61.6	30.7	15.0	13.0	10.0	13.9	28.2	29.2	27.3	30.6	20.7	18.0	24	135.6	10.0	39.8	0	0
19	21.6	17.4	17.2	13.0	21.1	32.5	26.3	44.8	89.0	113.2	121.5	85.5	69.4	54.5	55.1	61.6	74.4	69.7	72.0	90.1	98.4	114.5	106.9	81.3	24	121.5	13.0	64.6	0	0
20	60.0	52.6	56.0	51.3	27.8	22.7	19.1	20.7	C	C	23.4	17.5	12.7	12.3	9.3	19.5	8.6	6.5	6.9	10.3	14.4	8.5	4.7	10.8	22	60.0	4.7	21.6	0	0
21	10.9	4.2	3.3	3.9	5.5	7.8	8.1	6.8	2.0	3.0	4.0	5.0	4.6	3.6	3.0	3.6	2.4	3.6	5.5	8.9	1.3	0.9	M	M	22	10.9	0.9	4.6	0	0
22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	8.3	1.9	8.4	9.2	5.5	41.2	32.1	45.1	100.8	9	100.8	1.9		0	0
23	78.5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0.6	1.4	1.5	2.2	2.3	0.8	M	M	M	7	78.5	0.6		0	0
24	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		0	0
25	M	M	M	M	M	M	M	M	3.5	5.3	2.8	0.1	2.3	5.7	6.4	4.5	6.6	6.5	6.6	7.7	14.2	18.6	1.8	5.4	16	18.6	0.1		0	0
26	4.4	12.0	3.8	9.2	12.0	10.1	12.0	8.7	8.2	17.0	33.9	42.5	45.6	45.0	23.1	25.7	32.0	22.8	21.0	22.4	26.4	38.5	38.0	21.0	24	45.6	3.8	22.3	0	0
27	28.7	21.9	21.7	21.7	26.6	40.2	43.1	51.8	66.8	47.5	34.5	25.7	13.2	11.4	8.8	13.1	19.8	19.9	40.1	44.9	33.0	19.8	13.2	11.4	24	66.8	8.8	28.3	0	0
28	22.9	13.8	13.3	15.3	28.1	18.7	13.5	19.2	22.6	50.1	26.6	23.6	24.9	23.7	23.8	30.4	20.8	23.7	31.6	42.0	104.2	81.8	55.0	49.1	24	104.2	13.3	32.4	0	0
29	42.6	41.1	27.6	25.3	20.2	19.3	18.3	31.0	34.4	24.5	25.0	16.2	18.8	22.0	21.7	30.1	25.3	35.3	70.8	49.7	0.0	0.0	0.0	0.0	24	70.8	0.0	25.0	0	0
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	2.5	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	1.1	4.2	4.3	3.7	8.5	12.8	7.1	24	12.8	0.0	2.1	0	0
31	1.5	8.4	3.1	15.1	2.8	2.6	5.9	13.8	13.7	8.8	23.5	33.3	6.7	5.8	5.2	6.0	7.3	8.5	9.4	9.6	8.6	7.4	4.9	9.7	24	33.3	1.5	9.2	0	0
Count	28	27	27	27	27	27	27	27	27	27	28	28	28	28	28	30	30	30	30	30	30	29	28	28	676	30	27	28		
Maximum	78.5	52.6	56.0	51.3	30.6	40.2	43.1	70.9	110.4	135.6	121.5	85.5	69.4	54.5	55.1	61.6	74.4	69.7	72.0	90.1	104.2	114.5	106.9	100.8	24	135.6	30.6	77.1		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	2.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	1.1	2.2	2.1	0.0	0.0	0.0	0.0	0	0	0.0			
Average	18.1	15.2	13.8	14.8	11.7	12.7	15.1	22.2	29.9	30.5	23.4	19.7	17.4	16.8	15.8	17.1	18.4	19.2	21.3	22.1	22.9	24.4	19.9	21.0	22	53	4	19.6		

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				135.6
	Day				64.6
	Month				19.6

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	2.3	4.0	6.9	10.4	13.8	18.5	22.7	28.9	42.6	55.7	103.7	135.6

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

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



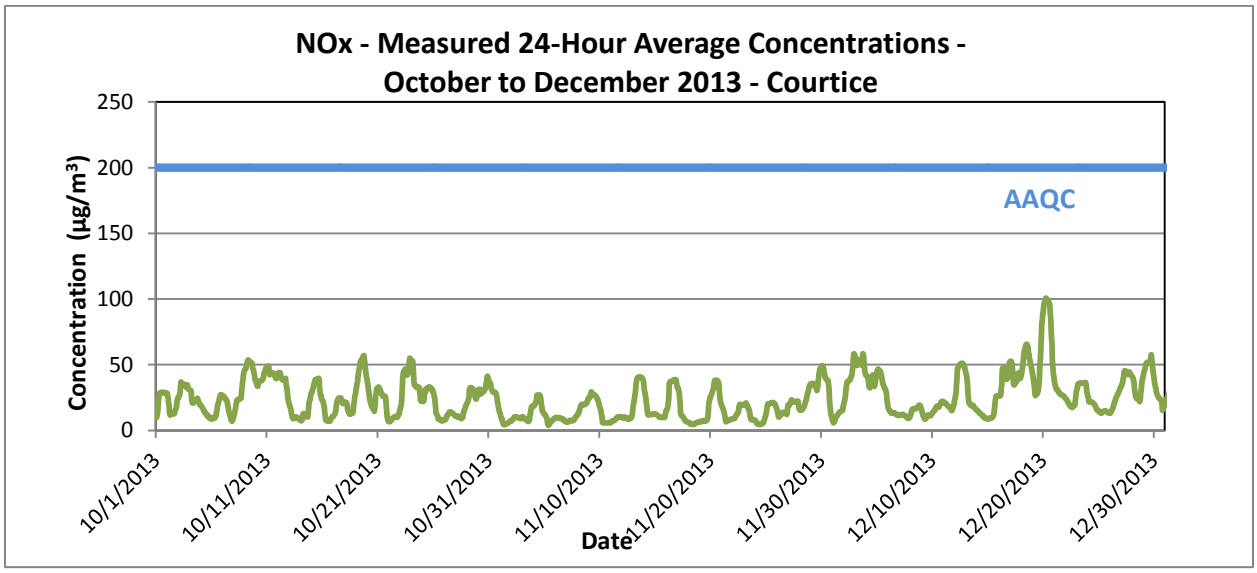
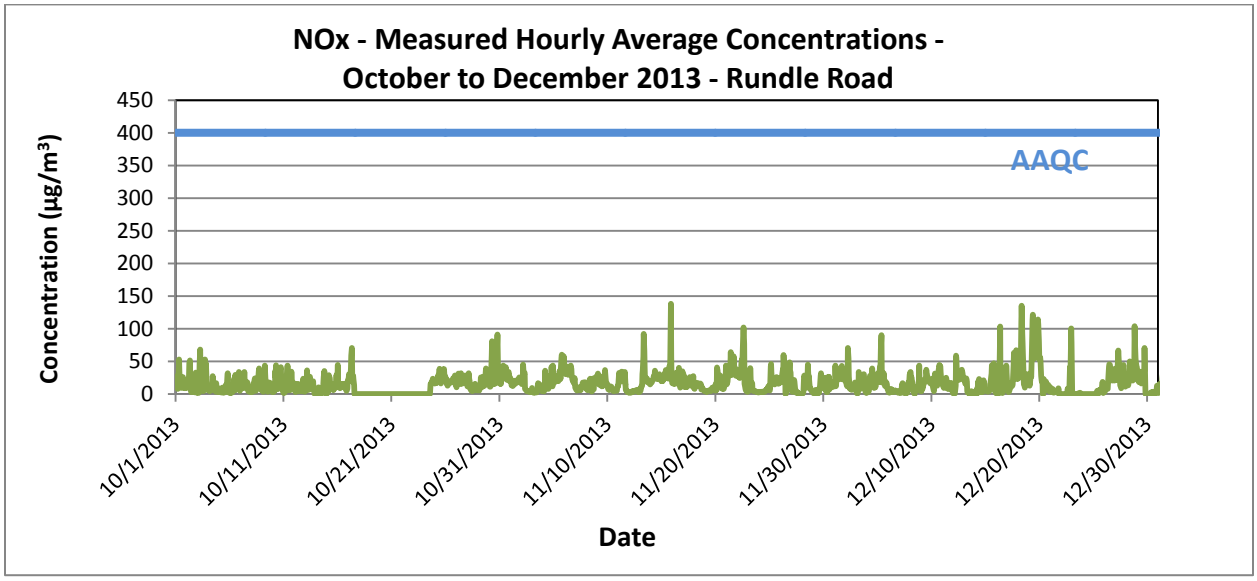
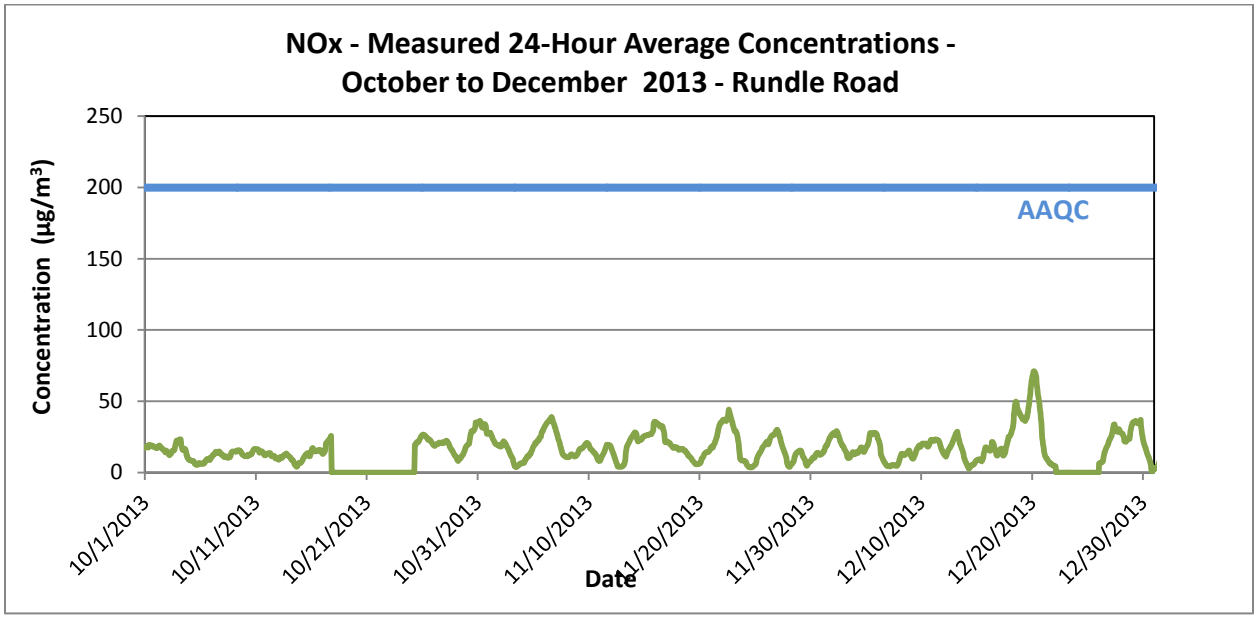


Figure C-2 Time History Plots of Measured Hourly Average and 24-Hour Average NO_x Concentrations – Rundle Road Station





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

$PM_{2.5}$ - COURTICE 2013

October (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
1	12.0	10.7	14.3	11.2	7.9	7.8	8.7	8.1	7.9	15.5	14.8	16.7	19.2	19.5	17.0	16.0	16.9	16.5	10.6	9.3	9.5	11.9	11.9	12.0	24	19.5	7.8	12.7
2	13.4	15.5	14.4	15.4	15.3	14.5	15.0	16.3	15.8	13.6	8.8	5.9	11.4	11.8	14.4	12.7	7.8	4.4	6.2	6.2	5.8	6.6	9.1	9.8	24	16.3	4.4	11.2
3	8.8	8.2	8.6	9.1	9.5	11.9	14.4	11.6	5.6	5.0	5.0	4.7	4.2	3.7	3.4	3.3	3.7	4.7	4.8	5.5	6.3	6.3	6.3	5.3	24	14.4	3.3	6.7
4	4.5	3.5	3.4	3.4	3.4	3.2	3.4	4.1	4.3	4.0	4.3	4.7	4.5	5.0	10.0	6.7	5.3	6.1	6.1	5.8	6.0	6.4	7.1	6.6	24	10.0	3.2	5.1
5	6.1	4.8	5.3	5.8	5.6	5.8	5.7	6.6	6.6	5.8	6.0	5.6	5.5	4.9	5.0	5.2	5.3	5.5	5.6	6.1	7.1	7.9	7.6	7.5	24	7.9	4.8	6.0
6	7.3	6.9	6.7	9.3	6.7	6.3	5.8	5.2	8.3	5.6	4.5	6.3	8.1	10.3	11.1	11.5	8.9	13.3	12.0	9.6	8.6	7.2	6.2	7.3	24	13.3	4.5	8.0
7	7.3	7.2	7.6	8.4	3.5	2.7	2.4	2.3	3.1	3.8	3.5	4.0	5.3	5.8	6.0	6.7	7.2	8.1	6.8	7.3	7.9	9.3	10.2	10.4	24	10.4	2.3	6.1
8	13.2	14.9	14.8	13.8	12.0	12.2	11.7	11.3	6.7	5.7	5.0	5.4	5.9	5.9	5.1	5.2	5.8	6.4	11.0	23.0	12.6	10.5	10.1	9.5	24	23.0	5.0	9.9
9	9.5	9.2	8.6	8.3	8.1	8.3	10.1	7.5	5.2	2.9	2.7	2.7	2.6	3.2	3.2	3.5	3.5	3.6	5.2	8.2	7.7	7.4	6.8	5.7	24	10.1	2.6	6.0
10	6.0	5.4	5.3	5.4	5.5	6.1	8.5	7.1	4.6	3.7	3.4	3.2	3.4	3.7	3.5	4.1	5.6	8.3	11.1	16.6	11.0	12.0	11.2	10.3	24	16.6	3.2	6.9
11	9.7	9.6	9.3	8.9	9.4	9.4	11.4	14.0	9.4	6.6	4.4	4.8	4.2	4.2	3.7	3.6	3.4	3.7	8.5	14.0	19.4	14.2	14.2	13.1	24	19.4	3.4	8.9
12	13.6	11.1	10.5	10.8	12.6	14.9	17.1	14.3	10.4	8.2	5.6	5.3	4.6	4.5	4.5	4.9	5.4	5.9	8.0	9.0	9.8	8.1	6.6	5.7	24	17.1	4.5	8.8
13	5.1	4.8	5.2	4.6	4.1	4.0	3.9	3.9	3.9	3.8	4.3	5.7	4.5	4.7	4.9	3.7	4.3	4.3	4.4	5.1	7.2	6.1	5.8	4.4	24	7.2	3.7	4.7
14	3.7	3.0	3.2	3.8	4.3	4.7	5.7	5.6	3.6	3.3	3.3	4.0	4.9	5.1	8.4	7.2	6.0	6.2	8.2	12.3	11.9	13.3	8.4	9.3	24	13.3	3.0	6.2
15	20.7	11.7	12.4	13.5	12.9	13.6	18.9	17.6	12.1	9.0	7.6	6.0	4.7	4.1	4.2	4.5	5.1	5.4	5.9	4.6	4.9	4.8	4.6	4.8	24	20.7	4.1	8.9
16	4.9	4.7	4.0	3.7	3.9	4.3	4.0	3.6	3.8	4.6	5.5	5.0	5.6	6.0	4.7	3.8	4.7	5.6	7.2	8.9	7.9	7.2	6.8	7.7	24	8.9	3.6	5.3
17	9.9	9.5	8.9	16.9	8.7	8.7	9.7	11.1	9.7	7.7	7.3	7.6	5.8	4.5	4.6	4.5	4.8	5.1	7.3	7.8	5.9	6.7	8.0	7.9	24	16.9	4.5	7.9
18	6.0	3.6	3.7	3.3	3.8	3.6	4.1	3.8	4.9	6.0	6.7	7.0	9.2	10.0	12.1	13.7	12.6	12.5	14.1	15.1	19.4	24.2	25.8	25.9	24	25.9	3.3	10.5
19	26.0	34.7	32.6	30.8	28.4	31.1	38.0	31.8	23.6	18.7	16.4	15.8	12.6	9.2	8.6	5.5	6.4	5.9	4.1	3.3	3.3	3.1	3.1	3.5	24	38.0	3.1	16.5
20	4.4	5.1	5.4	5.7	7.7	10.5	10.9	10.1	8.0	10.3	10.8	9.5	8.9	6.8	6.4	6.4	5.0	5.0	7.9	12.9	15.8	19.1	25.0	14.3	24	25.0	4.4	9.7
21	12.1	11.5	11.3	7.9	6.2	5.4	4.9	4.6	4.0	3.7	3.5	3.4	3.6	3.9	3.9	4.3	4.7	5.6	4.6	5.4	5.2	5.2	4.6	4.3	24	12.1	3.4	5.6
22	5.4	4.6	5.0	6.4	8.0	8.8	9.8	9.8	8.8	9.1	9.4	8.7	7.3	6.8	4.9	C	3.9	4.6	4.7	5.0	4.7	4.0	4.3	4.8	23	9.8	3.9	6.5
23	6.6	5.9	5.9	4.5	5.0	6.2	11.4	9.6	5.6	2.7	3.1	4.8	3.5	2.7	2.6	2.2	2.2	2.2	2.7	4.8	6.9	8.0	4.8	4.1	24	11.4	2.2	4.9
24	3.7	3.6	4.7	5.1	4.7	3.7	3.2	3.2	3.5	3.4	2.1	2.0	2.0	1.9	2.0	2.3	2.2	2.2	2.6	3.5	3.6	3.5	3.2	2.5	24	5.1	1.9	3.1
25	2.5	2.8	2.8	3.5	3.6	4.6	6.3	5.0	3.3	3.0	3.8	4.1	5.5	3.2	2.4	2.2	2.2	2.6	3.0	2.9	4.0	5.2	4.2	3.9	24	6.3	2.2	3.6
26	4.9	6.7	11.5	10.2	8.3	7.9	10.1	10.4	9.1	9.0	8.7	7.9	7.1	7.6	7.9	8.0	9.1	9.4	10.5	10.7	11.3	11.9	5.8	3.3	24	11.9	3.3	8.6
27	2.4	2.2	2.6	3.0	3.4	3.6	3.8	3.3	3.0	2.8	2.6	3.8	3.2	2.8	2.1	1.9	2.0	2.1	2.3	2.7	3.0	3.2	3.5	3.8	24	3.8	1.9	2.9
28	3.9	4.8	7.2	8.9	7.8	7.2	5.9	3.5	2.4	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.5	4.6	8.0	7.4	6.5	7.0	9.1	7.0	24	9.1	1.9	4.9
29	5.8	6.8	5.8	5.1	4.8	6.2	6.8	7.7	3.2	2.6	2.3	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.3	2.0	2.0	2.9	5.6	24	7.7	2.0	3.7
30	4.8	6.3	7.7	7.7	8.0	9.2	10.8	12.9	12.3	11.0	12.3	8.2	6.0	8.0	9.0	9.7	12.0	13.5	14.6	16.2	16.5	16.2	14.8	12.6	24	16.5	4.8	10.8
31	10.6	9.8	11.7	11.9	11.6	11.8	10.6	10.5	5.9	4.5	1.6	2.1	2.6	2.8	3.3	5.5	6.7	6.8	4.3	5.3	6.9	7.4	4.3	2.7	24	11.9	1.6	6.7
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	743	31	30	31
Maximum	26.0	34.7	32.6	30.8	28.4	31.1	38.0	31.8	23.6	18.7	16.4	16.7	19.2	19.5	17.0	16.0	16.9	16.5	14.6	23.0	19.4	24.2	25.8	25.9	24	38.0	14.6	23.6
Minimum	2.4	2.2	2.6	3.0	3.4	2.7	2.4	2.3	2.4	1.9	1.6	2.0	2.0	1.9	2.0	1.9	2.0	2.0	2.0	2.3	2.0	2.0	2.9	2.5	23	3.8	1.6	2.3
Average	8.2	8.0	8.4	8.6	7.9	8.3	9.5	8.9	7.1	6.4	5.8	5.8	5.8	5.7	5.9	5.8	5.7	6.2	6.9	8.3	8.3	8.6	8.3	7.6	24	14	3	7.3
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

																												Maximum
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100				38.0
																												16.5
Data		3.0		3.7		4.5		5.1		5.9		7.1		8.4		10.3		13.1		15.8		26.0		38.0				7.3

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

$PM_{2.5}$ - COURTICE
November 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
1	3.0	3.6	4.1	4.6	4.7	2.5	1.2	1.1	1.7	3.0	5.1	7.2	9.1	12.7	11.4	9.9	8.7	9.7	10.3	16.3	20.9	20.4	17.0	20.6	24	20.9	1.1	8.7
2	17.5	14.4	12.2	12.8	14.1	16.1	19.6	20.4	14.4	1.5	1.4	1.5	1.5	1.6	1.7	1.7	1.8	2.4	2.2	2.2	2.4	2.5	2.6	3.0	24	20.4	1.4	7.2
3	3.4	4.3	3.3	3.4	3.5	3.6	4.0	3.8	2.8	2.5	2.6	2.6	2.6	2.5	2.6	2.5	2.6	3.9	7.3	9.4	10.7	11.3	7.1	6.9	24	11.3	2.5	4.5
4	7.1	6.0	4.8	4.5	4.1	3.9	4.0	5.3	4.1	3.9	3.2	2.5	2.5	2.5	2.4	2.5	2.6	2.5	2.6	3.1	3.1	3.3	3.5	3.6	24	7.1	2.4	3.6
5	4.5	5.2	5.5	5.5	5.6	5.6	5.7	5.7	5.6	4.3	4.7	5.0	5.1	5.2	6.2	8.5	9.9	9.3	8.5	8.8	9.5	10.3	10.0	8.7	24	10.3	4.3	6.8
6	6.7	6.1	5.9	5.2	4.9	5.1	5.3	5.4	5.4	5.4	5.1	5.0	5.6	4.9	3.6	3.1	2.7	2.5	2.6	2.6	2.1	1.9	1.7	2.0	24	6.7	1.7	4.2
7	3.1	1.2	1.2	1.2	1.2	1.4	1.5	1.6	1.9	1.6	1.7	1.8	1.9	1.9	2.0	2.0	2.0	2.0	2.3	2.3	2.4	2.6	3.0	3.5	24	3.5	1.2	2.0
8	3.9	3.9	3.9	4.2	3.6	3.3	3.8	4.1	3.3	3.3	3.1	2.8	2.9	3.0	3.0	3.0	3.2	3.6	3.9	4.8	4.1	4.2	5.3	6.3	24	6.3	2.8	3.8
9	7.8	8.4	10.1	9.9	11.3	11.5	12.7	14.6	11.5	9.6	9.9	12.4	13.2	12.5	11.1	8.3	5.2	4.7	4.6	4.9	6.0	6.3	4.9	4.0	24	14.6	4.0	9.0
10	4.8	4.3	5.1	7.8	8.3	9.5	10.1	9.2	6.6	5.0	3.3	2.3	2.0	2.1	2.2	2.7	3.8	4.5	4.8	4.7	4.5	3.8	3.6	3.6	24	10.1	2.0	4.9
11	4.0	4.8	5.1	4.9	5.6	7.5	5.2	6.1	5.9	7.7	6.2	9.3	12.9	10.7	13.8	11.5	2.8	2.3	2.4	2.5	2.6	2.8	3.1	3.1	24	13.8	2.3	5.9
12	3.2	3.0	3.3	3.7	4.3	3.8	3.6	3.4	2.9	2.8	2.8	2.8	2.6	2.6	2.7	2.7	3.2	3.6	3.4	3.8	3.6	3.7	4.6	5.2	24	5.2	2.6	3.4
13	6.9	9.1	9.5	7.3	7.4	7.1	6.6	5.7	5.9	4.5	3.7	4.1	3.7	4.0	4.6	5.1	6.1	5.7	5.2	6.7	6.2	5.4	4.8	4.1	24	9.5	3.7	5.8
14	5.2	6.3	7.4	8.1	8.7	8.4	9.0	9.2	9.4	8.7	9.6	9.0	8.7	8.8	8.9	9.7	8.9	8.4	8.6	8.2	6.9	7.7	7.4	6.1	24	9.7	5.2	8.2
15	6.1	7.5	7.7	8.0	8.2	8.2	8.2	8.5	7.7	6.7	7.2	7.7	7.3	7.3	8.8	12.3	13.6	14.0	13.9	14.8	15.3	17.9	20.1	19.5	24	20.1	6.1	10.7
16	23.6	26.2	26.1	24.9	26.4	28.1	29.1	30.8	29.3	18.7	16.3	14.3	12.9	12.3	12.7	13.7	12.6	13.5	13.4	13.3	12.9	11.4	9.4	8.0	24	30.8	8.0	18.3
17	7.7	7.7	9.5	11.8	14.3	15.7	15.8	12.0	10.3	11.1	10.7	6.8	4.7	3.2	1.9	1.9	1.9	2.1	2.4	2.3	2.9	3.7	3.2	2.0	24	15.8	1.9	6.9
18	2.6	2.9	2.3	1.8	1.8	2.4	2.9	3.4	3.7	4.8	7.7	10.0	10.6	10.1	9.9	7.4	5.0	3.2	3.2	3.4	3.3	3.2	3.2	3.4	24	10.6	1.8	4.7
19	3.7	3.6	3.7	3.7	3.8	4.1	4.1	4.4	5.0	4.6	4.3	3.6	3.3	3.0	3.3	3.8	4.5	5.3	6.7	8.0	11.8	14.4	10.7	9.1	24	14.4	3.0	5.5
20	9.1	6.7	5.6	6.7	4.8	4.5	4.7	5.1	5.2	4.3	4.3	3.1	3.1	3.1	3.4	3.3	3.4	3.6	3.5	3.7	3.7	3.3	3.4	3.3	24	9.1	3.1	4.4
21	3.5	3.9	4.5	5.6	6.0	5.7	6.6	6.7	6.2	6.0	5.6	6.0	7.2	8.1	8.8	9.5	9.5	9.7	8.8	9.4	10.4	10.8	12.4	13.0	24	13.0	3.5	7.7
22	13.3	15.1	15.7	15.8	15.9	17.7	18.3	18.1	16.8	19.6	14.6	15.0	8.6	13.9	19.0	17.8	9.8	2.1	1.5	1.5	1.8	1.8	1.9	1.9	24	19.6	1.5	11.6
23	2.0	2.7	3.1	2.3	2.5	2.8	2.8	2.7	2.8	3.5	3.3	2.0	2.0	1.9	2.0	2.2	2.4	3.0	3.3	4.5	5.4	5.8	4.9	6.0	24	6.0	1.9	3.2
24	8.6	10.5	11.5	8.8	7.1	5.9	5.7	5.9	4.8	3.7	3.3	3.0	2.9	2.7	2.7	2.8	2.9	4.0	4.7	5.4	5.7	6.3	5.8	5.9	24	11.5	2.7	5.4
25	9.6	9.2	8.7	8.3	6.8	5.9	4.5	4.1	4.1	4.8	4.5	4.4	4.5	5.5	6.1	6.1	6.2	6.1	5.0	4.3	4.6	6.1	6.3	6.9	24	9.6	4.1	5.9
26	8.1	8.8	10.6	13.4	16.0	17.1	15.7	16.8	16.0	14.8	14.3	12.4	9.7	7.8	5.9	9.5	7.7	8.1	7.2	6.3	6.1	5.5	5.7	8.9	24	17.1	5.5	10.5
27	14.4	10.6	6.3	6.0	6.7	9.9	16.6	20.5	16.0	3.8	3.2	2.5	2.3	2.3	2.4	2.3	2.7	3.0	3.2	3.0	3.1	3.2	3.3	3.2	24	20.5	2.3	6.3
28	4.1	3.3	3.5	3.8	3.7	4.0	4.8	4.8	4.3	3.8	3.4	3.3	3.1	3.5	4.1	3.9	3.8	5.5	6.1	7.1	8.6	11.2	10.0	8.8	24	11.2	3.1	5.1
29	8.2	8.1	7.7	7.7	7.9	8.3	9.3	9.6	7.6	5.9	6.0	2.7	3.0	3.0	2.6	2.6	3.9	10.0	15.3	18.5	17.2	16.8	17.4	10.7	24	18.5	2.6	8.8
30	8.5	7.3	6.1	4.7	2.9	2.7	2.8	2.5	2.5	2.5	2.8	3.4	3.8	4.0	4.3	4.8	11.7	11.2	10.1	9.9	9.5	22.9	47.7	18.5	24	47.7	2.5	8.6
31																									0	0.0	0.0	
Count	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	30	30	30
Maximum	23.6	26.2	26.1	24.9	26.4	28.1	29.1	30.8	29.3	19.6	16.3	15.0	13.2	13.9	19.0	17.8	13.6	14.0	15.3	18.5	20.9	22.9	47.7	20.6	24	47.7	13.2	22.2
Minimum	2.0	1.2	1.2	1.2	1.2	1.4	1.2	1.1	1.7	1.5	1.4	1.5	1.5	1.6	1.7	1.7	1.8	2.0	1.5	1.5	1.8	1.8	1.7	1.9	0	0.0	1.1	
Average	7.1	7.2	7.1	7.2	7.4	7.7	8.1	8.4	7.5	6.1	5.8	5.6	5.4	5.6	5.8	5.9	5.5	5.6	5.9	6.5	6.9	7.7	8.1	7.0	23	14	3	6.7
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

																										Maximum
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100		47.7
																										18.3
Data		2.4		3.0		3.5		4.1		5.1		6.1		8.0		9.6		13.5		16.8		25.9		47.7		6.7

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

$PM_{2.5}$ - COURTICE December 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
1	24.8	24.0	19.9	18.7	12.3	9.4	7.3	6.8	5.6	5.3	5.0	4.7	4.6	4.3	4.3	4.3	4.5	4.7	4.7	4.7	4.8	5.1	5.3	5.5	24	24.8	4.3	8.4
2	6.2	6.8	7.5	8.9	10.0	11.1	12.2	16.5	22.1	14.9	9.3	6.9	5.0	3.6	3.6	3.7	3.6	4.1	4.2	3.5	3.6	3.8	4.1	3.8	24	22.1	3.5	7.5
3	3.4	2.9	2.3	2.2	2.4	2.7	2.8	3.1	2.8	2.7	2.8	2.1	1.9	1.9	1.9	1.9	2.0	2.9	3.2	3.7	3.1	2.7	2.7	2.7	24	3.7	1.9	2.6
4	2.7	2.5	2.5	2.6	3.0	3.5	3.9	4.7	5.2	5.6	5.6	6.3	6.4	9.0	9.7	7.4	5.9	5.6	5.7	5.0	5.4	8.3	8.9	12.6	24	12.6	2.5	5.7
5	13.1	15.2	17.9	18.9	20.1	20.3	19.3	17.8	16.1	12.3	9.0	7.9	7.7	8.0	7.8	7.9	7.6	7.4	7.7	8.0	8.1	8.0	7.8	7.7	24	20.3	7.4	11.7
6	7.7	7.7	7.7	7.7	7.7	7.8	7.8	7.9	8.0	8.0	7.9	7.7	7.7	7.7	7.7	7.7	7.6	7.3	7.3	7.3	7.3	7.1	7.0	7.3	24	8.0	7.0	7.6
7	7.3	7.4	7.3	7.3	7.3	7.3	7.3	7.0	7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.2	7.0	7.0	7.0	6.8	6.8	6.7	6.7	24	7.4	6.7	7.2
8	6.5	6.4	6.5	6.5	7.1	7.4	7.4	7.2	7.1	7.0	7.1	6.9	7.0	7.2	7.6	7.5	7.4	7.6	7.2	7.0	7.1	7.3	7.3	7.4	24	7.6	6.4	7.1
9	7.4	7.0	6.7	6.7	6.6	6.4	6.3	6.1	5.8	5.2	4.6	4.8	6.0	6.9	6.9	7.2	7.0	7.0	6.9	7.3	7.9	8.1	8.1	8.1	24	8.1	4.6	6.7
10	8.7	8.7	8.8	7.9	6.8	6.3	6.2	6.4	6.5	6.6	6.7	6.8	6.7	6.3	6.2	6.5	6.6	6.8	7.2	7.4	7.6	7.6	7.5	7.3	24	8.8	6.2	7.1
11	6.1	5.7	5.5	5.1	5.1	5.1	4.9	4.8	4.6	4.6	4.7	4.8	5.0	5.8	5.7	5.7	6.0	5.7	5.5	5.7	5.8	6.2	6.2	6.1	24	6.2	4.6	5.4
12	5.5	5.2	4.9	4.9	4.7	4.9	5.1	5.3	5.2	4.9	4.7	4.8	4.7	4.6	4.5	4.8	5.0	5.2	5.4	5.5	5.6	6.2	6.3	6.6	24	6.6	4.5	5.2
13	6.5	6.6	6.6	6.6	6.6	6.8	6.7	6.1	5.3	5.3	5.0	4.5	4.1	3.9	3.8	3.8	3.8	3.7	3.6	3.7	3.6	3.8	3.9	3.8	24	6.8	3.6	4.9
14	3.8	3.9	3.8	3.8	3.7	3.6	3.6	3.6	3.6	3.7	3.8	3.9	4.1	4.4	4.3	4.3	4.3	4.3	4.5	4.5	4.6	4.6	4.8	4.9	24	4.9	3.6	4.1
15	5.1	4.9	5.1	5.2	5.2	5.0	5.2	5.1	5.0	5.3	5.5	5.7	5.9	6.1	6.2	6.3	6.6	7.0	7.6	7.2	6.2	5.7	5.5	5.2	24	7.6	4.9	5.7
16	4.7	4.6	3.8	3.0	3.0	3.0	3.3	3.3	3.6	3.3	3.1	3.1	3.0	2.8	2.8	3.4	3.7	4.2	4.3	3.9	4.2	4.5	4.8	4.8	24	4.8	2.8	3.7
17	4.6	4.2	4.2	5.1	4.9	4.9	5.1	5.2	5.5	6.0	5.4	5.9	M	M	M	M	M	M	M	M	M	M	M	M	12	6.0	4.2	
18	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	
19	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	
20	M	M	M	M	M	M	M	M	C	C	C	M	M	M	M	M	M	M	M	M	10.0	3.6	3.9	3.6	4	10.0	3.6	
21	4.8	5.8	6.5	5.6	5.5	4.8	4.6	5.6	6.2	6.7	7.2	10.8	8.4	8.5	7.4	7.2	7.2	5.7	5.0	4.6	4.2	3.7	3.7	3.9	24	10.8	3.7	6.0
22	13.6	4.1	3.3	2.5	2.5	2.6	2.6	2.7	3.1	3.4	3.3	2.8	2.5	3.0	3.7	3.8	4.7	5.8	9.3	8.6	6.5	6.8	11.6	17.5	24	17.5	2.5	5.4
23	14.8	13.0	10.8	10.8	14.8	8.9	6.1	6.0	5.0	4.5	5.3	4.7	5.2	5.1	5.3	5.0	4.8	5.4	6.8	6.7	7.5	8.9	6.6	6.3	24	14.8	4.5	7.4
24	7.2	7.6	7.7	6.7	6.9	6.5	5.6	5.7	6.4	6.1	5.8	4.8	4.0	3.8	4.1	4.6	4.9	6.1	6.7	7.3	7.4	7.7	7.9	8.4	24	8.4	3.8	6.2
25	9.9	9.9	10.4	10.9	10.8	8.9	8.7	8.2	7.6	7.1	7.4	5.2	5.0	3.5	2.4	2.6	2.5	2.5	2.8	3.0	3.2	3.2	3.5	4.1	24	10.9	2.4	6.0
26	6.7	8.8	10.0	12.5	15.8	16.1	15.3	17.3	14.3	12.4	11.2	10.1	12.5	15.8	17.8	18.6	19.6	17.4	19.3	20.5	21.5	22.4	22.3	20.6	24	22.4	6.7	15.8
27	20.0	20.4	17.1	15.4	16.5	19.3	21.3	20.3	22.3	23.9	22.0	21.8	15.1	12.8	13.9	9.2	9.2	10.5	12.6	15.4	15.8	15.4	15.2	16.1	24	23.9	9.2	16.7
28	17.1	16.0	17.4	15.9	17.2	15.4	16.0	18.8	20.5	21.6	22.1	22.9	23.8	24.7	26.5	26.8	26.6	29.1	32.1	35.8	38.2	35.9	32.4	31.3	24	38.2	15.4	24.3
29	29.6	24.9	27.6	32.0	23.9	20.1	21.3	15.8	13.0	12.2	8.1	6.2	5.5	5.5	5.7	6.0	6.0	8.7	16.0	18.4	7.4	4.3	5.0	4.7	24	32.0	4.3	13.7
30	4.5	4.7	4.8	4.8	5.3	5.9	6.6	6.5	7.0	6.1	5.3	4.5	3.9	3.8	3.6	3.5	4.5	5.6	6.6	8.0	9.3	7.9	6.7	6.0	24	9.3	3.5	5.6
31	7.0	5.3	4.9	4.8	4.7	4.6	4.5	7.9	5.6	5.3	6.7	6.5	4.0	3.6	3.8	4.1	4.4	5.4	5.3	5.8	6.1	6.6	5.8	5.8	24	7.9	3.6	5.4
Count	28	28	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27	27	27	27	28	28	28	28	664	28	27	28
Maximum	29.6	24.9	27.6	32.0	23.9	20.3	21.3	20.3	22.3	23.9	22.1	22.9	23.8	24.7	26.5	26.8	26.6	29.1	32.1	35.8	38.2	35.9	32.4	31.3	24	38.2	20.3	27.3
Minimum	2.7	2.5	2.3	2.2	2.4	2.6	2.6	2.7	2.8	2.7	2.8	2.1	1.9	1.9	1.9	1.9	2.0	2.5	2.8	3.0	3.1	2.7	2.7	2.7	0	0.0	1.9	
Average	9.3	8.7	8.6	8.7	8.6	8.2	8.1	8.3	8.2	7.8	7.2	6.9	6.6	6.7	6.8	6.7	6.8	7.1	8.0	8.4	8.2	7.9	7.9	8.2	21	12	5	7.9
#>900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100	Maximum
													38.2
													24.3
Data	3.6	4.3	4.9	5.5	6.2	6.9	7.4	8.8	16.0	20.5	30.3	38.2	7.9

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

$PM_{2.5}$ - RUNDLE — October 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
1	10.1	10.1	9.9	4.9	4.5	4.2	6.7	7.2	12.1	16.4	13.7	14.2	16.2	18.0	15.6	14.4	14.5	15.7	11.0	8.8	8.8	10.4	10.5	10.9	24	18.0	4.2	11.2
2	12.3	14.1	13.5	13.9	14.3	14.1	14.5	15.8	15.9	12.3	8.1	5.2	4.2	3.7	10.4	13.0	7.1	4.7	5.5	5.7	5.6	7.7	8.6	8.9	24	15.9	3.7	10.0
3	10.0	12.3	12.7	12.8	13.3	13.9	23.7	18.7	10.9	8.0	5.8	4.7	4.1	3.6	3.3	3.1	4.4	6.1	6.2	6.2	6.1	5.5	4.8	4.1	24	23.7	3.1	8.5
4	4.1	4.0	2.9	2.3	2.2	2.1	2.0	2.0	2.1	2.1	2.0	1.9	1.9	2.1	3.3	3.9	3.6	4.0	3.7	4.5	4.1	4.5	4.4	4.5	24	4.5	1.9	3.1
5	4.2	3.8	4.3	4.7	4.7	4.6	4.9	5.3	5.6	5.2	5.0	5.3	5.1	5.3	5.6	5.8	5.3	5.5	6.0	6.5	7.0	6.8	6.8	6.9	24	7.0	3.8	5.4
6	6.7	5.6	6.1	8.2	8.1	7.4	7.3	6.9	5.0	3.0	2.2	2.4	2.7	3.4	4.5	5.4	5.1	5.8	5.9	5.8	5.1	3.5	2.6	3.8	24	8.2	2.2	5.1
7	5.0	6.2	7.2	7.7	4.5	3.2	3.0	2.8	2.9	3.7	3.9	4.4	5.7	6.1	6.2	6.9	7.7	9.0	8.7	9.5	11.4	12.1	14.1	16.7	24	16.7	2.8	7.0
8	16.7	18.1	17.2	15.7	14.2	14.3	14.7	13.5	11.1	6.5	4.2	3.7	2.7	3.1	2.9	3.2	3.8	4.9	10.0	22.2	20.8	17.7	13.7	9.3	24	22.2	2.7	11.0
9	9.1	9.0	8.1	7.8	7.4	7.4	7.5	7.7	4.7	2.0	1.7	1.5	1.4	1.4	1.5	1.5	1.4	1.4	2.1	3.8	4.6	5.8	5.5	5.1	24	9.1	1.4	4.6
10	5.6	5.0	4.0	3.6	3.6	3.4	4.2	4.7	2.9	2.4	2.3	2.2	2.1	2.1	2.1	2.0	3.0	5.7	6.9	15.8	15.7	16.4	12.7	13.9	24	16.4	2.0	5.9
11	14.0	12.3	10.8	10.3	9.9	10.2	10.7	10.3	9.3	7.3	3.6	2.3	2.1	1.7	1.8	1.7	2.0	4.1	7.3	9.1	14.5	15.6	16.3	18.6	24	18.6	1.7	8.6
12	12.8	8.8	8.1	7.9	9.0	9.4	11.4	12.6	10.1	6.3	3.0	2.2	2.1	1.7	1.4	1.3	1.1	1.7	3.0	5.6	7.9	8.9	8.4	7.3	24	12.8	1.1	6.3
13	6.2	5.4	4.5	4.2	4.3	3.4	3.1	2.8	2.1	2.1	2.6	2.7	2.6	2.4	2.6	2.4	2.2	2.5	2.8	3.2	3.5	2.5	2.4	2.2	24	6.2	2.1	3.1
14	2.1	1.9	2.2	2.6	3.0	4.0	4.9	5.0	4.4	3.9	3.7	3.5	3.8	5.3	6.0	6.3	5.6	6.4	7.6	9.1	11.0	13.4	10.6	8.2	24	13.4	1.9	5.6
15	7.8	7.9	8.5	9.4	9.9	11.2	31.5	9.9	8.0	5.5	3.9	2.4	2.2	1.8	1.7	1.9	2.2	2.1	2.2	2.3	2.6	2.7	2.8	2.8	24	31.5	1.7	6.0
16	2.8	2.9	2.4	2.1	2.0	2.1	2.0	1.9	2.0	2.1	2.3	2.8	2.8	3.5	3.1	2.6	2.8	3.4	4.6	4.7	3.7	4.2	4.8	5.9	24	5.9	1.9	3.1
17	8.5	9.4	9.5	14.7	10.2	10.8	12.0	12.8	12.7	8.6	7.4	8.3	7.4	5.0	5.1	4.7	5.8	6.7	8.6	9.1	7.3	7.6	8.2	7.2	24	14.7	4.7	8.6
18	5.7	3.7	3.6	3.6	3.7	3.5	4.3	4.2	4.8	6.2	6.4	6.7	9.3	10.5	12.0	14.2	13.8	14.5	16.1	19.1	19.1	24.6	23.9	26.7	24	26.7	3.5	10.9
19	26.9	24.2	23.6	22.2	22.6	22.2	24.7	28.8	26.0	18.0	13.5	12.7	10.9	8.3	5.1	4.1	4.4	4.2	2.9	2.3	2.4	2.2	2.4	2.9	24	28.8	2.2	13.2
20	3.3	3.3	3.5	3.6	4.2	6.0	6.3	6.3	4.3	4.9	5.6	5.0	4.7	3.2	3.2	4.0	3.6	8.0	6.2	6.5	21.2	41.6	19.6	14.1	24	41.6	3.2	8.0
21	10.5	8.4	8.4	8.6	6.1	4.8	3.8	3.2	2.4	2.0	1.5	1.4	1.4	1.4	1.9	2.0	2.2	3.3	3.1	3.5	3.8	4.0	4.1	3.7	24	10.5	1.4	4.0
22	3.3	2.2	2.5	4.1	6.8	8.8	9.7	9.2	6.7	5.9	5.6	4.9	4.7	4.1	4.0	3.6	3.7	4.4	4.8	4.9	4.7	4.4	4.7	5.5	24	9.7	2.2	5.1
23	5.4	5.0	4.6	5.1	4.9	6.3	7.3	5.1	3.8	2.2	1.8	2.3	1.8	1.8	1.7	1.7	1.6	1.4	1.7	2.5	3.8	5.0	4.8	4.5	24	7.3	1.4	3.6
24	5.6	4.8	4.2	4.1	4.1	4.9	5.9	4.3	3.3	2.2	1.6	1.6	1.7	C	C	2.1	2.6	3.5	2.6	3.7	4.7	3.8	2.7	2.1	22	5.9	1.6	3.5
25	2.8	2.2	2.2	1.5	2.2	1.8	2.2	2.2	2.6	1.9	2.1	2.6	3.4	2.2	1.1	0.9	1.5	3.8	4.2	2.7	3.3	4.4	3.5	3.3	24	4.4	0.9	2.5
26	2.9	2.6	4.9	5.2	4.2	4.6	6.2	6.9	6.8	6.8	6.5	6.4	5.8	6.5	6.2	6.6	7.2	7.9	9.3	9.2	9.2	10.4	6.2	3.1	24	10.4	2.6	6.3
27	2.8	2.3	2.8	3.4	4.0	4.6	5.0	4.2	4.0	4.4	2.0	2.2	1.8	1.6	1.1	1.3	1.5	1.8	2.2	2.6	3.2	2.9	3.5	3.3	24	5.0	1.1	2.9
28	4.2	5.3	7.1	8.9	8.1	7.2	5.7	3.1	1.9	1.2	0.7	0.3	0.2	0.3	0.4	2.0	4.0	10.6	16.3	29.0	13.2	11.7	16.0	11.1	24	29.0	0.2	7.0
29	7.2	5.4	4.2	3.2	3.2	5.0	8.6	5.7	2.1	1.1	1.2	0.6	0.5	0.4	0.4	0.5	0.9	1.1	1.5	3.8	11.0	7.0	7.6	6.1	24	11.0	0.4	3.7
30	8.2	7.5	7.3	7.8	8.1	8.3	9.3	10.0	13.1	12.0	14.1	9.2	5.9	6.4	6.5	6.0	8.6	11.3	14.9	16.2	18.2	18.0	17.9	17.0	24	18.2	5.9	10.9
31	$16.0	$16.7	17.6	18.2	18.1	18.1	15.9	14.3	7.6	5.3	1.8	1.3	1.9	1.8	1.7	2.0	1.7	1.6	1.2	1.9	3.0	3.6	2.5	1.7	24	18.2	1.2	7.3
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	742	31	30	31
Maximum	26.9	24.2	23.6	22.2	22.6	22.2	31.5	28.8	26.0	18.0	14.1	14.2	16.2	18.0	15.6	14.4	14.5	15.7	16.3	29.0	21.2	41.6	23.9	26.7	24	41.6	14.1	22.0
Minimum	2.1	1.9	2.2	1.5	2.0	1.8	2.0	1.9	1.9	1.1	0.7	0.3	0.2	0.3	0.4	0.5	0.9	1.1	1.2	1.9	2.4	2.2	2.4	1.7	22	4.4	0.2	1.4
Average	7.8	7.4	7.4	7.5	7.3	7.5	9.0	8.0	6.8	5.5	4.5	4.1	4.0	4.0	4.1	4.2	4.4	5.4	6.1	7.7	8.4	9.3	8.3	7.8	24	15	2	6.5

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	1.9	2.4	3.3	4.1	4.9	5.9	7.4	9.5	14.1	16.7	24.7	41.6

Regs	Acceptable	Desirable	Violations	Maximum
Hour				41.6
Day				13.2
Month				6.5

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

$PM_{2.5}$ - RUNDLE November 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
1	2.0	2.4	2.7	3.2	3.2	2.1	1.1	0.9	1.5	3.1	5.7	8.9	12.2	17.3	16.2	15.1	13.0	13.6	14.6	21.4	30.1	31.2	27.0	28.5	24	31.2	0.9	11.5
2	24.5	19.8	17.9	18.2	21.1	20.1	22.8	24.9	14.5	1.1	1.0	1.3	1.2	1.1	1.0	1.2	1.1	1.3	1.4	1.5	1.8	1.8	1.9	2.1	24	24.9	1.0	8.5
3	3.3	3.7	3.8	3.3	3.2	3.1	3.6	3.4	2.6	1.6	1.6	1.7	1.8	1.8	1.9	1.7	1.9	6.1	18.5	7.3	7.5	6.9	8.4	7.1	24	18.5	1.6	4.4
4	7.3	4.2	3.3	3.0	2.6	2.2	2.7	2.9	2.2	2.0	2.0	1.4	1.3	1.3	1.3	1.4	1.7	1.6	1.2	2.1	2.3	2.4	2.5	2.9	24	7.3	1.2	2.4
5	3.1	4.6	4.8	4.9	5.1	5.5	5.1	5.5	4.6	2.9	2.9	3.6	3.9	3.6	3.6	6.0	8.2	10.5	9.8	9.3	10.7	16.2	10.7	9.7	24	16.2	2.9	6.4
6	7.6	7.5	8.5	7.4	6.1	5.5	6.6	5.8	5.9	5.9	5.3	5.1	5.4	5.7	4.7	5.2	5.2	4.2	3.1	2.3	1.9	1.7	1.6	1.9	24	8.5	1.6	5.0
7	2.2	0.6	0.5	0.5	1.3	2.3	4.3	6.5	7.0	5.1	5.0	5.3	5.4	8.3	7.6	5.0	3.9	5.1	5.9	6.4	5.7	5.8	5.2	4.0	24	8.3	0.5	4.5
8	3.6	3.0	3.1	2.7	2.5	2.3	2.3	2.8	2.5	3.1	2.3	1.4	1.5	1.5	1.5	1.8	2.0	6.2	2.5	2.8	3.1	3.2	12.0	4.9	24	12.0	1.4	3.1
9	4.4	4.0	5.1	5.6	6.1	5.9	6.3	8.6	9.2	7.8	8.1	9.2	9.0	8.2	7.5	6.0	7.1	8.7	3.2	3.1	5.0	6.3	4.9	3.5	24	9.2	3.1	6.4
10	4.0	3.8	4.9	6.7	6.7	7.6	8.2	7.7	5.5	4.3	2.7	1.9	0.9	0.9	1.3	2.2	3.2	5.0	6.1	4.3	7.1	4.4	2.8	2.9	24	8.2	0.9	4.4
11	2.1	1.9	2.6	3.2	3.6	4.8	3.2	3.8	3.5	4.7	4.4	5.4	7.8	7.1	9.3	8.3	2.4	1.8	1.8	1.7	1.8	1.9	2.2	2.4	24	9.3	1.7	3.8
12	2.6	3.2	3.7	3.8	4.0	3.3	4.0	3.2	2.7	1.8	1.5	1.7	1.7	1.4	1.6	2.7	3.4	2.9	3.6	2.2	2.2	2.6	4.3	4.2	24	4.3	1.4	2.8
13	2.7	3.0	3.9	4.6	4.9	4.6	8.1	7.4	3.2	5.5	2.9	3.0	2.2	2.4	2.6	4.0	3.5	16.2	5.9	5.3	6.4	8.4	4.7	3.6	24	16.2	2.2	5.0
14	3.7	3.6	4.5	5.2	7.9	8.3	6.9	7.1	7.3	7.4	8.0	7.3	7.4	6.8	6.6	7.5	7.3	7.0	41.9	24.4	5.7	46.7	16.7	3.9	24	46.7	3.6	10.8
15	3.6	24.0	4.3	4.4	4.8	4.9	4.9	5.7	20.8	8.2	5.2	4.7	4.8	5.4	5.3	6.9	8.3	9.7	10.8	11.9	14.3	16.7	18.7	20.1	24	24.0	3.6	9.5
16	21.9	23.1	23.6	24.6	25.8	25.3	25.0	27.5	26.3	22.2	14.3	13.1	12.6	11.2	11.1	12.2	11.6	13.0	13.2	13.8	14.0	12.0	9.9	8.2	24	27.5	8.2	17.3
17	7.6	8.5	10.6	12.0	14.5	18.5	21.7	18.2	15.5	15.5	13.3	8.2	5.0	3.4	2.2	1.6	1.3	1.3	1.1	1.0	1.2	1.2	1.3	0.9	24	21.7	0.9	7.7
18	0.9	1.3	1.6	1.5	2.1	3.2	4.0	4.9	5.4	6.6	9.3	10.1	8.7	9.1	9.2	6.5	4.9	3.6	3.6	4.2	3.4	4.0	3.1	3.0	24	10.1	0.9	4.8
19	5.2	3.5	3.5	3.2	3.0	2.4	2.4	4.7	2.7	2.7	2.5	1.9	1.9	1.7	2.0	2.2	2.1	2.9	6.1	9.4	7.4	13.0	11.2	13.8	24	13.8	1.7	4.6
20	9.3	6.5	4.4	3.7	3.6	3.4	3.1	6.0	2.7	1.9	1.9	1.9	2.2	2.2	1.9	1.7	1.7	2.1	2.0	2.1	2.5	2.8	2.8	2.2	24	9.3	1.7	3.1
21	2.9	3.5	4.2	4.6	5.7	6.2	6.3	6.0	5.5	5.6	4.5	5.3	6.0	6.9	7.7	8.6	9.2	10.0	8.9	9.8	11.2	11.3	13.6	14.9	24	14.9	2.9	7.4
22	13.0	12.2	12.7	13.1	14.2	13.1	15.8	16.5	17.2	18.8	22.6	19.8	17.0	20.4	26.1	26.4	14.2	2.7	1.7	1.1	1.1	1.0	1.0	1.1	24	26.4	1.0	12.6
23	1.4	1.7	1.9	2.1	2.1	2.3	2.7	2.3	2.1	2.1	2.4	1.0	0.9	0.9	1.1	1.2	1.5	2.2	2.6	3.8	4.5	4.8	4.9	5.9	24	5.9	0.9	2.4
24	5.6	5.9	6.3	5.4	4.4	3.8	3.3	3.5	3.0	2.2	1.8	1.8	1.5	1.5	1.3	1.5	2.7	2.8	6.0	7.5	6.5	6.9	3.6	3.7	24	7.5	1.3	3.9
25	8.2	10.7	9.4	7.2	5.7	4.4	3.0	20.9	18.8	3.9	3.4	4.4	3.3	3.7	4.2	4.3	4.5	4.0	3.6	6.0	4.3	5.2	5.4	6.5	24	20.9	3.0	6.5
26	8.2	8.1	9.3	11.9	14.5	15.7	16.3	20.0	30.4	16.2	14.7	13.2	9.7	6.9	6.1	9.9	8.7	8.7	8.1	8.1	6.5	7.3	9.8	11.8	24	30.4	6.1	11.7
27	9.7	9.4	5.2	5.1	6.2	6.9	11.7	22.7	15.3	3.7	2.6	1.8	1.6	1.4	1.4	1.4	2.2	2.8	2.2	2.2	2.4	2.4	2.6	2.9	24	22.7	1.4	5.2
28	2.2	2.1	2.1	2.4	2.5	2.4	3.3	11.5	3.6	2.5	1.4	2.0	2.6	1.8	3.1	4.4	4.2	4.7	4.6	4.9	6.0	8.0	7.4	6.4	24	11.5	1.4	4.0
29	7.6	9.0	6.4	6.6	8.6	6.1	6.7	7.6	5.9	3.4	2.0	1.3	1.1	1.1	1.1	1.3	1.9	5.6	11.0	23.7	16.4	15.8	17.5	13.8	24	23.7	1.1	7.6
30	10.5	7.5	6.4	5.1	3.3	1.9	1.4	1.3	1.1	1.0	1.2	1.7	2.1	2.2	2.9	3.4	4.2	5.3	5.2	5.3	6.0	7.3	8.2	9.3	24	10.5	1.0	4.3
31																									0	0.0	0.0	
Count	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	720	30	30	30
Maximum	24.5	24.0	23.6	24.6	25.8	25.3	25.0	27.5	30.4	22.2	22.6	19.8	17.0	20.4	26.1	26.4	14.2	16.2	41.9	24.4	30.1	46.7	27.0	28.5	24	46.7	14.2	25.6
Minimum	0.9	0.6	0.5	0.5	1.3	1.9	1.1	0.9	1.1	1.0	1.0	1.0	0.9	0.9	1.0	1.2	1.1	1.3	1.1	1.0	1.1	1.0	1.0	0.9	0	0.0	0.5	
Average	6.4	6.7	6.0	6.2	6.6	6.6	7.2	9.0	8.3	5.7	5.2	5.0	4.7	4.9	5.1	5.4	4.9	5.7	7.0	7.0	6.6	8.6	7.5	6.9	23	16	2	6.4

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				46.7
	Day				17.3
	Month				6.4

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	1.5	2.1	2.7	3.5	4.5	5.5	7.0	9.0	14.3	19.8	26.9	46.7

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

$PM_{2.5}$ - RUNDLE
December 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
1	15.1	19.7	18.2	19.3	19.2	23.1	23.5	23.2	23.1	21.0	17.2	17.1	21.0	19.8	22.7	18.8	20.4	22.4	22.5	24.7	20.9	22.2	23.5	26.9	24	26.9	15.1	21.1
2	27.9	29.1	30.0	30.8	29.8	27.8	31.2	42.6	56.9	28.3	10.9	9.7	9.1	8.6	9.8	9.1	9.2	9.9	12.0	11.2	9.3	35.1	11.1	7.9	24	56.9	7.9	20.7
3	7.3	4.8	3.4	3.2	4.2	5.4	6.5	7.1	7.6	4.3	3.1	2.2	2.5	1.9	2.1	2.6	5.6	8.8	18.4	21.7	8.9	6.4	6.5	6.2	24	21.7	1.9	6.3
4	5.7	6.2	6.2	6.3	6.9	7.8	9.2	12.1	14.5	14.0	13.2	13.6	13.1	13.2	13.5	13.4	11.0	9.8	9.2	9.1	10.4	12.8	15.9	18.9	24	18.9	5.7	11.1
5	23.5	29.4	34.5	37.9	39.1	40.1	40.9	41.6	40.8	32.1	16.8	13.5	12.5	12.1	8.3	10.4	8.0	5.5	5.9	6.7	6.6	6.2	4.6	3.5	24	41.6	3.5	20.0
6	4.0	4.2	4.6	4.7	4.8	5.5	6.1	6.7	9.2	6.8	7.4	4.7	3.9	4.3	4.2	4.3	5.0	4.6	5.1	13.4	5.2	5.6	3.4	3.4	24	13.4	3.4	5.5
7	4.4	5.2	5.6	4.7	3.5	3.7	4.5	4.3	5.1	3.9	3.0	2.4	2.3	2.1	2.0	2.4	6.0	3.7	3.7	7.5	3.5	3.7	4.9	5.5	24	7.5	2.0	4.1
8	6.5	6.3	7.1	7.2	6.5	6.2	6.3	6.0	5.7	5.2	3.3	2.5	2.4	2.9	3.6	3.6	4.6	4.9	5.1	5.2	5.3	5.4	4.8	4.7	24	7.2	2.4	5.0
9	4.8	5.3	6.5	6.1	5.5	4.8	4.7	4.8	4.3	4.0	4.1	16.1	8.5	12.2	11.5	11.3	10.2	9.6	9.9	10.7	12.1	12.9	13.0	14.6	24	16.1	4.0	8.6
10	14.9	13.2	16.5	14.0	8.3	6.2	6.3	7.9	8.6	7.2	6.6	7.1	5.7	5.4	5.5	6.8	8.6	9.7	11.3	9.7	10.1	10.3	10.8	11.3	24	16.5	5.4	9.2
11	13.7	11.3	10.7	9.6	9.3	9.9	8.8	9.2	12.9	8.3	7.6	6.2	4.9	5.2	4.9	6.0	5.4	6.2	6.7	7.5	11.6	10.8	13.3	8.5	24	13.7	4.9	8.7
12	8.3	5.9	6.5	6.8	5.6	7.5	11.2	11.3	5.9	5.4	4.8	4.2	4.8	3.7	4.2	5.7	6.2	7.0	7.5	9.1	10.3	11.6	12.4	13.3	24	13.3	3.7	7.5
13	19.6	12.8	12.5	13.4	14.1	15.9	17.3	10.4	3.7	3.7	3.4	3.5	3.3	3.3	3.1	3.4	3.9	4.8	5.0	5.3	5.3	5.1	5.2	4.6	24	19.6	3.1	7.6
14	3.7	3.2	3.3	3.4	3.2	3.0	3.1	3.3	3.2	3.3	2.9	2.5	2.4	2.6	2.9	2.6	2.4	2.4	2.6	2.4	3.1	3.1	3.5	3.6	24	3.7	2.4	3.0
15	3.7	3.8	3.7	3.6	3.8	4.3	4.2	5.0	5.1	5.6	5.2	5.7	7.7	51.6	5.0	4.8	7.3	6.4	9.2	8.5	5.3	3.9	3.3	3.1	24	51.6	3.1	7.1
16	3.8	4.1	3.7	4.0	4.0	5.0	6.3	7.0	16.5	6.1	3.1	2.2	1.8	1.5	1.3	1.6	3.2	7.2	10.3	7.3	8.3	9.7	11.2	13.0	24	16.5	1.3	5.9
17	12.8	7.4	5.6	5.1	4.0	3.6	4.3	4.1	4.1	4.0	3.9	3.9	3.2	3.1	4.0	7.3	9.0	7.9	12.3	14.0	13.9	13.4	12.1	13.9	24	14.0	3.1	7.4
18	15.4	16.9	17.1	14.8	13.4	15.1	17.8	20.5	37.3	28.6	23.6	24.6	45.0	12.2	8.1	5.0	2.5	3.5	3.8	5.9	8.3	13.4	10.4	11.4	24	45.0	2.5	15.6
19	10.5	10.6	9.6	7.8	7.9	8.1	9.4	12.3	14.0	16.0	18.9	18.4	17.7	19.6	22.9	24.6	28.7	27.1	29.7	31.5	33.8	49.6	34.8	34.3	24	49.6	7.8	20.7
20	37.1	40.9	42.6	41.4	37.5	30.0	25.6	21.3	19.5	8.8	10.4	7.7	6.2	7.0	7.2	7.7	9.0	8.5	8.4	8.3	8.2	7.7	6.8	7.0	24	42.6	6.2	17.3
21	6.9	7.3	7.5	6.5	5.6	4.9	4.7	4.9	5.5	5.9	7.0	8.3	6.9	6.1	5.4	5.2	5.3	4.6	4.3	3.6	3.0	2.7	2.7	3.0	24	8.3	2.7	5.3
22	3.8	4.0	3.4	2.5	2.3	2.2	2.3	2.6	2.8	3.2	2.7	2.2	2.2	0.4	1.8	3.0	3.7	4.3	6.4	8.0	8.7	7.9	9.0	12.5	24	12.5	0.4	4.2
23	11.5	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	8.7	7.0	7.3	7.2	7.3	6.3	6.0	8	11.5	6.0	
24	6.6	6.2	6.9	5.9	5.8	6.2	4.9	3.7	4.4	5.0	4.1	3.6	2.6	2.1	2.2	2.7	3.0	5.2	5.6	5.8	6.3	6.3	7.3	6.3	24	7.3	2.1	4.9
25	6.9	6.8	7.3	7.2	7.9	8.7	9.7	6.4	6.0	4.8	3.7	2.7	3.5	2.8	2.2	2.0	2.0	1.8	1.5	1.7	2.0	1.9	2.1	2.8	24	9.7	1.5	4.4
26	2.6	3.0	4.1	6.2	9.1	8.8	10.3	10.7	8.4	8.4	8.5	9.5	11.6	12.9	15.5	14.5	16.7	14.5	17.0	18.4	19.3	20.6	21.0	19.7	24	21.0	2.6	12.1
27	20.8	21.1	18.6	15.8	15.9	18.6	18.1	17.8	20.7	21.6	22.1	21.0	14.3	12.1	18.5	8.5	9.0	9.0	20.1	16.0	14.4	13.5	13.2	13.4	24	22.1	8.5	16.4
28	16.0	16.2	17.2	15.8	16.5	14.9	15.0	17.7	19.3	20.7	21.0	21.5	22.1	22.5	24.0	25.1	24.2	26.9	33.5	31.7	36.4	30.3	36.8	39.1	24	39.1	14.9	23.5
29	44.5	41.1	35.1	34.8	36.5	32.3	30.2	25.5	25.4	16.1	7.8	6.1	5.2	5.2	5.1	5.3	5.5	10.1	14.7	20.8	6.2	3.7	4.2	4.0	24	44.5	3.7	17.7
30	4.4	4.6	4.8	5.1	5.7	6.2	6.6	7.2	7.8	6.4	4.9	3.9	3.5	3.1	2.4	2.3	2.9	4.6	7.7	8.6	7.3	6.4	6.0	4.8	24	8.6	2.3	5.3
31	4.3	3.3	3.2	3.1	3.0	2.7	3.1	3.4	4.9	4.3	4.0	3.7	2.3	2.1	2.2	2.8	4.0	4.5	4.3	4.6	5.8	5.7	5.5	5.5	24	5.8	2.1	3.8
Count	31	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	31	31	31	31	31	31	31	728	31	30	30
Maximum	44.5	41.1	42.6	41.4	39.1	40.1	40.9	42.6	56.9	32.1	23.6	24.6	45.0	51.6	24.0	25.1	28.7	27.1	33.5	31.7	36.4	49.6	36.8	39.1	24	56.9	23.6	37.4
Minimum	2.6	3.0	3.2	2.5	2.3	2.2	2.3	2.6	2.8	3.2	2.7	2.2	1.8	0.4	1.3	1.6	2.0	1.8	1.5	1.7	2.0	1.9	2.1	2.8	8	3.7	0.4	2.2
Average	12.0	11.8	11.9	11.6	11.3	11.3	11.7	12.0	13.4	10.4	8.5	8.3	8.4	8.7	7.5	7.4	8.1	8.5	10.3	11.2	10.2	11.5	10.5	10.7	23	22	4	10.3

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	3.0	3.9	4.8	5.7	6.9	8.5	11.2	15.3	22.4	30.6	41.5	56.9

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					56.9
Day					23.5
Month					10.3

Notes C - Span Cycle NA - No Data Available T - Test A- MOE Audit

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

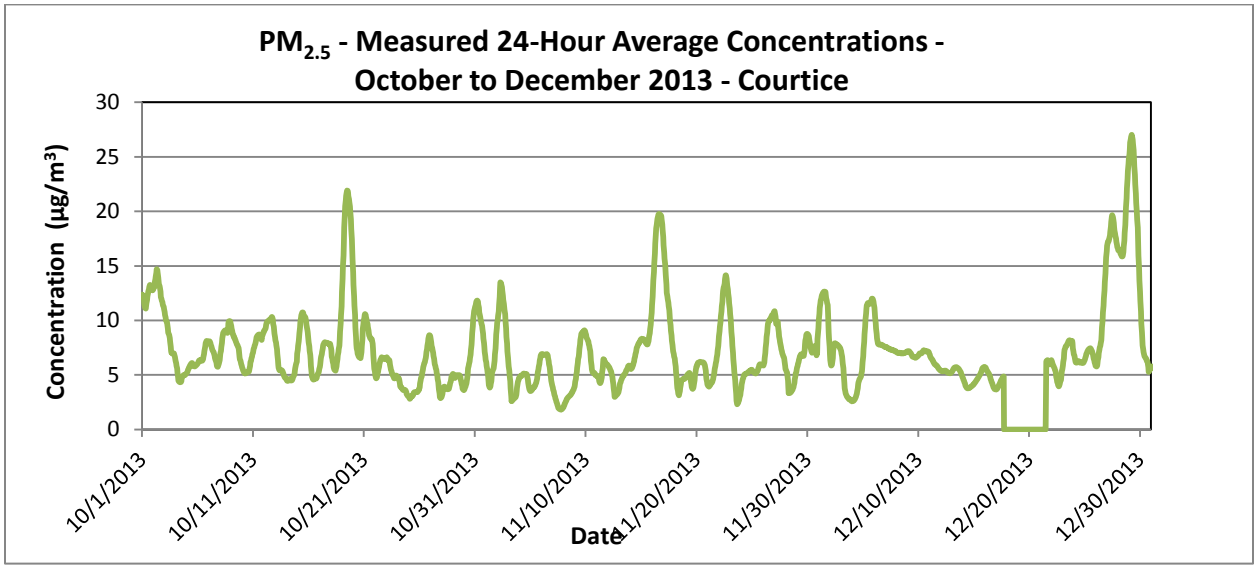
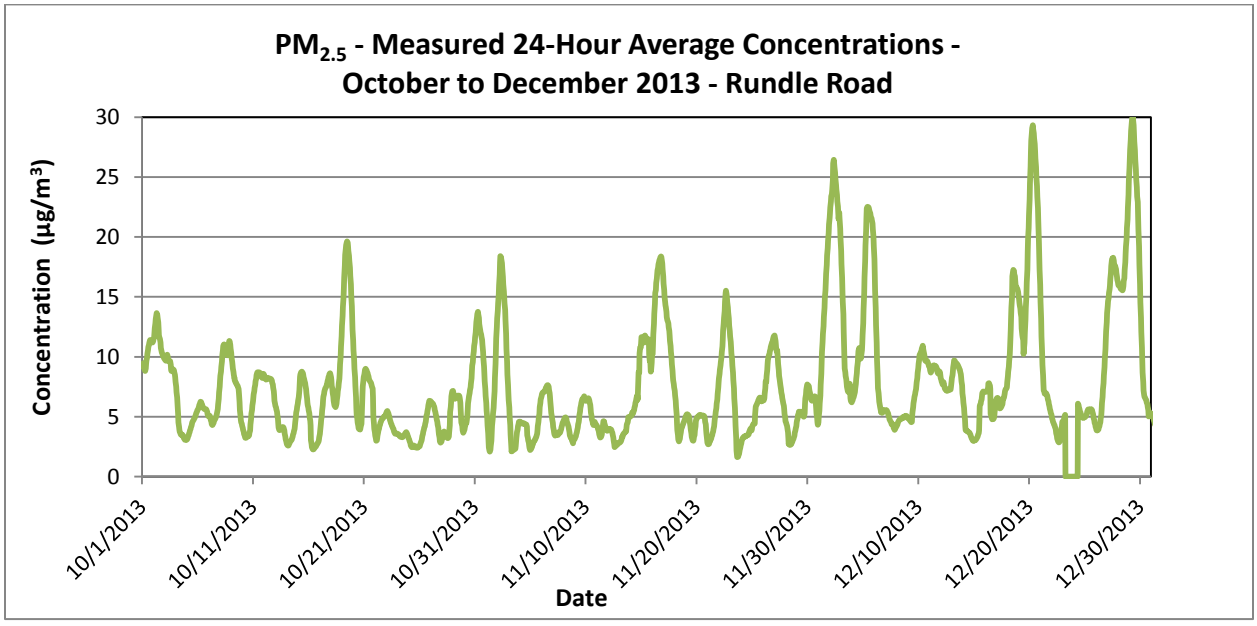


Figure D-2 Time History Plot of Measured Hourly Average and 24-Hour Average $PM_{2.5}$ Concentrations – Rundle Road Station



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:	31-Dec-14		Time Zone : EST		
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	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
10	6-Nov-13	CL	Invalidate data	1-Oct-13	12:00	31-Oct-13	12:00	Invalidate calibration minutes for daily auto calibration which occurs every 25th hour.
11	6-Nov-13	CL	Invalidate data	22-Oct-13	15:00	22-Oct-13	17:00	Monthly calibration
12	6-Jan-14	CL	Invalidate data	26-Nov-13	10:00	26-Nov-13	10:00	Monthly calibration
13	7-Jan-14	CL	Invalidate data	26-Nov-13	11:00	29-Nov-13	14:00	Equipment malfuntion due to a split in the hydrocarbon kicker. Equipment was removed, repaired and reinstalled on Nov 29.
14	6-Jan-14	CL	Invalidate data	29-Nov-13	15:00	29-Nov-13	18:00	Unit was calibrated after re-installation.
15	6-Jan-14	CL	Invalidate data	17-Dec-13	12:00	17-Dec-13	14:00	Check instrument and calibration
16	6-Jan-14	CL	Invalidate data	20-Dec-13	11:00	20-Dec-13	11:00	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:	31-Dec-14	Time Zone : EST			
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	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	6-Nov-13	CL	Invalidate data	1-Oct-13	12:00	31-Oct-13	12:00	Invalidate calibration minutes for daily auto calibration which occurs every 25th hour.
12	6-Nov-13	CL	Invalidate data	22-Oct-13	14:00	22-Oct-13	16:00	Monthly calibration
13	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.
14	6-Jan-14	CL	Invalidate data	26-Nov-13	09:00	26-Nov-13	11:00	Monthly calibration
15	6-Jan-14	CL	Invalidate data	20-Dec-13	11:00	20-Dec-13	11:00	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:	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:	31-Dec-14	Time Zone : EST			
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	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 June 11 and connected to UPS 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.
9	6-Nov-13	CL	Invalidate data	22-Oct-13	16:00	22-Oct-13	16:00	Monthly calibration
10	6-Jan-14	CL	Invalidate data	17-Dec-13	13:00	20-Dec-13	12:00	A spider web was found in the nephelometer chamber, and causing the unit to not zero (will not go below 16 µg/m3) during calibration. . Equipment was removed, cleaned/repaired and re-installed /calibrated on Dec 20. Data invalidated until equipment stabilizes.
11	7-Jan-14	CL	Zero correction	30-Nov-13	22:00	17-Dec-13	13:00	Zero offset of -16 ug/m3 was applied to data due to the malfucntion described above.

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 (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:	31-Dec-14		Time Zone : EST		
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	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
10	6-Nov-13	CL	Invalidate data	1-Oct-13	12:00	31-Oct-13	12:00	Invalidate calibration minutes for daily auto calibration which occurs every 25th hour.
11	6-Nov-13	CL	Invalidate data	22-Oct-13	15:00	22-Oct-13	17:00	Monthly calibration
12	6-Jan-14	CL	Invalidate data	26-Nov-13	10:00	26-Nov-13	10:00	Monthly calibration
13	7-Jan-14	CL	Invalidate data	26-Nov-13	11:00	29-Nov-13	14:00	Equipment malfuntion due to a split in the hydrocarbon kicker. Equipment was removed, repaired and reinstalled on Nov 29.
14	6-Jan-14	CL	Invalidate data	29-Nov-13	15:00	29-Nov-13	18:00	Unit was calibrated after re-installation.
15	6-Jan-14	CL	Invalidate data	17-Dec-13	12:00	17-Dec-13	14:00	Check instrument and calibration
16	6-Jan-14	CL	Invalidate data	20-Dec-13	11:00	20-Dec-13	11:00	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:	31-Dec-14	Time Zone : EST			
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	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	6-Nov-13	CL	Invalidate data	1-Oct-13	12:00	31-Oct-13	12:00	Invalidate calibration minutes for daily auto calibration which occurs every 25th hour.
12	6-Nov-13	CL	Invalidate data	22-Oct-13	14:00	22-Oct-13	16:00	Monthly calibration
13	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.
14	6-Jan-14	CL	Invalidate data	26-Nov-13	09:00	26-Nov-13	11:00	Monthly calibration
15	6-Jan-14	CL	Invalidate data	20-Dec-13	11:00	20-Dec-13	11:00	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:	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:	31-Dec-14	Time Zone : EST			
Edit #	Edit date	Editor's Name	Edit Action	Starting		Ending		Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	
1	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 June 11 and connected to UPS 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.
9	6-Nov-13	CL	Invalidate data	22-Oct-13	16:00	22-Oct-13	16:00	Monthly calibration
10	6-Jan-14	CL	Invalidate data	17-Dec-13	13:00	20-Dec-13	12:00	A spider web was found in the nephelometer chamber, and causing the unit to not zero (will not go below 16 µg/m3) during calibration. . Equipment was removed, cleaned/repaired and re-installed /calibrated on Dec 20. Data invalidated until equipment stabilizes.
11	7-Jan-14	CL	Zero correction	30-Nov-13	22:00	17-Dec-13	13:00	Zero offset of -16 ug/m3 was applied to data due to the malfucntion described above.

Examples of Acceptable Edit Actions:
Add offset of
Delete hours
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Appendix F
Metals Data Summary

Metals and Total Particulates	Courtice WPCP Station			Oct - Dec 2013		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice	
Location				Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice	
Date	dd/mm/yyyy			1/10/2013		7/10/2013		13/10/2013		19/10/2013		25/10/2013		31/10/2013		11/6/2013		11/12/2013		11/18/2013		11/24/2013		11/30/2013		12/6/2013		12/12/2013		12/18/2013		12/24/2013		12/30/2013	
Start Time	hh:mm			0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00	
Sample Duration	minutes			23.35		23.56		23.41		24.13		24.11		23.56		23.06		23.47		23.39		23.67		24.63		23.48		23.62		23.67		23.89		23.89	
Technician				TH		TH		TH/ CL		TH		CL		TH		CL		TH		CL		TH		CL		TH		CL		TH		CL		TH	
Filter Number				13082781		13090311		13090313		13090316		13090317		13090321		16090323		13091657		13091658		13091662		13091663		13091666		13091667		13091671		13110413		13110418	
Analytical Report #				B3G8368		B3H3492		B3H8266		B3I3582		B3I7074		B3J0018		B3J4187		B3J7994		B3K2404		B3K8058		B3L5093		B3L4436		B3L8707		B3M1681		B400752		B401437	
Total Volumetric Flow	Am^3/sample			2259.69		2235.63		2278.63		2267.62		2241.82		2462.37		2377.73		2413.28		2486.55		2511.48		2666.10		2564.86		2515.81		2201.37		2039.08		2242.37	
Analytical Results	**Units**			**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**
Particulate	mg			60.8	5	32.2	5	31.2	5	58.9	5	29.7	5	34.9	5	14.3	5	39.8	5	17	5	31.9	5	17	5	27.6	5	94.7	5	42	5	9.9	5	48.4	5
Total Mercury (Hg)	ug			0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	0.04	0.02	0.05	0.02	<0.02	0.02	<0.02	0.02
Aluminum (Al)	ug			146	50	135	50	181	50	249	50	175	50	98	50	71	50	243	67	103	50	110	50	75	50	212	67	314	50	85	50	<50	50	91	50
Antimony (Sb)	ug			<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<10	10
Arsenic (As)	ug			<6.0	6	<6.0	6	<6.0	6	8.6	6	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<6.0	6
Barium (Ba)	ug			17.3	1	10.1	1	9.8	1	31.8	1	23.3	1	5.9	1	6	1	8.4	1.3	5.3	1	6.1	1	4.8	1	8.2	1.3	15.7	1	8.1	1	3.1	1	9	1
Beryllium (Be)	ug			<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.3	1.3	<1.0	1	<1.0	1	<1.0	1	<1.3	1.3	<1.0	1	<1.0	1	<1.0	1	<1.0	1
Bismuth (Bi)	ug			<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<6.0	6
Boron (B)	ug			<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<6.0	6
Cadmium (Cd)	ug			<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.0	2
Chromium (Cr)	ug			<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Cobalt (Co)	ug			<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.0	2
Copper (Cu)	ug			46.9	5	54.8	5	54.4	5	140	5	65.6	5	35.2	5	21.9	5	87.6	6.7	35.5	5	93.3	5	29.2	5	108	6.7	57.9	5	169	5	55.9	5	120	5
Iron (Fe)	ug			719	50	451	50	874	50	901	50	818	50	285	50	245	50	785	67	296	50	419	50	314	50	372	67	969	50	389	50	127	50	598	50
Lead (Pb)	ug			7.3	3	4.4	3	8.1	3	9.5	3	5.8	3	5.7	3	4.7	3	<4.0	4	<3.0	3	<3.0	3	4.8	3	<4.0	4	7.6	3	3.6	3	7.3	3	5.1	3
Magnesium (Mg)	ug			325	50	244	50	222	50	383	50	292	50	139	50	249	50	379	67	195	50	226	50	92	50	403	67	587	50	145	50	59	50	233	50
Manganese (Mn)	ug			24.4	1	14.7	1	17.1	1	24.9	1	21.3	1	11	1	8.1	1	21.9	1.3	11.5	1	12.2	1	7.3	1	14.4	1.3	39.7	1	13.4	1	4.1	1	13.1	1
Molybdenum (Mo)	ug			<3.0	3	<3.0	3	<3.0	3	3.1	3	<3.0	3	<3.0	3	<3.0	3	<4.0	4	<3.0	3	<3.0	3	<3.0	3	<4.0	4	<3.0	3	<3.0	3	<3.0	3	<3.0	3
Nickel (Ni)	ug			<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	10.5	4	<3.0	3	<3.0	3	<3.0	3	<4.0	4	<3.0	3	4.2	3	<3.0	3	3.8	3
Phosphorus (P)	ug			86	25	89	25	64	25	68	25	35	25	33	25	26	25	36	33	25	25	<25	25	<25	25	<33	33	46	25	<25	25	<25	25	<25	25
Selenium (Se)	ug			<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<10	10
Silver (Ag)	ug			<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Strontium (Sr)	ug			6.6	1	3.8	1	5	1	7.9	1	7	1	3.9	1	2.6	1	8.4	1.3	3.2	1	8.7	1	2.6	1	5.5	1.3	19.2	1	3.9	1	1.7	1	9.3	1
Thallium (Tl)	ug			<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<10	10
Tin (Sn)	ug			<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<10	10
Titanium (Ti)	ug			11	10	<10	10	10	10	19	10	15	10	<10	10	<10	10	15	13	<10	10	<10	10	<10	10	<13	13	18	10	<10	10	<10	10	<10	10
Vanadium (V)	ug			<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Zinc (Zn)	ug			72.7	5	38.2	5	31.4	5	58.2	5	42.6	5	40.7	5	29.6	5	22.3	6.7	25.8	5	20.2	5	25.6	5	114	6.7	72.2	5	54.8	5	21.3	5	37.4	5
Zirconium (Zr)	ug			<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<5.0	5
Total Uranium (U)	ug			<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.6	0.6	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.6	0.6	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45

Calculated Concentrations	Units	Quarter 4 2013 Maximum	Quarter 4 2013 Minimum	Courtice 1/10/2013	Courtice 7/10/2013	Courtice 13/10/2013	Courtice 19/10/2013	Courtice 25/10/2013	Courtice 31/10/2013	Courtice 11/6/2013	Courtice 11/12/2013	Courtice 11/18/2013	Courtice 11/24/2013	Courtice 11/30/2013	Courtice 12/6/2013	Courtice 12/12/2013	Courtice 12/18/2013	Courtice 12/24/2013	Courtice 12/30/2013
Particulate	ug/m^3	37.6	4.9	26.9	14.4	13.7	26.0	13.2	14.2	6.0	16.492	6.837	12.702	6.376	10.761	37.642	19.079	4.855	21.584
Total Mercury (Hg)	ug/m^3	2.27E-05	3.75E-06	2.21E-05	8.95E-06	8.78E-06	8.82E-06	4.46E-06	4.06E-06	4.21E-06	4.14E-06	4.02E-06	3.98E-06	3.75E-06	3.90E-06	1.59E-05	2.27E-05	4.90E-06	4.46E-06
Aluminum (Al)	ug/m^3	1.25E-01	1.23E-02	6.46E-02	6.04E-02	7.94E-02	1.10E-01	7.81E-02	3.98E-02	2.99E-02	1.01E-01	4.14E-02	4.38E-02	2.81E-02	8.27E-02	1.25E-01	3.86E-02	1.23E-02	4.06E-02
Antimony (Sb)	ug/m^3	2.69E-03	1.88E-03	2.21E-03	2.24E-03	2.19E-03	2.20E-03	2.23E-03	2.03E-03	2.10E-03	2.69E-03	2.01E-03	1.99E-03	1.88E-03	2.53E-03	1.99E-03	2.27E-03	2.45E-03	2.23E-03
Arsenic (As)	ug/m^3	3.79E-03	1.13E-03	1.33E-03	1.34E-03	1.32E-03	3.79E-03	1.34E-03	1.22E-03	1.26E-03	1.66E-03	1.21E-03	1.19E-03	1.13E-03	1.56E-03	1.19E-03	1.36E-03	1.47E-03	1.34E-03
Barium (Ba)	ug/m^3	1.40E-02	1.52E-03	7.66E-03	4.52E-03	4.30E-03	1.40E-02	1.04E-02	2.40E-03	2.52E-03	3.48E-03	2.13E-03	2.43E-03	1.80E-03	3.20E-03	6.24E-03	3.68E-03	1.52E-03	4.01E-03
Beryllium (Be)	ug/m^3	2.69E-04	1.88E-04	2.21E-04	2.24E-04	2.19E-04	2.20E-04	2.23E-04	2.03E-04	2.10E-04	2.69E-04	2.01E-04	1.99E-04	1.88E-04	2.53E-04	1.99E-04	2.27E-04	2.45E-04	2.23E-04
Bismuth (Bi)	ug/m^3	1.66E-03	1.13E-03	1.33E-03	1.34E-03	1.32E-03	1.32E-03	1.34E-03	1.22E-03	1.26E-03	1.66E-03	1.21E-03	1.19E-03	1.13E-03	1.56E-03	1.19E-03	1.36E-03	1.47E-03	1.34E-03
Boron (B)	ug/m^3	1.66E-03	1.13E-03	1.33E-03	1.34E-03	1.32E-03	1.32E-03	1.34E-03	1.22E-03	1.26E-03	1.66E-03	1.21E-03	1.19E-03	1.13E-03	1.56E-03	1.19E-03	1.36E-03	1.47E-03	1.34E-03
Cadmium (Cd)	ug/m^3	5.59E-04	3.75E-04	4.43E-04	4.47E-04	4.39E-04	4.41E-04	4.46E-04	4.06E-04	4.21E-04	5.59E-04	4.02E-04	3.98E-04	3.75E-04	5.26E-04	3.97E-04	4.54E-04	4.90E-04	4.46E-04
Chromium (Cr)	ug/m^3	1.39E-03	9.38E-04	1.11E-03	1.12E-03	1.10E-03	1.10E-03	1.12E-03	1.02E-03	1.05E-03	1.39E-03	1.01E-03	9.95E-04	9.38E-04	1.31E-03	9.94E-04	1.14E-03	1.23E-03	1.11E-03
Cobalt (Co)	ug/m^3	5.59E-04	3.75E-04	4.43E-04	4.47E-04	4.39E-04	4.41E-04	4.46E-04	4.06E-04	4.21E-04	5.59E-04	4.02E-04	3.98E-04	3.75E-04	5.26E-04	3.97E-04	4.54E-04	4.90E-04	4.46E-04
Copper (Cu)	ug/m^3	7.68E-02	9.21E-03	2.08E-02	2.45E-02	2.39E-02	6.17E-02	2.93E-02	1.43E-02	9.21E-03	3.63E-02	1.43E-02	3.71E-02	1.10E-02	4.21E-02	2.30E-02	7.68E-02	2.74E-02	5.35E-02
Iron (Fe)	ug/m^3	3.97E-01	6.23E-02	3.18E-01	2.02E-01	3.84E-01	3.97E-01	3.65E-01	1.16E-01	1.03E-01	3.25E-01	1.19E-01	1.67E-01	1.18E-01	1.45E-01	3.85E-01	1.77E-01	6.23E-02	2.67E-01
Lead (Pb)	ug/m^3	4.19E-03	5.97E-04	3.23E-03	1.97E-03	3.55E-03	4.19E-03	2.59E-03	2.31E-03	1.98E-03	8.29E-04	6.03E-04	5.97E-04	1.80E-03	7.80E-04	3.02E-03	1.64E-03	3.58E-03	2.27E-03
Magnesium (Mg)	ug/m^3	2.33E-01	2.89E-02	1.44E-01	1.09E-01	9.74E-02	1.69E-01	1.30E-01	5.64E-02	1.05E-01	1.57E-01	7.84E-02	9.00E-02	3.45E-02	1.57E-01	2.33E-01	6.59E-02	2.89E-02	1.04E-01
Manganese (Mn)	ug/m^3	1.58E-02	2.01E-03	1.08E-02	6.58E-03	7.50E-03	1.10E-02	9.50E-03	4.47E-03	3.41E-03	9.07E-03	4.62E-03	4.86E-03	2.74E-03	5.61E-03	1.58E-02	6.09E-03	2.01E-03	5.84E-03
Molybdenum (Mo)	ug/m^3	1.37E-03	5.63E-04	6.64E-04	6.71E-04	6.58E-04	1.37E-03	6.69E-04	6.09E-04	6.31E-04	8.29E-04	6.03E-04	5.97E-04	5.63E-04	7.80E-04	5.96E-04	6.81E-04	7.36E-04	6.69E-04
Nickel (Ni)	ug/m^3	4.35E-03	5.63E-04	6.64E-04	6.71E-04	6.58E-04	6.61E-04	6.69E-04	6.09E-04	6.31E-04	4.35E-03	6.03E-04	5.97E-04	5.63E-04	7.80E-04	5.96E-04	1.91E-03	7.36E-04	1.69E-03
Phosphorus (P)	ug/m^3	3.98E-02	4.69E-03	3.81E-02	3.98E-02	2.81E-02	3.00E-02	1.56E-02	1.34E-02	1.09E-02	1.49E-02	1.01E-02	4.98E-03	4.69E-03	6.43E-03	1.83E-02	5.68E-03	6.13E-03	5.57E-03
Selenium (Se)	ug/m^3	2.69E-03	1.88E-03	2.21E-03	2.24E-03	2.19E-03	2.20E-03	2.23E-03	2.03E-03	2.10E-03	2.69E-03	2.01E-03	1.99E-03	1.88E-03	2.53E-03	1.99E-03	2.27E-03	2.45E-03	2.23E-03
Silver (Ag)	ug/m^3	1.39E-03	9.38E-04	1.11E-03	1.12E-03	1.10E-03	1.10E-03	1.12E-03	1.02E-03	1.05E-03	1.39E-03	1.01E-03	9.95E-04	9.38E-04	1.31E-03	9.94E-04	1.14E-03	1.23E-03	1.11E-03
Strontium (Sr)	ug/m^3	7.63E-03	8.34E-04	2.92E-03	1.70E-03	2.19E-03	3.48E-03	3.12E-03	1.58E-03	1.09E-03	3.48E-03	1.29E-03	3.46E-03	9.75E-04	2.14E-03	7.63E-03	1.77E-03	8.34E-04	4.15E-03
Thallium (Tl)	ug/m^3	2.69E-03	1.88E-03	2.21E-03	2.24E-03	2.19E-03	2.20E-03	2.23E-03	2.03E-03	2.10E-03	2.69E-03	2.01E-03	1.99E-03	1.88E-03	2.53E-03	1.99E-03	2.27E-03	2.45E-03	2.23E-03
Tin (Sn)	ug/m^3	2.69E-03	1.88E-03	2.21E-03	2.24E-03	2.19E-03	2.20E-03	2.23E-03	2.03E-03	2.10E-03	2.69E-03	2.01E-03	1.99E-03	1.88E-03	2.53E-03	1.99E-03	2.27E-03	2.45E-03	2.23E-03
Titanium (Ti)	ug/m^3	8.38E-03	1.88E-03	4.87E-03	2.24E-03	4.39E-03	8.38E-03	6.69E-03	2.03E-03	2.10E-03	6.22E-03	2.01E-03	1.99E-03	1.88E-03	2.53E-03	7.15E-03	2.27E-03	2.45E-03	2.23E-03
Vanadium (V)	ug/m^3	1.39E-03	9.38E-04	1.11E-03	1.12E-03	1.10E-03	1.10E-03	1.12E-03	1.02E-03	1.05E-03	1.39E-03	1.01E-03	9.95E-04	9.38E-04	1.31E-03	9.94E-04	1.14E-03	1.23E-03	1.11E-03
Zinc (Zn)	ug/m^3	4.44E-02	8.04E-03	3.22E-02	1.71E-02	1.38E-02	2.57E-02	1.90E-02	1.65E-02	1.24E-02	9.24E-03	1.04E-02	8.04E-03	9.60E-03	4.44E-02	2.87E-02	2.49E-02	1.04E-02	1.67E-02
Zirconium (Zr)	ug/m^3	1.39E-03	9.38E-04	1.11E-03	1.12E-03	1.10E-03	1.10E-03	1.12E-03	1.02E-03	1.05E-03	1.39E-03	1.01E-03	9.95E-04	9.38E-04	1.31E-03	9.94E-04	1.14E-03	1.23E-03	1.11E-03
Total Uranium (U)	ug/m^3	1.24E-04	8.44E-05	9.96E-05	1.01E-04	9.87E-05	9.92E-05	1.00E-04	9.14E-05	9.46E-05	1.24E-04	9.05E-05	8.96E-05	8.44E-05	1.17E-04	8.94E-05	1.02E-04	1.10E-04	1.00E-04

Metals and Total Particulates	Rundle Road Station	Oct - Dec 2013																											
Location		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle	
Date	dd/mm/yyyy	1/10/2013		7/10/2013		13/10/2013		19/10/2013		25/10/2013		31/10/2013		6/11/2013		12/11/2013		18/11/2013		11/24/2013		11/30/2013		12/6/2013		12/12/2013		12/18/2013		12/24/2013		12/30/2013	
Start Time	hh:mm	0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00	
Sample Duration	minutes	23.58		23.54		23.89		23.91		23.52		23.98		23.57		23.86		23.43		23.96		23.46		23.48		23.76		23.49		23.62		11.8	
Technician		TH		TH/ CL		TH		TH		CL		TH		CL		CL		CL		TH		CL		TH		CL		TH		CL		TH	
Filter Number		13082780		13082782		13090314		13090315		13090318		13090320		13090322		13091656		13091659		13091661		13091664		13091665		13091668		13091670		13110414		13110417	
Analytical Report #		B3G8368		B3H3492		B3H8266		B3I3582		B3I7074		B3I0018		B3J4187		B3J7994		B3K2404		B3K8058		B3L5093		B3L4436		B3L8707		B3M1681		B400752		B401437	
Total Volumetric Flow	Am^3/sample	2063.34		2123.51		2079.59		2091.55		2058.23		2345.07		2273.17		2269.82		2164.55		2329.04		2278.21		2302.25		2332.73		2338.39		2281.27		1242.79	
Analytical Results	**Units**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**
Particulate	mg	58.7	5	50.1	5	42	5	45.9	5	28.2	5	39.7	5	26.9	5	34.7	5	32.5	5	36.8	5	21.4	5	47.1	5	146	5	53.6	5	14.4	5		
Total Mercury (Hg)	ug	0.04	0.02	0.02	0.02	<0.02	0.02	0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	0.12	0.02	0.08	0.02	<0.02	0.02		
Aluminum (Al)	ug	168	50	152	50	224	50	137	50	133	50	96	50	163	50	163	67	171	50	171	50	74	50	253	67	814	50	103	50	<50	50		
Antimony (Sb)	ug	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10		
Arsenic (As)	ug	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6		
Barium (Ba)	ug	14.7	1	12.6	1	12.8	1	21.2	1	14.9	1	8.7	1	15.1	1	5.2	1.3	7.7	1	5.6	1	5.8	1	9	1.3	30.4	1	11.1	1	2.7	1		
Beryllium (Be)	ug	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.0	1	<1.3	1.3	<1.0	1	<1.0	1	<1.0	1	<1.3	1.3	<1.0	1	<1.0	1	<1.0	1		
Bismuth (Bi)	ug	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6		
Boron (B)	ug	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<6.0	6	<8.0	8	<6.0	6	<6.0	6	<6.0	6	<8.0	8	8.7	6	7.6	6	<6.0	6		
Cadmium (Cd)	ug	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2		
Chromium (Cr)	ug	6.8	5	5.2	5	<5.0	5	5.4	5	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	7.7	5	<5.0	5	7.5	5	<6.7	6.7	41.6	5	<5.0	5	<5.0	5		
Cobalt (Co)	ug	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.0	2	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2	<2.7	2.7	<2.0	2	<2.0	2	<2.0	2		
Copper (Cu)	ug	278	5	219	5	367	5	354	5	325	5	240	5	180	5	298	6.7	98.4	5	354	5	290	5	329	6.7	237	5	514	5	538	5		
Iron (Fe)	ug	917	50	604	50	828	50	633	50	547	50	437	50	993	50	560	67	587	50	442	50	1460	50	652	67	2920	50	489	50	102	50	Invalidated - sample run was less than 75% for a 24 hour sample	
Lead (Pb)	ug	6.8	3	5	3	8.2	3	8.2	3	6	3	6.2	3	5.1	3	<4.0	4	<3.0	3	<3.0	3	4.7	3	<4.0	4	11.6	3	6.6	3	12.9	3		
Magnesium (Mg)	ug	331	50	288	50	243	50	279	50	235	50	153	50	356	50	326	67	285	50	352	50	111	50	606	67	1370	50	196	50	68	50		
Manganese (Mn)	ug	35.3	1	31.6	1	17.7	1	19.4	1	19.4	1	12.9	1	20.8	1	23.2	1.3	34.1	1	20.5	1	16	1	35.8	1.3	238	1	21.2	1	4.9	1		
Molybdenum (Mo)	ug	6.1	3	4.2	3	6.6	3	6.8	3	5.6	3	5.5	3	4.8	3	4.9	4	<3.0	3	6.3	3	4.6	3	4.3	4	4.7	3	5.3	3	7.9	3		
Nickel (Ni)	ug	3.1	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	<3.0	3	3.1	3	10.6	4	<3.0	3	<3.0	3	<3.0	3	<4.0	4	4	3	<3.0	3	<3.0	3		
Phosphorus (P)	ug	87	25	132	25	74	25	65	25	35	25	38	25	37	25	34	33	52	25	31	25	<25	25	37	33	79	25	<25	25	<25	25		
Selenium (Se)	ug	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10		
Silver (Ag)	ug	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5		
Strontium (Sr)	ug	7.2	1	5	1	7.1	1	5	1	5.6	1	4.4	1	5.6	1	7.9	1.3	5.7	1	8.9	1	3.1	1	10.5	1.3	35.6	1	4.4	1	2	1		
Thallium (Tl)	ug	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10		
Tin (Sn)	ug	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10	<13	13	<10	10	<10	10	<10	10		
Titanium (Ti)	ug	12	10	<10	10	12	10	11	10	12	10	<10	10	11	10	<13	13	11	10	11	10	<10	10	16	13	56	10	<10	10	<10	10		
Vanadium (V)	ug	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	7.5	5	<5.0	5	<5.0	5		
Zinc (Zn)	ug	82	5	44.3	5	30.8	5	50	5	38.2	5	48.2	5	46.2	5	22.1	6.7	28.7	5	26.8	5	29.9	5	162	6.7	109	5	110	5	31.4	5		
Zirconium (Zr)	ug	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5	<6.7	6.7	<5.0	5	<5.0	5	<5.0	5		
Total Uranium (U)	ug	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.6	0.6	<0.45	0.45	<0.6	0.6	<0.45	0.45	<0.6	0.6	<0.45	0.45	<0.45	0.45	<0.45	0.45		

Calculated Concentrations	Units	Quarter 4 2013		Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle	Rundle
		Maximum	Minimum	1/10/2013	7/10/2013	13/10/2013	19/10/2013	25/10/2013	31/10/2013	6/11/2013	12/11/2013	18/11/2013	11/24/2013	11/30/2013	12/6/2013	12/12/2013	12/18/2013	12/24/2013	12/30/2013
Particulate	ug/m^3	63	6	28.4	23.6	20.2	21.9	13.7	16.9	11.8	15.3	15.0	15.8	9.4	20.5	62.6	22.9	6.3	-
Total Mercury (Hg)	ug/m^3	5.14E-05	4.26E-06	1.94E-05	9.42E-06	4.81E-06	9.56E-06	4.86E-06	4.26E-06	4.40E-06	4.41E-06	4.62E-06	4.29E-06	4.39E-06	4.34E-06	5.14E-05	3.42E-05	4.38E-06	-
Aluminum (Al)	ug/m^3	3.49E-01	1.10E-02	8.14E-02	7.16E-02	1.08E-01	6.55E-02	6.46E-02	4.09E-02	7.17E-02	7.18E-02	7.90E-02	7.34E-02	3.25E-02	1.10E-01	3.49E-01	4.40E-02	1.10E-02	-
Antimony (Sb)	ug/m^3	2.86E-03	2.13E-03	2.42E-03	2.35E-03	2.40E-03	2.39E-03	2.43E-03	2.13E-03	2.20E-03	2.86E-03	2.31E-03	2.15E-03	2.19E-03	2.82E-03	2.14E-03	2.14E-03	2.19E-03	-
Arsenic (As)	ug/m^3	1.76E-03	1.28E-03	1.45E-03	1.41E-03	1.44E-03	1.43E-03	1.46E-03	1.28E-03	1.32E-03	1.76E-03	1.39E-03	1.29E-03	1.32E-03	1.74E-03	1.29E-03	1.28E-03	1.32E-03	-
Barium (Ba)	ug/m^3	1.30E-02	1.18E-03	7.12E-03	5.93E-03	6.16E-03	1.01E-02	7.24E-03	3.71E-03	6.64E-03	2.29E-03	3.56E-03	2.40E-03	2.55E-03	3.91E-03	1.30E-02	4.75E-03	1.18E-03	-
Beryllium (Be)	ug/m^3	2.86E-04	2.13E-04	2.42E-04	2.35E-04	2.40E-04	2.39E-04	2.43E-04	2.13E-04	2.20E-04	2.86E-04	2.31E-04	2.15E-04	2.19E-04	2.82E-04	2.14E-04	2.14E-04	2.19E-04	-
Bismuth (Bi)	ug/m^3	1.76E-03	1.28E-03	1.45E-03	1.41E-03	1.44E-03	1.43E-03	1.46E-03	1.28E-03	1.32E-03	1.76E-03	1.39E-03	1.29E-03	1.32E-03	1.74E-03	1.29E-03	1.28E-03	1.32E-03	-
Boron (B)	ug/m^3	3.73E-03	1.28E-03	1.45E-03	1.41E-03	1.44E-03	1.43E-03	1.46E-03	1.28E-03	1.32E-03	1.76E-03	1.39E-03	1.29E-03	1.32E-03	1.74E-03	3.73E-03	3.25E-03	1.32E-03	-
Cadmium (Cd)	ug/m^3	5.95E-04	4.26E-04	4.85E-04	4.71E-04	4.81E-04	4.78E-04	4.86E-04	4.26E-04	4.40E-04	5.95E-04	4.62E-04	4.29E-04	4.39E-04	5.86E-04	4.29E-04	4.28E-04	4.38E-04	-
Chromium (Cr)	ug/m^3	1.78E-02	1.07E-03	3.30E-03	2.45E-03	1.20E-03	2.58E-03	1.21E-03	1.07E-03	1.10E-03	1.48E-03	3.56E-03	1.07E-03	3.29E-03	1.46E-03	1.78E-02	1.07E-03	1.10E-03	-
Cobalt (Co)	ug/m^3	5.95E-04	4.26E-04	4.85E-04	4.71E-04	4.81E-04	4.78E-04	4.86E-04	4.26E-04	4.40E-04	5.95E-04	4.62E-04	4.29E-04	4.39E-04	5.86E-04	4.29E-04	4.28E-04	4.38E-04	-
Copper (Cu)	ug/m^3	2.36E-01	4.55E-02	1.35E-01	1.03E-01	1.76E-01	1.69E-01	1.58E-01	1.02E-01	7.92E-02	1.31E-01	4.55E-02	1.52E-01	1.27E-01	1.43E-01	1.02E-01	2.20E-01	2.36E-01	-
Iron (Fe)	ug/m^3	1.25E+00	4.47E-02	4.44E-01	2.84E-01	3.98E-01	3.03E-01	2.66E-01	1.86E-01	4.37E-01	2.47E-01	2.71E-01	1.90E-01	6.41E-01	2.83E-01	1.25E+00	2.09E-01	4.47E-02	-
Lead (Pb)	ug/m^3	5.65E-03	6.44E-04	3.30E-03	2.35E-03	3.94E-03	3.92E-03	2.92E-03	2.64E-03	2.24E-03	8.81E-04	6.93E-04	6.44E-04	2.06E-03	8.69E-04	4.97E-03	2.82E-03	5.65E-03	-
Magnesium (Mg)	ug/m^3	5.87E-01	2.98E-02	1.60E-01	1.36E-01	1.17E-01	1.33E-01	1.14E-01	6.52E-02	1.57E-01	1.44E-01	1.32E-01	1.51E-01	4.87E-02	2.63E-01	5.87E-01	8.38E-02	2.98E-02	-
Manganese (Mn)	ug/m^3	1.02E-01	2.15E-03	1.71E-02	1.49E-02	8.51E-03	9.28E-03	9.43E-03	5.50E-03	9.15E-03	1.02E-02	1.58E-02	8.80E-03	7.02E-03	1.56E-02	1.02E-01	9.07E-03	2.15E-03	-
Molybdenum (Mo)	ug/m^3	3.46E-03	6.93E-04	2.96E-03	1.98E-03	3.17E-03	3.25E-03	2.72E-03	2.35E-03	2.11E-03	2.16E-03	6.93E-04	2.70E-03	2.02E-03	1.87E-03	2.01E-03	2.27E-03	3.46E-03	-
Nickel (Ni)	ug/m^3	4.67E-03	6.40E-04	1.50E-03	7.06E-04	7.21E-04	7.17E-04	7.29E-04	6.40E-04	1.36E-03	4.67E-03	6.93E-04	6.44E-04	6.58E-04	8.69E-04	1.71E-03	6.41E-04	6.58E-04	-
Phosphorus (P)	ug/m^3	6.22E-02	5.35E-03	4.22E-02	6.22E-02	3.56E-02	3.11E-02	1.70E-02	1.62E-02	1.63E-02	1.50E-02	2.40E-02	1.33E-02	5.49E-03	1.61E-02	3.39E-02	5.35E-03	5.48E-03	-
Selenium (Se)	ug/m^3	2.86E-03	2.13E-03	2.42E-03	2.35E-03	2.40E-03	2.39E-03	2.43E-03	2.13E-03	2.20E-03	2.86E-03	2.31E-03	2.15E-03	2.19E-03	2.82E-03	2.14E-03	2.14E-03	2.19E-03	-
Silver (Ag)	ug/m^3	1.48E-03	1.07E-03	1.21E-03	1.18E-03	1.20E-03	1.20E-03	1.21E-03	1.07E-03	1.10E-03	1.48E-03	1.15E-03	1.07E-03	1.10E-03	1.46E-03	1.07E-03	1.07E-03	1.10E-03	-
Strontium (Sr)	ug/m^3	1.53E-02	8.77E-04	3.49E-03	2.35E-03	3.41E-03	2.39E-03	2.72E-03	1.88E-03	2.46E-03	3.48E-03	2.63E-03	3.82E-03	1.36E-03	4.56E-03	1.53E-02	1.88E-03	8.77E-04	-
Thallium (Tl)	ug/m^3	2.86E-03	2.13E-03	2.42E-03	2.35E-03	2.40E-03	2.39E-03	2.43E-03	2.13E-03	2.20E-03	2.86E-03	2.31E-03	2.15E-03	2.19E-03	2.82E-03	2.14E-03	2.14E-03	2.19E-03	-
Tin (Sn)	ug/m^3	2.86E-03	2.13E-03	2.42E-03	2.35E-03	2.40E-03	2.39E-03	2.43E-03	2.13E-03	2.20E-03	2.86E-03	2.31E-03	2.15E-03	2.19E-03	2.82E-03	2.14E-03	2.14E-03	2.19E-03	-
Titanium (Ti)	ug/m^3	2.40E-02	2.13E-03	5.82E-03	2.35E-03	5.77E-03	5.26E-03	5.83E-03	2.13E-03	4.84E-03	2.86E-03	5.08E-03	4.72E-03	2.19E-03	6.95E-03	2.40E-02	2.14E-03	2.19E-03	-
Vanadium (V)	ug/m^3	3.22E-03	1.07E-03	1.21E-03	1.18E-03	1.20E-03	1.20E-03	1.21E-03	1.07E-03	1.10E-03	1.48E-03	1.15E-03	1.07E-03	1.10E-03	1.46E-03	3.22E-03	1.07E-03	1.10E-03	-
Zinc (Zn)	ug/m^3	7.04E-02	9.74E-03	3.97E-02	2.09E-02	1.48E-02	2.39E-02	1.86E-02	2.06E-02	2.03E-02	9.74E-03	1.33E-02	1.15E-02	1.31E-02	7.04E-02	4.67E-02	4.70E-02	1.38E-02	-
Zirconium (Zr)	ug/m^3	1.48E-03	1.07E-03	1.21E-03	1.18E-03	1.20E-03	1.20E-03	1.21E-03	1.07E-03	1.10E-03	1.48E-03	1.15E-03	1.07E-03	1.10E-03	1.46E-03	1.07E-03	1.07E-03	1.10E-03	-
Total Uranium (U)	ug/m^3	1.32E-04	9.59E-05	1.09E-04	1.06E-04	1.08E-04	1.08E-04	1.09E-04	9.59E-05	9.90E-05	1.32E-04	1.04E-04	1.29E-04	9.88E-05	1.30E-04	9.65E-05	9.62E-05	9.86E-05	-

Appendix G
PAHs Data Summary

Polycyclic Aromatic Hydrocarbons	Courtice WPCP Station	Oct - Dec 2013													
Location		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice		Courtice	
Date	dd/mm/yyyy	7/10/2013		19/10/2013		31/10/2013		11/12/2013		11/24/2013		12/6/2013		12/18/2013		12/30/2013	
Start Time	hh:mm	0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00	
Sample Duration	minutes	22.73		23.6		23.78		22.79		23.71		23.04		23.99		22.98	
Technician		TH		TH		TH		TH		TH		TH		TH		TH	
Filter Number		ST9556-01		TF3526-01		TF3788-01		TF4120-01		TF5430-01		TR5581-01		UB9203-01		UB9221-01	
Maxaam ID		TK9801		TQ1887		TT5804		TX5839		UD0995		UG3586		UJ9903		UL6666	
Analytical Report #		B3H3495		B3I3581		B3J0032		B3J8000		B3K8022		B3L4460		B3M1686		B401530	
Total Volumetric Flow	Am^3/sample	312.40		313.84		353.63		337.51		332.79		318.23		347.78		331.10	
Analytical Results	**Units**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**
Benzo(a)pyrene	µg	0.004	0.0026	0.009	0.0011	0.006	0.00075	<0.0085	0.0085	<0.0058	0.0058	<0.018	0.018	0.0087	0.0063	<0.023	0.023
1-Methylnaphthalene	µg	0.89	0.2	3.06	0.15	0.97	0.2	0.5	0.15	0.93	0.2	0.75	0.15	2.44	0.2	0.91	0.15
2-Methylnaphthalene	µg	1.64	0.2	5.35	0.15	1.59	0.2	0.9	0.15	1.54	0.2	1.35	0.15	4.17	0.2	1.54	0.15
Acenaphthene	µg	0.5	0.1	0.912	0.075	0.36	0.1	0.204	0.075	0.24	0.1	0.324	0.075	<0.10	0.1	0.213	0.075
Acenaphthylene	µg	<0.10	0.1	0.114	0.075	<0.10	0.1	<0.075	0.075	0.16	0.1	<0.075	0.075	<0.10	0.1	0.171	0.075
Anthracene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075
Benzo(a)anthracene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075
Benzo(a)fluorene	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Benzo(b)fluoranthene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.13	0.1	<0.075	0.075
Benzo(b)fluorene	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Benzo(e)pyrene	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Benzo(g,h,i)perylene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075
Benzo(k)fluoranthene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.15	0.1	0.084	0.075
Biphenyl	µg	0.35	0.2	0.98	0.15	0.53	0.2	0.24	0.15	0.5	0.2	0.48	0.15	1.18	0.2	0.53	0.15
Chrysene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075
Dibenz(a,h)anthracene [1]	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075
Fluoranthene	µg	0.17	0.1	0.3	0.075	0.18	0.1	0.084	0.075	0.13	0.1	0.102	0.075	0.36	0.1	0.195	0.075
Indeno(1,2,3-cd)pyrene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075
Naphthalene	µg	5.36	0.14	18.3	0.11	6.21	0.14	2.89	0.11	6.22	0.14	4.63	0.11	16.6	0.14	8	0.11
o-Terphenyl	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Perylene	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Phenanthrene	µg	0.74	0.1	1.33	0.075	0.66	0.1	0.3	0.075	0.55	0.1	0.396	0.075	1.17	0.1	0.525	0.075
Pyrene	µg	<0.10	0.1	0.186	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.2	0.1	0.117	0.075
Tetralin	µg	0.42	0.2	1.82	0.15	0.51	0.2	0.27	0.15	0.4	0.2	0.39	0.15	1.37	0.2	0.5	0.15

Calculated Concentrations	Units	Quarter 4 2013 Maximum	Quarter 4 2013 Minimum	Courtice 7/10/2013	Courtice 19/10/2013	Courtice 31/10/2013	Courtice 11/12/2013	Courtice 11/24/2013	Courtice 12/6/2013	Courtice 12/18/2013	Courtice 12/30/2013
Benzo(a)pyrene	ng/m^3	3.47E-02	8.71E-03	1.28E-02	2.87E-02	1.70E-02	1.26E-02	8.71E-03	2.83E-02	2.50E-02	3.47E-02
1-Methylnaphthalene	ng/m^3	9.75E+00	1.48E+00	2.85E+00	9.75E+00	2.74E+00	1.48E+00	2.79E+00	2.36E+00	7.02E+00	2.75E+00
2-Methylnaphthalene	ng/m^3	1.70E+01	2.67E+00	5.25E+00	1.70E+01	4.50E+00	2.67E+00	4.63E+00	4.24E+00	1.20E+01	4.65E+00
Acenaphthene	ng/m^3	2.91E+00	1.44E-01	1.60E+00	2.91E+00	1.02E+00	6.04E-01	7.21E-01	1.02E+00	1.44E-01	6.43E-01
Acenaphthylene	ng/m^3	5.16E-01	1.11E-01	1.60E-01	3.63E-01	1.41E-01	1.11E-01	4.81E-01	1.18E-01	1.44E-01	5.16E-01
Anthracene	ng/m^3	1.60E-01	1.11E-01	1.60E-01	1.19E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	1.44E-01	1.13E-01
Benzo(a)anthracene	ng/m^3	1.60E-01	1.11E-01	1.60E-01	1.19E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	1.44E-01	1.13E-01
Benzo(a)fluorene	ng/m^3	3.20E-01	2.22E-01	3.20E-01	2.39E-01	2.83E-01	2.22E-01	3.00E-01	2.36E-01	2.88E-01	2.27E-01
Benzo(b)fluoranthene	ng/m^3	3.74E-01	1.11E-01	1.60E-01	1.19E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	3.74E-01	1.13E-01
Benzo(b)fluorene	ng/m^3	3.20E-01	2.22E-01	3.20E-01	2.39E-01	2.83E-01	2.22E-01	3.00E-01	2.36E-01	2.88E-01	2.27E-01
Benzo(e)pyrene	ng/m^3	3.20E-01	2.22E-01	3.20E-01	2.39E-01	2.83E-01	2.22E-01	3.00E-01	2.36E-01	2.88E-01	2.27E-01
Benzo(g,h,i)perylene	ng/m^3	1.60E-01	1.11E-01	1.60E-01	1.19E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	1.44E-01	1.13E-01
Benzo(k)fluoranthene	ng/m^3	4.31E-01	1.11E-01	1.60E-01	1.19E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	4.31E-01	2.54E-01
Biphenyl	ng/m^3	3.39E+00	7.11E-01	1.12E+00	3.12E+00	1.50E+00	7.11E-01	1.50E+00	1.51E+00	3.39E+00	1.60E+00
Chrysene	ng/m^3	1.60E-01	1.11E-01	1.60E-01	1.19E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	1.44E-01	1.13E-01
Dibenz(a,h)anthracene [1]	ng/m^3	1.60E-01	1.11E-01	1.60E-01	1.19E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	1.44E-01	1.13E-01
Dibenzo(a,c) anthracene + Picene [2]	ng/m^3	3.20E-01	2.39E-02	3.20E-01	2.39E-02	2.83E-01	2.96E-01	3.00E-01	2.36E-01	2.88E-01	2.27E-01
Fluoranthene	ng/m^3	1.04E+00	2.49E-01	5.44E-01	9.56E-01	5.09E-01	2.49E-01	3.91E-01	3.21E-01	1.04E+00	5.89E-01
Indeno(1,2,3-cd)pyrene	ng/m^3	1.60E-01	1.11E-01	1.60E-01	1.19E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	1.44E-01	1.13E-01
Naphthalene	ng/m^3	5.83E+01	8.56E+00	1.72E+01	5.83E+01	1.76E+01	8.56E+00	1.87E+01	1.45E+01	4.77E+01	2.42E+01
o-Terphenyl	ng/m^3	3.20E-01	2.22E-01	3.20E-01	2.39E-01	2.83E-01	2.22E-01	3.00E-01	2.36E-01	2.88E-01	2.27E-01
Perylene	ng/m^3	3.20E-01	2.22E-01	3.20E-01	2.39E-01	2.83E-01	2.22E-01	3.00E-01	2.36E-01	2.88E-01	2.27E-01
Phenanthrene	ng/m^3	4.24E+00	8.89E-01	2.37E+00	4.24E+00	1.87E+00	8.89E-01	1.65E+00	1.24E+00	3.36E+00	1.59E+00
Pyrene	ng/m^3	5.93E-01	1.11E-01	1.60E-01	5.93E-01	1.41E-01	1.11E-01	1.50E-01	1.18E-01	5.75E-01	3.53E-01
Tetralin	ng/m^3	5.80E+00	8.00E-01	1.34E+00	5.80E+00	1.44E+00	8.00E-01	1.20E+00	1.23E+00	3.94E+00	1.51E+00
Total PAH	ng/m^3	1.05E+02	1.85E+01	3.58E+01	1.05E+02	3.43E+01	1.85E+01	3.52E+01	2.91E+01	8.27E+01	4.08E+01

Note:
RDL = Reportable Detection Limit

1. Based on laboratory analyses, dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene. Picene elutes after dibenz(a,h)anthracene.

Polycyclic Aromatic Hydrocarbons	Rundle Road Station	Oct - Dec 2013															
Location		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle		Rundle	
Date	dd/mm/yyyy	07/10/2013		19/10/2013		31/10/2013		12/11/2013		24/11/2013		06/12/2013		18/12/2013		30/12/2013	
Start Time	hh:mm	0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00	
Sample Duration	minutes	23.36		24.23		24.17		23.84		23.12		23.43		23.4		23.65	
Technician		TH		TH		TH		TH		TH		TH		TH		TH	
Filter Number		ST9557-01		TF3525-01		TF3779-01		TF4121-01		TR5431-01		TR5580-01		UB9208-01		UB9220-01	
Maxaam ID		TK9802		TQ1888		TT5803		TX5840		UD0996		UG3587		UJ9904		UL6665	
Analytical Report #		B3H3495		B3I3581		B3J0032		B3J8000		B3K8022		B3L4460		B3M1686		B401530	
Total Volumetric Flow	Am^3/sample	275.08		317.75		360.39		337.39		321.62		339.61		336.94		334.44	
Analytical Results	**Units**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**	**Value**	**RDL**
Benzo(a)pyrene	µg	<0.0033	0.0033	0.011	0.00068	0.007	0.0011	0.009	0.0043	<0.0053	0.0053	<0.023	0.023	0.139	0.012	<0.022	0.022
1-Methylnaphthalene	µg	1.13	0.2	2.59	0.15	1.43	0.2	0.46	0.15	0.98	0.2	0.82	0.15	3.94	0.2	0.81	0.15
2-Methylnaphthalene	µg	2.02	0.2	4.42	0.15	2.45	0.2	0.74	0.15	1.48	0.2	1.32	0.15	6.48	0.2	1.31	0.15
Acenaphthene	µg	0.61	0.1	0.699	0.075	0.62	0.1	<0.075	0.075	0.12	0.1	0.093	0.075	0.46	0.1	0.093	0.075
Acenaphthylene	µg	<0.10	0.1	0.135	0.075	<0.10	0.1	0.123	0.075	0.32	0.1	0.093	0.075	0.55	0.1	0.168	0.075
Anthracene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.41	0.1	<0.075	0.075
Benzo(a)anthracene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.18	0.1	<0.075	0.075
Benzo(a)fluorene	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	0.2	0.2	<0.15	0.15
Benzo(b)fluoranthene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.32	0.1	0.084	0.075
Benzo(b)fluorene	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Benzo(e)pyrene	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Benzo(g,h,i)perylene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.19	0.1	<0.075	0.075
Benzo(k)fluoranthene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.11	0.1	<0.075	0.075
Biphenyl	µg	0.4	0.2	0.73	0.15	0.68	0.2	0.31	0.15	0.63	0.2	0.53	0.15	2.07	0.2	0.5	0.15
Chrysene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.31	0.1	<0.075	0.075
Dibenz(a,h)anthracene [1]	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075
Dibenzo(a,c) anthracene + Picene [2]	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.20	0.2	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Fluoranthene	µg	0.27	0.1	0.249	0.075	0.36	0.1	0.123	0.075	0.21	0.1	0.174	0.075	1.4	0.1	0.198	0.075
Indeno(1,2,3-cd)pyrene	µg	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	<0.10	0.1	<0.075	0.075	0.16	0.1	<0.075	0.075
Naphthalene	µg	6.58	0.14	15.1	0.11	8.89	0.14	3.3	0.11	7.62	0.14	6.43	0.11	31.7	0.14	7.75	0.11
o-Terphenyl	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Perylene	µg	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15	<0.20	0.2	<0.15	0.15
Phenanthrene	µg	1.06	0.1	1.13	0.075	1.27	0.1	0.417	0.075	0.86	0.1	0.555	0.075	3.79	0.1	0.543	0.075
Pyrene	µg	0.13	0.1	0.153	0.075	0.18	0.1	0.087	0.075	0.14	0.1	0.108	0.075	1.05	0.1	0.123	0.075
Tetralin	µg	0.59	0.2	1.49	0.15	0.75	0.2	0.22	0.15	0.31	0.2	0.4	0.15	1.7	0.2	0.42	0.15

Calculated Concentrations	Units	Quarter 4 2013 Maximum	Quarter 4 2013 Minimum	Rundle 07/10/2013	Rundle 19/10/2013	Rundle 31/10/2013	Rundle 12/11/2013	Rundle 24/11/2013	Rundle 06/12/2013	Rundle 18/12/2013	Rundle 30/12/2013
Benzo(a)pyrene	ng/m^3	4.13E-01	6.00E-03	6.00E-03	3.46E-02	1.94E-02	2.67E-02	8.24E-03	3.39E-02	4.13E-01	3.29E-02
1-Methylnaphthalene	ng/m^3	1.17E+01	1.36E+00	4.11E+00	8.15E+00	3.97E+00	1.36E+00	3.05E+00	2.41E+00	1.17E+01	2.42E+00
2-Methylnaphthalene	ng/m^3	1.92E+01	2.19E+00	7.34E+00	1.39E+01	6.80E+00	2.19E+00	4.60E+00	3.89E+00	1.92E+01	3.92E+00
Acenaphthene	ng/m^3	2.22E+00	1.11E-01	2.22E+00	2.20E+00	1.72E+00	1.11E-01	3.73E-01	2.74E-01	1.37E+00	2.78E-01
Acenaphthylene	ng/m^3	1.63E+00	1.39E-01	1.82E-01	4.25E-01	1.39E-01	3.65E-01	9.95E-01	2.74E-01	1.63E+00	5.02E-01
Anthracene	ng/m^3	1.22E+00	1.10E-01	1.82E-01	1.18E-01	1.39E-01	1.11E-01	1.55E-01	1.10E-01	1.22E+00	1.12E-01
Benzo(a)anthracene	ng/m^3	5.34E-01	1.10E-01	1.82E-01	1.18E-01	1.39E-01	1.11E-01	1.55E-01	1.10E-01	5.34E-01	1.12E-01
Benzo(a)fluorene	ng/m^3	5.94E-01	2.21E-01	3.64E-01	2.36E-01	2.77E-01	2.22E-01	3.11E-01	2.21E-01	5.94E-01	2.24E-01
Benzo(b)fluoranthene	ng/m^3	9.50E-01	1.10E-01	1.82E-01	1.18E-01	1.39E-01	1.11E-01	1.55E-01	1.10E-01	9.50E-01	2.51E-01
Benzo(b)fluorene	ng/m^3	3.64E-01	2.21E-01	3.64E-01	2.36E-01	2.77E-01	2.22E-01	3.11E-01	2.21E-01	2.97E-01	2.24E-01
Benzo(e)pyrene	ng/m^3	3.64E-01	2.21E-01	3.64E-01	2.36E-01	2.77E-01	2.22E-01	3.11E-01	2.21E-01	2.97E-01	2.24E-01
Benzo(g,h,i)perylene	ng/m^3	5.64E-01	1.10E-01	1.82E-01	1.18E-01	1.39E-01	1.11E-01	1.55E-01	1.10E-01	5.64E-01	1.12E-01
Benzo(k)fluoranthene	ng/m^3	3.26E-01	1.10E-01	1.82E-01	1.18E-01	1.39E-01	1.11E-01	1.55E-01	1.10E-01	3.26E-01	1.12E-01
Biphenyl	ng/m^3	6.14E+00	9.19E-01	1.45E+00	2.30E+00	1.89E+00	9.19E-01	1.96E+00	1.56E+00	6.14E+00	1.50E+00
Chrysene	ng/m^3	9.20E-01	1.10E-01	1.82E-01	1.18E-01	1.39E-01	1.11E-01	1.55E-01	1.10E-01	9.20E-01	1.12E-01
Dibenz(a,h)anthracene [1]	ng/m^3	1.82E-01	1.10E-01	1.82E-01	1.18E-01	1.39E-01	1.11E-01	1.55E-01	1.10E-01	1.48E-01	1.12E-01
Dibenzo(a,c) anthracene + Picene [1]	ng/m^4	3.64E-01	2.21E-01	3.64E-01	2.36E-01	2.77E-01	2.96E-01	3.11E-01	2.21E-01	2.97E-01	2.24E-01
Fluoranthene	ng/m^3	4.16E+00	3.65E-01	9.82E-01	7.84E-01	9.99E-01	3.65E-01	6.53E-01	5.12E-01	4.16E+00	5.92E-01
Indeno(1,2,3-cd)pyrene	ng/m^3	4.75E-01	1.10E-01	1.82E-01	1.18E-01	1.39E-01	1.11E-01	1.55E-01	1.10E-01	4.75E-01	1.12E-01
Naphthalene	ng/m^3	9.41E+01	9.78E+00	2.39E+01	4.75E+01	2.47E+01	9.78E+00	2.37E+01	1.89E+01	9.41E+01	2.32E+01
o-Terphenyl	ng/m^3	3.64E-01	2.21E-01	3.64E-01	2.36E-01	2.77E-01	2.22E-01	3.11E-01	2.21E-01	2.97E-01	2.24E-01
Perylene	ng/m^3	3.64E-01	2.21E-01	3.64E-01	2.36E-01	2.77E-01	2.22E-01	3.11E-01	2.21E-01	2.97E-01	2.24E-01
Phenanthrene	ng/m^3	1.12E+01	1.24E+00	3.85E+00	3.56E+00	3.52E+00	1.24E+00	2.67E+00	1.63E+00	1.12E+01	1.62E+00
Pyrene	ng/m^3	3.12E+00	2.58E-01	4.73E-01	4.82E-01	4.99E-01	2.58E-01	4.35E-01	3.18E-01	3.12E+00	3.68E-01
Tetralin	ng/m^3	5.05E+00	6.52E-01	2.14E+00	4.69E+00	2.08E+00	6.52E-01	9.64E-01	1.18E+00	5.05E+00	1.26E+00
Total PAH	ng/m^3	1.65E+02	1.96E+01	5.03E+01	8.64E+01	4.91E+01	1.96E+01	4.25E+01	3.32E+01	1.65E+02	3.80E+01

Note:
RDL = Reportable Detection Limit
1. Based on laboratory analyses, dibenzo(a,c)anthracene co-elutes with dibenz(a,h)anthracene.
Picene elutes after dibenz(a,h)anthracene.
Concentration exceeding the applicable criteria.

Appendix H
Dioxins and Furans Data Summary

Dioxins and Furans	Courtice WPCP Station	October to December 2013											
Location		Courtice			Courtice			Courtice			Courtice		
Date	dd/mm/yyyy	7/10/2013			31/10/2013			11/24/2013			12/18/2013		
Start Time	hh:mm	0:00			0:00			0:00			0:00		
Sample Duration	minutes	22.73			23.78			23.71			23.99		
Technician		TH			TH			TH			TH		
Filter Number		ST9556-01			TF3778-01			TF5430-01			UB9203-01		
Maxaam ID		TK9801			TT5804			UD0995			UJ9903		
Analytical Report #		B3H3495			B3J0032			B3K8022			B3M1686		
Total Volumetric Flow	Am^3/sample	312.40			353.63			332.79			347.78		
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	<4.2	4.2	1	<3.9	3.9	1	<5.4	5.4	1	<4.0	4	1
1,2,3,7,8-Penta CDD	pg	<4.0	4	1	<4.1	4.1	1	<6.7	6.7	1	<4.2	4.2	1
1,2,3,4,7,8-Hexa CDD	pg	<4.2	4.2	0.1	<4.1	4.1	0.1	<4.0	4	0.1	<4.2	4.2	0.1
1,2,3,6,7,8-Hexa CDD	pg	<4.5	4.5	0.1	<4.1	4.1	0.1	<4.3	4.3	0.1	<4.4	4.4	0.1
1,2,3,7,8,9-Hexa CDD	pg	<3.9	3.9	0.1	<3.8	3.8	0.1	<3.8	3.8	0.1	<4.1	4.1	0.1
1,2,3,4,6,7,8-Hepta CDD	pg	13	4.1	0.01	23	4.2	0.01	22	3.4	0.01	43.8	4	0.01
Octa CDD	pg	62	4.7	0.0003	119	4	0.0003	78	5.5	0.0003	<130 (1)	130	0.0003
Total Tetra CDD	pg	<4.2	4.2		<3.9	3.9		<5.4	5.4		<4.0	4	
Total Penta CDD	pg	<4.0	4		<4.1	4.1		<6.7	6.7		<4.2	4.2	
Total Hexa CDD	pg	<4.2	4.2		15	4		16	4		24.4	4.2	
Total Hepta CDD	pg	13	4.1		54	4.2		48	3.4		101	4	
2,3,7,8-Tetra CDF **	pg	<4.0	4	0.1	<4.0	4	0.1	<4.4	4.4	0.1	<6.3 (2)	6.3	0.1
1,2,3,7,8-Penta CDF	pg	<4.3	4.3	0.03	<4.1	4.1	0.03	<5.1	5.1	0.03	<3.6	3.6	0.03
2,3,4,7,8-Penta CDF	pg	<4.5	4.5	0.3	<4.1	4.1	0.3	<5.3	5.3	0.3	<3.6	3.6	0.3
1,2,3,4,7,8-Hexa CDF	pg	<3.9	3.9	0.1	<4.2	4.2	0.1	<3.4	3.4	0.1	<4.4	4.4	0.1
1,2,3,6,7,8-Hexa CDF	pg	<3.6	3.6	0.1	<3.9	3.9	0.1	<3.2	3.2	0.1	<4.2	4.2	0.1
2,3,4,6,7,8-Hexa CDF	pg	<4.2	4.2	0.1	<4.7	4.7	0.1	<3.7	3.7	0.1	<4.7	4.7	0.1
1,2,3,7,8,9-Hexa CDF	pg	<4.2	4.2	0.1	<4.8	4.8	0.1	<3.8	3.8	0.1	<5.1	5.1	0.1
1,2,3,4,6,7,8-Hepta CDF	pg	<5.2 (1)	5.2	0.01	<6.2 (1)	6.2	0.01	<3.5	3.5	0.01	<7.7 (1)	7.7	0.01
1,2,3,4,7,8,9-Hepta CDF	pg	<4.9	4.9	0.01	<4.7	4.7	0.01	<4.5	4.5	0.01	<4.8	4.8	0.01
Octa CDF	pg	<9.0 (1)	9	0.0003	11	4.4	0.0003	7	4.3	0.0003	12.1	5.3	0.0003
Total Tetra CDF	pg	<4.0	4		<4.0	4		<4.4	4.4		6.3	4.6	
Total Penta CDF	pg	<4.4	4.4		<4.1	4.1		<5.2	5.2		<3.6	3.6	
Total Hexa CDF	pg	<4.0	4		<4.4	4.4		<3.5	3.5		<4.6	4.6	
Total Hepta CDF	pg	<5.8 (1)	5.8		<6.9 (1)	6.9		<3.9	3.9		<8.6 (1)	8.6	
Toxic Equivalency	pg	<4.0	4		<4.0	4							

Calculated Concentrations	Units	Quarter 4 2013 Maximum	Quarter 4 2013 Minimum	Courtice 7/10/2013	Courtice 31/10/2013	Courtice 11/24/2013	Courtice 12/18/2013
2,3,7,8-Tetra CDD *	pg/m^3	8.11E-03	5.51E-03	6.72E-03	5.51E-03	8.11E-03	5.75E-03
1,2,3,7,8-Penta CDD	pg/m^3	1.01E-02	5.80E-03	6.40E-03	5.80E-03	1.01E-02	6.04E-03
1,2,3,4,7,8-Hexa CDD	pg/m^3	6.72E-03	5.80E-03	6.72E-03	5.80E-03	6.01E-03	6.04E-03
1,2,3,6,7,8-Hexa CDD	pg/m^3	7.20E-03	5.80E-03	7.20E-03	5.80E-03	6.46E-03	6.33E-03
1,2,3,7,8,9-Hexa CDD	pg/m^3	6.24E-03	5.37E-03	6.24E-03	5.37E-03	5.71E-03	5.89E-03
1,2,3,4,6,7,8-Hepta CDD	pg/m^3	1.26E-01	4.16E-02	4.16E-02	6.50E-02	6.61E-02	1.26E-01
Octa CDD	pg/m^3	3.37E-01	1.87E-01	1.98E-01	3.37E-01	2.34E-01	1.87E-01
Total Tetra CDD	pg/m^3	8.11E-03	5.51E-03	6.72E-03	5.51E-03	8.11E-03	5.75E-03
Total Penta CDD	pg/m^3	1.01E-02	5.80E-03	6.40E-03	5.80E-03	1.01E-02	6.04E-03
Total Hexa CDD	pg/m^3	7.02E-02	6.72E-03	6.72E-03	4.24E-02	4.81E-02	7.02E-02
Total Hepta CDD	pg/m^3	2.90E-01	4.16E-02	4.16E-02	1.53E-01	1.44E-01	2.90E-01
2,3,7,8-Tetra CDF **	pg/m^3	9.06E-03	5.66E-03	6.40E-03	5.66E-03	6.61E-03	9.06E-03
1,2,3,7,8-Penta CDF	pg/m^3	7.66E-03	5.18E-03	6.88E-03	5.80E-03	7.66E-03	5.18E-03
2,3,4,7,8-Penta CDF	pg/m^3	7.96E-03	5.18E-03	7.20E-03	5.80E-03	7.96E-03	5.18E-03
1,2,3,4,7,8-Hexa CDF	pg/m^3	6.33E-03	5.11E-03	6.24E-03	5.94E-03	5.11E-03	6.33E-03
1,2,3,6,7,8-Hexa CDF	pg/m^3	6.04E-03	4.81E-03	5.76E-03	5.51E-03	4.81E-03	6.04E-03
2,3,4,6,7,8-Hexa CDF	pg/m^3	6.76E-03	5.56E-03	6.72E-03	6.65E-03	5.56E-03	6.76E-03
1,2,3,7,8,9-Hexa CDF	pg/m^3	7.33E-03	5.71E-03	6.72E-03	6.79E-03	5.71E-03	7.33E-03
1,2,3,4,6,7,8-Hepta CDF	pg/m^3	1.11E-02	5.26E-03	8.32E-03	8.77E-03	5.26E-03	1.11E-02
1,2,3,4,7,8,9-Hepta CDF	pg/m^3	7.84E-03	6.65E-03	7.84E-03	6.65E-03	6.76E-03	6.90E-03
Octa CDF	pg/m^3	3.48E-02	1.44E-02	1.44E-02	3.11E-02	2.10E-02	3.48E-02
Total Tetra CDF	pg/m^3	1.81E-02	5.66E-03	6.40E-03	5.66E-03	6.61E-03	1.81E-02
Total Penta CDF	pg/m^3	7.81E-03	5.18E-03	7.04E-03	5.80E-03	7.81E-03	5.18E-03
Total Hexa CDF	pg/m^3	6.61E-03	5.26E-03	6.40E-03	6.22E-03	5.26E-03	6.61E-03
Total Hepta CDF	pg/m^3	1.24E-02	5.86E-03	9.28E-03	9.76E-03	5.86E-03	1.24E-02
Toxic Equivalency	pg/m^3			6.40E-03	5.66E-03	0.00E+00	0.00E+00
TOTAL TOXIC EQUIVALENCY	pg TEQ/m^3	2.63E-02	1.89E-02	2.13E-02	1.89E-02	2.63E-02	2.04E-02

Calculated TEQ Concentrations	Units	Courtice 7/10/2013	Courtice 31/10/2013	Courtice 11/24/2013	Courtice 12/18/2013
2,3,7,8-Tetra CDD *	pg TEQ/m^3	6.72E-03	5.51E-03	8.11E-03	5.75E-03
1,2,3,7,8-Penta CDD	pg TEQ/m^3	6.40E-03	5.80E-03	1.01E-02	6.04E-03
1,2,3,4,7,8-Hexa CDD	pg TEQ/m^3	6.72E-04	5.80E-04	6.01E-04	6.04E-04
1,2,3,6,7,8-Hexa CDD	pg TEQ/m^3	7.20E-04	5.80E-04	6.46E-04	6.33E-04
1,2,3,7,8,9-Hexa CDD	pg TEQ/m^3	6.24E-04	5.37E-04	5.71E-04	5.89E-04
1,2,3,4,6,7,8-Hepta CDD	pg TEQ/m^3	4.16E-04	6.50E-04	6.61E-04	1.26E-03
Octa CDD	pg TEQ/m^3	5.95E-05	1.01E-04	7.03E-05	5.61E-05
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	6.40E-04	5.66E-04	6.61E-04	9.06E-04
1,2,3,7,8-Penta CDF	pg TEQ/m^3	2.06E-04	1.74E-04	2.30E-04	1.55E-04
2,3,4,7,8-Penta CDF	pg TEQ/m^3	2.16E-03	1.74E-03	2.39E-03	1.55E-03
1,2,3,4,7,8-Hexa CDF	pg TEQ/m^3	6.24E-04	5.94E-04	5.11E-04	6.33E-04
1,2,3,6,7,8-Hexa CDF	pg TEQ/m^3	5.76E-04	5.51E-04	4.81E-04	6.04E-04
2,3,4,6,7,8-Hexa CDF	pg TEQ/m^3	6.72E-04	6.65E-04	5.56E-04	6.76E-04
1,2,3,7,8,9-Hexa CDF	pg TEQ/m^3	6.72E-04	6.79E-04	5.71E-04	7.33E-04
1,2,3,4,6,7,8-Hepta CDF	pg TEQ/m^3	8.32E-05	8.77E-05	5.26E-05	1.11E-04
1,2,3,4,7,8,9-Hepta CDF	pg TEQ/m^3	7.84E-05	6.65E-05	6.76E-05	6.90E-05
Octa CDF	pg TEQ/m^3	4.32E-06	9.33E-06	6.31E-06	1.04E-05
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	2.13E-02	1.89E-02	2.63E-02	2.04E-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	October - December 2013											
Location		Rundle			Rundle			Rundle			Rundle		
Date	dd/mm/yyyy	10/7/2013			10/31/2013			11/24/2013			12/18/2013		
Start Time	hh:mm	0:00			0:00			0:00			0:00		
Sample Duration	minutes	23.36			24.17			23.12			23.4		
Technician		TH			TH			TH			TH		
Filter Number		ST9557-01			TF3779-01			TR5431-01			UB9208-01		
Maxaam ID		TK9802			TT5803			UD0996			UJ9904		
Analytical Report #		B3H3495			B3J0032			B3K8022			B3M1686		
Total Volumetric Flow	Am^3/sample	275.08			360.39			321.62			336.94		
Analytical Results	Units	Value	RDL	WHO_{2005} TEF	Value	RDL	WHO_{2005} TEF	Value	RDL	WHO_{2005} TEF	Value	RDL	WHO_{2005} TEF
2,3,7,8-Tetra CDD *	pg	<4.8	4.8	1	<4.3	4.3	1	<6.8	6.8	1	<3.0	3	1
1,2,3,7,8-Penta CDD	pg	<4.4	4.4	1	<4.1	4.1	1	<5.8	5.8	1	<3.8	3.8	1
1,2,3,4,7,8-Hexa CDD	pg	<4.3	4.3	0.1	<4.4	4.4	0.1	<4.1	4.1	0.1	<4.0	4	0.1
1,2,3,6,7,8-Hexa CDD	pg	<4.6	4.6	0.1	<4.4	4.4	0.1	<4.4	4.4	0.1	<4.2	4.2	0.1
1,2,3,7,8,9-Hexa CDD	pg	<4.0	4	0.1	<4.1	4.1	0.1	6	3.9	0.1	6.4	3.8	0.1
1,2,3,4,6,7,8-Hepta CDD	pg	30	4.1	0.01	28	4.4	0.01	24	3.2	0.01	41.7	3.5	0.01
Octa CDD	pg	194	4.8	0.0003	140	4	0.0003	79	5.9	0.0003	<110 (1)	110	0.0003
Total Tetra CDD	pg	<4.8	4.8		<4.3	4.3		<6.8	6.8		<3.0	3	
Total Penta CDD	pg	<4.4	4.4		<4.1	4.1		<5.8	5.8		<3.8	3.8	
Total Hexa CDD	pg	<5.6	5.6		7	4.3		22	4.1		29.6	4	
Total Hepta CDD	pg	51	4.1		61	4.4		49	3.2		88.6	3.5	
2,3,7,8-Tetra CDF **	pg	<4.2	4.2	0.1	<4.5	4.5	0.1	<5.3	5.3	0.1	<5.9 (2)	5.9	0.1
1,2,3,7,8-Penta CDF	pg	<4.3	4.3	0.03	<4.0	4	0.03	<3.5	3.5	0.03	<4.4	4.4	0.03
2,3,4,7,8-Penta CDF	pg	<4.4	4.4	0.3	<4.0	4	0.3	<3.6	3.6	0.3	<4.4	4.4	0.3
1,2,3,4,7,8-Hexa CDF	pg	6	4.1	0.1	<4.2	4.2	0.1	<3.2	3.2	0.1	<3.6	3.6	0.1
1,2,3,6,7,8-Hexa CDF	pg	<3.8	3.8	0.1	<3.9	3.9	0.1	<3.0	3	0.1	<3.4	3.4	0.1
2,3,4,6,7,8-Hexa CDF	pg	<4.4	4.4	0.1	<4.7	4.7	0.1	<3.4	3.4	0.1	<3.9	3.9	0.1
1,2,3,7,8,9-Hexa CDF	pg	<4.4	4.4	0.1	<4.8	4.8	0.1	<3.5	3.5	0.1	<4.2	4.2	0.1
1,2,3,4,6,7,8-Hepta CDF	pg	<19	19	0.01	<5.4	5.4	0.01	<3.1	3.1	0.01	<7.5 (1)	7.5	0.01
1,2,3,4,7,8,9-Hepta CDF	pg	5	4.9	0.01	<4.5	4.5	0.01	<3.8	3.8	0.01	<3.7	3.7	0.01
Octa CDF	pg	29	4.2	0.0003	12	4.1	0.0003	6	4.2	0.0003	8.3	4.9	0.0003
Total Tetra CDF	pg	<4.2	4.2		<4.5	4.5		<5.3	5.3		5.9	4	
Total Penta CDF	pg	<4.4	4.4		<4.0	4		<3.6	3.6		5.4	4.4	
Total Hexa CDF	pg	13	4.2		<4.4	4.4		<3.3	3.3		<3.7	3.7	
Total Hepta CDF	pg	15	4.3		<6.0	6		<3.5	3.5		<8.4 (1)	8.4	
Toxic Equivalency	pg	<4.2	4.2		<4.5	4.5							

Calculated Concentrations	Quarter 4 2013			Rundle	Rundle	Rundle	Rundle
	Units	Maximum	Minimum	10/7/2013	10/31/2013	11/24/2013	12/18/2013
2,3,7,8-Tetra CDD *	pg/m3	1.06E-02	4.45E-03	8.72E-03	5.97E-03	1.06E-02	4.45E-03
1,2,3,7,8-Penta CDD	pg/m3	9.02E-03	5.64E-03	8.00E-03	5.69E-03	9.02E-03	5.64E-03
1,2,3,4,7,8-Hexa CDD	pg/m3	7.82E-03	5.94E-03	7.82E-03	6.10E-03	6.37E-03	5.94E-03
1,2,3,6,7,8-Hexa CDD	pg/m3	8.36E-03	6.10E-03	8.36E-03	6.10E-03	6.84E-03	6.23E-03
1,2,3,7,8,9-Hexa CDD	pg/m3	1.90E-02	5.69E-03	7.27E-03	5.69E-03	1.87E-02	1.90E-02
1,2,3,4,6,7,8-Hepta CDD	pg/m3	1.24E-01	7.46E-02	1.09E-01	7.77E-02	7.46E-02	1.24E-01
Octa CDD	pg/m3	7.05E-01	1.63E-01	7.05E-01	3.88E-01	2.46E-01	1.63E-01
Total Tetra CDD	pg/m3	1.06E-02	4.45E-03	8.72E-03	5.97E-03	1.06E-02	4.45E-03
Total Penta CDD	pg/m3	9.02E-03	5.64E-03	8.00E-03	5.69E-03	9.02E-03	5.64E-03
Total Hexa CDD	pg/m3	8.79E-02	1.02E-02	1.02E-02	1.94E-02	6.84E-02	8.79E-02
Total Hepta CDD	pg/m3	2.63E-01	1.52E-01	1.85E-01	1.69E-01	1.52E-01	2.63E-01
2,3,7,8-Tetra CDF **	pg/m3	8.76E-03	6.24E-03	7.63E-03	6.24E-03	8.24E-03	8.76E-03
1,2,3,7,8-Penta CDF	pg/m3	7.82E-03	5.44E-03	7.82E-03	5.55E-03	5.44E-03	6.53E-03
2,3,4,7,8-Penta CDF	pg/m3	8.00E-03	5.55E-03	8.00E-03	5.55E-03	5.60E-03	6.53E-03
1,2,3,4,7,8-Hexa CDF	pg/m3	2.18E-02	4.97E-03	2.18E-02	5.83E-03	4.97E-03	5.34E-03
1,2,3,6,7,8-Hexa CDF	pg/m3	6.91E-03	4.66E-03	6.91E-03	5.41E-03	4.66E-03	5.05E-03
2,3,4,6,7,8-Hexa CDF	pg/m3	8.00E-03	5.29E-03	8.00E-03	6.52E-03	5.29E-03	5.79E-03
1,2,3,7,8,9-Hexa CDF	pg/m3	8.00E-03	5.44E-03	8.00E-03	6.66E-03	5.44E-03	6.23E-03
1,2,3,4,6,7,8-Hepta CDF	pg/m3	3.45E-02	4.82E-03	3.45E-02	7.49E-03	4.82E-03	1.11E-02
1,2,3,4,7,8,9-Hepta CDF	pg/m3	1.82E-02	5.49E-03	1.82E-02	6.24E-03	5.91E-03	5.49E-03
Octa CDF	pg/m3	1.05E-01	1.87E-02	1.05E-01	3.33E-02	1.87E-02	2.46E-02
Total Tetra CDF	pg/m3	1.75E-02	6.24E-03	7.63E-03	6.24E-03	8.24E-03	1.75E-02
Total Penta CDF	pg/m3	1.60E-02	5.55E-03	8.00E-03	5.55E-03	5.60E-03	1.60E-02
Total Hexa CDF	pg/m3	4.73E-02	5.13E-03	4.73E-02	6.10E-03	5.13E-03	5.49E-03
Total Hepta CDF	pg/m3	5.45E-02	5.44E-03	5.45E-02	8.32E-03	5.44E-03	1.25E-02
Toxic Equivalency	pg/m3			7.63E-03	6.24E-03	0.00E+00	0.00E+00
TOTAL TOXIC EQUIVALENCY	pg TEQ/m^3	2.88E-02	1.94E-02	2.88E-02	1.94E-02	2.84E-02	1.99E-02
Calculated TEQ Concentrations	**Units**			**Rundle**	**Rundle**	**Rundle**	**Rundle**
				41554	**41578**	**41602**	**41626**
2,3,7,8-Tetra CDD *	pg TEQ/m^3			8.72E-03	5.97E-03	1.06E-02	4.45E-03
1,2,3,7,8-Penta CDD	pg TEQ/m^3			8.00E-03	5.69E-03	9.02E-03	5.64E-03
1,2,3,4,7,8-Hexa CDD	pg TEQ/m^3			7.82E-04	6.10E-04	6.37E-04	5.94E-04
1,2,3,6,7,8-Hexa CDD	pg TEQ/m^3			8.36E-04	6.10E-04	6.84E-04	6.23E-04
1,2,3,7,8,9-Hexa CDD	pg TEQ/m^3			7.27E-04	5.69E-04	1.87E-03	1.90E-03
1,2,3,4,6,7,8-Hepta CDD	pg TEQ/m^3			1.09E-03	7.77E-04	7.46E-04	1.24E-03
Octa CDD	pg TEQ/m^3			2.12E-04	1.17E-04	7.37E-05	4.90E-05
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			7.63E-04	6.24E-04	8.24E-04	8.76E-04
1,2,3,7,8-Penta CDF	pg TEQ/m^3			2.34E-04	1.66E-04	1.63E-04	1.96E-04
2,3,4,7,8-Penta CDF	pg TEQ/m^3			2.40E-03	1.66E-03	1.68E-03	1.96E-03
1,2,3,4,7,8-Hexa CDF	pg TEQ/m^3			2.18E-03	5.83E-04	4.97E-04	5.34E-04
1,2,3,6,7,8-Hexa CDF	pg TEQ/m^3			6.91E-04	5.41E-04	4.66E-04	5.05E-04
2,3,4,6,7,8-Hexa CDF	pg TEQ/m^3			8.00E-04	6.52E-04	5.29E-04	5.79E-04
1,2,3,7,8,9-Hexa CDF	pg TEQ/m^3			8.00E-04	6.66E-04	5.44E-04	6.23E-04
1,2,3,4,6,7,8-Hepta CDF	pg TEQ/m^3			3.45E-04	7.49E-05	4.82E-05	1.11E-04
1,2,3,4,7,8,9-Hepta CDF	pg TEQ/m^3			1.82E-04	6.24E-05	5.91E-05	5.49E-05
Octa CDF	pg TEQ/m^3			3.16E-05	9.99E-06	5.60E-06	7.39E-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			2.88E-02	1.94E-02	2.84E-02	1.99E-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