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February 5, 2016
File: 160950528

Attention: Mr. Greg Borchuk, P.Eng.
Project Manager, EFW
Waste Management Services

The Region of Durham
605 Rossland Rd.,
Whitby, ON L1N 6A3

Dear Mr. Borchuk,

Reference: Q4 2015 Ambient Air Quality Monitoring Report for the Durham York Energy Centre

Please find attached with this letter the Q4 2015 quarterly report for the Durham York Energy Centre (DYEC).

The quarterly reports for the DYEC monitoring are prepared to present monitoring data to the MOECC. The MOECC requires that several statistics, including maximum levels, be presented in these reports, but does not require 98th percentile values to be included in quarterly reports. Regional Council has requested that 98th percentile $PM_{2.5}$ data also be provided along with the quarterly reports, which is provided in Table 1 below. A comparison to the Canadian Ambient Air Quality Standard (CAAQS) for $PM_{2.5}$ requires averaging the 98th percentile daily average levels in each of three consecutive years. Six months of additional data will be required in order to provide an explicit comparison to the current CAAQS criteria of 28 µg/m^3.

Reference: Q4 2015 Ambient Air Quality Monitoring Report for the Durham York Energy Centre

Table 1 Summary of the 98th Percentile Daily Average $PM_{2.5}$ Concentrations Measured to Date (µg/m³)

Period	Courtice Monitoring Station	Rundle Road Monitoring Station
June 2013 - June 2014 (Year 1)	22.6	23.5
July 2014 – June 2015 (Year 2)	23.4	26.6
July 2015 – December 2015	26.8	25.7

Regards,

STANTEC CONSULTING LTD.

SIGNED IN ORIGINAL

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Quarterly Ambient Air Quality Monitoring Report for the Durham York Energy Centre – October to December 2015

Durham York Energy Centre

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

Prepared by:
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Project No.: 160950528

February 9, 2016

Sign-off Sheet

This document entitled Quarterly Ambient Air Quality Monitoring Report for the Durham York Energy Centre – October to December 2015 was prepared by Stantec Consulting Ltd. for the account of The Region of Durham. The material in it reflects Stantec's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Stantec Consulting Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Signed in Original

Prepared by _____
(signature)

Connie Lim, B.A.Sc.

Signed in Original

Reviewed by _____
(signature)

Gregory Crooks M.Eng., P.Eng.

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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 a long-term, sustainable solution to manage municipal solid waste remaining after diversion from the Regions. The facility commenced processing waste on February 13, 2015 and is currently in the commissioning phase of the project.

The Ambient Air Quality Monitoring Plan - Durham York Residual Waste Study (Stantec, 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 (MOECC, 2010). The air monitoring plan was also developed to satisfy the conditions of the Environmental Compliance Approval and the environmental mitigation and commitments set out in the Environmental Assessment (Jacques Whitford, 2009). The predominantly downwind station is located along Rundle Road, south of Baseline Road. The predominantly upwind station is sited at the Courtice Water Pollution Control Plant (WPCP). Since May 2013, measurements of the following air contaminants have been made at the two stations:

- 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.

Operation of the non-continuous monitors was temporarily discontinued on June 28, 2014 as per Section 1.2 of the Ambient Monitoring Plan (Stantec, 2012). When the EFW facility is fully operational, monitoring of non-continuous monitors will resume (as specified in the Ambient Monitoring Plan).

Meteorological data is also measured at the two stations. The predominantly downwind Rundle Road station measures horizontal wind speed, wind direction, atmospheric temperature, relative humidity and rainfall. The predominantly upwind Courtice WPCP Station measures atmospheric temperature, relative humidity, rainfall and barometric pressure. Wind speed and wind direction data at the predominantly upwind location are measured and provided by 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 (Calendar Quarter 4). During this quarter, a few instrumentation issues were encountered with above acceptable data recovery rates for all measured air quality parameters. Additional details on instrumentation issues are presented in **Section 3.2** of this report.

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

1. Measured levels of NO2, SO2 and PM2.5 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 Canadian Ambient Air Quality Standard (CAAQS) for PM2.5 is based on a 24-hour, 98th percentile level over 3 years whereas the PM2.5 measurement period at both stations for this quarterly report was three months, there is insufficient data collected to determine with any certainty if exceedances of the CAAQS would occur. Therefore no comparison of the measured PM2.5 data during this quarter to the CAAQS was conducted for this report, as it would not be scientifically accurate or representative; and,
3. In summary, all monitored contaminants were below their applicable MOECC criteria for the monitoring data presented in this report. All measured levels of all monitored contaminants were below their applicable HHRA health-based standards.

Abbreviations

AAQC	Ambient Air Quality Criteria
CAAQS	Canadian Ambient Air Quality Standards
CAC	Criteria Air Contaminants
D/Fs	Dioxins and Furans
DYEC	Durham York Energy Centre
EFW	Energy from Waste
MOECC	Ontario Ministry of the Environment and Climate Change
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
Ag	Silver

Tl	Thallium
Sn	Tin
V	Vanadium
Zn	Zinc
Miscellaneous	
°C	temperature in degrees Celsius
N/A	not available
%	percent
ppm	part per million
ppb	part per billion
ppt	part per trillion
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**. The facility commenced processing waste on February 13, 2015 and is currently in the commissioning phase of the project.

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

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

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

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

- Sulphur Dioxide (SO2);
- Nitrogen Oxides (NOX);
- Particulate Matter smaller than 2.5 microns (PM2.5);
- 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 2015.

Operation of the non-continuous monitors was temporarily discontinued on June 28, 2014 as per **Section 1.2** of the Ambient Monitoring Plan (Stantec, 2012). When the EFW facility is fully operational, monitoring of non-continuous monitors will resume as specified in the Ambient Monitoring Plan (Stantec, 2012).

1.2 LOCATIONS OF AMBIENT AIR QUALITY MONITORING STATIONS

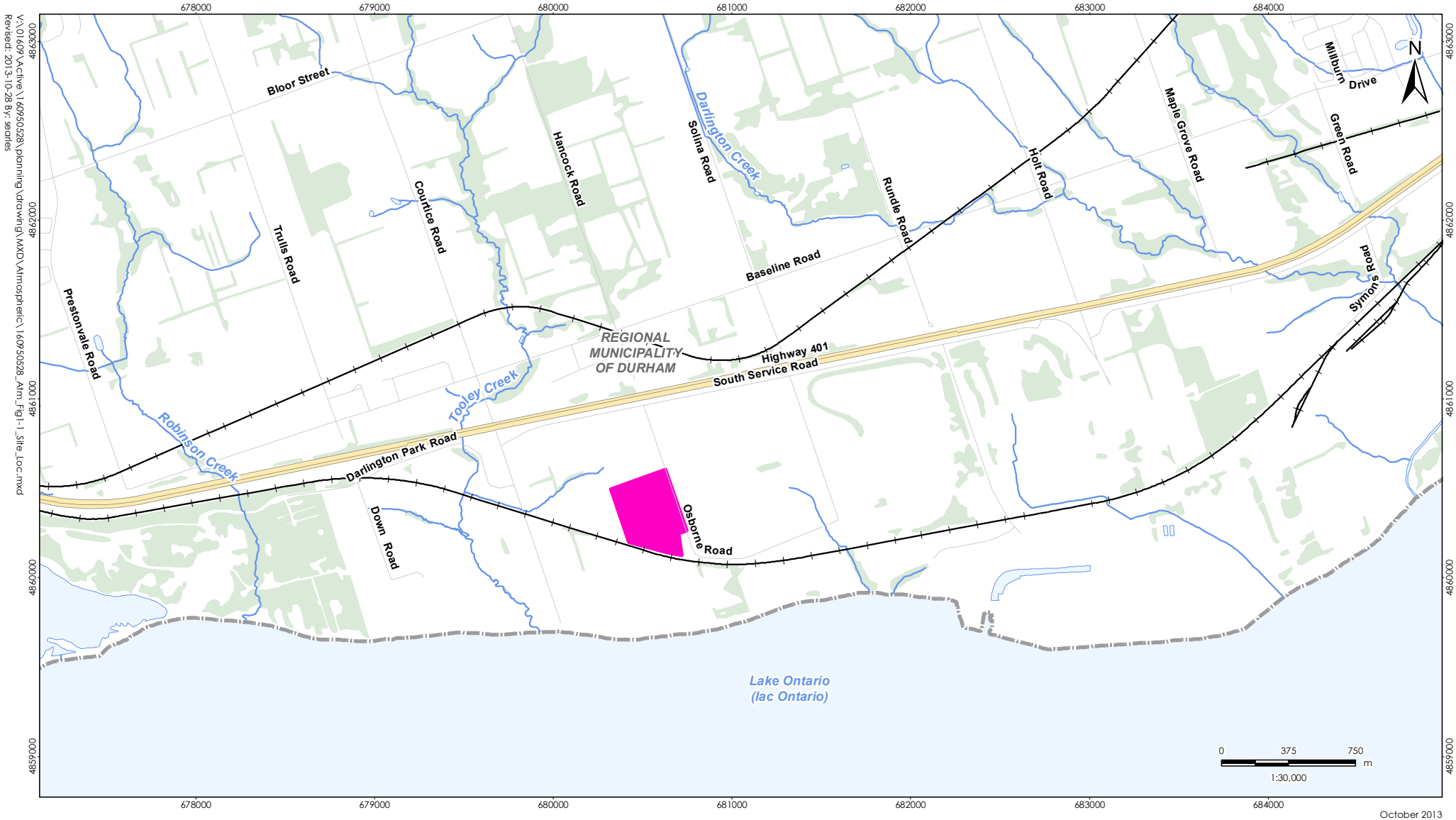
The selection of sites for the monitoring stations was done in consultation with the Ontario Ministry of Environment and Climate Change (MOECC) and Durham/York representatives based on the results of air quality modelling done in support of the environmental assessment for the project, the locations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

The selected downwind location is sited northeast of the DYEC in the vicinity of residential receptors predominantly downwind of the DYEC in this direction, and falls in the area where maximum annual concentrations are predicted to occur. The predominantly downwind Rundle Road 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 predominately upwind Courtice WPCP Station, is sited at the Courtice Water Pollution Control Plant (WPCP), located to the southwest of the DYEC in order to measure background air quality in the predominantly upwind direction. The location is presented in **Figure 1-2**. This monitoring station measures the air contaminants presented in **Section 1.1**, as well as meteorological data, with the exception of wind speed and wind direction, which are measured and provided by the Courtice Water Pollution Control Plant.

A third Fence Line Station, which will measure non-continuous parameters (metals and total particulate matter) will be installed prior to full operation of the DYEC. As per Section 1.2 of the Ambient Monitoring Plan (Stantec, 2012), the Fence Line station will collect non-continuous parameters beginning after the Facility's commissioning period is complete, and will run for a one year period.

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



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October 2013
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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

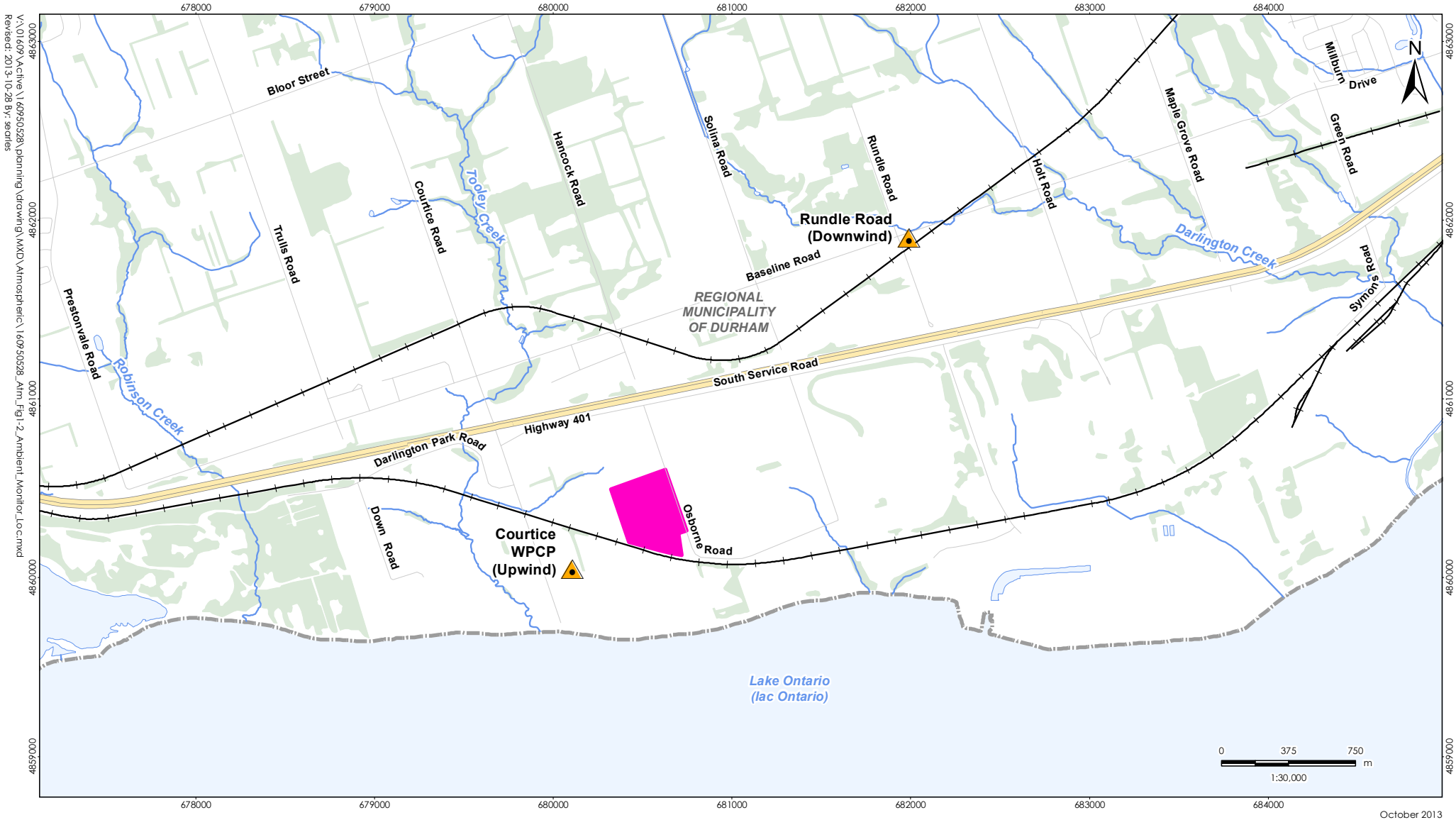
The Region of Durham
Durham York Energy Centre

Figure No.

1-1

Title

Site Location Plan



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October 2013
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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 (Predominately Upwind) Ambient Air Quality Monitoring Station	Rundle Road (Predominately 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).

Operation of the non-continuous monitors was temporarily discontinued on June 28, 2014 as per Section 1.2 of the Ambient Monitoring Plan (Stantec, 2012). When the EFW facility is fully operational, monitoring of non-continuous monitors will resume (as specified in the Ambient Monitoring Plan). Therefore, the following contaminants were not measured this quarter:

- Total Suspended Particulate (TSP) matter and metals,
- Polycyclic Aromatic Hydrocarbons (PAHs), and,
- Dioxins and Furans (D/Fs).

2.3 AIR QUALITY CRITERIA

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

The previously applicable 24-hour Canada-Wide Standard (CWS) for $PM_{2.5}$ of 30 µg/m^3 (98th percentile averaged over 3 consecutive years) has been superseded by the new Canadian Ambient Air Quality Standard (CAAQS) of 28 µg/m^3 (98th percentile averaged over 3 consecutive years) as noted in **Table 2-2**. The proposed CAAQS 24-hour objective for 2020 is 27 µg/m^3.

A summary of the relevant air quality criteria for the contaminants monitored in Q4 2015 is presented in **Table 2-2**.

Table 2-2 Summary of Air Quality Criteria for CACs

Contaminant	CAS	O. Reg 419/05 – Schedule 3/AAQC			HHRA Health-Based Standards		
		1-Hour (µg/m^3)	24-Hour (µg/m^3)	Other time Period (µg/m^3)	1-Hour (µg/m^3)	24-Hour (µg/m^3)	Annual (µg/m^3)
Sulphur dioxide	7446095	690	275		690	275	29
Nitrogen oxides [A]	10102-44-0	400	200		400	200	60
Contaminant	**CAS**	**Canadian Ambient Air Quality Standards (CAAQS)**			**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		28 [B]	10 [C]		30 [D]	

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. Canadian Ambient Air Quality Standard for Respirable Particulate Matter, effective by 2015. The Respirable Particulate Matter Objective is referenced to the 98th percentile over 3 consecutive years.

C. Annual Canadian Ambient Air Quality Standard for Respirable Particulate Matter, effective by 2015. The Respirable Particulate Matter Objective is referenced to the 3-year average of the annual average concentrations.

D. HHRA Health-Based Standard for $PM_{2.5}$ was selected referencing CCME (2006).

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
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

Horizontal wind speed, wind direction, atmospheric temperature, relative humidity and rainfall are measured at the predominantly downwind Rundle Road Station. Atmospheric temperature, relative humidity, rainfall and barometric pressure are measured at the predominantly upwind Courtice WPCP Station. Wind speed and wind direction data at the predominantly upwind location are measured and provided by 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 3-2 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. A summary of operational issues for each measurement parameter during the monitoring period is presented in **Table 3-3** and **Table 3-4**.

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

Parameter	Issues	Time Frame	Remedial Action
SO_2	Fault indicated, but no error message.	November 16, 2015	Restarted monitor to clear fault.
	Low flow and low lamp output warnings.	November 18, 2015	SO_2 pump diaphragm failed. Replaced diaphragm and cleaned insect debris from lamp chamber.
NOx	Sample flow warning	Noted on November 3, 2015	Likely from power surge. Cleared monitor - no data issues identified.
	Sample flow, ozone and reaction cell warning	November 16, 2015	Cleared message. No data issues identified.
$PM_{2.5}$	Sample pump issue, likely caused by a power surge.	October 29 - November 3, 2015	Reset monitor.
	High internal relative humidity warning.	November 5 - November 12, 2015	Inlet heater failed and issue with motherboard. Both were replaced under warranty by CDNOVA.
Other	N/A		

Table 3-4 Summary of Instrument Issues at Rundle Road Station (Predominately Downwind)

Parameter	Issues	Time Frame	Remedial Action
SO_2	UV lamp warning	October 29 - November 6, 2015	Adjusted lamp to within specified operating range.
NO_X	Time on monitor was incorrect.	November 19 - November 24, 2015	Adjusted clock. No issue with data.
$PM_{2.5}$	None		
Other	N/A		

3.3 DATA RECOVERY RATES

Data recovery rates for each continuous monitor at the two monitoring stations during Quarter 4 (October to December 2015) are presented in **Table 3-5** and **Table 3-6**.

The data recovery rates for the continuous monitors in this quarter reflect instrument down times for routine annual maintenance occurring for Rundle on September 30 to October 2, 2015.

Table 3-5 Summary of Data Recovery Rates for the Courtice WPCP Station (Predominately Upwind) – October to December 2015

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO_2	2194	99.4% [B]
NO_X	2194	99.4% [B]
$PM_{2.5}$	1920	87.0% [B]
Temperature	2207	100%
Rainfall	2207	100%
Relative Humidity	2207	100%
Pressure	2207	100%
Wind Speed/Direction	2208	100%
TSP/Metals	N/A [A]	N/A [A]
PAHs	N/A [A]	N/A [A]
Dioxins and Furans	N/A [A]	N/A [A]

Note:

A. Monitoring of these parameters was temporarily discontinued after June 28, 2014. Monitoring will resume when the Facility is fully operational.

B. Includes instrumentation issues summarized in Table 3-3, quarterly MOECC audit and monthly calibrations.

Table 3-6 Summary of Data Recovery Rates for the Rundle Road Station (Predominately Downwind) – October to December 2015

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO_2	2167	98.1% [B]
NO_X	2166	98.1% [B]
$PM_{2.5}$	2169	98.2% [B]
Temperature	2208	100%
Rainfall	2208	100%
Relative Humidity	2208	100%
Wind Speed/Direction	2208	100%
TSP/Metals	N/A [A]	N/A [A]
PAHs	N/A [A]	N/A [A]
Dioxins and Furans	N/A [A]	N/A [A]

Note:

A. Monitoring of these parameters was temporarily discontinued after June 28, 2014. Monitoring will resume when the EFW Facility is fully operational.

B. Includes instrumentation issues summarized in Table 3-4, quarterly MOECC audit, monthly calibrations and instrument down time for annual maintenance performed on October 1 and 2.

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 2015 period are presented in **Table 4-1**.

Table 4-1 Summary of Hourly Meteorological Measurements – October to December 2015

Parameter		Courtice WPCP Station (Predominately Upwind)	Rundle Road Station (Predominately Downwind)	Units
Temperature	Max	19.3	20.4	C
	Min	-6.9	-7.5	C
	Mean (October)	9.6	9.2	C
	Mean (November)	6.3	5.7	C
	Mean (December)	4.4	3.9	C
	Mean (Period)	6.8	6.3	C
	Standard Deviation	4.8	5.1	C
Rainfall	Max	8.8	9.5	mm
	Min	0.0	0.0	mm
	Mean (October)	0.13	0.16	mm
	Mean (November)	0.04	0.04	mm
	Mean (December)	0.05	0.06	mm
	Mean (Period)	0.07	0.09	mm
	Standard Deviation	0.43	0.52	mm
Relative Humidity	Max	97.0	100.0	%
	Min	33.9	33.7	%
	Mean (October)	69.6	74.0	%
	Mean (November)	75.2	79.8	%
	Mean (December)	78.5	82.8	%
	Mean (Period)	74.4	78.8	%
	Standard Deviation	13.0	13.9	%

Table 4-1 Summary of Hourly Meteorological Measurements – October to December 2015

Parameter		Courtice WPCP Station (Predominately Upwind)	Rundle Road Station (Predominately Downwind)	Units
Pressure [A]	Max	30.4	-	in Hg
	Min	29.0	-	in Hg
	Mean (October)	29.8	-	in Hg
	Mean (November)	29.8	-	in Hg
	Mean (December)	29.7	-	in Hg
	Mean (Period)	29.8	-	in Hg
	Standard Deviation	0.3	-	in Hg
Wind Speed [B]	Max	45.9	44.7	km/hr
	Min	0.3	0.0	km/hr
	Mean (October)	13.8	12.2	km/hr
	Mean (November)	12.2	11.2	km/hr
	Mean (December)	13.5	11.9	km/hr
	Mean (Period)	13.2	11.7	km/hr
	Standard Deviation	7.3	7.3	km/hr

Notes:

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

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

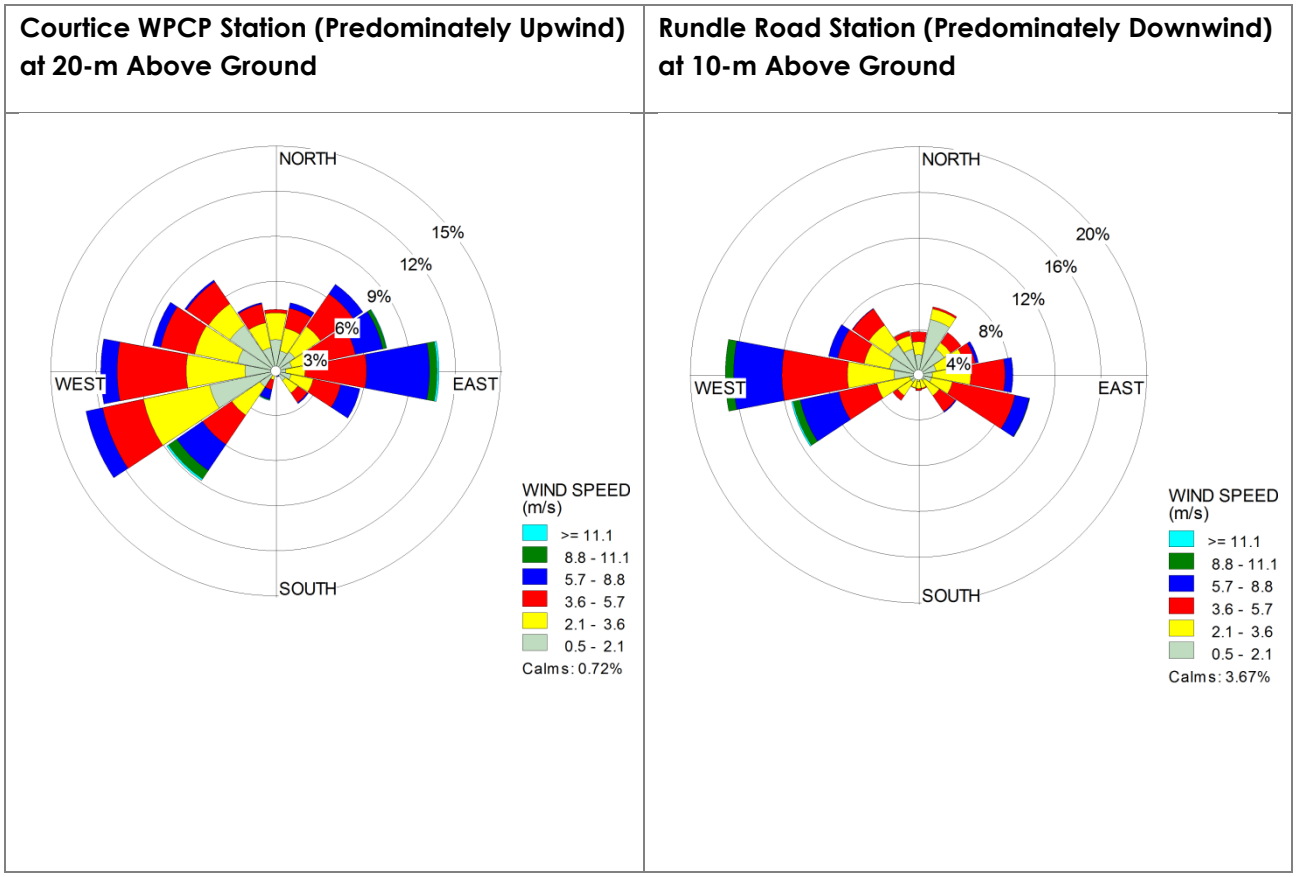
At the Courtice WPCP Station (located near Lake Ontario), wind data were measured and provided by the Courtice Water Pollution Control Plant on a 20-m tower, while at the Rundle Road Station they are measured on a 10-m tower.

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

Winds over the three-month period at the Courtice WPCP Station occurred predominantly from west-southwesterly directions. Wind contribution from the south was low. Higher wind speeds occurred from easterly and southwesterly directions, and lower wind speeds from the westerly directions.

At the Rundle Road Station, the wind rose over the three-month period showed predominant winds occurring from westerly directions. Higher wind speeds are noted occurring from the west-southwest.

Figure 4-1 Wind Roses for October to December 2015



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 are the number of exceedances (if any occurred), of the relevant Ontario ambient air quality criteria (AAQC) or health-based standard for each contaminant. All monitored contaminants were below their applicable criteria during the period October to December 2015.

Nitric oxide (NO) has no regulatory criteria as discussed in **Section 4.2.2** below. There are both hourly and daily AAQCs as well as Reg. 419 Schedule 3 criteria for NO_X which are based on health effects of NO_2. As specified in the MOECC's listing of AAQCs (MOECC, 2012a) 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 Schedule 3 criterion for NO_X (MOECC, 2012b) was compared to the monitored NO_X levels.

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

Table 4-2 Summary of Ambient CAC Monitoring Data – October to December 2015

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP Station (Predominately Upwind)		Rundle Road Station (Predominately Downwind)	
		ppb	µg/m³		Concentration (ppbv)	Concentration (µg/m³)	Concentration (ppbv)	Concentration (µg/m³)
SO_2	1	250	690	Maximum	22.8	64.0	12.6	33.6
				Minimum	0.0	0.0	0.0	0.0
				Mean (October)	0.3	1.0	0.8	2.2
				Mean (November)	0.8	2.2	1.5	4.3
				Mean (December)	1.2	3.5	0.5	1.3
				Mean (Period)	0.8	2.2	0.9	2.6
				Standard Deviation	2.1	5.8	1.2	3.4
				# of Exceedances	0	0	0	0
	24	100	275	Maximum	7.1	19.7	8.3	22.4
				Minimum	0.0	0.0	0.0	0.0
				Mean (October)	0.3	1.0	0.8	2.1
				Mean (November)	0.8	2.2	1.6	4.3
				Mean (December)	1.3	3.6	0.5	1.3
				Mean (Period)	0.8	2.2	0.9	2.6
				Standard Deviation	1.2	3.5	1.1	3.0
				# of Exceedances	0	0	0	0

Table 4-2 Summary of Ambient CAC Monitoring Data – October to December 2015

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP Station (Predominately Upwind)		Rundle Road Station (Predominately Downwind)	
		ppb	µg/m³		Concentration (ppbv)	Concentration (µg/m³)	Concentration (ppbv)	Concentration (µg/m³)
$PM_{2.5}$	24	N/A	28 [A]	Maximum	-	26.5	-	30.5
				Minimum	-	0.2	-	0.9
				Mean (October)	-	3.2	-	5.2
				Mean (November)	-	6.8	-	10.3
				Mean (December)	-	8.0	-	9.9
				Mean (Period)	-	6.0	-	8.5
				Standard Deviation	-	6.5	-	6.3
				# of Exceedances	-	N/A	-	N/A
NO_2	1	200 [B]	400 [B]	Maximum	37.8	74.3	31.6	64.9
				Minimum	0.0	0.1	1.0	0.0
				Mean (October)	6.1	12.1	6.2	12.0
				Mean (November)	9.7	19.5	8.7	17.5
				Mean (December)	7.3	14.7	8.6	17.2
				Mean (Period)	7.7	15.4	7.8	15.6
				Standard Deviation	6.2	12.6	5.1	10.2
				# of Exceedances	0	0	0	0
	24	100 [B]	200 [B]	Maximum	22.2	45.6	19.1	38.8
				Minimum	1.7	3.4	1.3	1.8
				Mean (October)	6.2	12.3	6.2	12.1
				Mean (November)	9.6	19.2	8.7	17.5

Table 4-2 Summary of Ambient CAC Monitoring Data – October to December 2015

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP Station (Predominately Upwind)		Rundle Road Station (Predominately Downwind)	
		ppb	µg/m³		Concentration (ppbv)	Concentration (µg/m³)	Concentration (ppbv)	Concentration (µg/m³)
				Mean (December)	7.3	14.4	8.5	16.7
				Mean (Period)	7.7	15.3	7.9	15.5
				Standard Deviation	4.3	8.7	3.7	7.4
				# of Exceedances	0	0	0	0
NO[C]	1	NA	NA	Maximum	74.3	100	64.1	85.7
				Minimum	0.0	0.0	0.6	0.0
				Mean (October)	3.2	4.2	3.0	3.8
				Mean (November)	5.3	6.9	4.3	5.6
				Mean (December)	2.7	3.6	3.1	4.0
				Mean (Period)	3.7	4.9	3.4	4.5
				Standard Deviation	7.3	9.6	4.4	5.9
				# of Exceedances	N/A	N/A	N/A	N/A
	24	NA	NA	Maximum	22.3	28.9	15.9	21.4
				Minimum	0.0	0.0	1.0	0.7
				Mean (October)	3.3	4.3	3.1	3.8
				Mean (November)	5.2	6.9	4.2	5.6
				Mean (December)	2.8	3.6	3.1	4.0
				Mean (Period)	3.8	4.9	3.5	4.5
				Standard Deviation	4.3	5.6	2.2	2.9
				# of Exceedances	N/A	N/A	N/A	N/A

Table 4-2 Summary of Ambient CAC Monitoring Data – October to December 2015

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Courtice WPCP Station (Predominately Upwind)		Rundle Road Station (Predominately Downwind)	
		ppb	µg/m³		Concentration (ppbv)	Concentration (µg/m³)	Concentration (ppbv)	Concentration (µg/m³)
NO_X	1	200 [B]	400 [B]	Maximum	95.4	196.8	93.5	191.7
				Minimum	0.1	0.1	0.6	0.0
				Mean (October)	9.2	18.4	7.5	14.6
				Mean (November)	14.8	29.8	11.1	22.3
				Mean (December)	9.7	19.5	10.1	20.4
				Mean (Period)	11.2	22.5	9.6	19.1
				Standard Deviation	12.4	25.2	8.3	16.7
				# of Exceedances	0	0	0	0
	24	100 [B]	200 [B]	Maximum	42.0	83.1	31.9	65.9
				Minimum	1.8	3.5	1.1	1.8
				Mean (October)	9.4	18.8	7.6	14.7
				Mean (November)	14.6	29.5	11.1	22.3
				Mean (December)	9.8	19.4	10.1	19.9
				Mean (Period)	11.3	22.5	9.6	19.0
				Standard Deviation	8.2	16.6	5.4	10.9
				# of Exceedances	0	0	0	0

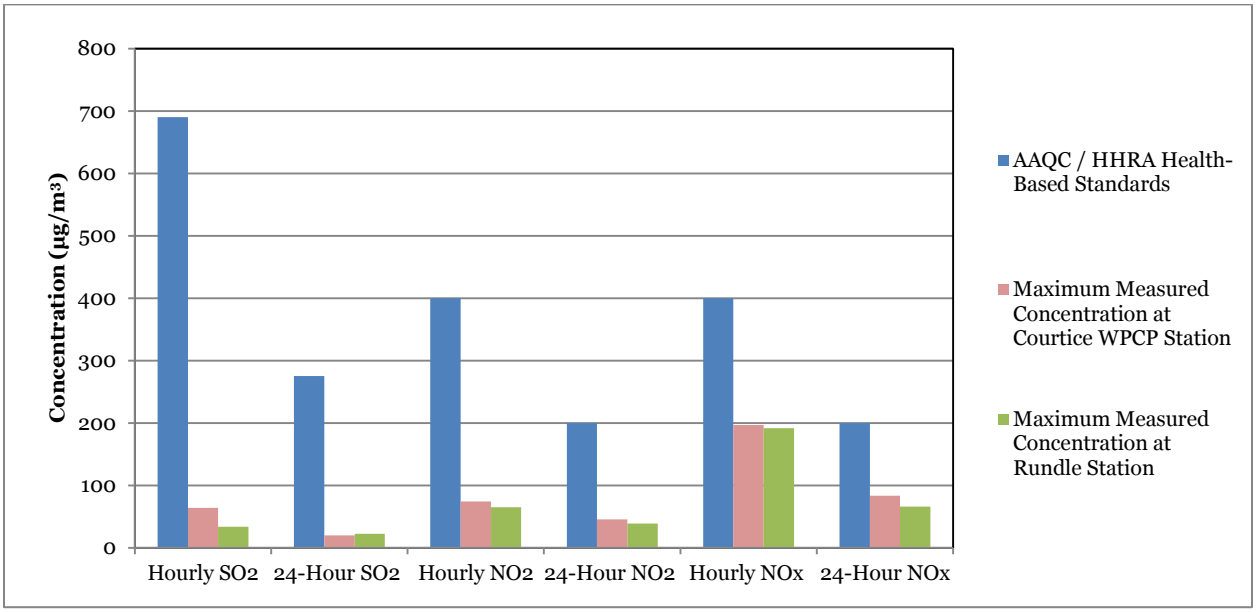
Note:

A. Canadian Ambient Air Quality Standard 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.

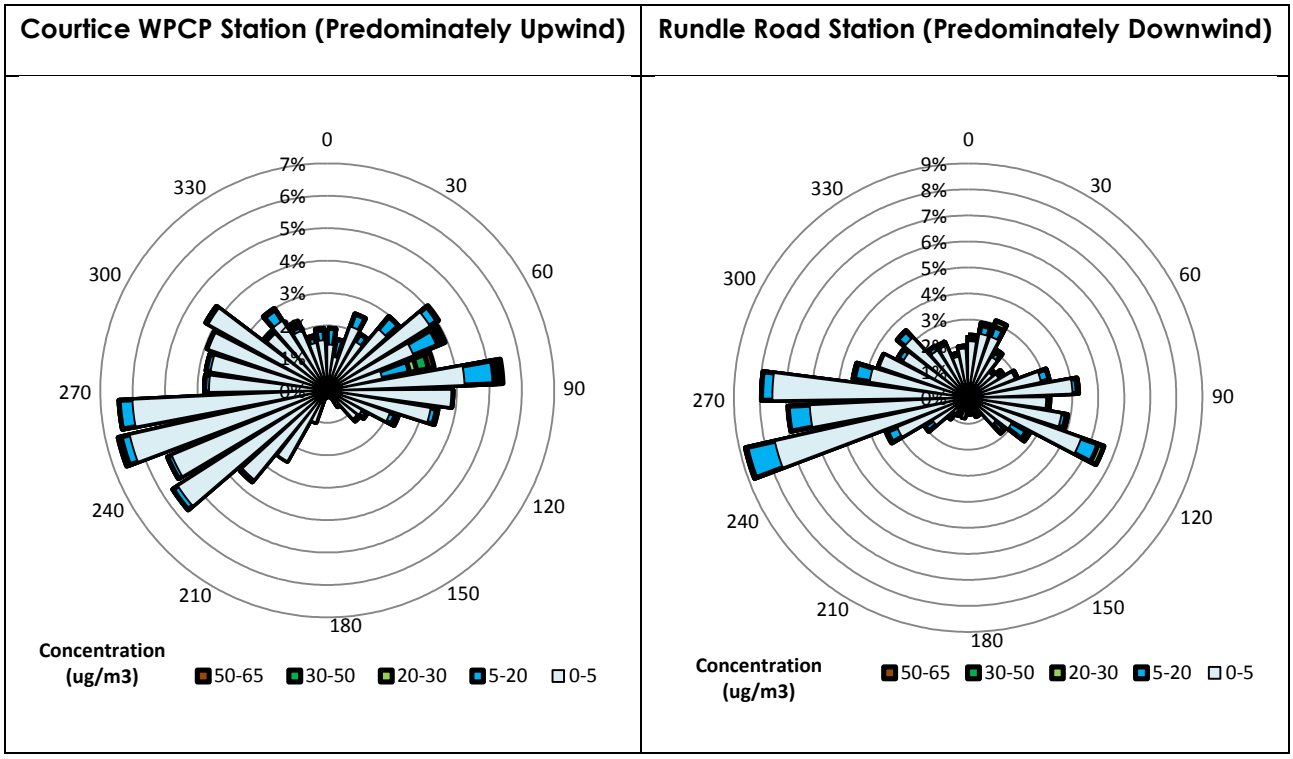
The maximum hourly and 24-hour average concentrations measured at the Courtice WPCP Station during October to December 2015 were 64 and 19.7 µg/m³ respectively, which are 9.3% and 7.2% of the applicable 1-hour and 24-hour ambient air quality criteria.

The maximum hourly and 24-hour average concentrations measured at the Rundle Road Station during this quarter were 33.6 and 22.4 µg/m³ respectively, which are 4.9% and 8.1% of the applicable 1-hour and 24-hour ambient 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 plots present measured hourly average contaminant concentrations versus measured wind direction (over 10° wind sectors).

For the Courtice WPCP Station, higher hourly concentrations were measured when winds were blowing from east-northeasterly directions. For the Rundle Road Station, higher hourly concentrations occurred for southwesterly winds.

Figure 4-3 Pollution Roses of Measured Hourly Average SO_2 Concentrations – October to December 2015



4.2.2 Nitrogen Dioxide (NO_2)

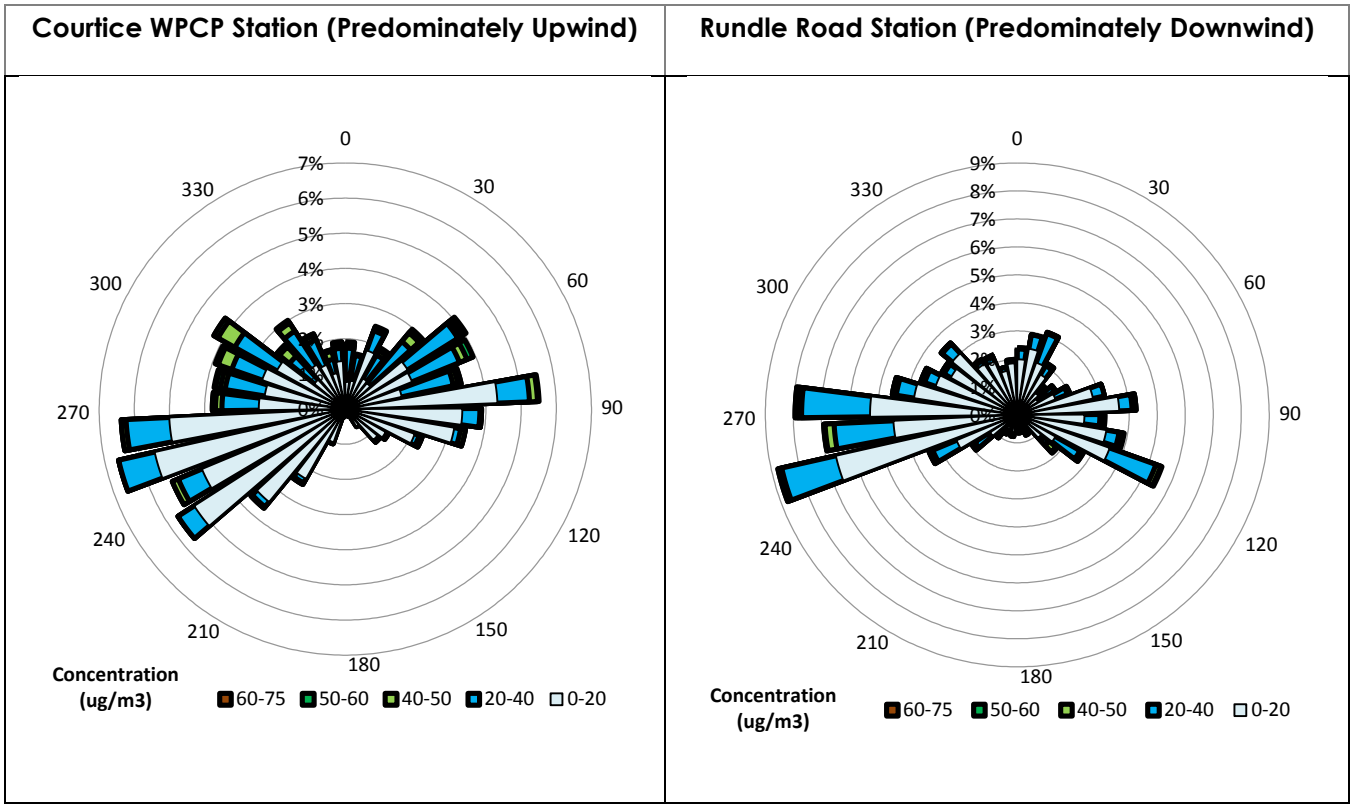
Nitrogen oxides (NO_X) are almost entirely made up of nitric oxide (NO) and nitrogen dioxide (NO_2). Together, they are often referred to as NO_X. Most NO_2 in the atmosphere is formed by the oxidation of NO, which is emitted directly by combustion processes, particularly those at high temperature and 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 (as per MOECC 2012a). However, as per the current April 2012 version of O. Reg. 419 Summary of Standards and Guidelines, the Schedule 3 NO_X criteria were also compared to the monitored NO_X concentrations (see **Section 4.2.3** below).

Data summaries are presented in **Appendix B** for nitrogen dioxide for each station and month as well as time history plots of the hourly and 24-hour average NO_2 concentrations. For the hourly and 24-hour averages, the Ontario AAQCs of 400 µg/m³ and 200 µg/m³ are shown as blue lines on each plot. As shown in these figures, measured ambient 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 74.3 and 45.6 µg/m³ respectively, which are 18.6% and 22.8% of the applicable 1-hour and 24-hour ambient air quality criteria. At the Rundle Road Station, the maximum measured hourly and 24-hour average concentrations were 64.9 and 38.8 µg/m³, which are 16.2% and 19.4% of the applicable 1-hour and 24-hour ambient air quality criteria.

Pollution roses of measured hourly average NO_2 concentrations are presented in **Figure 4-4**. The measured hourly average concentrations at the Courtice WPCP Station were higher for winds from northwesterly to northeasterly directions. For the Rundle Road Station, higher measured hourly average concentrations occurred for winds blowing from the east.

Figure 4-4 Pollution Roses of Measured Hourly Average NO_2 Concentrations – October to December 2015



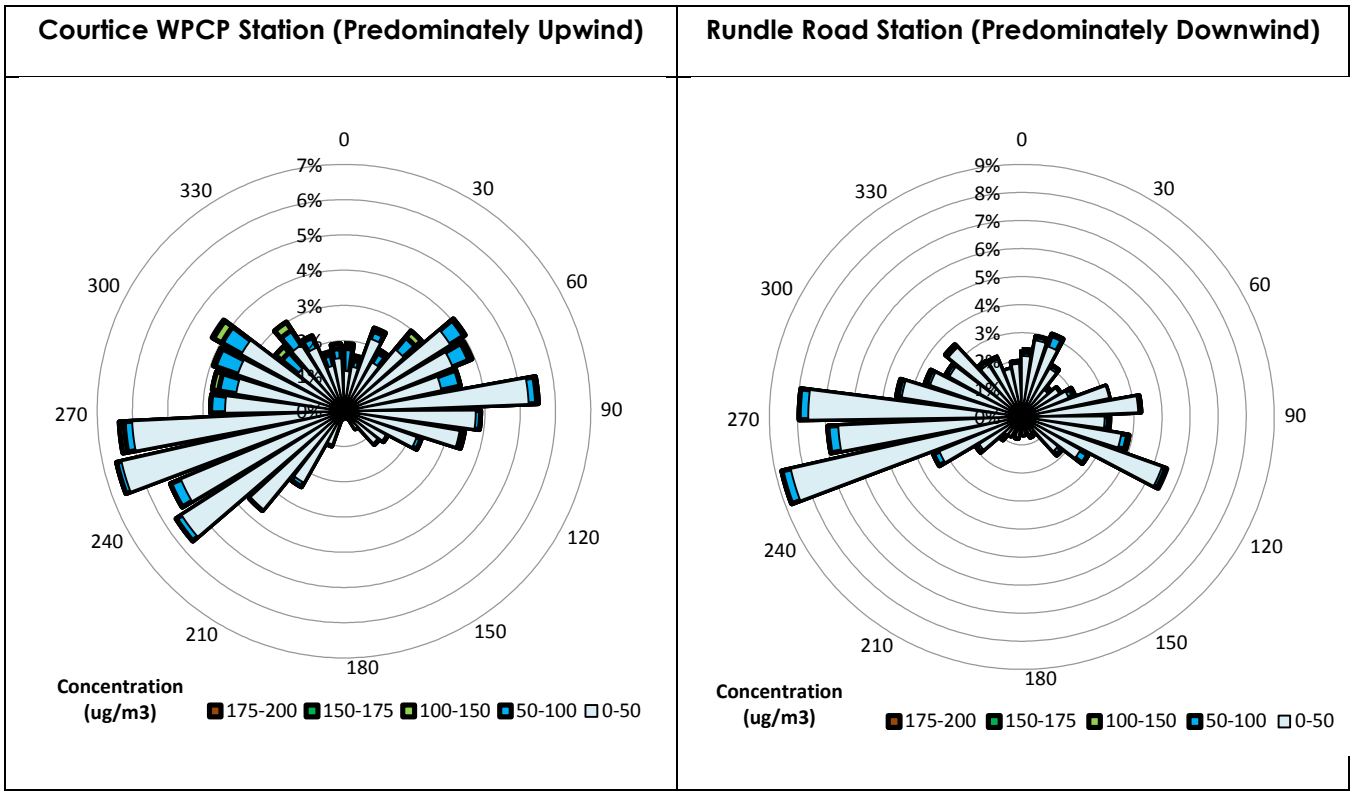
4.2.3 Nitrogen Oxides (NO_X)

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

As shown in **Table 4-2**, the maximum hourly average NO_X concentration measured at the Courtice WPCP Station was 196.8 µg/m^3, which is 49.2% of the 1-hour ambient criteria. The 24-hour average NO_X concentration measured at this station was 83.1 µg/m^3, which is 41.6% of the applicable 24-hour air quality criteria. At the Rundle Road Station, the maximum hourly and 24-hour average concentrations measured during this quarter were 191.7 and 65.9 µg/m^3, which are 47.9% and 32.9% of the applicable air quality criteria.

Pollution roses of measured hourly average NO_X concentrations for the Courtice WPCP Station and the Rundle Road Station are presented in **Figure 4-5**. In **Figure 4-5**, higher measured hourly average NO_X concentrations at the Courtice WPCP Station occurred for winds blowing from northwesterly directions. At the Rundle Road Station, higher measured hourly average concentrations occurred for southeasterly winds.

Figure 4-5 Pollution Roses of Measured Hourly Average NO_X Concentrations – October to December 2015



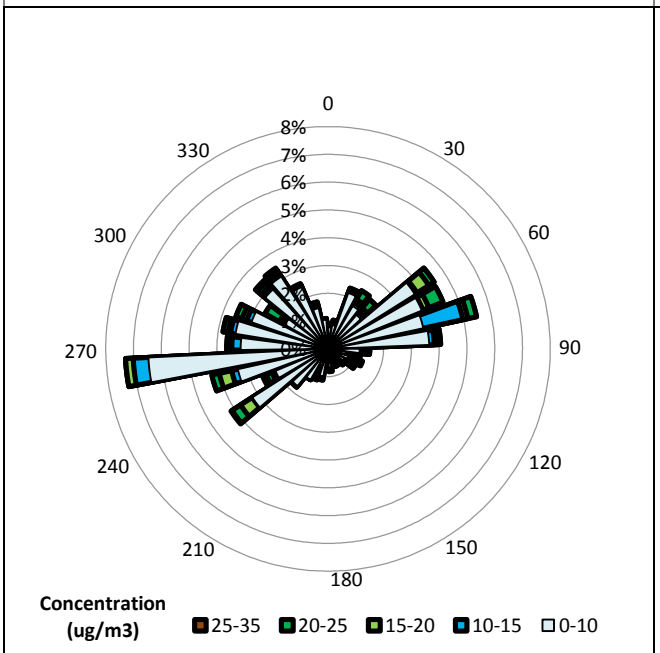
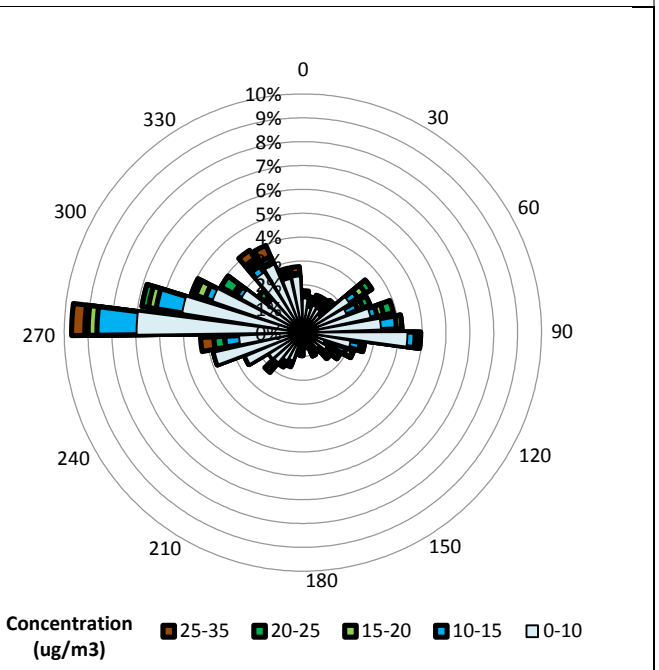
4.2.4 Particulate Matter Smaller than 2.5 Microns ($PM_{2.5}$)

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

The maximum measured 24-hour average $PM_{2.5}$ concentrations at the Courtice WPCP and the Rundle Road Stations were 26.5 µg/m³ and 30.5 µg/m³ during this quarter. It should be noted that since an exceedance of the criteria for $PM_{2.5}$ requires the average of the 98th percentile levels in each of three consecutive years to be greater than 28 µg/m³ (CAAQS) or 30 µg/m³ (HHRA standard) 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 CAAQS/HHRA criteria would occur. Discussion of $PM_{2.5}$ measurements with respect to the CAAQS/HHRA criteria will be provided in the 2015 annual report, at which time sufficient data will have been collected to make preliminary comparisons.

Pollution roses showing the measured 24-hour average ambient $PM_{2.5}$ concentrations versus direction are shown in **Figure 4-6** for both monitoring stations. The maximum measured concentrations occurred for northwesterly and west-southwesterly winds for the Courtice WPCP Station. For the Rundle Road Station, higher measured 24-hour average concentrations occurred for westerly and north-northwesterly winds.

Figure 4-6 Pollution Roses of Measured 24-Hour Average $PM_{2.5}$ Concentrations – October to December 2015

Courtice WPCP Station (Predominately Upwind)	Rundle Road Station (Predominately Downwind)
	

5.0 CONCLUSIONS

This quarterly report provides a summary of the ambient air quality data collected at the two monitoring stations located predominantly upwind and downwind in the vicinity of the DYEC for the period October to December 2015.

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 Canadian Ambient Air Quality Standard (CAAQS) for $PM_{2.5}$ is based on a 98th percentile level over 3 years, whereas the $PM_{2.5}$ measurement period at both stations for this quarterly report was three months, there is insufficient data collected to determine with any certainty if exceedances of the CAAQS would occur. Therefore no comparison of the measured $PM_{2.5}$ data during this quarter to the CAAQS was conducted for this report, as it would not be scientifically accurate or representative; and,
3. In summary, all monitored contaminants were below their applicable MOECC criteria for the monitoring data presented in this report. All measured levels of all monitored contaminants were below their applicable HHRA health-based standards.

6.0 REFERENCES

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Appendix A SO_2 DATA SUMMARIES AND TIME HISTORY PLOTS

SO_2 - COURTICE

October 2015

($\mu g/m^3$)

Day	Hour 0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>690	Days>275
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	4.0	0.3	0.0	0.0	0.0	24	4.0	0.0	0.2	0	0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	4.7	0.0	0.3	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	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	5.8	0.0	0.2	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	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	24	1.0	0.0	0.0	0	0
11	0.0	0.0	0.3	0.2	0.0	0.0	0.0	0.7	0.7	1.6	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.6	0.0	0.2	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	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	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	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	1.8	2.3	2.4	2.3	2.0	2.0	1.9	2.5	2.1	1.9	1.9	21	2.5	0.0	1.1	0	0
20	1.8	1.8	1.9	1.8	1.7	1.8	2.0	1.9	1.8	2.1	2.8	3.4	3.6	3.0	2.9	2.3	1.9	1.9	1.8	1.2	1.3	1.2	1.3	1.7	24	3.6	1.2	2.0	0	0
21	1.5	1.3	2.6	1.8	2.1	1.9	2.1	1.5	7.1	3.7	2.2	1.3	1.4	2.3	8.9	8.5	2.5	1.8	1.5	1.7	1.8	2.0	2.0	3.8	24	8.9	1.3	2.8	0	0
22	2.0	2.0	1.9	1.9	2.0	1.8	1.9	1.5	1.5	1.2	1.2	1.1	1.1	0.9	0.9	1.2	0.7	0.9	0.5	0.6	0.4	0.5	C	C	22	2.0	0.4	1.3	0	0
23	0.7	0.8	0.4	0.6	0.5	0.7	1.9	7.2	R	6.4	4.7	3.3	2.9	2.9	1.0	0.6	0.5	1.9	6.8	4.1	5.0	3.5	1.3	0.9	23	7.2	0.4	2.5	0	0
24	0.7	0.9	0.8	0.7	1.1	1.0	1.6	1.3	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.2	1.0	1.1	1.2	1.3	1.4	1.1	1.2	1.1	24	1.6	0.7	1.1	0	0
25	1.1	1.2	1.1	1.0	1.1	0.6	0.7	1.0	1.1	1.2	1.1	1.0	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	4.3	1.9	24	4.3	0.4	1.0	0	0
26	2.5	1.8	3.3	2.0	2.4	1.8	3.9	4.7	2.8	9.4	1.9	1.1	0.6	0.7	0.6	0.6	0.9	1.0	8.1	4.0	1.2	0.5	0.2	0.0	24	9.4	0.0	2.3	0	0
27	0.6	0.9	0.0	0.0	1.2	8.3	7.8	11.2	5.2	64.0	27.6	2.3	1.6	0.6	0.6	0.5	0.6	8.9	5.8	2.6	0.5	1.6	26.2	8.8	24	64.0	0.0	7.8	0	0
28	8.8	1.9	1.2	1.2	0.7	0.8	0.6	0.6	0.5	0.5	0.5	0.8	7.0	5.6	3.7	8.4	2.3	2.1	1.9	1.7	1.3	1.4	1.3	1.2	24	8.8	0.5	2.3	0	0
29	1.2	1.2	1.5	1.3	1.3	1.2	1.1	1.2	1.3	1.1	1.2	1.1	1.2	1.0	1.1	0.9	0.5	0.5	0.9	0.8	1.0	1.1	1.2	1.2	24	1.5	0.5	1.1	0	0
30	1.1	1.2	0.9	1.5	1.7	1.5	1.4	1.8	3.2	3.7	2.1	1.7	2.1	2.0	2.1	1.9	0.9	0.4	0.7	2.1	0.9	6.3	1.1	1.4	24	6.3	0.4	1.8	0	0
31	1.5	1.4	1.0	2.6	1.2	3.9	1.6	6.8	1.6	1.2	1.7	1.6	1.4	1.3	1.3	1.5	1.4	0.9	0.7	0.2	0.3	0.3	0.4	0.4	24	6.8	0.2	1.5	0	0
Count	31	31	31	31	31	31	31	31	30	31	30	30	30	31	31	31	31	31	31	31	31	31	30	30	738	31	30	31		
Maximum	8.8	2.0	3.3	2.6	2.4	8.3	7.8	11.2	7.1	64.0	27.6	4.7	7.0	5.6	8.9	8.5	2.5	8.9	8.1	4.1	5.0	6.3	26.2	8.8	24	64.0	2.0	10.4		
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	0.8	0.5	0.5	0.5	0.5	0.8	1.0	1.3	1.0	3.1	1.7	0.8	0.8	0.8	0.9	1.0	0.5	0.8	1.1	0.9	0.6	0.7	1.4	0.8	24	5	0	1.0		
#>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
Data	0.0	0.0	0.0	0.0	0.0	0.4	1.0	1.4	2.1	3.7	8.8	64.0

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				64.0
	Day				7.8
	Month				1.0

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

SO_2 - COURTICE
November 2015
(µg/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	0.5	0.4	0.4	0.5	0.4	0.4	0.6	0.5	0.7	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	24	0.7	0.0	0.2	0	0
2	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0	1.1	0.0	0.3	1.3	2.3	2.5	2.2	1.2	1.0	1.1	1.1	1.0	1.4	1.3	24	2.5	0.0	0.8	0	0
3	2.8	2.0	2.7	4.3	2.6	2.1	2.4	4.2	3.4	3.3	2.8	1.9	2.9	3.1	3.9	4.9	3.7	7.9	8.7	10.2	3.3	17.6	6.4	4.4	24	17.6	1.9	4.7	0	0
4	3.8	3.7	2.8	2.3	1.9	1.6	1.4	1.9	5.1	3.1	3.6	2.0	1.9	1.4	1.5	1.2	1.1	2.6	6.2	6.0	2.9	2.1	1.9	3.9	24	6.2	1.1	2.7	0	0
5	2.1	2.7	4.4	4.9	3.2	2.4	3.8	5.8	4.7	2.8	3.7	4.3	2.6	3.8	8.2	4.8	2.9	2.5	2.1	4.7	4.0	5.8	3.2	4.2	24	8.2	2.1	3.9	0	0
6	3.1	3.0	3.0	2.3	1.8	1.9	1.7	1.7	1.4	1.6	1.4	1.4	1.8	1.7	1.5	1.2	1.1	1.1	1.1	1.1	1.1	0.9	1.1	0.9	24	3.1	0.9	1.6	0	0
7	1.0	1.0	0.8	0.7	1.0	1.1	1.0	0.9	1.0	1.1	0.6	1.0	1.0	0.9	0.6	0.8	0.7	0.6	0.6	0.5	0.4	0.4	0.5	0.4	24	1.1	0.4	0.8	0	0
8	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.5	0.4	0.5	1.1	0.6	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.2	24	1.1	0.1	0.3	0	0
9	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	24	0.2	0.1	0.1	0	0
10	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	24	0.2	0.0	0.1	0	0
11	0.2	0.1	0.1	8.7	16.7	16.4	15.8	16.0	15.8	16.0	15.7	16.1	16.2	15.6	15.2	15.2	15.6	15.6	32.8	39.6	24.3	23.1	32.9	25.2	24	39.6	0.1	17.0	0	0
12	22.2	17.7	16.8	15.9	15.9	16.1	15.9	15.5	15.9	15.8	15.7	15.8	15.3	7.4	0.2	0.5	0.6	0.8	0.4	1.0	0.8	0.7	0.7	0.5	24	22.2	0.2	9.5	0	0
13	0.3	0.2	0.4	0.5	0.5	0.4	0.3	0.1	0.1	0.0	0.2	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	24	0.5	0.0	0.1	0	0
14	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.3	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	0.6	1.2	0.3	1.4	4.6	7.4	6.9	4.0	2.2	1.1	0.0	0.0	0.0	0.0	24	7.4	0.0	1.2	0	0
16	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	8.9	10.3	5.9	5.0	5.2	24	10.3	0.0	1.7	0	0
17	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.6	8.8	1.9	25.6	28.4	11.6	0.0	6.4	47.7	57.0	63.9	46.5	5.0	1.6	0.8	24	63.9	0.0	13.4	0	0
18	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	C	C	C	C	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20	0.5	0.0	0.1	0	0
19	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.2	0.0	0.0	0	0
20	0.0	0.0	0.0	0.8	0.2	0.0	0.5	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.2	1.6	24	1.6	0.0	0.3	0	0
21	2.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	2.0	0.0	0.1	0	0
22	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.9	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	24	1.9	0.0	0.2	0	0
23	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.3	0.0	0.0	0.3	0.2	0.0	1.5	1.4	0.8	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.5	0.0	0.3	0	0
24	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.0	1.0	1.2	2.1	1.6	1.5	0.8	0.3	0.0	0.0	0.0	0.4	0.0	0.3	0.0	0.0	0.0	24	2.1	0.0	0.4	0	0
25	0.0	4.2	0.0	0.3	4.2	1.4	0.0	1.0	2.3	2.2	14.5	8.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	14.5	0.0	1.7	0	0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.3	0.0	0.0	0	0
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2	0.0	1.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.3	0.0	0.1	0	0
29	0.2	0.0	0.0	0.0	0.0	0.0	0.8	2.7	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.9	9.9	6.1	2.7	5.1	4.4	0.6	0.3	1.0	24	9.9	0.0	1.5	0	0
30	0.0	0.1	1.3	2.3	1.6	1.5	0.5	0.3	0.7	4.0	1.9	2.1	2.5	1.4	2.1	3.0	2.9	6.3	5.9	4.2	3.0	2.1	2.2	0.5	24	6.3	0.0	2.2	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	30	29	29	29	29	30	30	30	30	30	30	30	30	30	30	30	716	30	29	30		
Maximum	22.2	17.7	16.8	15.9	16.7	16.4	15.9	16.0	15.9	16.0	15.7	16.1	25.6	28.4	15.2	15.2	15.6	47.7	57.0	63.9	46.5	23.1	32.9	25.2	24	63.9	15.2	24.9		
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	1.3	1.2	1.1	1.5	1.7	1.6	1.6	1.8	1.8	2.3	2.7	2.1	2.5	2.4	1.8	1.5	1.8	3.2	4.1	4.9	3.4	2.2	2.0	1.7	23	7	0	2.2		
#>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
Data	0.0	0.0	0.0	0.0	0.1	0.4	1.1	2.1	4.9	15.6	27.9	63.9

Regs	Acceptable	Desirable	Violations	Maximum
Hour				63.9
Day				17.0
Month				2.2

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

SO_2 - COURTICE
December 2015
(µg/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	0.3	0.3	0.2	1.0	0.9	10.2	6.4	3.8	6.9	2.7	1.7	0.8	0.5	0.5	0.6	0.4	0.5	0.7	0.6	0.6	0.4	0.4	0.4	0.5	24	10.2	0.2	1.7	0	0
2	0.5	0.5	0.5	0.4	0.5	1.3	0.4	0.3	0.9	8.1	1.8	2.2	7.9	4.0	11.1	6.1	1.9	17.7	10.3	1.1	1.3	0.8	1.8	2.9	24	17.7	0.3	3.5	0	0
3	2.4	1.8	0.8	0.5	0.4	0.4	0.5	0.5	0.4	0.3	0.5	1.2	1.4	2.0	2.2	2.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1	24	2.6	0.0	0.8	0	0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.1	0.0	0.0	0	0
5	0.0	0.0	0.0	14.2	15.3	1.3	2.0	2.2	2.0	1.7	2.1	1.3	1.2	1.1	1.2	0.9	0.7	0.9	5.6	5.1	0.4	0.5	1.0	3.8	24	15.3	0.0	2.7	0	0
6	4.8	3.9	4.7	2.3	5.3	3.5	2.1	1.1	0.9	0.8	1.1	1.7	4.0	4.4	1.6	1.4	9.0	3.7	10.3	9.2	11.5	27.5	19.9	3.6	24	27.5	0.8	5.8	0	0
7	2.8	2.2	9.2	15.1	15.5	17.8	40.5	23.1	13.6	13.2	6.3	3.4	2.5	1.9	1.7	1.6	1.2	1.1	15.5	31.2	11.4	5.3	7.1	4.8	24	40.5	1.1	10.3	0	0
8	8.7	6.3	2.5	1.4	1.4	0.5	0.7	0.4	0.4	0.4	0.3	0.7	1.1	0.8	0.7	0.5	0.5	0.5	0.4	0.4	0.5	0.0	0.5	0.8	24	8.7	0.0	1.3	0	0
9	1.0	1.0	1.2	1.2	1.7	18.3	18.9	5.0	4.1	3.7	3.0	2.5	2.1	2.0	2.3	2.0	1.6	1.4	2.5	2.1	1.1	0.7	0.7	0.9	24	18.9	0.7	3.4	0	0
10	1.0	1.0	1.1	1.1	0.8	0.4	1.0	0.6	1.1	0.8	1.6	2.4	2.7	2.4	1.8	1.8	1.3	1.3	1.0	0.8	0.6	0.5	0.7	1.0	24	2.7	0.4	1.2	0	0
11	1.1	0.9	1.1	1.4	1.1	1.0	0.7	0.9	1.2	1.2	1.2	1.2	1.5	C	C	8.0	7.7	6.8	6.4	5.7	5.5	5.3	5.1	4.7	22	8.0	0.7	3.2	0	0
12	4.8	11.1	24.1	37.5	32.4	18.9	17.4	17.3	13.8	15.4	12.7	10.6	5.6	4.5	4.5	3.8	NA	4.5	8.6	9.6	5.0	4.5	3.5	4.9	23	37.5	3.5	12.0	0	0
13	3.3	2.9	2.5	2.5	4.4	3.3	3.4	5.2	10.0	19.2	3.8	5.5	3.8	2.8	2.4	2.6	2.5	4.4	3.9	11.4	8.5	7.7	28.6	22.2	24	28.6	2.4	7.0	0	0
14	15.6	7.5	5.8	7.6	6.1	6.6	5.8	8.6	5.4	3.4	A	A	5.5	5.4	5.3	4.8	3.0	2.7	2.2	1.6	1.5	1.7	1.5	1.7	22	15.6	1.5	5.0	0	0
15	1.8	2.0	1.8	1.4	1.7	1.5	1.5	1.3	1.2	1.4	0.9	0.9	1.2	2.8	4.9	2.9	3.6	1.6	0.6	0.5	3.1	3.4	1.9	2.2	24	4.9	0.5	1.9	0	0
16	2.0	3.3	8.7	0.7	0.3	0.2	0.4	0.2	0.4	2.3	9.0	5.9	1.1	2.1	1.4	3.4	6.2	5.0	1.1	0.8	0.9	0.6	1.0	1.0	24	9.0	0.2	2.4	0	0
17	1.0	0.9	0.9	0.7	0.6	1.1	0.8	0.9	1.0	0.7	0.5	0.7	0.9	1.0	1.5	0.7	0.8	0.6	0.3	0.2	0.3	0.0	0.0	0.0	24	1.5	0.0	0.7	0	0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.4	1.7	1.8	1.4	1.0	0.9	0.4	0.1	0.0	0.0	0.0	24	1.8	0.0	0.4	0	0
19	0.0	0.0	0.0	0.0	0.5	0.9	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.9	0.0	0.1	0	0
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	3.2	0.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.6	0.7	24	3.2	0.0	0.3	0	0
21	0.8	0.4	0.2	0.0	0.3	0.2	2.4	0.3	0.4	0.4	0.2	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.3	24	2.4	0.0	0.3	0	0
22	0.1	0.1	0.2	0.0	0.0	0.2	0.2	0.2	0.0	0.8	1.0	0.3	0.3	0.2	0.2	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.1	0.6	24	1.0	0.0	0.3	0	0
23	1.6	0.7	4.8	1.6	1.1	1.6	2.0	5.4	8.2	40.5	47.3	52.0	62.3	31.3	52.1	32.6	9.0	4.4	3.4	2.6	2.5	1.8	1.6	1.6	24	62.3	0.7	15.5	0	0
24	1.2	0.9	1.4	1.3	1.3	0.6	0.2	0.3	0.2	0.4	0.8	0.7	1.2	0.3	0.4	0.4	0.2	0.4	0.5	0.2	0.2	0.0	0.4	1.1	24	1.4	0.0	0.6	0	0
25	1.1	1.0	0.2	0.3	0.2	0.3	1.3	0.8	0.6	1.0	1.6	1.5	1.6	0.9	1.4	1.5	0.7	0.1	0.0	23.5	3.5	2.8	8.8	5.4	24	23.5	0.0	2.5	0	0
26	3.2	6.6	4.9	9.8	10.0	16.4	12.3	14.6	15.0	2.8	0.8	1.4	2.8	1.9	2.6	9.1	14.6	5.4	4.9	17.7	37.6	22.6	36.7	6.8	24	37.6	0.8	10.9	0	0
27	13.4	3.4	1.7	0.9	2.2	5.1	2.8	1.7	4.0	1.7	0.9	1.2	0.8	0.7	1.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.4	0.0	24	13.4	0.0	1.8	0	0
28	0.0	0.0	2.1	5.6	7.1	10.1	10.3	5.8	4.6	0.0	0.0	0.0	0.0	6.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	10.3	0.0	2.2	0	0
29	5.7	31.1	35.6	19.8	2.8	1.7	1.2	0.9	0.8	28.6	40.4	32.0	15.2	5.5	3.9	3.6	2.4	1.5	2.0	1.8	1.0	1.9	0.7	1.5	24	40.4	0.7	10.1	0	0
30	1.2	1.0	2.9	1.4	1.7	1.0	0.9	0.9	0.9	1.1	1.5	0.9	1.0	0.7	1.1	1.1	0.7	0.8	0.9	0.4	0.2	0.2	0.4	1.0	24	2.9	0.2	1.0	0	0
31	0.6	1.0	0.6	0.4	0.2	0.6	0.2	0.0	0.1	0.0	0.2	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.2	0.2	24	1.0	0.0	0.3	0	0
Count	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	31	30	31	31	31	31	31	31	31	739	31	30	31		
Maximum	15.6	31.1	35.6	37.5	32.4	18.9	40.5	23.1	15.0	40.5	47.3	52.0	62.3	31.3	52.1	32.6	14.6	17.7	15.5	31.2	37.6	27.5	36.7	22.2	24	62.3	14.6	32.1		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22	0.1	0.0	0.0		
Average	2.6	3.0	3.9	4.2	3.7	4.0	4.4	3.3	3.2	4.9	4.7	4.5	4.3	2.9	3.6	3.0	2.4	2.2	2.7	4.1	3.1	2.9	4.0	2.4	24	15	0	3.5		
#>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						
Data		0.0		0.2		0.4		0.7		1.0		1.5		2.3		4.5		9.0		15.7		37.6		62.3						

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				62.3
	Day				15.5
	Month				3.5

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

SO_2 - Rundle Road

October 2015

($\mu g/m^3$)

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	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
2	M	M	M	M	M	M	M	M	1.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16	1.2	0.0		0	0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
4	0.0	0.0	0.0	0.0	0.0	2.3	1.8	12.2	17.2	22.1	22.2	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	22.2	0.0	3.6	0	0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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
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	0.5	1.1	1.7	1.4	1.7	1.3	1.4	1.1	1.3	1.6	1.7	2.5	3.2	3.9	3.8	24	3.9	0.0	1.2	0	0
9	1.8	1.5	1.5	0.6	1.6	1.7	1.7	1.7	1.9	1.8	1.9	1.4	1.6	1.3	1.5	1.4	1.2	1.4	1.1	1.3	1.1	1.2	1.4	1.3	24	1.9	0.6	1.5	0	0
10	1.1	1.2	1.0	1.0	1.0	1.0	1.0	1.0	0.9	2.1	2.2	1.2	1.6	1.1	1.1	1.3	1.5	1.4	1.3	1.5	1.4	1.7	1.9	1.8	24	2.2	0.9	1.4	0	0
11	2.3	2.4	3.2	3.4	2.7	2.4	3.1	3.6	4.2	4.5	4.3	3.1	2.9	2.4	2.4	2.4	2.3	2.4	2.0	2.4	3.4	3.6	2.4	2.3	24	4.5	2.0	2.9	0	0
12	2.3	1.9	2.3	2.0	1.5	1.3	1.9	2.2	2.5	2.7	2.7	2.6	3.0	2.9	2.8	2.4	2.1	1.7	1.7	1.8	1.9	1.9	1.9	1.8	24	3.0	1.3	2.2	0	0
13	2.2	1.8	1.8	1.7	1.8	1.7	1.8	2.3	2.3	1.9	2.0	2.0	1.9	1.9	1.8	1.7	1.8	1.7	1.8	2.0	1.8	1.8	1.6	1.5	24	2.3	1.5	1.9	0	0
14	1.6	1.7	1.8	1.7	1.8	1.8	2.1	2.5	3.4	3.9	3.2	2.5	2.4	2.5	2.1	1.8	1.7	1.5	1.3	1.3	1.4	1.7	1.7	1.8	24	3.9	1.3	2.0	0	0
15	1.5	1.4	1.2	1.4	1.7	1.7	1.7	1.7	2.3	3.1	3.7	3.2	3.7	3.0	2.4	2.0	1.8	1.7	1.6	1.3	1.7	1.4	1.4	1.2	24	3.7	1.2	2.0	0	0
16	1.5	1.4	1.0	1.2	1.3	1.1	1.2	1.4	1.6	1.5	1.7	2.2	2.4	1.3	1.5	1.1	1.3	1.1	0.9	1.1	1.0	1.1	1.0	1.0	24	2.4	0.9	1.3	0	0
17	1.0	1.4	1.2	1.0	1.0	1.0	1.1	1.0	1.1	1.0	1.1	1.1	1.0	1.1	1.5	1.8	1.4	1.1	1.4	1.5	1.1	1.0	1.0	1.0	24	1.8	1.0	1.2	0	0
18	1.0	0.4	0.0	1.0	1.0	1.1	1.1	1.0	1.4	1.8	2.4	2.5	2.6	2.6	2.5	2.8	2.5	2.0	1.5	1.1	1.0	1.1	1.3	1.1	24	2.8	0.0	1.5	0	0
19	1.4	1.5	1.6	1.7	1.4	1.8	2.3	2.4	2.9	2.4	2.0	2.4	2.8	C	C	3.1	3.2	3.3	3.0	2.9	2.5	2.7	2.6	2.4	22	3.3	1.4	2.4	0	0
20	2.5	2.8	2.0	3.0	2.8	2.7	2.8	2.5	3.1	3.3	4.1	6.4	5.2	4.5	5.5	4.3	3.2	2.9	2.4	2.3	2.1	2.1	2.0	1.8	24	6.4	1.8	3.2	0	0
21	1.8	2.0	2.8	1.9	1.8	1.9	1.9	1.8	1.6	1.4	1.1	1.5	1.7	1.7	1.0	1.3	1.1	1.0	1.1	1.1	1.4	1.0	0.6	0.4	24	2.8	0.4	1.5	0	0
22	0.1	0.0	0.1	0.4	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.4	0.0	0.1	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	3.0	1.8	1.6	1.6	1.1	1.3	1.5	1.6	1.2	1.4	1.3	24	3.0	0.0	0.7	0	0
24	1.6	1.7	2.7	2.4	1.8	1.8	2.3	1.9	2.2	1.9	3.0	3.9	3.3	2.1	2.0	2.5	1.8	1.8	2.0	1.8	2.0	1.9	1.8	1.8	24	3.9	1.6	2.2	0	0
25	1.8	1.8	1.8	1.8	1.8	1.7	1.6	1.8	1.8	1.9	1.8	1.9	1.8	1.7	1.7	1.4	1.4	1.2	1.1	1.2	1.1	1.0	1.1	1.2	24	1.9	1.0	1.6	0	0
26	1.3	1.1	1.1	1.2	1.2	1.2	1.4	1.7	1.2	1.8	2.3	6.9	8.6	5.9	5.1	4.5	5.0	5.5	4.8	4.2	4.9	4.5	4.0	3.9	24	8.6	1.1	3.5	0	0
27	3.9	3.8	3.2	2.1	2.1	2.1	3.0	3.1	1.9	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.7	2.1	1.8	2.0	1.8	1.7	1.7	24	3.9	1.7	2.2	0	0
28	1.9	1.9	4.8	5.3	4.9	4.8	7.2	4.6	5.3	6.0	7.2	4.7	6.7	6.0	5.6	5.2	6.0	6.0	6.6	6.6	6.3	5.7	6.1	6.0	24	7.2	1.9	5.5	0	0
29	6.2	5.5	6.3	7.2	7.3	6.0	6.8	5.7	7.2	6.7	6.8	6.3	7.2	5.6	6.5	5.3	5.5	5.5	4.7	6.2	5.5	5.2	6.0	5.9	24	7.3	4.7	6.1	0	0
30	5.2	5.9	6.5	6.7	6.8	5.9	6.2	8.0	8.9	9.4	6.9	8.2	6.8	9.4	9.5	6.6	6.6	4.9	6.1	5.5	7.2	5.8	5.6	5.7	24	9.5	4.9	6.9	0	0
31	5.0	8.8	8.2	4.9	6.0	6.9	6.1	7.9	7.9	5.6	6.6	6.3	5.8	6.5	6.4	5.8	7.0	5.6	7.0	5.8	7.2	7.7	7.3	6.1	24	8.8	4.9	6.6	0	0
Count	29	29	29	29	29	29	29	29	30	30	30	30	30	29	29	30	30	30	30	30	30	30	30	30	710	30	29	30		
Maximum	6.2	8.8	8.2	7.2	7.3	6.9	7.2	12.2	17.2	22.1	22.2	8.5	8.6	9.4	9.5	6.6	7.0	6.0	7.0	6.6	7.2	7.7	7.3	6.1	24	22.2	6.0	9.3		
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	1.7	1.8	1.9	1.9	1.9	1.9	2.1	2.5	2.8	3.0	3.1	2.7	2.5	2.4	2.3	2.1	2.1	1.9	1.9	1.9	2.1	2.0	2.0	1.9	23	4	1	2.2		
#>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
Data	0.0	0.0	1.1	1.4	1.7	1.8	2.3	3.2	5.8	6.7	8.9	22.2

Regs	Acceptable	Desirable	Violations	Maximum
Hour				22.2
Day				6.9
Month				2.2

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

SO_2 - Rundle Road

November 2015

($\mu g/m^3$)

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	6.4	5.7	5.3	6.3	5.8	5.1	6.3	6.4	6.3	5.6	10.4	7.9	6.1	6.1	6.9	5.8	7.6	5.8	6.5	5.9	5.3	7.2	4.8	6.1	24	10.4	4.8	6.3	0	0
2	5.5	7.2	6.1	5.8	5.5	6.1	5.8	6.6	5.6	5.9	6.4	7.8	6.0	6.6	6.8	7.6	7.5	7.7	7.0	6.7	6.1	6.3	5.3	6.3	24	7.8	5.3	6.4	0	0
3	5.9	7.6	7.4	5.7	6.5	6.0	7.4	8.7	6.7	8.2	8.6	8.0	10.2	9.1	9.0	8.0	7.8	7.4	8.3	8.0	8.3	7.9	9.1	6.4	24	10.2	5.7	7.8	0	0
4	8.0	7.6	7.7	7.4	7.7	7.6	8.2	10.0	10.6	7.6	8.2	11.9	20.8	21.5	21.2	21.3	20.3	19.4	19.7	19.2	20.2	20.2	20.6	19.9	24	21.5	7.4	14.4	0	0
5	19.9	20.0	20.7	19.5	20.5	18.9	20.9	21.8	21.6	20.6	21.0	23.5	25.6	33.6	29.9	24.8	23.1	21.5	20.5	20.2	21.2	20.1	19.4	20.3	24	33.6	18.9	22.0	0	0
6	20.2	21.7	22.0	21.7	20.6	21.6	6.7	3.2	3.2	3.2	3.1	3.2	3.2	3.2	3.2	3.0	2.9	2.9	2.8	2.9	2.8	2.8	2.6	2.6	24	22.0	2.6	7.7	0	0
7	2.6	2.7	2.6	2.7	2.7	2.6	2.8	2.6	2.8	2.9	2.9	3.0	2.9	2.6	2.7	1.4	2.2	2.6	2.5	2.7	2.5	2.6	2.6	2.6	24	3.0	1.4	2.6	0	0
8	2.6	2.6	2.6	2.7	2.7	2.7	2.6	2.7	2.6	2.5	2.8	3.0	2.7	2.6	2.6	2.7	2.9	3.6	3.0	3.1	2.8	2.6	2.7	2.7	24	3.6	2.5	2.8	0	0
9	2.7	2.7	2.6	2.7	2.7	2.8	2.8	4.9	5.7	4.7	5.4	6.3	7.1	11.5	11.7	9.2	6.1	4.7	3.1	3.1	2.9	3.0	2.9	3.1	24	11.7	2.6	4.8	0	0
10	2.7	2.8	3.2	3.1	2.9	3.0	3.0	3.4	3.2	3.2	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.9	2.7	2.9	2.7	3.0	3.0	3.0	24	3.4	2.7	3.0	0	0
11	2.8	2.8	2.8	2.9	2.7	2.6	2.4	3.2	3.3	3.1	3.2	3.3	3.3	3.2	3.2	3.1	3.2	2.8	3.0	3.1	3.2	3.2	3.1	3.3	24	3.3	2.4	3.0	0	0
12	3.0	2.8	3.0	3.4	3.2	3.1	3.1	3.2	3.4	3.7	3.2	3.4	3.1	3.3	3.1	3.3	3.2	3.3	3.3	3.6	3.6	3.2	3.3	3.1	24	3.7	2.8	3.3	0	0
13	3.0	3.0	3.1	3.2	3.3	3.2	3.1	3.2	3.1	3.2	3.1	3.2	3.1	3.1	2.7	3.0	3.2	3.1	3.1	3.0	3.2	3.2	3.0	3.2	24	3.3	2.7	3.1	0	0
14	3.5	3.4	3.3	3.2	3.2	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.6	2.5	2.7	2.5	2.9	3.3	24	3.5	2.5	2.8	0	0
15	2.8	2.7	2.7	2.7	2.7	2.7	2.7	3.1	3.4	4.2	4.4	4.7	4.7	6.3	8.8	10.8	10.7	6.1	3.9	3.3	3.2	3.0	2.7	2.7	24	10.8	2.7	4.4	0	0
16	2.6	2.6	2.6	2.6	2.7	2.6	2.7	2.7	2.8	3.4	3.8	5.0	6.1	6.9	4.6	4.6	3.2	3.1	2.6	3.0	3.2	2.9	2.7	2.6	24	6.9	2.6	3.4	0	0
17	3.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.9	2.6	2.6	2.7	2.6	2.5	2.5	2.5	2.6	3.1	2.5	2.7	2.7	2.7	3.1	24	3.1	2.5	2.7	0	0
18	4.3	5.3	4.7	3.2	3.4	3.3	3.2	3.3	3.4	3.2	3.2	3.2	C	C	1.9	2.5	2.5	2.5	2.6	2.4	2.6	2.5	2.6	2.5	22	5.3	1.9	3.1	0	0
19	2.3	2.4	2.6	2.4	2.3	2.3	2.5	2.8	2.5	2.4	2.4	2.5	2.5	2.4	2.9	2.5	2.6	2.4	2.3	2.5	2.5	2.3	2.3	2.3	24	2.9	2.3	2.4	0	0
20	1.7	2.0	2.4	2.9	3.1	2.5	2.9	3.2	3.5	2.9	2.6	2.8	2.5	2.3	1.2	1.8	1.7	1.5	1.7	1.8	1.7	1.6	1.8	1.7	24	3.5	1.2	2.2	0	0
21	1.6	1.8	1.7	1.7	1.6	1.4	2.0	2.0	1.8	1.8	2.1	2.1	2.3	2.6	2.5	2.1	2.2	2.0	1.9	2.3	2.7	2.4	2.0	2.6	24	2.7	1.4	2.1	0	0
22	2.7	2.5	2.5	2.2	2.2	2.2	3.1	3.9	3.7	2.8	2.4	2.1	1.9	1.9	1.7	1.8	1.7	1.7	1.8	1.8	1.6	1.7	1.7	1.6	24	3.9	1.6	2.2	0	0
23	1.6	1.6	1.7	1.8	1.6	1.5	1.5	2.1	2.0	1.8	2.2	3.0	2.0	3.0	4.5	3.1	3.3	2.1	1.9	2.1	2.1	1.7	1.9	1.8	24	4.5	1.5	2.2	0	0
24	1.9	1.9	2.0	1.9	1.9	1.8	1.9	2.3	2.8	3.3	3.7	3.7	3.3	3.7	3.3	2.6	2.4	1.8	2.0	2.1	1.9	2.0	3.3	2.6	24	3.7	1.8	2.5	0	0
25	3.3	2.3	1.9	2.0	1.7	1.3	1.4	1.8	1.5	1.4	1.2	1.5	1.4	1.8	2.0	2.7	1.9	1.6	1.7	1.8	1.6	2.1	2.0	2.0	24	3.3	1.2	1.8	0	0
26	2.0	1.3	1.8	2.1	3.4	4.3	3.7	2.1	2.7	2.0	1.7	2.5	2.4	1.9	1.9	1.4	1.6	1.8	1.8	1.8	2.1	2.1	1.9	1.8	24	4.3	1.3	2.2	0	0
27	1.9	1.9	1.9	1.9	1.9	1.9	2.1	1.8	1.9	1.9	1.9	1.9	1.8	1.7	1.8	1.9	1.8	1.8	1.9	1.3	1.3	1.4	1.3	1.3	24	2.1	1.3	1.8	0	0
28	1.3	1.3	1.2	1.2	1.3	1.2	1.3	1.2	1.4	1.3	1.6	1.2	1.5	1.5	1.2	1.5	1.5	1.4	1.5	1.4	1.5	1.5	1.4	1.6	24	1.6	1.2	1.4	0	0
29	1.4	0.8	1.6	1.4	1.4	1.3	1.4	1.5	1.6	1.5	1.5	1.7	1.4	1.8	2.0	2.3	2.8	2.2	1.5	2.7	3.1	2.0	1.7	1.6	24	3.1	0.8	1.8	0	0
30	1.5	1.3	1.2	1.2	1.1	1.4	1.4	1.5	1.5	1.4	1.2	1.6	1.7	1.8	1.8	1.8	1.7	1.7	1.3	1.3	1.4	1.8	1.5	1.5	24	1.8	1.1	1.5	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	20.2	21.7	22.0	21.7	20.6	21.6	20.9	21.8	21.6	20.6	21.0	23.5	25.6	33.6	29.9	24.8	23.1	21.5	20.5	20.2	21.2	20.2	20.6	20.3	24	33.6	20.2	22.4		
Minimum	1.3	0.8	1.2	1.2	1.1	1.2	1.3	1.2	1.4	1.3	1.2	1.2	1.4	1.5	1.2	1.4	1.5	1.4	1.3	1.3	1.3	1.4	1.3	1.3	0	0.0	0.8			
Average	4.1	4.2	4.2	4.1	4.2	4.1	3.8	4.0	4.0	3.8	4.1	4.4	4.8	5.3	5.1	4.8	4.7	4.2	4.1	4.0	4.1	4.1	4.0	4.0	23	7	3	4.3		
#>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
Data	1.6	1.9	2.3	2.6	2.7	3.0	3.2	4.8	7.7	19.7	21.8	33.6

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				33.6
	Day				22.0
	Month				4.3

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

SO_2 - Rundle Road

December 2015

($\mu g/m^3$)

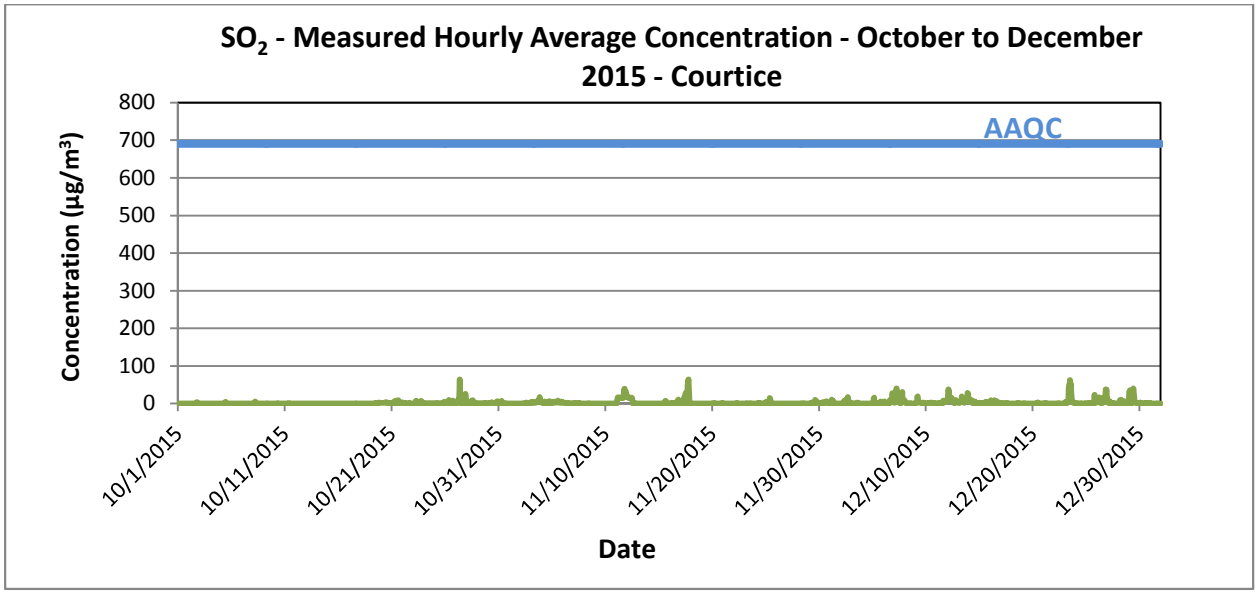
Day	Hour 0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>690	Days>275
1	1.7	1.3	1.7	1.7	1.9	1.6	1.7	1.8	1.8	1.4	1.7	3.1	2.6	1.9	1.9	1.9	1.9	2.1	2.0	1.8	1.8	2.2	1.9	2.0	24	3.1	1.3	1.9	0	0
2	1.9	2.0	2.0	2.0	2.1	1.9	1.9	2.0	2.5	2.6	2.5	2.5	2.2	2.3	2.4	2.3	2.0	1.8	1.5	1.6	1.5	1.4	1.7	1.5	24	2.6	1.4	2.0	0	0
3	1.5	1.4	1.7	1.5	1.6	1.6	1.5	1.5	1.6	1.7	1.8	1.8	1.9	2.5	2.4	3.0	1.7	1.7	1.5	1.6	1.2	1.1	1.1	1.4	24	3.0	1.1	1.7	0	0
4	1.1	1.4	1.3	1.5	1.7	1.7	1.6	1.5	1.3	1.4	1.8	1.9	1.8	1.5	1.0	1.2	1.5	1.1	1.1	1.2	1.1	1.2	1.1	1.0	24	1.9	1.0	1.4	0	0
5	1.1	1.1	1.2	1.1	1.1	1.3	1.8	2.0	2.3	1.9	2.5	2.2	1.9	2.3	2.3	2.2	2.0	2.0	1.9	1.7	1.7	2.2	1.7	2.3	24	2.5	1.1	1.8	0	0
6	3.2	3.1	3.7	2.6	3.2	3.5	2.6	2.2	2.3	1.9	2.1	2.3	3.4	4.1	2.6	2.3	2.6	2.3	1.9	1.7	1.8	1.9	1.8	1.9	24	4.1	1.7	2.5	0	0
7	2.3	2.4	1.9	2.0	2.0	2.1	2.5	2.5	4.0	3.1	2.8	3.0	2.9	3.0	3.1	2.7	2.9	2.5	2.4	2.5	2.5	3.0	3.1	2.6	24	4.0	1.9	2.7	0	0
8	2.7	2.5	2.6	2.6	2.5	2.6	2.5	2.6	2.6	2.5	2.5	2.4	2.6	2.6	2.7	2.6	2.3	2.1	2.1	1.9	2.3	2.0	2.4	2.6	24	2.7	1.9	2.4	0	0
9	2.3	2.5	2.6	2.5	2.6	2.5	2.1	3.0	3.2	3.8	3.4	3.7	3.8	4.1	4.1	3.3	3.0	2.8	3.7	3.4	2.9	2.7	2.5	2.6	24	4.1	2.1	3.0	0	0
10	2.6	2.5	2.7	2.3	2.6	2.5	2.4	2.6	2.6	2.7	2.9	3.5	3.6	3.3	3.0	3.2	2.7	2.8	2.7	2.9	2.7	2.6	3.0	2.9	24	3.6	2.3	2.8	0	0
11	2.6	2.5	3.0	2.6	2.8	2.6	2.4	2.7	2.8	3.0	3.1	3.2	3.1	3.2	3.1	C	C	C	5.1	4.7	4.0	3.6	3.2	1.9	21	5.1	1.9	3.1	0	0
12	2.3	2.2	2.1	2.0	1.8	1.8	1.6	1.3	1.2	1.0	0.7	0.5	0.3	0.2	0.2	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	24	2.3	0.0	0.8	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	0.0	0.0	0.0	24	0.0	0.0	0.0	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	A	A	1.1	1.5	1.1	1.1	1.6	1.1	1.0	0.9	0.6	1.1	22	1.6	0.0	0.5	0	0
15	1.2	1.6	1.2	0.9	1.3	1.0	0.9	1.0	1.0	0.6	0.7	0.5	0.7	2.5	4.3	2.0	1.9	0.7	0.3	0.2	0.3	0.0	0.0	0.0	24	4.3	0.0	1.0	0	0
16	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	4.4	3.9	1.4	1.6	2.1	4.8	24	4.8	0.0	0.8	0	0
17	4.0	3.8	2.5	1.1	0.9	0.6	0.4	0.8	1.2	0.5	0.9	0.9	1.3	1.2	1.1	1.1	0.6	0.4	0.3	0.3	0.3	0.3	0.0	0.0	24	4.0	0.0	1.0	0	0
18	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	1.6	1.8	1.9	1.9	1.8	1.5	1.1	0.7	0.9	0.8	0.6	24	1.9	0.0	0.6	0	0
19	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.6	0.6	0.9	0.5	0.6	0.0	0.4	0.5	0.4	0.2	0.4	0.4	0.0	0.2	0.3	0.0	0.0	24	0.9	0.0	0.4	0	0
20	0.1	0.2	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.2	0.5	2.2	3.5	1.2	1.3	1.1	0.8	0.6	1.1	0.7	1.3	1.1	1.3	1.6	24	3.5	0.0	0.8	0	0
21	1.4	1.3	1.3	1.5	1.1	1.1	1.3	1.5	1.2	1.4	0.9	0.9	0.8	0.8	0.8	0.5	0.4	0.6	0.3	0.6	0.6	0.9	1.1	0.7	24	1.5	0.3	1.0	0	0
22	0.7	0.5	0.7	0.6	0.7	1.2	0.7	0.6	1.0	1.0	1.4	1.2	1.1	1.0	1.2	1.1	1.0	0.8	1.1	0.6	1.3	1.2	0.8	0.8	24	1.4	0.5	0.9	0	0
23	0.8	1.0	1.0	1.2	0.6	0.8	0.5	0.5	0.5	0.5	0.8	0.9	0.9	1.1	0.9	1.1	0.9	0.8	0.7	1.0	1.6	6.6	5.9	14.0	24	14.0	0.5	1.9	0	0
24	3.1	2.0	2.1	1.5	1.5	1.4	1.0	1.2	1.2	1.2	1.9	1.4	1.7	1.3	1.1	1.4	0.9	1.0	1.2	0.6	0.8	0.5	0.5	1.8	24	3.1	0.5	1.3	0	0
25	1.8	1.8	0.9	0.9	0.9	0.6	1.6	1.3	1.1	1.0	1.8	2.0	1.9	1.4	1.3	1.4	0.4	0.5	0.4	0.3	0.0	0.2	0.1	0.0	24	2.0	0.0	1.0	0	0
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	1.1	1.2	1.6	1.2	1.1	2.5	2.7	1.6	1.0	0.8	0.4	24	2.7	0.0	0.7	0	0
27	0.2	0.0	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.2	0.0	0.3	0.4	0.6	0.4	0.4	0.2	0.2	0.3	0.1	0.0	0.0	0.2	0.3	24	0.6	0.0	0.3	0	0
28	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.3	24	0.3	0.0	0.0	0	0
29	0.6	0.5	0.3	0.3	0.5	0.3	0.6	0.6	0.3	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.2	0.5	0.3	0.4	0.3	24	0.6	0.2	0.4	0	0
30	0.2	0.4	0.0	0.2	0.4	0.4	0.3	0.4	0.4	0.6	1.0	1.1	1.1	0.9	1.3	1.1	1.0	0.5	0.4	0.7	0.5	0.5	0.6	0.9	24	1.3	0.0	0.6	0	0
31	0.6	1.2	1.0	1.1	0.5	0.7	1.0	0.4	0.6	0.7	0.6	0.8	0.8	0.5	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.1	24	1.2	0.1	0.6	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	30	31	31	31	31	31	31	739	31	30	31		
Maximum	4.0	3.8	3.7	2.6	3.2	3.5	2.6	3.0	4.0	3.8	3.4	3.7	3.8	4.1	4.3	3.3	3.0	2.8	5.1	4.7	4.0	6.6	5.9	14.0	24	14.0	2.6	4.3		
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	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.4	1.5	1.6	1.5	1.4	1.2	1.1	1.4	1.3	1.2	1.3	1.3	1.6	24	3	1	1.3		
#>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
Data	0.0	0.2	0.5	0.8	1.1	1.4	1.8	2.3	2.7	3.2	4.2	14.0

Regs	Acceptable	Desirable	Violations	Maximum
Hour				14.0
Day				3.1
Month				1.3

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

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



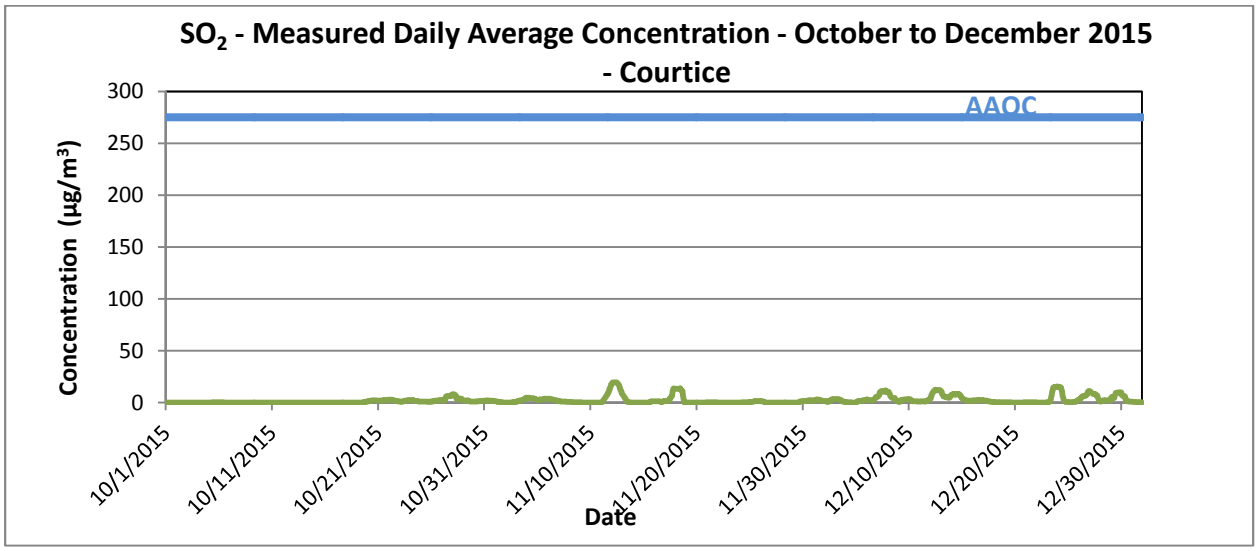
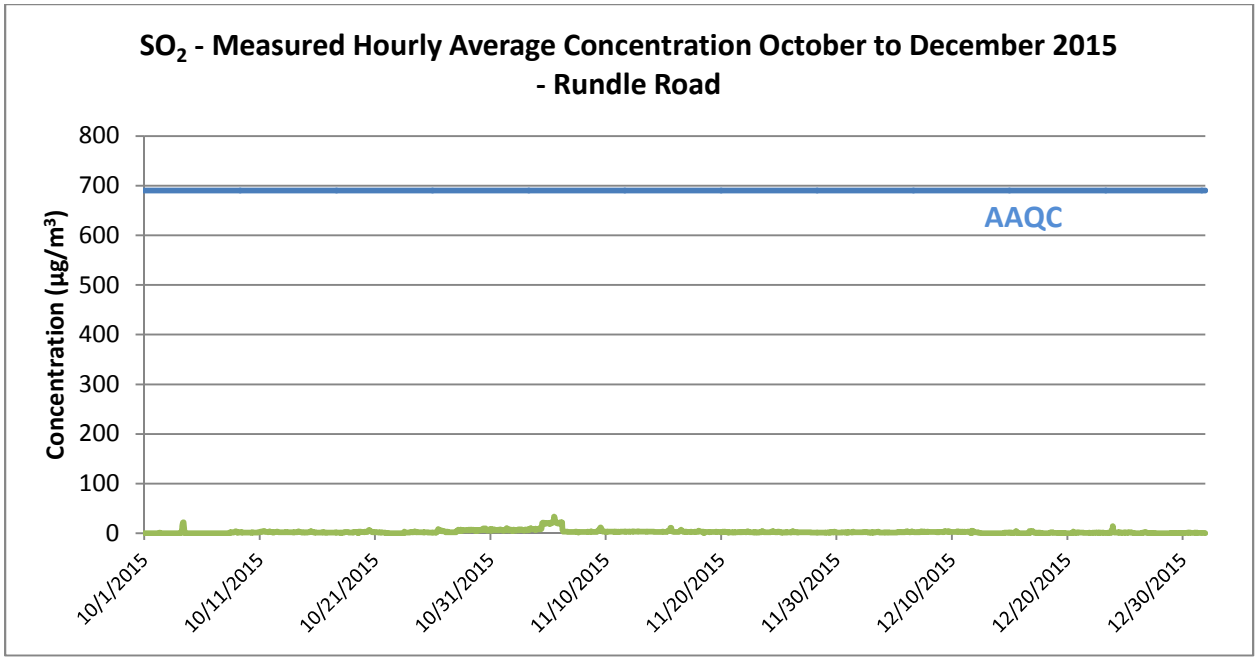
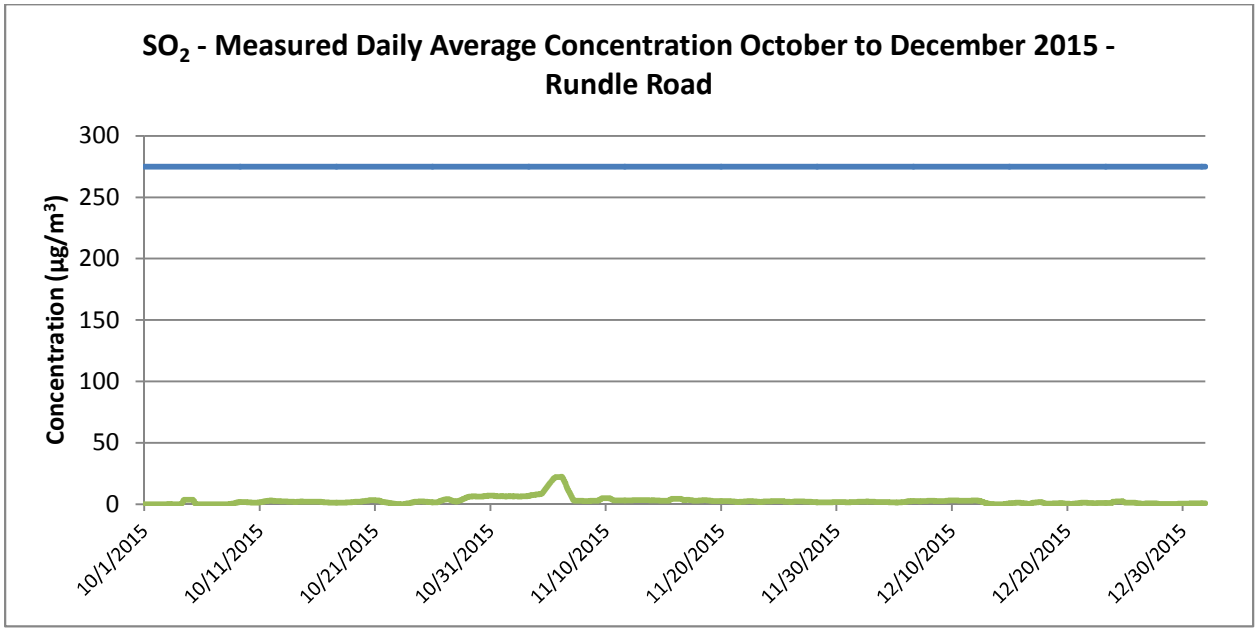


Figure A-2 Time History Plots of Measured Hourly Average and 24-Hour Average SO_2 Concentrations– Rundle Road Station





Appendix B NO_2 DATA SUMMARIES AND TIME HISTORY PLOTS

NO_2 - COURTICE
October 2015
(µg/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	5.7	0.1	4.4	5.4	5.9	7.2	11.9	7.5	5.2	5.2	3.8	3.9	3.6	3.9	5.5	5.2	6.3	11.3	19.8	16.1	14.8	9.5	5.4	4.7	24	19.8	0.1	7.2	0	0
2	6.3	4.1	4.6	5.6	6.2	7.5	6.6	5.6	4.7	5.7	4.4	4.6	4.1	5.8	4.5	5.2	5.3	7.4	17.3	11.2	8.7	5.8	5.5	6.1	24	17.3	4.1	6.4	0	0
3	3.9	4.0	4.0	4.0	4.4	4.5	5.3	5.3	3.7	5.1	4.8	5.2	3.1	3.6	3.5	6.6	6.1	5.9	5.4	6.2	5.9	5.9	5.0	4.5	24	6.6	3.1	4.8	0	0
4	6.3	5.0	5.4	4.9	6.0	2.3	2.1	2.4	2.4	2.0	1.9	2.3	2.5	2.4	3.2	3.8	3.2	15.4	14.8	4.1	18.5	26.4	25.6	19.6	24	26.4	1.9	7.6	0	0
5	14.5	12.2	15.5	13.0	17.1	15.7	21.3	15.5	12.4	10.8	19.2	18.5	6.5	8.9	13.3	5.6	4.1	4.3	5.4	22.9	43.7	22.1	12.7	13.7	24	43.7	4.1	14.5	0	0
6	16.0	22.6	20.2	14.8	17.4	24.3	23.2	21.0	12.6	6.5	7.1	9.8	13.7	9.8	8.5	9.1	11.2	12.4	8.5	8.5	13.1	29.8	39.2	38.2	24	39.2	6.5	16.6	0	0
7	31.6	24.3	21.1	23.1	24.2	23.4	25.1	26.7	25.2	20.0	28.4	32.0	27.6	20.1	17.3	17.1	12.5	14.5	14.0	18.7	21.8	37.9	28.3	17.3	24	37.9	12.5	23.0	0	0
8	10.7	9.5	16.2	16.6	14.8	20.7	22.4	17.2	15.9	6.4	3.1	2.8	2.3	1.9	1.8	2.3	2.6	5.0	3.6	2.0	2.0	2.4	2.3	3.1	24	22.4	1.8	7.8	0	0
9	24.8	27.7	18.0	30.8	25.7	22.0	28.1	27.6	28.3	24.6	22.4	15.2	6.6	5.9	5.6	5.6	6.8	7.8	13.1	22.2	39.8	39.7	34.2	26.8	24	39.8	5.6	21.2	0	0
10	22.7	14.7	8.2	8.6	6.8	10.2	12.7	9.9	6.8	4.4	2.3	1.4	1.3	1.1	1.2	1.5	2.0	2.3	2.5	2.8	2.5	3.4	3.8	3.1	24	22.7	1.1	5.7	0	0
11	3.1	3.8	4.6	6.8	6.5	5.9	7.0	6.6	5.7	7.1	4.9	3.2	2.9	2.8	2.9	2.7	2.5	2.8	2.9	2.9	4.9	5.7	3.3	4.0	24	7.1	2.5	4.4	0	0
12	6.4	4.1	4.8	4.0	3.9	3.9	4.2	3.9	4.3	4.1	3.3	3.5	4.7	3.9	3.3	3.1	4.2	3.6	22.6	11.4	18.6	4.7	4.2	8.8	24	22.6	3.1	6.0	0	0
13	6.5	4.6	4.2	4.1	4.5	4.2	4.1	8.6	11.1	8.4	6.2	4.3	3.2	4.0	4.1	5.1	6.4	7.9	10.0	10.4	8.4	6.2	8.3	5.6	24	11.1	3.2	6.3	0	0
14	3.5	3.8	6.0	4.1	3.9	6.3	8.1	13.2	7.4	5.7	4.4	4.4	4.4	5.4	5.0	6.5	9.4	9.8	12.2	26.0	23.6	15.1	27.3	39.8	24	39.8	3.5	10.6	0	0
15	38.8	33.1	27.2	37.9	45.1	23.0	12.4	12.3	9.6	14.8	16.0	11.5	8.7	6.9	4.8	5.0	17.5	11.3	13.3	14.1	9.4	11.1	19.4	18.9	24	45.1	4.8	17.6	0	0
16	21.6	7.6	13.6	10.5	26.5	37.4	32.5	24.6	13.2	8.1	13.4	17.9	18.3	10.7	6.5	6.9	6.0	8.0	9.1	12.5	14.2	12.4	4.4	7.8	24	37.4	4.4	14.3	0	0
17	6.9	5.1	4.3	5.3	2.9	5.0	15.6	21.8	7.5	2.7	2.5	2.5	3.3	2.5	2.6	3.7	5.0	6.3	11.0	16.4	19.9	19.1	21.1	23.6	24	23.6	2.5	9.0	0	0
18	13.2	9.8	13.4	19.3	13.4	13.8	10.1	11.2	6.1	2.8	2.2	2.9	2.9	2.7	3.7	5.5	6.7	7.4	28.3	28.1	30.7	39.1	38.4	26.8	24	39.1	2.2	14.1	0	0
19	28.9	25.5	22.5	26.0	32.8	33.0	35.6	36.2	27.3	7.9	C	C	C	C	2.9	3.0	3.8	4.3	3.8	4.0	4.8	5.8	5.9	30.3	20	36.2	2.9	17.2	0	0
20	5.7	5.3	5.8	6.0	5.7	7.1	8.5	9.3	18.1	22.6	20.7	21.7	25.6	32.4	21.8	15.2	20.1	38.3	28.5	29.5	40.6	27.8	27.5	29.9	24	40.6	5.3	19.7	0	0
21	32.0	28.1	31.6	19.9	23.9	21.3	20.7	21.6	21.0	17.1	10.7	9.3	8.5	9.3	18.4	20.9	11.6	15.6	13.1	9.5	10.8	11.5	11.6	36.3	24	36.3	8.5	18.1	0	0
22	14.2	11.9	8.1	5.3	7.4	16.6	40.6	22.9	13.8	6.6	5.9	5.6	4.6	4.8	5.4	6.4	9.4	10.3	9.3	23.6	17.5	18.0	C	C	22	40.6	4.6	12.2	0	0
23	6.5	6.5	10.9	38.5	44.4	31.1	47.0	43.1	9.1	6.0	6.7	5.3	3.8	2.8	0.9	1.1	1.7	20.5	38.4	40.9	31.9	34.3	18.7	1.3	24	47.0	0.9	18.8	0	0
24	1.3	2.3	2.0	3.9	4.0	5.7	8.3	4.8	3.7	4.1	4.5	6.7	9.3	7.3	9.1	10.0	10.4	6.9	13.9	10.1	9.3	5.8	4.7	3.5	24	13.9	1.3	6.3	0	0
25	4.3	5.4	2.9	3.1	3.5	4.0	3.8	4.4	4.3	2.9	2.4	2.6	2.6	2.4	3.6	2.5	3.2	6.7	10.8	11.4	14.7	13.9	23.4	14.6	24	23.4	2.4	6.4	0	0
26	10.5	16.9	16.5	24.5	23.8	24.6	28.5	20.1	23.0	16.2	6.8	2.1	0.5	0.5	0.4	0.6	1.3	1.6	32.4	40.3	35.8	38.5	34.1	27.8	24	40.3	0.4	17.8	0	0
27	28.3	32.3	25.9	29.3	26.6	32.3	30.2	29.5	20.9	22.1	13.4	4.8	5.0	4.0	5.2	6.9	12.3	23.4	17.7	25.9	30.2	29.4	37.3	15.7	24	37.3	4.0	21.2	0	0
28	11.6	6.7	8.5	10.0	12.0	11.9	11.3	8.1	4.9	7.3	10.0	7.5	19.0	12.6	11.4	23.1	8.3	11.7	8.9	7.5	5.2	6.1	4.2	4.6	24	23.1	4.2	9.7	0	0
29	4.1	3.4	4.5	4.9	4.0	2.8	2.8	2.5	2.6	2.7	2.4	2.1	2.1	3.2	3.3	4.5	5.3	5.9	7.3	8.9	8.7	9.2	8.9	10.1	24	10.1	2.1	4.8	0	0
30	8.2	2.3	2.6	6.8	15.2	23.5	16.3	12.2	7.8	4.7	5.6	3.8	3.7	3.1	3.8	6.1	8.1	14.9	45.5	36.2	40.2	40.7	29.5	35.0	24	45.5	2.3	15.7	0	0
31	29.7	25.4	25.6	19.2	19.8	23.5	16.8	21.1	21.8	18.2	8.6	6.7	4.6	3.8	4.3	4.1	4.1	5.0	8.0	3.9	3.6	3.9	3.4	3.8	24	29.7	3.4	12.0	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	30	30	738	31	30	31		
Maximum	38.8	33.1	31.6	38.5	45.1	37.4	47.0	43.1	28.3	24.6	28.4	32.0	27.6	32.4	21.8	23.1	20.1	38.3	45.5	40.9	43.7	40.7	39.2	39.8	24	47.0	20.1	35.1		
Minimum	1.3	0.1	2.0	3.1	2.9	2.3	2.1	2.4	2.4	2.0	1.9	1.4	0.5	0.5	0.4	0.6	1.3	1.6	2.5	2.0	2.0	2.4	2.3	1.3	20	6.6	0.1	1.7		
Average	13.8	11.9	11.7	13.4	14.8	15.3	16.9	15.4	11.6	9.1	8.3	7.5	7.0	6.3	6.1	6.6	7.0	9.9	14.6	15.8	17.9	17.5	16.6	16.2	24	30	4	12.2		
#>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							
Data		2.9		4.0		4.9		6.0		7.9		10.8		15.1		21.1		28.1		33.3		40.7		47.0							

Regs	Acceptable	Desirable	Violations	Maximum
Hour				47.0
Day				23.0
Month				12.2

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

NO_2 - COURTICE
November 2015
(µg/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	3.7	4.2	6.9	5.5	3.1	3.1	3.6	4.1	4.6	3.2	3.2	3.2	3.1	4.2	3.9	4.1	5.8	5.6	9.0	10.0	12.9	26.1	22.0	11.8	24	26.1	3.1	7.0	0	0
2	15.9	17.0	24.9	35.0	36.3	36.1	34.0	31.6	22.7	19.8	28.3	21.9	29.6	31.7	21.9	14.5	14.2	17.6	15.6	7.7	8.3	14.4	22.5	17.3	24	36.3	7.7	22.5	0	0
3	29.2	21.4	27.9	30.8	40.0	45.6	42.5	39.6	39.4	36.4	25.0	18.1	20.5	21.4	20.1	23.4	26.9	66.0	74.3	65.0	60.3	60.1	49.2	47.9	24	74.3	18.1	38.8	0	0
4	49.4	40.8	37.7	29.2	21.4	22.9	34.3	35.9	30.8	16.0	16.3	11.7	10.0	10.8	13.0	10.2	10.2	22.9	60.3	61.1	47.3	40.7	42.1	39.1	24	61.1	10.0	29.8	0	0
5	37.7	37.8	39.5	36.3	35.8	38.2	41.6	43.8	47.9	46.5	40.3	27.6	25.6	15.6	16.1	17.6	23.4	24.1	22.3	54.9	60.5	55.3	54.4	54.6	24	60.5	15.6	37.4	0	0
6	51.7	43.4	35.5	18.7	11.6	9.8	7.8	5.9	6.2	5.5	5.0	5.0	6.6	7.7	5.7	8.1	10.7	9.7	11.6	12.0	10.0	9.3	11.1	4.6	24	51.7	4.6	13.1	0	0
7	5.9	7.9	5.5	8.0	12.3	22.9	22.2	21.3	18.0	12.4	9.2	5.6	4.3	3.7	8.6	5.2	7.1	8.2	12.1	20.0	33.3	17.9	7.7	10.9	24	33.3	3.7	12.1	0	0
8	17.8	16.3	17.6	16.5	17.0	15.6	22.1	22.4	12.2	6.5	4.1	2.8	2.4	3.3	4.5	3.8	3.0	4.2	2.9	3.1	10.3	41.8	40.3	40.6	24	41.8	2.4	13.8	0	0
9	36.7	28.7	31.3	29.1	34.6	45.8	43.8	43.3	40.3	39.4	40.6	32.6	27.8	22.4	18.2	11.3	9.6	60.9	63.8	61.7	55.4	52.7	45.0	41.9	24	63.8	9.6	38.2	0	0
10	41.6	41.8	29.4	26.5	21.7	20.6	29.3	38.2	26.2	26.8	35.1	36.9	21.5	25.9	25.4	17.9	22.6	25.6	19.8	22.2	17.8	15.0	20.3	14.1	24	41.8	14.1	25.9	0	0
11	18.3	24.3	24.8	30.1	20.5	21.9	27.5	32.5	28.2	24.6	21.5	30.6	27.9	23.4	23.9	28.0	13.4	17.6	57.6	48.1	41.1	45.8	50.1	41.1	24	57.6	13.4	30.1	0	0
12	44.1	36.7	20.2	6.7	6.5	6.2	5.0	4.5	5.6	6.0	4.7	5.2	5.1	5.5	6.1	7.2	6.9	6.2	4.7	6.4	7.5	7.3	6.6	5.7	24	44.1	4.5	9.4	0	0
13	5.0	4.8	3.9	5.2	5.9	5.2	6.2	7.5	8.1	6.9	6.8	5.0	4.1	4.8	5.9	6.2	6.9	8.6	11.0	12.0	9.2	5.6	3.9	4.1	24	12.0	3.9	6.4	0	0
14	5.0	4.1	2.9	5.7	6.7	2.8	4.1	6.3	6.9	5.6	3.0	2.8	3.4	2.2	3.2	3.9	8.6	23.6	25.2	9.7	9.1	9.7	7.1	8.8	24	25.2	2.2	7.1	0	0
15	13.5	32.6	22.7	15.9	21.8	21.5	27.3	35.1	28.9	16.7	12.1	12.7	11.2	13.2	14.9	16.0	17.6	28.2	58.7	49.0	40.5	37.5	48.0	40.7	24	58.7	11.2	26.5	0	0
16	36.5	35.0	27.4	25.7	24.0	32.1	35.4	30.6	22.1	19.5	14.2	8.2	7.1	4.7	4.6	5.6	10.3	35.3	42.7	51.1	39.1	33.4	30.6	30.6	24	51.1	4.6	25.2	0	0
17	24.8	19.4	15.6	12.3	15.1	12.4	18.9	14.2	19.1	24.0	12.5	7.8	23.7	21.2	14.8	4.2	15.3	48.8	49.8	52.8	38.3	6.1	7.2	7.9	24	52.8	4.2	20.2	0	0
18	7.8	8.2	10.1	11.2	17.0	12.4	10.4	10.6	10.0	C	C	12.8	7.6	8.2	10.0	10.2	10.6	15.5	15.9	14.5	7.6	8.6	6.1	7.5	22	17.0	6.1	10.6	0	0
19	7.1	8.2	5.3	7.2	3.3	3.3	3.8	5.4	6.3	3.9	2.6	2.8	2.6	2.0	2.2	2.4	3.2	3.9	4.9	8.0	8.4	4.9	4.7	7.8	24	8.4	2.0	4.8	0	0
20	12.0	8.9	4.9	4.7	6.0	4.9	5.6	6.2	6.8	6.3	4.0	5.6	5.0	4.5	8.0	7.7	11.7	19.8	38.7	40.9	56.2	54.1	43.1	44.2	24	56.2	4.0	17.1	0	0
21	32.1	29.5	29.0	30.5	28.3	26.5	24.1	8.1	9.0	9.2	7.4	5.9	8.0	7.8	11.3	7.6	7.9	7.6	6.0	5.0	4.4	5.1	5.1	4.7	24	32.1	4.4	13.3	0	0
22	4.1	3.7	5.5	4.9	5.0	5.4	6.9	8.9	8.0	5.9	2.8	2.6	3.2	5.1	11.0	9.2	7.3	17.8	15.9	24.8	44.8	54.1	23.6	27.4	24	54.1	2.6	12.8	0	0
23	45.9	39.4	39.4	43.4	50.8	49.3	49.0	50.1	43.6	26.2	16.6	24.4	25.3	7.4	5.0	6.7	7.9	3.2	3.9	3.0	3.2	3.4	4.3	15.6	24	50.8	3.0	23.6	0	0
24	27.7	50.0	48.6	44.0	51.6	57.4	57.1	53.7	48.4	43.9	43.6	43.2	43.9	41.7	41.3	33.5	25.2	55.7	61.0	53.6	36.1	42.1	41.4	39.8	24	61.0	25.2	45.2	0	0
25	37.6	41.8	40.5	42.1	37.1	35.0	38.8	39.2	34.2	31.6	31.1	17.4	11.2	10.3	12.3	15.3	14.9	21.5	16.9	12.0	9.6	8.6	7.5	8.0	24	42.1	7.5	23.9	0	0
26	8.9	9.2	9.7	12.4	23.4	14.2	10.8	11.2	18.2	9.6	9.7	8.7	8.6	7.6	5.7	5.7	6.0	7.0	7.1	6.5	4.8	4.5	5.8	4.6	24	23.4	4.5	9.2	0	0
27	3.8	4.1	3.9	3.7	5.0	3.0	2.7	3.4	2.9	3.7	3.8	4.3	6.1	5.5	5.1	12.4	8.7	7.5	6.4	7.9	6.6	7.2	6.9	5.9	24	12.4	2.7	5.4	0	0
28	7.3	5.6	6.8	8.0	5.2	5.1	6.9	8.9	11.6	6.7	5.8	4.2	3.6	3.8	3.7	4.0	6.4	28.8	37.7	32.8	35.8	37.1	32.6	41.1	24	41.1	3.6	14.6	0	0
29	45.5	46.2	40.7	33.2	28.5	27.7	21.7	24.2	16.1	18.3	20.8	24.0	7.0	7.7	9.8	9.4	13.8	20.6	15.9	15.7	13.2	10.1	14.1	10.3	24	46.2	7.0	20.6	0	0
30	11.2	10.4	14.9	12.2	15.7	14.3	16.1	20.7	20.2	24.5	25.3	23.0	23.5	12.5	16.4	13.8	22.5	28.9	23.6	20.0	22.7	21.9	23.8	18.7	24	28.9	10.4	19.0	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	30	29	29	30	30	30	30	30	30	30	30	30	30	30	30	30	718	30	29	30		
Maximum	51.7	50.0	48.6	44.0	51.6	57.4	57.1	53.7	48.4	46.5	43.6	43.2	43.9	41.7	41.3	33.5	26.9	66.0	74.3	65.0	60.5	60.1	54.4	54.6	24	74.3	26.9	50.7		
Minimum	3.7	3.7	2.9	3.7	3.1	2.8	2.7	3.4	2.9	3.2	2.6	2.6	2.4	2.0	2.2	2.4	3.0	3.2	2.9	3.0	3.2	3.4	3.9	4.1	0	0.0	2.0			
Average	22.9	22.7	21.1	19.8	20.4	20.7	22.0	22.3	20.1	17.4	15.7	13.9	13.0	11.5	11.8	10.8	12.0	21.7	26.5	26.4	25.1	24.7	22.9	21.9	23	41	7	19.5		
#>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
Data	4.2	5.7	7.5	9.8	14.2	20.1	25.3	35.0	43.2	49.9	60.8	74.3

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					74.3
Day					45.2
Month					19.5

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down

NO_2 - COURTICE

December 2015

(µg/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	13.7	13.5	13.2	16.8	13.6	28.8	25.5	27.9	30.9	18.2	17.1	6.0	7.9	8.3	9.2	10.6	15.0	23.1	15.4	12.5	9.5	13.7	12.5	12.5	24	30.9	6.0	15.6	0	0
2	9.4	22.8	29.3	20.5	26.8	28.3	24.8	30.1	36.8	37.8	33.8	22.8	13.3	13.6	10.5	13.9	20.7	33.7	33.8	16.2	31.6	19.8	31.4	41.5	24	41.5	9.4	25.1	0	0
3	35.7	22.1	21.6	22.6	23.0	23.5	19.2	23.3	25.7	25.5	12.6	9.1	8.9	7.5	8.3	9.0	11.9	12.8	9.9	14.6	13.6	11.6	9.2	9.2	24	35.7	7.5	16.3	0	0
4	7.3	6.6	4.3	5.6	7.6	6.4	11.1	12.2	14.3	13.1	15.8	14.0	12.0	12.6	10.9	10.7	15.5	11.6	18.0	15.3	18.4	19.4	14.1	17.4	24	19.4	4.3	12.3	0	0
5	18.2	10.9	12.9	23.1	31.8	15.1	20.4	15.2	14.6	22.0	30.1	24.4	20.6	21.8	20.9	15.4	19.5	18.2	17.6	23.1	7.9	10.5	9.5	12.5	24	31.8	7.9	18.2	0	0
6	13.1	9.5	9.2	8.2	12.4	12.0	15.7	16.7	20.0	11.2	8.1	8.9	11.3	11.0	7.5	10.6	14.1	14.8	28.4	31.2	30.4	30.0	29.5	40.4	24	40.4	7.5	16.8	0	0
7	45.3	44.4	40.6	38.0	36.4	37.8	38.4	39.8	40.3	39.8	44.3	39.8	43.6	42.3	37.4	42.3	26.2	19.9	24.0	55.5	46.8	48.5	42.8	38.4	24	55.5	19.9	39.7	0	0
8	36.6	37.2	43.2	41.1	41.0	13.6	12.6	7.4	7.6	7.4	5.7	5.6	5.1	5.7	5.4	6.8	6.8	6.2	6.2	6.7	9.8	9.9	10.2	14.0	24	43.2	5.1	14.7	0	0
9	13.3	15.0	14.4	14.3	15.2	16.7	41.3	43.4	42.4	23.2	10.2	10.1	15.6	18.8	23.0	22.0	19.2	9.1	10.4	10.9	9.2	8.2	6.4	6.7	24	43.4	6.4	17.5	0	0
10	7.0	8.1	15.9	19.5	12.4	11.0	11.3	9.1	8.4	7.9	11.1	11.3	11.9	14.9	16.5	25.8	23.8	15.7	11.2	8.8	7.9	9.4	8.3	8.0	24	25.8	7.0	12.3	0	0
11	7.3	7.0	6.7	6.3	5.9	6.1	5.0	5.3	5.5	4.9	4.7	4.5	3.3	C	C	C	22.2	21.0	24.4	26.7	27.0	25.1	34.9	35.4	21	35.4	3.3	13.8	0	0
12	33.3	35.5	32.1	27.9	26.3	27.3	23.9	22.4	20.6	21.5	23.5	22.1	20.5	17.4	20.2	20.1	NA	25.4	24.6	22.7	22.3	23.2	20.9	19.3	23	35.5	17.4	24.0	0	0
13	18.7	16.2	14.3	13.5	17.5	16.0	16.4	18.7	22.4	27.0	14.5	15.8	20.1	15.5	13.9	22.3	19.6	23.0	19.2	25.8	25.3	22.8	31.2	29.3	24	31.2	13.5	20.0	0	0
14	28.2	24.1	22.3	24.3	22.5	25.2	25.8	28.9	28.5	27.1	A	A	11.9	15.6	14.9	16.3	17.8	14.6	8.7	4.5	9.5	10.6	3.8	6.5	22	28.9	3.8	17.8	0	0
15	5.1	4.3	5.6	4.7	6.1	6.1	6.4	9.7	14.3	14.2	6.3	4.8	4.2	5.1	5.8	5.9	8.8	8.9	6.9	6.9	5.9	5.0	6.2	8.5	24	14.3	4.2	6.9	0	0
16	11.0	5.5	5.4	4.3	5.6	10.3	13.9	11.8	12.6	16.2	21.2	12.7	5.1	9.4	4.2	9.1	29.9	15.8	2.4	3.0	3.1	3.7	4.6	7.0	24	29.9	2.4	9.5	0	0
17	7.5	9.2	9.1	7.1	7.2	21.7	13.1	15.2	10.5	9.0	7.6	7.7	7.1	13.0	13.5	10.5	16.9	30.4	26.5	16.6	15.7	13.4	8.3	7.9	24	30.4	7.1	12.7	0	0
18	6.8	5.2	6.4	8.2	4.5	7.0	12.6	9.2	12.6	14.7	13.4	12.1	6.8	9.9	11.8	18.5	19.1	16.1	19.9	16.9	14.1	14.9	6.3	9.5	24	19.9	4.5	11.5	0	0
19	9.8	8.7	6.1	7.5	6.0	7.1	9.1	7.3	8.1	7.1	6.7	5.6	6.5	5.8	7.3	5.3	7.0	7.6	7.4	6.1	6.1	7.8	7.8	6.0	24	9.8	5.3	7.1	0	0
20	5.7	4.8	2.5	2.8	4.0	4.4	5.8	9.1	18.1	19.0	3.7	5.6	5.4	3.8	6.5	5.6	4.2	4.5	4.2	5.0	5.5	5.6	5.8	7.1	24	19.0	2.5	6.2	0	0
21	7.2	6.0	4.7	5.1	4.4	4.3	3.9	3.0	4.9	4.7	3.9	4.2	5.1	5.2	5.4	5.9	4.8	4.0	8.9	6.0	4.0	3.9	4.8	4.9	24	8.9	3.0	5.0	0	0
22	4.0	4.1	6.4	4.1	3.8	19.8	9.9	22.6	21.2	36.2	36.5	17.6	13.8	8.2	8.1	11.3	17.7	19.7	17.0	14.5	14.8	20.9	11.1	16.7	24	36.5	3.8	15.0	0	0
23	29.5	33.9	30.3	33.4	27.2	27.2	24.1	26.5	23.2	33.8	34.6	27.5	30.0	15.8	29.7	24.6	10.8	10.0	12.7	8.8	17.5	9.5	7.7	8.0	24	34.6	7.7	22.3	0	0
24	8.7	5.9	4.1	3.9	3.8	3.1	2.1	2.3	2.7	2.8	3.5	3.6	4.1	2.7	2.8	3.1	2.9	3.9	5.6	4.4	3.3	3.6	3.9	15.5	24	15.5	2.1	4.3	0	0
25	16.4	13.8	9.0	7.7	6.4	5.8	7.7	6.8	7.3	15.3	18.0	19.4	13.2	14.5	20.0	21.7	7.8	11.3	10.8	29.0	31.7	14.4	8.4	12.7	24	31.7	5.8	13.7	0	0
26	8.5	5.0	5.4	5.7	7.9	6.5	7.1	6.3	5.0	10.2	7.4	7.7	6.6	5.3	4.4	14.2	17.4	9.4	6.4	16.4	29.7	18.3	26.9	8.7	24	29.7	4.4	10.3	0	0
27	15.4	4.1	4.0	3.5	3.7	5.4	4.6	4.3	4.1	2.9	3.7	3.8	3.0	2.8	2.7	3.8	4.9	5.4	9.1	3.2	3.5	2.0	2.6	2.3	24	15.4	2.0	4.4	0	0
28	2.6	1.2	2.3	1.7	4.5	3.3	4.8	4.1	3.5	3.2	3.4	2.9	3.0	11.6	5.7	5.7	6.1	6.9	6.8	6.3	4.7	5.1	6.6	5.3	24	11.6	1.2	4.6	0	0
29	12.2	32.8	26.5	11.1	3.7	5.9	8.2	5.3	4.1	29.2	35.1	36.9	24.5	19.7	16.5	16.8	25.1	22.9	22.3	27.6	17.3	32.9	24.4	25.8	24	36.9	3.7	20.3	0	0
30	25.6	19.9	31.8	26.0	31.1	17.4	7.9	8.7	11.0	14.8	16.3	13.6	15.6	9.9	10.2	17.7	11.7	16.9	50.9	35.4	28.0	18.7	28.2	25.2	24	50.9	7.9	20.5	0	0
31	21.4	20.1	16.8	13.6	13.7	13.9	22.8	17.9	26.0	14.5	15.5	20.9	22.1	18.9	14.8	17.1	14.4	15.1	13.3	12.0	10.2	9.9	15.4	21.5	24	26.0	9.9	16.7	0	0
Count	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	30	30	31	31	31	31	31	31	31	738	31	30	31		
Maximum	45.3	44.4	43.2	41.1	41.0	37.8	41.3	43.4	42.4	39.8	44.3	39.8	43.6	42.3	37.4	42.3	29.9	33.7	50.9	55.5	46.8	48.5	42.8	41.5	24	55.5	29.9	42.5		
Minimum	2.6	1.2	2.3	1.7	3.7	3.1	2.1	2.3	2.7	2.8	3.4	2.9	3.0	2.7	2.7	3.1	2.9	3.9	2.4	3.0	3.1	2.0	2.6	2.3	21	8.9	1.2	2.7		
Average	15.6	14.7	14.7	13.9	14.1	14.1	14.7	15.2	16.4	17.2	15.6	13.4	12.3	12.2	12.3	14.1	14.7	14.8	15.6	15.9	15.6	14.6	14.3	15.6	24	30	6	14.7		
#>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						

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	4.2	5.7	7.3	9.2	12.1	14.8	18.2	22.8	29.5	35.8	43.5	55.5

Regs	Acceptable	Desirable	Violations	Maximum
Hour				55.5
Day				39.7
Month				14.7

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

NO_2 - Rundle Road

October 2015

($\mu g/m^3$)

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	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
2	M	M	M	M	M	M	M	M	7.9	7.3	7.0	6.5	6.6	6.4	6.6	7.5	6.8	6.7	13.2	7.9	8.6	6.1	6.8	6.2	16	13.2	6.1		0	0
3	5.9	9.6	5.8	6.0	8.7	6.1	6.4	6.7	6.6	6.5	11.1	6.3	6.4	6.1	6.2	6.4	10.5	6.7	6.6	9.5	10.1	6.7	6.8	7.5	24	11.1	5.8	7.3	0	0
4	10.8	7.1	7.1	9.5	8.0	14.4	12.4	30.3	22.9	16.9	16.7	11.2	22.0	6.3	5.6	5.7	6.4	9.3	13.1	11.1	12.8	14.5	13.4	9.8	24	30.3	5.6	12.4	0	0
5	8.4	8.0	10.2	9.9	10.2	9.2	14.0	16.6	14.8	13.8	13.1	13.0	16.1	10.6	14.9	16.1	14.6	19.6	16.9	16.4	16.4	8.9	6.9	7.1	24	19.6	6.9	12.7	0	0
6	6.4	7.1	8.8	9.0	8.6	7.3	11.3	17.1	14.3	9.4	9.7	17.1	22.2	11.6	9.3	10.0	11.9	11.6	8.0	11.5	25.5	31.3	15.0	11.7	24	31.3	6.4	12.7	0	0
7	11.7	9.4	9.1	8.4	10.5	10.2	18.8	29.0	31.7	22.0	33.4	36.3	24.4	29.9	26.5	29.6	27.1	16.3	7.4	6.3	8.3	9.7	6.8	6.1	24	36.3	6.1	17.9	0	0
8	5.9	6.2	7.5	6.4	6.8	9.3	15.0	16.1	9.2	11.4	6.9	7.8	7.6	11.7	8.2	7.3	10.2	17.3	27.1	16.3	17.6	27.9	35.2	38.9	24	38.9	5.9	13.9	0	0
9	10.0	10.8	12.2	10.2	9.3	9.9	12.1	12.8	25.2	23.6	23.4	14.4	7.6	6.6	6.5	6.1	5.9	5.9	6.8	15.9	11.5	10.6	16.2	14.5	24	25.2	5.9	12.0	0	0
10	12.0	6.3	5.3	5.5	5.2	5.7	6.4	6.3	7.1	10.1	7.6	5.7	5.9	6.0	6.3	6.7	8.8	15.8	15.5	9.6	10.2	9.1	10.9	8.5	24	15.8	5.2	8.2	0	0
11	9.4	7.4	10.4	12.1	12.2	11.7	16.2	11.7	11.7	12.4	10.2	8.5	9.6	10.8	8.1	9.4	7.6	8.9	10.1	13.4	12.5	16.9	11.5	10.7	24	16.9	7.4	11.0	0	0
12	11.9	14.4	10.0	9.2	10.5	10.8	18.0	12.8	10.1	10.5	10.0	11.2	10.4	9.4	10.2	10.8	13.3	20.9	27.1	26.1	19.5	17.8	15.1	14.8	24	27.1	9.2	14.0	0	0
13	19.2	11.2	10.8	10.5	13.9	13.2	15.1	21.1	21.2	12.6	13.2	11.2	9.9	12.3	13.1	13.4	15.9	17.2	20.9	26.5	15.0	9.6	10.0	9.8	24	26.5	9.6	14.4	0	0
14	6.9	5.4	5.2	5.0	5.0	5.2	8.0	11.1	9.3	6.1	5.5	5.8	5.8	6.5	7.4	7.4	7.0	7.0	7.1	8.2	10.8	22.5	48.8	48.4	24	48.8	5.0	11.1	0	0
15	29.0	14.3	14.0	16.8	21.2	35.4	31.7	25.3	22.2	26.6	23.9	18.5	16.1	16.3	17.1	16.6	24.7	19.1	20.5	20.6	28.3	20.1	16.1	11.5	24	35.4	11.5	21.1	0	0
16	8.7	6.3	6.0	8.6	10.3	11.4	18.1	19.9	11.6	9.0	15.1	20.3	23.3	26.1	18.8	8.0	6.9	7.9	7.5	7.8	7.5	5.9	5.9	5.2	24	26.1	5.2	11.5	0	0
17	5.7	5.3	4.8	4.8	5.0	5.1	9.5	11.5	7.7	5.0	4.9	5.0	4.9	5.1	5.1	6.0	5.6	6.4	7.3	8.3	8.6	8.1	10.2	9.9	24	11.5	4.8	6.6	0	0
18	8.0	6.0	6.1	7.2	6.5	7.1	6.8	5.5	5.7	4.7	5.0	5.3	5.8	5.6	5.5	5.3	6.4	7.4	10.0	7.7	8.5	9.0	10.7	10.0	24	10.7	4.7	6.9	0	0
19	7.5	8.7	6.6	6.8	8.0	11.0	21.2	30.6	37.4	34.7	19.8	10.1	9.7	C	C	C	10.2	11.8	15.0	14.2	14.5	14.3	16.4	17.6	21	37.4	6.6	15.5	0	0
20	16.9	12.4	15.2	13.9	17.5	21.8	22.7	19.2	26.1	33.4	33.7	29.5	37.5	47.5	43.6	35.9	48.7	30.6	16.9	22.3	18.7	15.8	14.4	12.4	24	48.7	12.4	25.3	0	0
21	10.6	16.9	37.4	25.0	12.8	5.8	13.7	11.8	13.9	10.9	11.8	11.9	9.8	9.9	11.9	18.2	25.0	18.2	16.0	14.2	25.1	16.1	20.5	18.9	24	37.4	5.8	16.1	0	0
22	32.6	26.0	16.9	14.2	18.3	26.3	26.7	11.1	8.3	5.5	4.3	4.7	4.1	5.4	5.5	8.5	9.0	5.7	5.0	6.2	0.0	0.0	0.0	0.0	24	32.6	0.0	10.2	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	7.1	4.4	6.7	8.2	12.0	15.5	32.7	42.4	21.7	18.8	7.1	24	42.4	0.0	7.4	0	0
24	10.7	7.0	8.8	6.7	4.6	10.2	11.2	14.9	9.5	9.0	13.8	13.0	17.0	11.3	14.6	16.5	12.4	9.7	13.2	12.3	18.6	15.0	7.5	6.9	24	18.6	4.6	11.4	0	0
25	7.9	7.3	3.8	3.4	4.0	3.4	3.5	3.2	3.2	3.2	2.9	3.0	3.2	3.2	3.3	3.0	3.2	3.5	4.2	4.9	3.3	3.5	3.4	3.9	24	7.9	2.9	3.8	0	0
26	7.7	3.9	3.3	3.5	3.7	7.0	13.6	22.7	13.5	13.0	7.7	15.4	5.2	4.7	5.2	5.6	13.9	41.3	31.8	20.8	20.7	12.5	7.9	6.6	24	41.3	3.3	12.1	0	0
27	6.9	8.2	9.6	6.7	6.9	12.1	28.6	32.4	14.1	11.8	9.2	6.4	7.3	7.5	7.9	8.4	11.4	17.6	24.2	15.4	17.0	11.3	16.1	11.6	24	32.4	6.4	12.9	0	0
28	11.2	11.0	11.6	13.5	18.3	19.6	15.0	12.7	11.8	8.9	11.3	8.4	8.1	8.3	9.7	9.3	15.9	20.0	24.3	25.6	23.1	18.6	14.8	12.3	24	25.6	8.1	14.3	0	0
29	13.8	9.2	9.8	10.7	15.2	11.4	10.3	9.8	7.6	7.9	8.0	7.1	7.0	9.6	9.5	9.8	10.8	11.7	12.3	15.7	14.5	15.7	14.4	15.8	24	15.8	7.0	11.2	0	0
30	9.7	2.9	2.8	3.4	6.4	6.1	14.9	11.3	6.3	6.2	6.9	4.1	3.8	4.2	4.7	5.7	7.6	6.9	12.0	9.6	10.8	9.0	8.4	8.6	24	14.9	2.8	7.2	0	0
31	7.4	5.2	3.8	4.8	4.5	5.6	5.0	15.4	27.6	20.0	16.8	13.0	11.4	11.0	9.0	10.4	11.0	12.7	17.2	8.6	16.0	13.0	7.6	9.3	24	27.6	3.8	11.1	0	0
Count	29	29	29	29	29	29	29	29	30	30	30	30	30	29	29	29	30	30	30	30	30	30	30	30	709	30	29	30		
Maximum	32.6	26.0	37.4	25.0	21.2	35.4	31.7	32.4	37.4	34.7	33.7	36.3	37.5	47.5	43.6	35.9	48.7	41.3	31.8	32.7	42.4	31.3	48.8	48.4	24	48.8	21.2	36.4		
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	3.2	3.3	3.0	3.2	3.5	4.2	4.9	0.0	0.0	0.0	0.0	0	0.0	0.0			
Average	10.8	8.7	9.1	8.7	9.4	10.8	14.0	15.5	14.0	12.4	12.1	11.0	11.0	10.9	10.5	10.7	12.6	13.5	14.4	14.2	15.2	13.4	13.2	12.1	23	26	6	12.1		
#>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
Data	5.0	6.3	7.3	8.7	10.0	11.5	13.8	16.4	22.3	28.2	38.8	48.8

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					48.8
Day					25.3
Month					12.1

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

NO_2 - Rundle Road
November 2015
(µg/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	7.9	13.6	8.3	7.4	10.7	7.7	8.4	9.3	7.8	7.0	8.2	7.9	8.6	5.2	4.9	5.8	6.3	8.7	18.8	27.5	16.1	11.2	11.1	24	27.5	4.9	9.9	0	0
2	7.0	6.9	17.2	18.5	24.8	17.6	15.3	16.7	16.9	13.7	29.5	28.0	30.0	32.1	18.6	14.6	29.2	48.0	44.4	40.6	37.4	21.9	17.8	15.9	24	48.0	6.9	23.4	0	0
3	12.6	9.5	9.9	14.6	15.1	19.2	22.5	27.2	41.7	45.4	36.4	32.6	34.5	33.5	34.4	39.6	53.8	53.6	41.0	37.7	45.6	37.8	29.4	27.3	24	53.8	9.5	31.5	0	0
4	27.1	29.6	27.5	16.0	12.4	11.7	24.8	20.6	15.7	18.5	17.1	15.0	15.1	17.1	17.7	25.5	30.3	32.8	21.4	15.9	16.9	13.3	12.6	15.8	24	32.8	11.7	19.6	0	0
5	10.8	9.3	10.0	7.5	7.3	8.3	13.1	26.8	39.6	35.4	44.2	20.7	29.3	25.8	25.8	28.8	44.0	60.8	48.3	37.6	28.9	24.1	28.8	34.8	24	60.8	7.3	27.1	0	0
6	32.8	26.2	27.4	23.6	24.5	22.2	22.2	19.9	11.8	10.5	10.7	13.2	16.6	9.9	9.1	9.7	6.9	7.6	7.3	6.6	6.2	6.3	5.6	4.9	24	32.8	4.9	14.2	0	0
7	5.0	5.0	5.8	6.1	13.6	13.3	10.9	9.7	16.9	21.4	11.1	10.3	9.2	6.6	6.4	6.4	7.0	6.1	6.4	10.5	12.8	16.8	8.1	6.5	24	21.4	5.0	9.6	0	0
8	6.8	18.4	30.0	9.1	6.4	11.6	9.7	23.6	16.9	8.2	4.1	5.6	6.4	6.4	8.8	8.0	9.2	17.8	12.2	15.7	28.2	17.6	16.7	20.8	24	30.0	4.1	13.3	0	0
9	15.2	11.1	10.1	13.3	17.5	17.8	24.4	33.8	32.4	36.2	34.4	25.0	20.9	19.2	31.5	19.4	21.2	51.0	33.2	40.4	24.0	20.0	18.1	14.5	24	51.0	10.1	24.4	0	0
10	13.7	11.0	14.2	10.3	9.3	9.8	18.4	35.8	21.6	16.1	17.7	18.0	16.4	16.5	18.0	14.0	15.5	18.5	11.2	11.9	9.4	8.2	12.8	10.7	24	35.8	8.2	15.0	0	0
11	8.8	11.5	8.4	7.1	5.8	6.0	7.3	22.1	31.0	22.9	24.9	32.7	35.1	29.9	33.7	40.7	31.8	28.6	27.3	17.2	21.3	26.0	25.0	22.2	24	40.7	5.8	22.0	0	0
12	22.9	23.6	23.2	24.6	20.7	20.8	13.5	15.2	18.3	23.3	16.6	20.3	20.2	22.5	13.6	12.8	12.5	12.8	11.1	12.5	13.6	13.8	13.1	12.8	24	24.6	11.1	17.3	0	0
13	10.6	10.8	9.4	7.9	9.2	11.1	12.2	14.7	15.3	14.2	12.2	9.5	7.2	6.6	9.3	9.4	10.4	14.6	14.1	12.5	6.8	4.5	3.5	3.5	24	15.3	3.5	10.0	0	0
14	3.5	3.1	3.3	3.9	4.7	3.9	3.7	4.8	5.7	4.7	3.9	3.9	3.5	3.9	3.8	4.1	5.6	10.0	17.4	31.3	21.9	27.8	13.3	15.6	24	31.3	3.1	8.6	0	0
15	16.7	13.9	14.8	15.7	12.7	10.1	17.6	34.5	30.0	21.9	17.5	17.4	16.9	16.6	17.7	21.3	25.8	33.0	24.4	17.2	16.1	15.2	14.6	17.8	24	34.5	10.1	19.1	0	0
16	12.7	10.5	7.9	7.1	8.6	11.0	15.3	23.7	23.8	34.1	22.5	12.7	12.3	12.5	10.3	18.1	23.7	40.1	25.6	24.6	17.8	21.2	20.4	19.5	24	40.1	7.1	18.2	0	0
17	14.3	8.6	7.3	11.1	7.4	7.6	7.9	11.5	12.8	13.8	8.5	7.6	8.8	13.0	9.7	11.4	8.1	12.0	17.8	15.8	16.6	10.2	14.0	14.5	24	17.8	7.3	11.3	0	0
18	19.3	21.3	16.1	12.3	15.6	14.1	13.6	22.0	23.5	16.9	13.4	10.8	C	C	C	13.2	19.2	20.2	22.9	23.0	17.4	25.2	23.3	15.6	21	25.2	10.8	18.1	0	0
19	15.8	14.7	15.2	10.4	9.6	11.6	26.0	55.5	49.0	15.6	12.4	11.6	10.8	10.5	10.4	11.1	16.3	16.2	16.6	18.9	19.2	16.6	13.3	12.0	24	55.5	9.6	17.5	0	0
20	10.7	19.4	13.9	12.3	15.5	13.7	14.5	18.6	14.9	13.6	11.9	12.2	12.8	12.3	10.6	11.6	10.7	17.7	19.2	17.9	18.2	12.3	14.5	18.4	24	19.4	10.6	14.5	0	0
21	14.7	14.1	11.2	12.0	8.8	8.7	22.0	22.0	17.4	16.3	12.8	10.9	9.2	9.5	11.7	12.1	11.1	9.9	8.6	8.4	19.0	14.9	13.8	14.7	24	22.0	8.4	13.1	0	0
22	10.3	8.6	10.0	9.5	9.0	5.0	5.2	7.1	12.1	5.9	4.7	4.6	4.4	4.6	5.5	12.8	6.3	6.9	8.3	8.0	10.5	16.6	13.3	11.8	24	16.6	4.4	8.4	0	0
23	8.7	12.2	32.1	12.6	17.4	14.1	12.3	20.8	36.6	21.2	28.5	28.0	31.7	14.8	12.8	15.9	24.2	15.5	22.0	21.0	20.1	24.5	29.5	25.3	24	36.6	8.7	20.9	0	0
24	16.9	25.7	21.7	27.4	30.0	37.5	42.5	42.0	38.8	38.1	43.4	47.7	43.6	48.7	50.6	46.8	41.9	28.9	30.7	38.6	36.9	36.7	33.7	29.9	24	50.6	16.9	36.6	0	0
25	34.6	25.6	22.9	30.4	24.1	22.9	24.8	29.7	25.3	21.8	21.5	22.3	15.0	16.1	17.0	25.2	22.3	14.7	17.0	29.4	29.1	36.8	25.7	27.7	24	36.8	14.7	24.2	0	0
26	46.0	42.1	44.2	52.4	63.5	64.9	61.2	53.3	55.5	32.4	26.0	24.8	25.5	21.5	21.5	20.4	26.4	27.3	40.9	27.9	20.6	18.6	19.8	18.3	24	64.9	18.3	35.6	0	0
27	20.8	12.3	13.3	13.2	13.2	15.5	19.2	16.0	14.3	17.6	16.4	16.2	16.9	17.7	16.8	9.1	6.7	5.3	4.7	5.1	4.8	4.4	4.4	4.1	24	20.8	4.1	12.0	0	0
28	3.9	3.8	3.8	3.9	3.8	4.0	3.8	4.0	4.6	4.2	3.9	4.2	4.3	4.3	4.4	4.8	7.7	7.3	9.7	11.8	11.0	10.6	19.9	27.2	24	27.2	3.8	7.1	0	0
29	20.9	19.5	25.8	20.5	18.3	14.5	11.0	8.8	10.1	15.1	10.9	16.1	14.3	13.0	12.3	4.6	7.1	7.2	5.2	5.5	6.5	6.7	5.5	8.2	24	25.8	4.6	12.0	0	0
30	6.5	9.7	4.9	5.0	5.1	10.8	9.5	16.8	15.9	18.2	12.2	10.9	12.9	11.9	9.9	10.1	17.4	16.4	13.6	10.5	12.1	23.0	11.8	9.5	24	23.0	4.9	11.9	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	29	30	30	30	30	30	30	30	30	30	717	30	29	30		
Maximum	46.0	42.1	44.2	52.4	63.5	64.9	61.2	55.5	55.5	45.4	44.2	47.7	43.6	48.7	50.6	46.8	53.8	60.8	48.3	40.6	45.6	37.8	33.7	34.8	24	64.9	33.7	48.7		
Minimum	3.5	3.1	3.3	3.9	3.8	3.9	3.7	4.0	4.6	4.2	3.9	3.9	3.5	3.9	3.8	4.1	5.6	5.3	4.7	5.1	4.8	4.4	3.5	3.5	0	0.0	3.1			
Average	15.3	14.9	15.8	14.2	14.7	15.0	17.1	22.2	22.6	19.5	17.9	16.7	17.0	16.0	15.8	16.2	18.6	21.6	19.7	19.7	19.2	18.3	16.4	16.4	23	33	8	17.5		
#>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						

																									Regs	Acceptable	Desirable	Violations	Maximum
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100	Hour				64.9
																									Day				36.6
Data		6.1		8.7		10.8		12.8		15.0		17.2		20.7		25.0		32.7		40.4		53.5		64.9	Month				17.5

Notes C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down R - Rate of Change

NO_2 - Rundle Road
December 2015
(µg/m³)

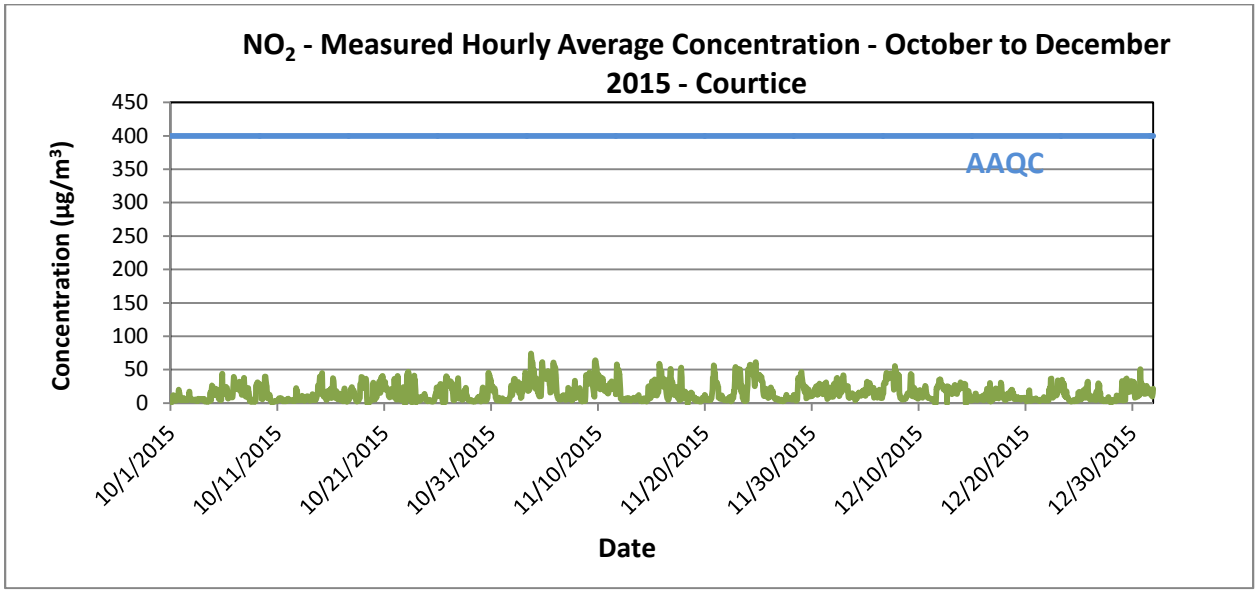
Day	Hour 0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>400	Days>200
1	11.8	7.5	10.2	7.9	12.3	13.8	18.0	22.5	19.5	16.4	15.2	28.3	25.2	18.0	15.4	21.4	21.0	26.3	20.9	20.3	24.3	26.6	40.5	37.0	24	40.5	7.5	20.0	0	0
2	29.7	35.9	32.8	16.0	15.3	19.5	19.5	16.9	32.6	30.4	27.2	22.9	17.5	17.8	11.0	11.5	23.3	15.4	10.7	8.7	7.8	6.8	7.4	7.6	24	35.9	6.8	18.5	0	0
3	7.9	7.1	7.5	6.9	7.8	9.7	9.6	13.3	16.9	17.1	10.7	8.3	7.2	7.8	6.5	7.0	8.5	7.0	6.6	6.5	10.3	12.4	9.1	21.2	24	21.2	6.5	9.7	0	0
4	17.2	18.3	14.7	13.7	15.3	17.2	18.9	13.2	20.3	30.7	31.5	27.1	23.3	19.3	15.4	15.1	17.6	21.4	25.1	16.1	19.6	18.9	18.1	16.9	24	31.5	13.2	19.4	0	0
5	13.0	12.2	10.6	13.0	28.4	24.2	27.8	24.5	23.0	24.0	33.6	30.7	25.9	27.0	26.8	24.1	33.0	31.0	28.2	21.4	19.7	31.4	20.0	18.3	24	33.6	10.6	23.8	0	0
6	20.1	21.1	14.3	13.1	16.6	17.3	19.6	22.4	27.7	18.3	13.6	13.5	17.0	18.3	13.4	15.7	18.4	27.4	14.3	15.3	17.8	16.5	15.1	43.3	24	43.3	13.1	18.7	0	0
7	49.5	47.8	38.5	30.4	22.8	18.2	18.5	23.9	33.2	38.6	41.3	46.5	42.3	47.5	50.3	50.3	58.0	39.9	27.4	22.5	32.7	40.1	36.8	34.5	24	58.0	18.2	37.1	0	0
8	30.1	31.0	37.8	38.4	36.0	48.3	37.8	31.1	21.8	19.9	19.3	16.0	13.9	18.7	19.0	21.0	20.4	22.7	26.4	30.6	35.4	33.0	24.6	37.8	24	48.3	13.9	28.0	0	0
9	34.4	28.6	24.0	25.3	30.5	27.5	26.6	33.1	32.4	42.2	22.9	16.6	18.5	21.4	24.5	29.7	26.6	45.8	28.1	41.3	33.0	23.0	19.4	17.9	24	45.8	16.6	28.1	0	0
10	24.0	19.7	27.8	27.6	37.2	38.7	42.5	26.1	21.9	19.3	24.3	24.7	22.9	28.2	31.0	43.3	42.4	48.7	41.6	43.5	29.1	27.1	23.8	30.1	24	48.7	19.3	31.1	0	0
11	20.9	22.5	19.9	15.3	14.2	18.7	17.5	17.0	22.8	22.3	17.2	21.3	15.4	20.9	24.9	C	C	11.4	13.9	15.3	23.0	27.2	23.5	16.4	22	27.2	11.4	19.1	0	0
12	22.6	18.3	14.6	13.5	19.2	19.2	14.6	17.0	13.5	14.3	16.2	14.0	9.3	8.0	10.7	15.8	17.5	13.8	13.4	12.6	11.9	17.5	8.8	9.9	24	22.6	8.0	14.4	0	0
13	12.2	10.6	7.3	7.3	6.5	6.3	4.9	8.3	7.8	6.4	5.6	7.6	11.4	8.4	7.1	7.5	10.9	13.2	10.6	16.4	18.3	16.3	16.7	11.7	24	18.3	4.9	10.0	0	0
14	13.1	13.9	12.5	16.4	12.2	18.3	14.7	22.4	27.5	25.0	17.7	22.0	A	A	21.7	30.2	39.3	22.1	23.3	20.4	15.0	19.8	13.7	15.7	22	39.3	12.2	19.9	0	0
15	16.9	11.0	12.9	13.9	14.5	11.8	11.9	18.6	23.1	12.3	6.3	5.7	4.4	4.5	4.6	6.1	7.1	4.6	3.2	3.3	3.4	3.1	2.9	3.4	24	23.1	2.9	8.7	0	0
16	3.3	2.8	3.0	9.1	3.4	8.6	4.2	10.3	9.6	9.0	12.1	8.0	6.4	10.4	13.4	15.2	18.1	17.9	17.6	15.7	12.8	14.1	14.4	23.0	24	23.0	2.8	10.9	0	0
17	18.3	27.4	16.8	13.9	25.8	29.2	22.2	31.8	30.0	18.3	16.7	16.7	16.7	20.8	14.8	14.7	16.3	14.1	22.7	14.9	14.3	11.0	5.1	8.8	24	31.8	5.1	18.4	0	0
18	4.4	6.6	9.7	11.0	5.0	3.5	9.8	9.4	13.4	19.5	16.9	17.5	15.1	17.2	20.6	24.2	24.2	24.3	25.5	18.7	15.0	11.1	7.4	7.9	24	25.5	3.5	14.1	0	0
19	12.5	9.4	8.3	8.2	11.7	12.9	12.0	16.7	15.8	13.0	9.4	10.8	9.2	9.1	10.7	9.8	10.4	10.9	6.5	5.4	9.0	6.7	5.0	6.8	24	16.7	5.0	10.0	0	0
20	7.1	4.9	8.2	10.4	9.6	9.3	9.6	8.3	8.3	16.5	7.6	10.0	9.7	8.0	12.7	10.7	11.9	11.4	19.2	15.1	39.5	16.4	15.2	15.7	24	39.5	4.9	12.3	0	0
21	15.2	17.0	14.1	26.4	22.3	23.5	25.6	13.3	12.3	12.8	14.9	14.2	14.3	13.5	14.8	17.3	15.5	16.7	26.1	19.5	22.8	15.9	18.3	18.3	24	26.4	12.3	17.7	0	0
22	24.6	37.5	34.2	23.4	33.0	48.3	36.4	41.9	45.8	26.3	37.4	39.6	28.7	21.3	25.6	26.0	30.1	26.5	45.2	39.2	42.7	25.3	25.8	27.8	24	48.3	21.3	33.0	0	0
23	32.1	29.1	35.3	30.8	22.9	26.2	19.5	16.6	14.3	15.5	15.0	12.2	12.8	11.9	11.1	12.1	12.0	11.6	13.6	13.9	16.1	24.2	20.9	31.0	24	35.3	11.1	19.2	0	0
24	12.9	14.1	10.1	12.1	11.7	8.1	5.7	7.9	8.4	7.2	9.2	7.6	9.1	7.4	8.5	7.6	7.7	9.7	13.1	15.7	8.3	6.8	8.0	13.9	24	15.7	5.7	9.6	0	0
25	19.5	21.6	12.2	12.4	10.1	8.9	10.6	12.0	11.5	12.9	18.7	19.0	12.7	12.3	17.2	11.4	4.3	4.4	3.7	5.4	4.6	4.9	4.7	4.3	24	21.6	3.7	10.8	0	0
26	4.0	4.3	4.3	4.9	5.3	4.3	3.5	4.2	4.6	8.5	5.7	9.9	5.4	6.0	4.7	8.7	8.1	6.0	5.1	7.4	6.3	5.4	14.4	5.4	24	14.4	3.5	6.1	0	0
27	5.4	4.1	4.4	4.6	4.2	3.6	3.7	3.4	3.1	3.1	3.4	3.3	3.3	2.8	2.2	2.5	2.2	2.7	2.7	2.8	2.2	2.5	2.2	2.3	24	5.4	2.2	3.2	0	0
28	2.2	2.1	2.2	2.0	2.2	2.1	2.7	3.2	3.4	4.5	4.0	4.4	5.5	8.2	5.3	4.9	4.7	4.4	4.5	4.5	4.6	4.6	5.5	6.1	24	8.2	2.0	4.1	0	0
29	10.1	10.8	8.7	5.9	6.0	6.2	9.0	7.1	5.7	8.1	8.8	12.5	11.0	10.7	12.3	11.6	13.6	12.0	9.2	9.6	21.1	15.9	26.0	23.8	24	26.0	5.7	11.5	0	0
30	24.4	28.0	20.9	20.6	16.8	27.1	23.4	20.8	27.1	25.2	23.2	19.9	19.9	17.7	18.0	33.3	26.3	20.9	28.1	42.6	46.9	36.8	34.2	37.6	24	46.9	16.8	26.7	0	0
31	34.3	29.6	24.0	20.2	18.8	23.3	36.3	11.7	31.4	24.1	20.7	23.4	25.9	21.4	10.5	11.8	16.7	15.2	13.4	11.3	12.3	9.9	11.4	17.4	24	36.3	9.9	19.8	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	31	31	31	31	31	31	31	740	31	30	31		
Maximum	49.5	47.8	38.5	38.4	37.2	48.3	42.5	41.9	45.8	42.2	41.3	46.5	42.3	47.5	50.3	50.3	58.0	48.7	45.2	43.5	46.9	40.1	40.5	43.3	24	58.0	37.2	44.9		
Minimum	2.2	2.1	2.2	2.0	2.2	2.1	2.7	3.2	3.1	3.1	3.4	3.3	3.3	2.8	2.2	2.5	2.2	2.7	2.7	2.8	2.2	2.5	2.2	2.3	22	5.4	2.0	2.6		
Average	17.9	17.9	16.2	15.3	16.1	17.9	17.3	17.1	19.0	18.1	17.0	17.2	15.3	15.5	15.6	17.4	18.9	18.0	17.7	17.3	18.7	17.1	16.1	18.4	24	31	9	17.2		
#>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
Data	4.9	7.9	10.6	13.0	15.4	18.0	21.2	25.3	31.4	38.4	47.7	58.0

Regs	Acceptable	Desirable	Violations	Maximum
Hour				58.0
Day				37.1
Month				17.2

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

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



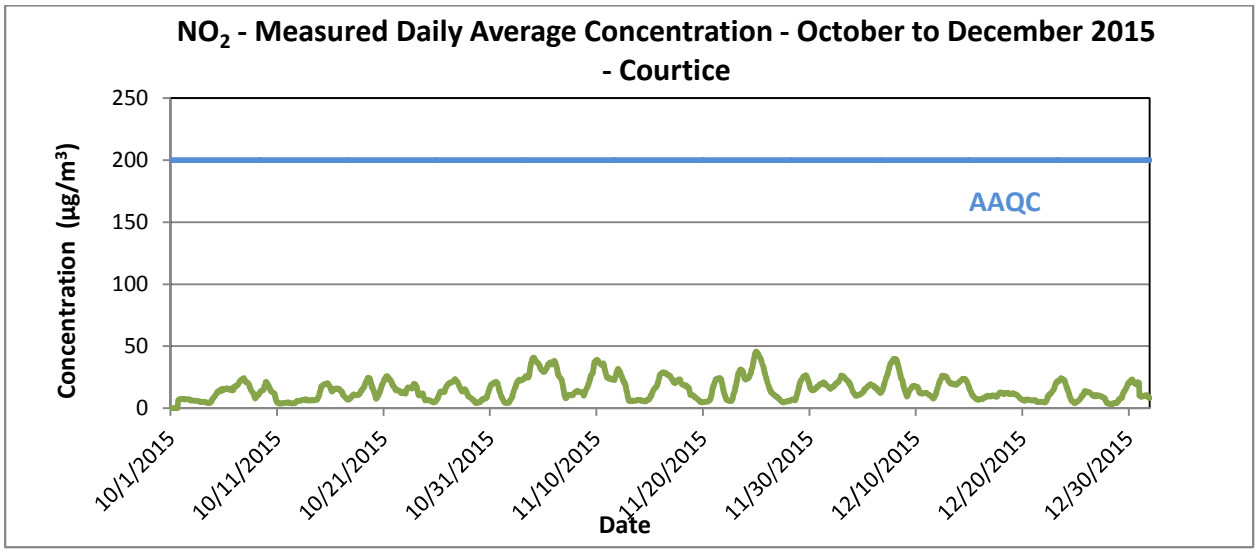
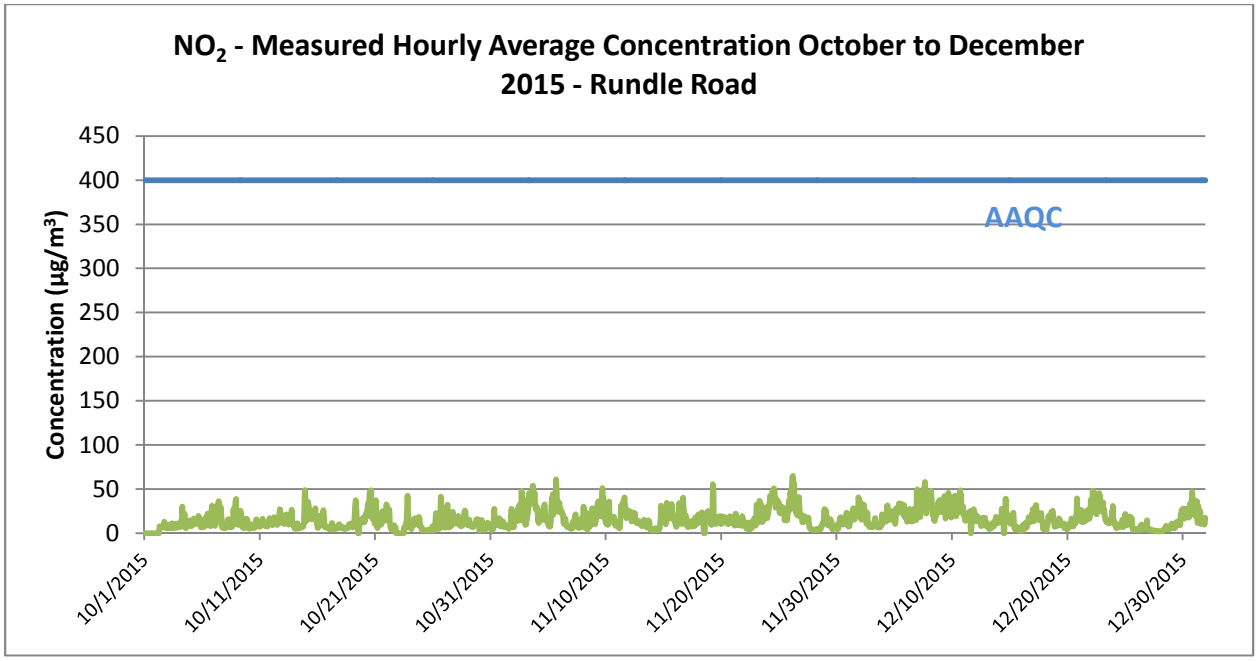
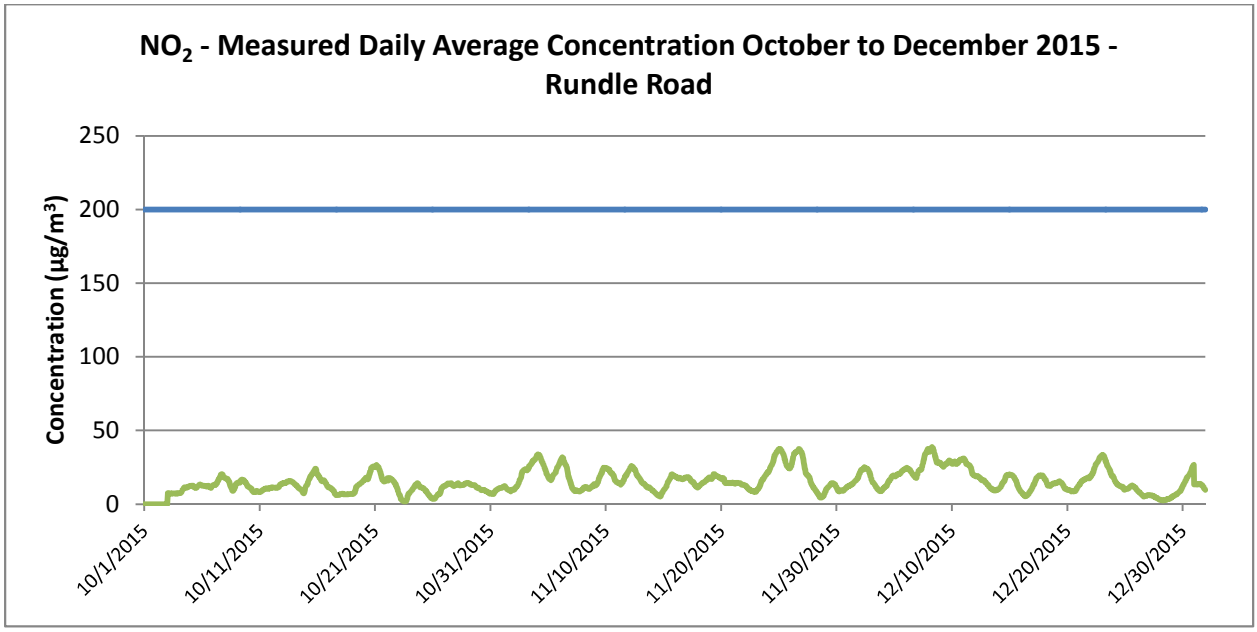


Figure B-2 Time History Plots of Measured Hourly Average and 24-Hour Average NO_2 Concentrations – Rundle Road Station





Appendix C NO_X DATA SUMMARIES AND TIME HISTORY PLOTS

NOx COURTICE
October 2015
(µg/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	6.7	0.1	4.6	6.8	6.4	7.8	17.6	10.3	7.3	9.1	5.7	6.1	5.3	4.5	8.0	6.8	8.1	19.3	22.8	17.4	17.7	12.3	6.1	5.4	24	22.8	0.1	9.3	0	0
2	11.4	4.6	4.8	7.2	7.4	10.7	10.1	8.1	6.8	10.9	6.5	7.4	7.2	10.1	6.4	7.3	7.9	10.4	23.0	12.8	10.3	7.4	6.5	9.1	24	23.0	4.6	8.9	0	0
3	5.6	5.8	5.7	6.2	8.0	7.2	9.0	10.9	7.4	10.3	8.1	8.4	4.0	5.1	5.1	10.9	9.2	6.7	6.0	7.0	7.0	7.1	5.4	4.7	24	10.9	4.0	7.1	0	0
4	8.1	5.6	6.3	5.6	6.6	3.1	2.4	2.8	3.2	2.7	2.2	2.7	3.2	3.1	4.7	5.8	3.7	18.6	17.7	5.0	20.3	32.2	30.9	22.9	24	32.2	2.2	9.1	0	0
5	16.5	16.7	19.5	15.3	23.0	27.4	33.4	20.3	16.8	16.0	38.5	40.1	8.9	13.2	18.4	7.4	5.3	5.3	6.7	25.3	54.6	26.0	18.8	15.9	24	54.6	5.3	20.4	0	0
6	18.2	29.0	24.8	20.0	24.2	47.3	40.1	36.9	19.4	10.3	10.1	13.1	18.5	13.9	11.8	11.9	15.7	17.3	10.6	10.3	15.0	33.5	54.5	82.0	24	82.0	10.1	24.5	0	0
7	68.2	37.5	29.2	28.5	29.8	29.5	46.3	110.1	58.7	41.2	56.1	77.4	62.6	33.1	27.6	21.5	16.0	18.1	16.6	22.2	25.2	52.7	34.9	22.2	24	110.1	16.0	40.2	0	0
8	13.9	12.5	19.9	22.1	20.9	26.9	32.9	27.2	29.7	13.2	6.4	5.6	4.7	4.1	3.7	4.8	5.0	7.9	5.9	3.9	3.9	4.4	4.9	5.5	24	32.9	3.7	12.1	0	0
9	37.3	41.7	22.5	39.2	31.9	29.9	60.0	61.0	52.7	44.2	36.0	21.3	11.2	10.1	9.4	10.2	11.5	13.0	17.1	25.9	107.1	128.4	84.9	51.3	24	128.4	9.4	39.9	0	0
10	40.6	21.2	12.1	13.5	10.7	18.0	23.5	20.2	14.3	9.8	5.2	4.1	4.0	3.7	4.2	4.2	4.7	4.9	5.3	5.4	5.3	5.9	6.8	5.5	24	40.6	3.7	10.6	0	0
11	5.5	6.5	7.5	9.9	9.8	9.0	10.0	9.9	9.9	12.2	8.8	6.1	6.3	5.8	5.6	5.0	5.0	5.4	5.6	5.6	7.7	8.6	6.2	6.8	24	12.2	5.0	7.4	0	0
12	9.2	7.1	7.6	6.8	6.9	6.9	7.3	7.3	7.9	7.7	7.0	6.8	8.1	7.2	6.5	5.9	7.5	6.8	26.7	15.1	22.7	8.1	7.6	12.4	24	26.7	5.9	9.3	0	0
13	9.8	7.4	7.2	7.1	7.6	7.5	7.1	12.2	16.6	17.5	13.9	11.7	8.7	8.9	9.0	10.0	10.4	12.2	13.6	13.8	12.5	9.9	12.3	9.5	24	17.5	7.1	10.7	0	0
14	7.0	7.5	10.4	8.5	9.2	11.1	12.9	20.8	13.4	11.3	9.8	9.9	9.8	10.7	10.4	12.1	15.4	15.2	16.6	32.3	28.9	19.8	31.9	63.3	24	63.3	7.0	16.6	0	0
15	54.9	47.1	34.0	55.8	65.1	29.3	16.9	16.9	17.5	29.0	33.1	23.7	17.7	12.0	9.2	9.0	22.3	15.5	17.8	18.0	13.6	15.3	23.7	24.0	24	65.1	9.0	25.9	0	0
16	26.9	12.5	18.2	15.4	33.9	48.1	44.2	37.4	24.3	17.6	30.3	38.1	35.8	16.2	12.5	13.2	11.3	13.6	14.5	18.4	20.0	18.3	9.4	14.2	24	48.1	9.4	22.7	0	0
17	11.6	9.8	9.7	11.1	8.6	10.2	24.1	44.4	16.9	8.3	7.9	7.5	9.4	7.7	7.2	9.5	10.8	11.5	17.1	22.8	25.6	24.8	27.1	31.1	24	44.4	7.2	15.6	0	0
18	19.3	16.2	18.9	32.9	21.1	19.7	15.5	19.5	12.3	8.3	7.1	8.2	8.7	7.4	9.3	12.2	13.3	12.9	41.0	37.7	38.5	52.6	60.1	43.4	24	60.1	7.1	22.3	0	0
19	50.3	49.4	35.6	51.7	101.5	94.8	118.7	92.0	60.9	15.2	C	C	C	C	3.0	2.9	3.2	3.9	3.1	3.4	4.5	5.1	5.4	33.5	20	118.7	2.9	36.9	0	0
20	5.3	4.9	5.3	5.4	5.3	6.8	7.9	9.3	19.5	26.1	25.4	26.4	30.5	35.7	23.6	15.5	20.0	38.7	28.8	29.5	44.1	29.2	27.8	33.0	24	44.1	4.9	21.0	0	0
21	36.6	28.8	33.4	22.6	29.5	23.0	22.8	26.2	27.3	22.1	14.5	11.7	12.0	11.5	27.6	27.8	13.2	19.0	15.5	11.2	12.6	11.8	12.8	47.7	24	47.7	11.2	21.7	0	0
22	14.5	11.7	8.0	5.0	7.3	16.9	44.4	26.7	18.2	8.5	7.4	7.0	5.8	6.1	7.1	7.6	11.7	10.8	9.4	24.1	18.3	19.1	C	C	22	44.4	5.0	13.4	0	0
23	7.3	6.6	11.1	50.5	56.9	36.5	104.3	121.5	17.5	10.0	11.5	8.4	5.9	3.9	0.7	0.6	1.5	28.7	41.7	49.6	39.3	35.7	19.1	1.0	24	121.5	0.6	27.9	0	0
24	1.7	2.2	1.6	4.3	4.3	5.9	9.2	5.0	4.1	4.6	5.0	7.0	10.2	7.5	9.7	10.4	11.9	7.0	15.4	12.9	10.0	5.4	4.4	3.1	24	15.4	1.6	6.8	0	0
25	3.8	5.8	3.5	3.3	3.7	4.1	4.5	6.0	6.2	3.7	2.9	3.3	3.0	2.9	5.0	3.1	4.0	7.5	13.2	12.6	17.1	18.3	34.4	19.0	24	34.4	2.9	8.0	0	0
26	13.5	24.9	21.6	49.3	66.3	60.2	89.6	37.3	43.0	29.8	10.6	3.0	0.7	0.5	0.5	0.6	1.4	1.7	56.8	96.9	90.2	84.6	77.2	45.1	24	96.9	0.5	37.7	0	0
27	44.4	63.6	38.4	57.2	44.6	56.7	47.8	47.1	35.0	45.8	27.1	7.6	8.1	6.1	7.2	9.1	17.3	31.5	19.9	27.6	32.9	33.0	47.7	18.0	24	63.6	6.1	32.2	0	0
28	12.8	7.0	9.1	10.3	13.2	13.8	12.7	8.2	5.2	8.9	12.8	9.7	26.6	16.3	14.5	35.1	9.4	14.2	9.2	7.8	5.3	6.5	4.4	4.9	24	35.1	4.4	11.6	0	0
29	4.0	3.2	4.7	4.8	4.1	2.9	2.9	2.6	3.1	3.6	3.4	3.1	2.9	4.4	4.8	5.3	5.8	6.2	7.8	8.8	8.8	9.5	9.2	10.2	24	10.2	2.6	5.3	0	0
30	8.6	2.7	3.2	7.0	15.5	24.8	19.6	14.8	9.9	6.8	7.3	5.0	5.8	4.4	4.7	7.9	9.6	15.4	59.2	39.7	55.0	71.0	38.8	59.4	24	71.0	2.7	20.7	0	0
31	59.8	46.0	45.6	33.4	37.3	39.6	24.9	26.9	26.5	23.9	10.4	7.9	5.2	4.6	4.6	4.8	4.5	5.2	8.4	3.9	3.4	4.2	3.4	3.8	24	59.8	3.4	18.3	0	0
Count	31	31	31	31	31	31	31	31	31	31	30	30	30	30	30	31	31	31	31	31	31	31	30	30	738	31	30	31		
Maximum	68.2	63.6	45.6	57.2	101.5	94.8	118.7	121.5	60.9	45.8	56.1	77.4	62.6	35.7	27.6	35.1	22.3	38.7	59.2	96.9	107.1	128.4	84.9	82.0	24	128.4	22.3	70.5		
Minimum	1.7	0.1	1.6	3.3	3.7	2.9	2.4	2.6	3.1	2.7	2.2	2.7	0.7	0.5	0.5	0.6	1.4	1.7	3.1	3.4	3.4	4.2	3.4	1.0	20	10.2	0.1	2.2		
Average	20.4	17.6	15.6	19.9	23.2	23.7	29.8	29.0	19.7	15.8	14.4	13.3	11.7	9.4	9.1	9.6	9.6	13.0	18.5	20.2	25.1	25.8	23.9	23.6	24	53	5	18.5		
#>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
Data	4.3	5.6	7.2	9.0	11.1	15.0	19.7	28.6	42.1	56.2	96.1	128.4

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				128.4
	Day				40.2
	Month				18.5

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

NOx COURTICE
November 2015
(µg/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	4.0	4.6	7.3	5.8	3.1	3.2	3.5	4.1	5.5	5.3	4.4	3.6	3.5	4.9	5.3	4.8	6.3	6.0	9.4	10.4	13.3	26.5	23.0	12.4	24	26.5	3.1	7.5	0	0
2	17.1	17.9	28.1	49.3	87.5	81.9	88.3	71.4	42.8	45.1	73.5	50.4	69.6	64.6	35.7	19.7	15.9	18.0	16.5	8.2	9.1	15.1	28.7	20.9	24	88.3	8.2	40.6	0	0
3	98.9	77.2	73.9	98.1	102.0	87.6	104.4	130.9	95.2	77.6	43.5	29.6	32.1	31.1	26.5	27.9	29.1	110.9	152.4	122.0	97.3	160.0	113.4	73.6	24	160.0	26.5	83.1	0	0
4	71.4	50.6	43.4	34.2	24.7	25.2	40.7	49.8	48.3	21.9	23.6	15.6	13.0	13.5	16.3	11.9	11.0	24.8	80.8	109.9	109.8	87.2	73.1	56.9	24	109.9	11.0	44.1	0	0
5	51.8	55.9	63.1	61.3	68.3	65.0	69.1	156.6	98.9	70.9	75.7	43.2	39.4	20.5	19.4	20.1	24.9	25.1	24.1	70.2	73.2	72.1	72.1	75.5	24	156.6	19.4	59.0	0	0
6	64.9	53.7	40.0	19.8	12.3	10.1	8.3	6.0	6.5	6.1	5.0	5.6	8.1	8.5	7.3	9.0	12.1	10.3	12.5	12.8	10.9	10.0	12.8	5.5	24	64.9	5.0	14.9	0	0
7	7.0	8.8	5.9	8.8	12.7	28.4	26.2	27.7	25.1	18.0	15.5	9.7	6.3	4.2	10.2	6.8	7.8	9.0	12.6	20.6	35.4	18.6	8.5	12.1	24	35.4	4.2	14.4	0	0
8	18.7	17.3	18.4	17.3	19.1	16.7	25.8	31.2	18.4	11.1	6.8	4.9	3.7	5.2	6.8	5.2	4.0	4.6	3.2	3.2	11.1	72.2	88.7	57.0	24	88.7	3.2	19.6	0	0
9	71.2	53.4	62.0	70.7	78.2	101.4	134.2	196.8	131.2	79.4	87.4	62.5	48.3	34.9	25.8	13.3	10.5	88.0	113.9	110.1	108.5	123.7	81.1	56.2	24	196.8	10.5	80.9	0	0
10	67.7	60.9	39.6	32.3	23.3	21.7	34.2	46.9	33.3	36.1	58.5	66.2	30.3	35.1	31.7	21.1	26.2	30.9	22.6	26.3	19.4	17.1	22.8	15.0	24	67.7	15.0	34.1	0	0
11	19.4	26.5	27.0	32.7	22.3	29.1	32.9	45.5	42.1	36.8	36.9	50.2	50.0	37.0	29.4	31.3	14.6	24.8	122.2	117.3	93.1	68.3	165.8	131.1	24	165.8	14.6	53.6	0	0
12	84.5	44.2	22.6	7.1	7.0	6.7	5.4	4.9	6.0	7.8	5.3	5.9	5.7	6.1	6.8	8.3	7.6	6.9	5.2	7.0	8.6	7.9	7.2	6.1	24	84.5	4.9	12.1	0	0
13	5.6	5.1	4.5	5.9	6.4	6.0	6.8	8.4	9.5	9.0	9.6	7.9	7.3	6.9	7.7	7.9	7.6	9.4	11.7	12.9	10.6	7.0	5.4	4.7	24	12.9	4.5	7.7	0	0
14	6.4	5.1	3.3	6.5	7.6	3.5	4.7	7.2	7.9	7.4	4.4	4.1	4.8	3.2	4.4	4.8	9.8	25.3	26.3	10.5	10.0	10.8	8.4	9.8	24	26.3	3.2	8.2	0	0
15	14.4	77.0	28.9	17.8	34.2	38.9	46.0	56.2	44.5	25.5	18.9	21.1	17.8	19.3	21.0	19.8	19.1	39.7	116.6	115.5	82.0	49.6	81.3	61.7	24	116.6	14.4	44.4	0	0
16	58.0	57.3	56.4	45.1	47.0	127.2	85.0	45.4	30.8	30.3	22.0	11.9	9.5	6.2	6.1	7.0	12.1	42.9	58.5	76.3	48.8	38.9	34.0	34.5	24	127.2	6.1	41.3	0	0
17	31.0	21.0	17.6	13.6	17.0	14.9	21.4	17.3	28.0	48.9	24.5	13.7	46.9	37.8	23.2	5.3	19.0	72.0	72.5	79.8	52.1	7.3	8.8	8.9	24	79.8	5.3	29.3	0	0
18	8.7	9.5	11.0	13.4	19.1	16.0	12.4	12.6	12.0	C	C	16.8	9.1	8.0	11.2	11.2	10.9	19.5	20.1	17.3	8.0	9.0	5.8	7.5	22	20.1	5.8	12.2	0	0
19	6.8	9.0	5.1	7.1	2.3	2.7	3.1	4.7	5.6	3.3	2.0	2.2	2.2	1.4	1.4	1.4	2.4	2.9	4.0	7.1	7.3	4.2	3.9	6.9	24	9.0	1.4	4.1	0	0
20	11.4	8.0	4.2	4.3	5.3	3.8	4.4	5.4	7.1	7.5	5.4	7.6	6.1	5.1	8.8	7.4	11.1	19.4	40.3	42.2	97.4	117.5	111.6	105.4	24	117.5	3.8	26.9	0	0
21	36.1	32.4	30.2	32.8	32.7	27.8	25.3	7.5	8.6	9.3	6.9	5.4	8.6	7.6	14.4	7.2	7.1	6.9	5.4	4.4	3.7	4.2	4.2	4.0	24	36.1	3.7	13.9	0	0
22	3.3	3.1	4.5	4.0	4.1	5.1	6.8	8.3	8.5	6.1	2.5	2.5	2.8	5.0	11.4	9.3	7.0	17.0	15.6	28.9	50.0	65.5	24.0	27.4	24	65.5	2.5	13.4	0	0
23	79.0	65.2	45.1	58.3	95.3	59.6	91.1	125.2	84.8	35.6	22.2	34.3	33.8	8.8	4.6	6.3	7.4	2.4	2.9	1.7	2.0	3.0	3.8	14.8	24	125.2	1.7	37.0	0	0
24	27.5	52.0	50.3	46.3	61.1	87.9	107.4	123.9	110.2	97.1	92.8	87.3	89.2	79.8	65.5	39.1	25.8	58.8	127.3	94.6	42.8	54.3	87.0	73.5	24	127.3	25.8	74.2	0	0
25	65.2	78.3	65.4	62.4	43.3	44.0	49.2	56.3	54.1	54.8	62.1	31.5	15.7	12.9	14.7	16.7	15.4	27.4	18.6	12.0	9.0	7.9	6.7	6.9	24	78.3	6.7	34.6	0	0
26	8.3	8.5	8.8	11.8	25.4	13.8	9.9	10.9	21.2	9.5	10.1	8.6	8.7	7.4	5.2	4.8	5.1	5.9	6.5	5.9	4.0	3.7	4.8	3.4	24	25.4	3.4	8.8	0	0
27	3.0	3.2	3.2	2.9	4.1	2.2	1.6	2.4	2.3	3.0	3.5	3.7	5.5	5.1	4.3	14.0	9.7	8.1	7.4	10.7	7.2	8.1	7.7	5.8	24	14.0	1.6	5.4	0	0
28	9.0	5.3	7.0	9.9	4.8	4.7	6.5	10.1	16.7	7.7	6.6	4.8	3.5	3.8	3.3	3.6	6.0	30.4	47.4	38.9	57.4	55.9	38.3	51.4	24	57.4	3.3	18.0	0	0
29	74.9	56.2	54.2	39.2	31.6	33.4	25.0	28.5	20.0	24.6	29.4	34.6	7.9	8.2	10.1	9.6	14.2	24.8	15.4	16.8	13.5	9.8	17.7	10.9	24	74.9	7.9	25.4	0	0
30	13.1	10.4	17.3	13.2	18.1	15.7	18.0	22.3	23.1	31.0	30.4	29.4	33.0	17.7	22.0	17.3	25.5	31.0	26.0	21.5	24.3	23.0	25.1	19.1	24	33.0	10.4	22.0	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	30	29	29	30	30	30	30	30	30	30	30	30	30	30	30	30	718	30	29	30		
Maximum	98.9	78.3	73.9	98.1	102.0	127.2	134.2	196.8	131.2	97.1	92.8	87.3	89.2	79.8	65.5	39.1	29.1	110.9	152.4	122.0	109.8	160.0	165.8	131.1	24	196.8	29.1	107.2		
Minimum	3.0	3.1	3.2	2.9	2.3	2.2	1.6	2.4	2.3	3.0	2.0	2.2	2.2	1.4	1.4	1.4	2.4	2.4	2.9	1.7	2.0	3.0	3.8	3.4	0	0.0	1.4			
Average	34.6	32.6	28.3	27.7	30.7	32.8	36.6	44.1	34.9	28.5	27.2	22.5	20.7	17.0	15.4	12.4	12.8	26.8	39.9	40.5	37.3	38.6	39.2	32.6	23	77	8	29.7		
#>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						

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	4.4	6.1	7.9	10.7	16.9	24.3	33.0	51.6	77.3	98.2	131.0	196.8

Regs	Acceptable	Desirable	Violations	Maximum
Hour				196.8
Day				83.1
Month				29.7

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down

NOx COURTICE
December 2015
(µg/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	14.5	13.3	13.3	20.4	14.6	38.5	33.8	38.2	43.5	22.3	22.1	5.7	8.2	8.4	10.3	11.4	16.3	27.7	18.1	15.0	10.1	14.2	12.8	12.1	24	43.5	5.7	18.5	0	0
2	9.2	24.7	34.2	24.3	41.1	71.0	34.6	38.1	52.7	69.8	64.6	33.7	16.3	17.7	12.2	20.6	22.6	38.0	41.5	17.5	33.6	21.1	40.2	69.5	24	71.0	9.2	35.4	0	0
3	49.0	25.5	24.9	23.8	24.2	25.4	20.0	24.1	28.2	29.8	16.2	10.9	11.7	9.4	10.4	11.1	12.9	14.7	9.8	14.8	13.3	11.4	8.5	9.0	24	49.0	8.5	18.3	0	0
4	6.5	6.4	3.9	4.6	6.8	5.3	10.6	11.8	14.4	13.4	16.2	14.7	12.9	13.9	10.9	10.4	14.7	12.0	17.9	14.7	18.0	19.0	13.5	16.8	24	19.0	3.9	12.1	0	0
5	17.8	10.6	12.5	25.0	39.3	14.4	19.8	14.5	14.7	27.9	45.1	33.0	25.0	27.0	24.5	16.3	19.8	18.0	17.9	27.7	7.5	9.7	8.7	12.0	24	45.1	7.5	20.4	0	0
6	12.4	8.9	8.0	7.7	12.1	10.8	15.0	16.1	19.9	11.5	8.2	9.4	12.2	11.4	7.2	10.6	14.1	14.3	41.9	99.6	64.6	40.2	72.7	66.5	24	99.6	7.2	24.8	0	0
7	76.6	68.0	51.0	57.2	83.2	102.7	134.1	156.5	110.1	119.6	127.0	67.4	63.7	58.6	48.4	45.5	26.7	19.6	32.2	123.9	101.3	118.4	111.8	76.7	24	156.5	19.6	82.5	0	0
8	80.5	52.7	52.9	44.1	52.5	12.9	12.1	6.6	7.0	6.8	5.3	5.1	4.5	5.0	4.9	6.2	5.9	5.6	5.2	6.4	9.2	9.6	9.7	13.6	24	80.5	4.5	17.7	0	0
9	12.4	14.5	13.9	14.0	15.0	17.2	102.1	87.8	74.7	33.9	12.1	11.9	20.9	24.2	31.3	27.2	19.8	8.4	9.6	10.2	8.4	7.4	6.1	5.9	24	102.1	5.9	24.5	0	0
10	6.1	7.5	15.5	19.0	11.9	10.3	10.8	8.4	7.9	8.1	11.7	12.1	12.7	17.9	18.0	31.0	25.0	15.5	10.5	8.2	7.2	8.9	7.5	7.9	24	31.0	6.1	12.5	0	0
11	6.6	6.1	6.0	5.6	4.9	5.3	4.3	4.4	4.9	4.9	5.0	4.7	3.3	C	C	C	23.4	21.8	25.9	28.9	29.4	27.3	40.9	44.9	21	44.9	3.3	14.7	0	0
12	51.4	76.3	100.8	79.7	86.8	95.7	96.4	88.9	67.1	43.9	46.4	31.2	26.3	20.9	25.5	24.6	NA	32.5	36.2	36.6	31.6	32.1	28.5	25.1	23	100.8	20.9	51.5	0	0
13	25.2	24.9	21.7	20.6	27.2	22.4	22.1	24.2	28.3	38.2	17.1	18.3	23.1	16.8	15.2	26.2	21.6	26.9	22.0	31.3	30.1	27.1	49.0	45.0	24	49.0	15.2	26.0	0	0
14	46.2	37.7	33.1	37.0	33.6	41.5	44.3	48.5	42.5	37.5	A	A	15.2	19.4	16.9	18.2	20.2	15.8	8.6	3.7	8.5	9.6	3.3	6.0	22	48.5	3.3	24.9	0	0
15	4.3	3.3	5.0	4.4	5.5	5.4	5.9	9.2	15.3	17.6	8.1	5.8	4.2	5.7	5.7	6.4	8.9	10.3	8.3	8.2	5.7	4.5	6.0	8.2	24	17.6	3.3	7.2	0	0
16	12.3	5.1	5.8	4.6	5.5	11.1	14.7	13.6	15.7	19.4	33.1	19.4	6.7	12.4	4.2	15.0	37.5	18.8	1.7	1.9	2.3	3.1	3.8	6.5	24	37.5	1.7	11.4	0	0
17	7.2	9.6	9.9	7.1	7.2	44.9	14.5	16.4	10.6	9.4	8.3	9.3	8.3	17.4	18.3	12.4	17.7	32.7	27.3	16.4	15.6	12.9	8.4	7.4	24	44.9	7.1	14.6	0	0
18	6.1	4.6	5.7	7.3	3.8	6.4	12.6	9.0	11.8	15.1	14.2	13.1	7.3	11.3	12.6	19.4	19.0	15.3	19.1	16.6	13.9	14.0	5.6	9.1	24	19.4	3.8	11.4	0	0
19	9.1	7.8	5.3	6.2	5.5	6.5	8.4	7.2	7.8	7.2	6.8	5.6	6.9	6.0	7.0	4.7	6.4	7.1	7.0	5.4	5.3	7.4	7.5	5.2	24	9.1	4.7	6.6	0	0
20	4.8	4.3	2.0	1.8	3.1	3.7	5.1	8.6	19.6	24.2	4.3	7.3	6.6	3.5	6.9	5.9	3.7	4.4	4.0	4.4	4.9	4.9	5.0	6.6	24	24.2	1.8	6.2	0	0
21	6.6	5.3	3.8	4.2	3.7	3.8	3.3	2.1	4.1	4.6	3.4	4.0	4.6	4.4	4.9	5.0	3.8	3.4	8.1	5.5	3.5	3.0	4.3	4.3	24	8.1	2.1	4.3	0	0
22	3.3	3.6	6.0	3.5	3.3	21.7	9.8	25.5	23.8	78.1	67.8	25.6	14.5	8.6	9.7	12.1	17.8	19.4	16.5	14.0	14.5	22.2	11.3	20.1	24	78.1	3.3	18.9	0	0
23	60.6	61.3	41.8	52.5	37.6	35.3	30.3	34.3	30.3	64.1	82.7	63.7	71.1	27.1	59.2	37.2	11.5	11.2	15.9	9.1	26.5	9.3	7.2	7.7	24	82.7	7.2	37.0	0	0
24	8.2	5.1	3.2	3.2	3.3	2.2	1.2	1.1	1.8	2.4	3.8	4.4	5.6	2.7	2.8	2.9	2.5	3.3	4.8	3.7	2.2	2.9	2.7	15.4	24	15.4	1.1	3.8	0	0
25	16.0	13.3	7.9	7.6	5.8	5.5	7.1	6.2	7.0	15.9	21.9	24.7	15.9	19.5	26.3	26.3	8.3	14.7	11.8	31.2	37.1	15.0	8.0	16.4	24	37.1	5.5	15.4	0	0
26	10.9	4.4	5.4	5.3	7.7	7.2	7.9	8.7	4.7	13.8	9.7	10.9	8.9	6.5	5.3	18.0	22.6	10.5	7.7	20.8	45.0	21.4	36.6	10.8	24	45.0	4.4	12.9	0	0
27	22.6	4.1	3.9	2.8	2.6	7.7	5.2	4.6	4.3	2.5	4.1	4.4	3.2	3.3	2.8	4.6	6.4	5.0	10.0	3.0	3.0	1.6	1.5	1.6	24	22.6	1.5	4.8	0	0
28	2.5	0.9	1.7	1.0	5.9	3.2	7.6	5.3	3.1	3.6	4.6	3.8	3.3	15.6	5.9	6.2	6.3	7.3	7.0	6.4	5.4	5.4	6.4	4.8	24	15.6	0.9	5.1	0	0
29	15.5	43.0	33.4	13.0	3.8	7.2	21.7	5.5	3.8	42.2	54.4	63.9	35.1	24.0	20.1	19.9	27.0	25.3	23.2	30.4	17.3	41.5	25.3	26.4	24	63.9	3.8	26.0	0	0
30	27.9	21.7	34.0	27.4	32.2	18.3	7.6	8.0	10.9	16.8	20.7	18.3	22.2	11.9	11.5	18.0	11.2	16.8	65.8	37.4	27.8	19.1	28.3	25.3	24	65.8	7.6	22.5	0	0
31	21.2	19.9	16.6	13.0	13.2	13.4	22.6	18.0	26.6	14.0	14.7	17.3	18.5	14.4	10.0	11.6	8.7	9.2	6.7	6.5	5.0	5.0	11.2	16.4	24	26.6	5.0	13.9	0	0
Count	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	30	30	31	31	31	31	31	31	31	738	31	30	31		
Maximum	80.5	76.3	100.8	79.7	86.8	102.7	134.1	156.5	110.1	119.6	127.0	67.4	71.1	58.6	59.2	45.5	37.5	38.0	65.8	123.9	101.3	118.4	111.8	76.7	24	156.5	37.5	89.5		
Minimum	2.5	0.9	1.7	1.0	2.6	2.2	1.2	1.1	1.8	2.4	3.4	3.8	3.2	2.7	2.8	2.9	2.5	3.3	1.7	1.9	2.2	1.6	1.5	1.6	21	8.1	0.9	2.2		
Average	21.1	19.2	18.8	17.7	19.4	21.8	24.0	24.2	23.1	26.4	25.3	18.7	16.1	14.8	15.0	16.2	15.4	15.6	17.5	21.3	19.6	17.7	19.1	19.5	24	50	6	19.5		
#>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
Data	4.0	5.5	7.2	9.2	12.4	15.8	20.4	27.2	42.7	65.9	107.3	156.5

	Regs	Acceptable	Desirable	Violations	Maximum
Hour					156.5
Day					82.5
Month					19.5

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

NOx Rundle Road
October 2015
(µg/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	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
2	M	M	M	M	M	M	M	M	7.1	6.8	6.0	5.4	5.7	4.9	5.4	6.5	5.6	5.1	12.0	6.9	8.0	4.6	5.2	5.1	16	12.0	4.6		0	0
3	4.5	11.5	4.8	4.9	10.0	5.3	5.7	6.3	6.1	6.1	23.4	6.0	6.1	5.4	5.9	5.6	17.7	5.5	5.8	13.5	13.9	5.7	5.9	6.9	24	23.4	4.5	8.0	0	0
4	14.3	6.2	5.8	11.6	7.2	19.5	13.9	53.9	41.9	29.5	28.4	17.1	35.1	7.0	5.4	5.3	5.9	8.7	12.6	10.9	12.9	14.1	13.0	9.4	24	53.9	5.3	16.2	0	0
5	7.7	7.8	15.0	8.9	10.3	10.6	17.8	24.8	20.0	19.5	16.5	15.2	19.2	12.9	18.5	17.9	16.3	20.1	17.3	16.4	15.6	8.6	6.7	6.8	24	24.8	6.7	14.6	0	0
6	6.5	7.0	8.6	9.2	8.6	7.3	13.5	27.7	19.2	13.0	12.9	20.7	28.7	14.6	11.4	12.4	18.4	17.0	8.9	11.6	25.3	31.5	14.9	12.8	24	31.5	6.5	15.1	0	0
7	11.6	9.7	9.0	9.1	13.3	11.0	51.5	66.0	70.1	35.8	56.7	78.3	45.8	44.9	38.5	36.4	37.5	25.3	7.5	6.2	8.0	10.5	6.6	6.3	24	78.3	6.2	29.0	0	0
8	6.1	6.4	7.5	6.6	6.8	10.4	20.7	30.6	11.8	16.9	8.1	9.4	9.3	16.0	9.3	8.3	10.7	18.0	34.7	21.8	32.8	34.3	47.4	62.8	24	62.8	6.1	18.6	0	0
9	10.7	10.7	12.4	10.3	9.3	10.6	15.2	16.1	33.0	34.3	33.4	16.5	8.4	7.3	7.3	6.7	6.4	6.3	6.7	24.7	12.2	10.7	17.2	14.4	24	34.3	6.3	14.2	0	0
10	12.0	6.8	5.6	6.0	5.5	6.2	7.8	7.6	8.7	14.3	9.7	6.4	6.6	6.8	6.9	7.3	9.1	16.0	17.4	14.1	12.0	9.5	11.0	8.5	24	17.4	5.5	9.2	0	0
11	9.3	7.0	10.9	12.5	12.3	12.4	19.9	12.5	13.6	15.4	11.7	9.0	10.8	12.5	8.4	12.2	7.8	8.9	10.4	14.3	12.6	17.3	11.5	11.0	24	19.9	7.0	11.8	0	0
12	12.1	16.9	10.1	9.7	10.4	10.7	21.7	14.0	11.2	11.7	10.7	15.7	11.2	10.2	11.1	11.5	13.8	21.1	28.2	26.4	19.5	18.7	16.6	15.9	24	28.2	9.7	15.0	0	0
13	23.9	11.6	10.8	10.5	14.5	13.5	15.7	22.6	25.1	18.9	21.8	21.1	14.3	16.5	16.7	16.5	18.8	19.9	22.6	30.3	15.9	9.9	10.0	10.0	24	30.3	9.9	17.1	0	0
14	6.5	5.9	5.4	4.9	5.3	6.2	9.7	13.8	12.6	7.0	6.7	6.4	7.2	8.0	8.9	9.0	8.8	8.1	7.2	8.7	11.5	23.3	51.2	50.9	24	51.2	4.9	12.2	0	0
15	29.4	14.6	14.2	18.3	24.6	41.1	35.1	29.0	31.8	45.0	40.4	29.0	23.1	19.6	19.2	18.0	26.2	19.3	21.3	21.1	28.9	20.5	16.4	12.0	24	45.0	12.0	24.9	0	0
16	9.2	6.6	6.2	8.9	10.6	12.0	25.1	26.6	17.0	12.7	23.4	33.7	35.8	31.5	25.6	9.2	7.3	8.6	8.1	8.1	8.0	6.5	6.6	5.3	24	35.8	5.3	14.7	0	0
17	6.5	5.7	5.0	4.8	5.3	5.5	10.5	13.6	10.5	5.5	5.5	5.9	5.4	5.7	5.8	7.2	6.1	7.3	7.7	9.1	9.4	9.8	11.8	10.9	24	13.6	4.8	7.5	0	0
18	8.7	6.5	6.7	7.4	6.9	7.3	7.6	5.8	6.2	5.3	5.7	6.2	7.0	7.0	6.5	5.9	7.2	8.6	13.1	8.2	9.7	10.1	12.3	10.3	24	13.1	5.3	7.8	0	0
19	7.6	9.8	6.9	8.4	9.4	15.0	55.3	81.0	82.0	58.0	25.4	12.9	11.4	C	C	C	9.9	11.9	18.6	13.6	14.0	13.6	15.9	17.0	21	82.0	6.9	23.7	0	0
20	16.4	11.7	18.7	13.3	16.6	21.5	22.1	19.3	28.4	39.9	43.7	36.5	45.4	57.1	50.5	37.7	50.4	31.4	16.1	22.0	18.1	15.5	14.8	12.0	24	57.1	11.7	27.5	0	0
21	10.1	21.0	81.6	29.1	12.9	5.0	20.4	13.2	18.8	12.0	13.5	13.6	10.7	10.3	13.1	20.3	27.4	17.9	15.7	17.5	31.7	15.6	25.4	20.6	24	81.6	5.0	19.9	0	0
22	35.8	26.5	16.2	13.5	17.3	26.0	28.9	15.0	9.7	7.0	4.8	5.0	4.4	7.5	7.1	14.1	13.7	6.5	4.5	5.5	0.0	0.0	0.0	0.0	24	35.8	0.0	11.2	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	8.6	4.4	6.8	8.0	11.8	17.1	38.5	62.9	24.0	19.2	6.5	24	62.9	0.0	8.7	0	0
24	12.8	20.9	10.2	6.3	3.8	9.8	16.7	15.0	9.7	9.1	15.6	13.6	18.6	11.5	17.0	16.1	11.8	8.7	13.6	15.8	20.7	15.0	6.7	6.1	24	20.9	3.8	12.7	0	0
25	7.2	7.1	3.0	2.5	3.1	2.9	2.7	2.6	2.7	2.5	2.6	2.6	2.9	2.7	2.9	2.6	2.3	3.2	3.6	5.1	2.3	2.9	2.9	4.3	24	7.2	2.3	3.3	0	0
26	14.5	2.9	2.6	3.2	3.6	10.6	28.6	42.0	21.0	19.6	10.2	20.7	7.0	5.8	6.3	6.2	15.3	83.8	55.9	27.4	44.1	15.2	8.5	6.8	24	83.8	2.6	19.2	0	0
27	6.9	7.7	9.3	6.5	7.2	14.1	68.7	87.3	20.5	17.7	13.1	7.7	9.3	8.9	8.9	8.8	11.3	18.0	32.0	15.3	29.6	11.6	15.5	11.1	24	87.3	6.5	18.6	0	0
28	18.1	15.1	11.0	12.5	21.0	22.1	14.6	12.5	15.6	8.4	13.8	8.0	7.9	8.1	9.5	8.4	16.9	19.8	25.0	26.0	33.9	19.4	16.5	12.1	24	33.9	7.9	15.7	0	0
29	13.4	10.7	9.7	10.9	15.5	12.2	11.3	11.6	8.9	10.1	11.1	8.9	8.9	12.1	12.2	11.0	11.7	12.0	12.8	16.5	15.1	16.4	14.6	15.7	24	16.5	8.9	12.2	0	0
30	9.2	2.3	2.2	2.4	6.8	5.8	26.7	18.3	9.4	8.8	10.7	4.1	4.0	4.3	5.0	5.5	8.3	6.5	13.6	10.0	18.0	9.4	8.7	9.9	24	26.7	2.2	8.7	0	0
31	8.0	4.7	3.1	5.3	4.4	9.1	5.1	32.1	35.8	24.6	20.7	14.3	12.5	12.8	10.5	10.4	11.6	12.0	17.0	8.0	19.4	13.0	7.7	11.6	24	35.8	3.1	13.1	0	0
Count	29	29	29	29	29	29	29	29	30	30	30	30	30	29	29	29	30	30	30	30	30	30	30	30	709	30	29	30		
Maximum	35.8	26.5	81.6	29.1	24.6	41.1	68.7	87.3	82.0	58.0	56.7	78.3	45.8	57.1	50.5	37.7	50.4	83.8	55.9	38.5	62.9	34.3	51.2	62.8	24	87.3	24.6	54.2		
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.9	2.6	2.3	3.2	3.6	5.1	0.0	0.0	0.0	0.0	0	0.0	0.0			
Average	11.7	9.7	10.8	8.9	9.7	11.8	20.4	24.9	20.3	17.2	16.9	15.0	14.1	13.1	12.4	11.9	14.1	15.6	16.2	15.8	18.9	13.9	14.0	13.1	23	39	6	14.8		
#>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
Data	5.2	6.5	7.8	9.4	11.1	13.0	15.7	19.4	28.7	38.2	68.5	87.3

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				87.3
	Day				29.0
	Month				14.8

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

NOx Rundle Road
November 2015
(µg/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	9.4	7.5	17.3	7.4	9.8	15.0	7.1	7.7	9.3	9.3	7.5	8.6	7.4	8.7	5.2	4.3	5.4	5.6	8.1	17.9	26.8	15.8	10.7	10.3	24	26.8	4.3	10.1	0	0
2	6.5	5.8	17.5	17.9	25.1	19.6	16.9	20.1	24.3	21.9	71.6	60.1	60.0	54.0	25.3	17.4	32.4	64.1	56.3	44.3	40.3	21.8	18.1	25.6	24	71.6	5.8	31.9	0	0
3	14.3	9.9	11.9	29.2	20.0	22.1	33.0	99.4	75.5	92.1	63.0	52.7	54.7	48.1	44.8	47.7	68.2	73.7	50.2	46.3	64.0	47.2	32.3	27.6	24	99.4	9.9	47.0	0	0
4	26.7	29.3	42.1	15.7	12.2	11.8	37.7	23.1	19.5	23.6	22.0	18.3	28.5	20.7	20.6	30.8	31.2	35.5	21.8	16.6	21.4	14.2	13.0	18.3	24	42.1	11.8	23.1	0	0
5	11.6	8.9	9.4	6.7	6.6	7.6	16.2	46.6	72.6	50.0	61.4	27.1	40.9	32.3	30.2	31.5	48.9	71.6	55.6	41.7	32.1	23.9	32.5	43.8	24	72.6	6.6	33.7	0	0
6	35.7	26.0	33.3	25.0	25.0	22.6	21.7	20.9	11.8	10.8	11.4	14.5	19.1	10.3	9.7	10.1	7.1	7.2	6.9	6.0	5.5	5.6	4.8	4.0	24	35.7	4.0	14.8	0	0
7	4.2	4.1	5.0	5.5	13.4	12.6	10.6	9.9	21.1	31.3	15.1	14.3	11.4	6.3	6.5	6.8	7.3	5.9	5.7	10.1	12.3	16.8	7.7	6.0	24	31.3	4.1	10.4	0	0
8	6.2	17.8	30.2	8.5	5.6	10.9	9.2	27.9	24.7	11.0	4.8	6.4	7.6	7.3	11.1	8.9	9.4	24.4	11.9	17.3	29.9	18.8	20.3	25.4	24	30.2	4.8	14.8	0	0
9	15.4	10.7	9.5	13.3	20.8	21.4	28.1	143.6	141.1	61.2	58.8	38.5	29.6	25.4	42.3	21.9	23.6	121.2	45.6	42.1	24.4	20.0	17.8	14.3	24	143.6	9.5	41.3	0	0
10	13.2	10.3	14.1	9.8	8.9	9.1	23.7	55.7	28.0	18.3	22.1	21.5	22.0	19.9	24.6	17.1	19.1	24.2	11.2	13.3	9.4	8.0	18.1	11.4	24	55.7	8.0	18.0	0	0
11	8.5	13.8	8.0	6.2	5.0	5.4	6.9	26.9	44.1	28.7	40.5	51.8	57.0	43.3	43.6	49.4	32.1	30.3	30.9	21.5	24.2	32.3	27.6	29.7	24	57.0	5.0	27.8	0	0
12	23.3	23.6	22.9	27.5	20.5	21.4	14.0	23.3	19.9	26.8	17.3	30.5	20.8	24.4	16.1	14.1	14.1	13.9	12.7	14.6	16.1	15.4	13.5	12.6	24	30.5	12.6	19.1	0	0
13	9.9	10.3	8.9	7.4	8.5	10.7	11.9	14.8	16.1	16.6	15.2	13.5	9.4	8.1	10.8	10.2	10.7	14.2	13.7	11.7	6.2	4.2	3.0	2.8	24	16.6	2.8	10.4	0	0
14	2.8	2.7	2.5	3.3	4.1	3.2	3.0	4.1	5.4	4.7	3.6	4.1	3.5	3.7	3.6	3.7	5.1	9.8	17.0	31.3	23.2	28.3	13.0	15.3	24	31.3	2.5	8.4	0	0
15	17.3	17.5	15.3	15.7	12.3	10.8	18.1	39.6	40.0	31.7	25.4	25.7	23.7	21.6	22.0	23.9	25.7	33.6	31.1	17.4	16.0	14.8	15.9	19.2	24	40.0	10.8	22.3	0	0
16	12.9	10.0	7.5	6.4	9.3	14.2	18.5	31.4	36.5	60.0	33.3	38.9	15.8	15.7	11.9	20.8	24.9	55.3	26.1	25.6	17.8	23.7	22.9	18.5	24	60.0	6.4	23.2	0	0
17	28.0	7.9	6.9	18.5	6.8	7.1	7.6	14.0	18.2	26.7	10.6	9.0	10.7	17.0	11.5	11.9	7.6	11.4	31.7	15.3	21.9	17.1	19.8	31.6	24	31.7	6.8	15.4	0	0
18	20.0	22.1	16.2	11.8	21.4	13.8	13.4	25.5	29.9	18.3	16.0	12.6	C	C	C	13.5	19.4	19.9	27.0	23.3	32.1	28.6	29.5	15.1	21	32.1	11.8	20.4	0	0
19	15.2	14.1	23.0	10.9	8.8	11.0	28.4	75.3	64.3	17.6	13.3	13.7	12.6	13.6	11.7	11.6	16.2	16.0	16.3	18.4	19.2	17.0	12.9	11.4	24	75.3	8.8	19.7	0	0
20	10.1	18.8	13.4	12.1	16.2	13.6	14.8	20.9	16.6	16.7	16.0	16.0	15.1	15.2	11.5	12.2	10.7	17.1	19.4	17.7	22.3	14.4	18.4	19.0	24	22.3	10.1	15.8	0	0
21	14.4	14.0	10.7	11.9	9.1	8.2	26.7	23.3	18.5	16.9	14.2	11.0	9.5	9.3	11.7	12.1	11.2	9.5	8.2	7.6	23.1	17.6	15.3	20.7	24	26.7	7.6	13.9	0	0
22	13.7	8.2	9.3	9.1	8.8	4.7	4.5	6.6	13.0	6.0	4.4	4.4	4.0	4.3	5.2	13.2	5.9	6.2	7.7	7.5	10.2	16.3	13.4	12.1	24	16.3	4.0	8.3	0	0
23	8.2	12.0	40.3	16.9	18.9	13.6	13.7	40.5	61.2	28.7	39.4	38.0	41.7	17.6	14.2	16.5	26.2	15.3	21.9	22.7	27.3	27.5	29.2	25.1	24	61.2	8.2	25.7	0	0
24	16.5	25.1	21.1	27.0	29.6	39.9	47.3	60.3	66.3	75.4	95.1	100.9	82.3	92.1	82.2	58.7	46.3	30.9	52.7	52.9	53.7	52.7	107.2	80.3	24	107.2	16.5	58.2	0	0
25	114.3	56.7	38.7	55.9	38.3	28.3	29.7	40.4	29.7	27.4	28.4	32.9	19.4	20.6	22.5	28.8	22.8	14.2	16.6	32.5	29.9	39.6	36.5	30.1	24	114.3	14.2	34.8	0	0
26	48.0	43.2	48.7	72.2	140.2	191.7	151.2	89.0	101.3	44.8	27.7	27.9	28.4	22.9	22.9	21.0	26.3	27.1	40.9	28.2	23.2	19.7	20.1	17.5	24	191.7	17.5	53.5	0	0
27	21.4	11.9	13.0	12.6	12.4	15.0	20.1	15.9	13.7	18.1	16.9	16.5	17.1	18.0	16.4	9.6	6.7	4.7	4.6	4.1	3.9	3.9	4.1	3.5	24	21.4	3.5	11.8	0	0
28	2.8	3.2	3.3	3.5	3.3	3.7	3.2	3.6	4.6	4.9	3.7	4.0	4.2	3.8	4.3	4.4	8.8	6.9	9.9	15.0	13.9	10.4	20.3	30.6	24	30.6	2.8	7.3	0	0
29	20.8	19.3	42.1	20.7	17.6	14.0	11.1	9.2	10.8	18.9	12.6	19.7	16.9	14.3	12.8	4.1	6.8	7.1	4.4	4.8	6.3	7.0	4.9	7.4	24	42.1	4.1	13.1	0	0
30	6.4	12.9	4.3	4.4	4.3	14.3	12.2	24.1	21.9	25.4	15.3	12.4	15.8	15.4	11.3	10.2	23.2	17.1	13.2	10.4	12.9	33.9	11.6	8.8	24	33.9	4.3	14.2	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	29	30	30	30	30	30	30	30	30	30	717	30	29	30		
Maximum	114.3	56.7	48.7	72.2	140.2	191.7	151.2	143.6	141.1	92.1	95.1	100.9	82.3	92.1	82.2	58.7	68.2	121.2	56.3	52.9	64.0	52.7	107.2	80.3	24	191.7	48.7	94.4		
Minimum	2.8	2.7	2.5	3.3	3.3	3.2	3.0	3.6	4.6	4.7	3.6	4.0	3.5	3.7	3.6	3.7	5.1	4.7	4.4	4.1	3.9	3.9	3.0	2.8	0	0.0	2.5			
Average	18.6	15.9	18.2	16.4	18.1	19.9	22.0	34.8	35.3	28.1	26.2	24.8	23.8	21.2	19.5	18.2	20.1	26.5	22.6	21.3	22.3	20.5	20.5	19.9	23	53	7	22.3		
#>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
Data	5.6	8.8	11.4	14.0	16.6	19.9	23.7	29.7	44.5	60.1	106.3	191.7

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				191.7
	Day				58.2
	Month				22.3

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

NOx Rundle Road
December 2015
(µg/m³)

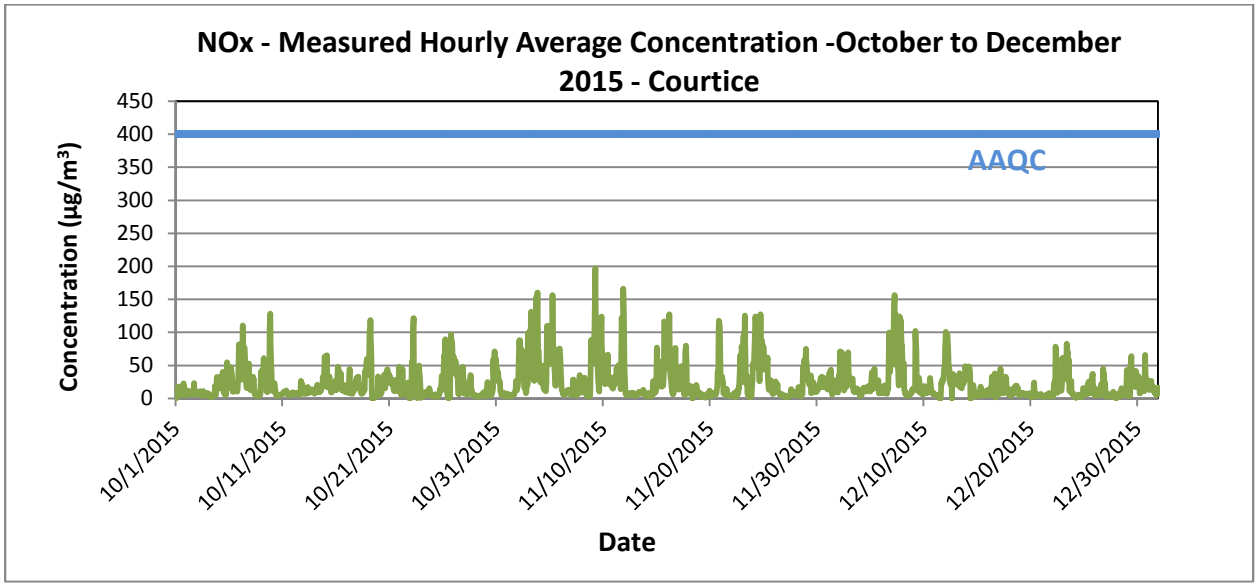
Day	Hour 0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>400	Days>200
1	15.6	7.1	12.3	7.2	25.6	13.4	18.1	28.7	21.5	19.6	16.2	42.5	30.6	19.4	16.0	22.0	21.3	31.1	20.8	20.4	25.5	30.1	44.8	40.1	24	44.8	7.1	22.9	0	0
2	30.3	39.5	34.0	15.6	15.7	20.6	19.2	18.6	51.7	60.9	43.1	38.1	28.8	29.7	16.6	15.3	32.5	16.5	10.9	8.5	7.2	6.4	7.2	7.4	24	60.9	6.4	23.9	0	0
3	7.4	6.7	7.2	6.0	7.6	9.2	9.0	13.9	19.8	19.4	14.2	10.4	9.4	11.5	8.6	8.4	10.3	6.9	6.1	6.0	9.9	12.1	8.9	20.7	24	20.7	6.0	10.4	0	0
4	16.9	18.0	14.2	13.3	14.4	16.7	18.4	13.2	21.0	32.8	34.6	30.6	26.4	21.3	16.2	16.1	17.6	21.3	24.9	16.0	19.4	19.0	17.5	17.0	24	34.6	13.2	19.9	0	0
5	12.5	11.9	10.8	12.4	29.8	24.3	28.8	24.8	27.2	28.4	49.2	42.9	31.5	33.4	31.5	25.9	35.6	34.8	43.2	28.0	20.4	56.5	28.3	19.5	24	56.5	10.8	28.8	0	0
6	21.4	30.4	14.2	12.6	16.3	16.8	19.3	22.2	38.3	19.0	14.0	14.6	17.8	19.0	13.6	15.8	18.6	28.9	16.3	16.6	17.8	17.7	18.2	48.1	24	48.1	12.6	20.3	0	0
7	61.5	55.7	38.7	30.2	23.0	22.0	36.6	52.7	114.1	83.6	71.9	82.5	60.3	64.9	75.4	57.1	76.5	44.2	29.3	24.5	38.7	65.6	56.9	40.5	24	114.1	22.0	54.4	0	0
8	35.2	32.6	40.5	52.3	37.5	54.1	39.1	37.1	22.8	21.3	20.8	17.1	14.8	20.9	20.6	21.9	20.8	23.4	26.5	33.1	35.7	34.4	25.2	40.6	24	54.1	14.8	30.3	0	0
9	35.0	30.8	28.4	25.7	31.8	29.6	29.0	58.2	60.2	91.1	32.1	20.2	23.1	26.0	30.8	30.9	26.1	46.0	28.2	46.4	33.8	25.2	19.3	17.5	24	91.1	17.5	34.4	0	0
10	24.0	18.9	27.7	27.6	38.5	39.5	57.5	27.3	25.1	23.5	31.4	32.5	27.3	36.5	38.2	56.1	50.4	58.1	45.8	50.6	32.8	30.1	24.6	32.0	24	58.1	18.9	35.7	0	0
11	20.9	22.8	28.6	17.5	13.7	18.5	18.6	23.8	32.8	38.8	24.5	38.0	21.9	34.2	35.8	C	C	10.9	13.5	14.5	22.7	26.4	22.8	16.2	22	38.8	10.9	23.5	0	0
12	22.2	18.0	15.2	14.5	24.8	24.2	20.7	20.7	18.1	20.7	21.8	16.2	10.1	7.6	10.7	16.2	17.4	13.4	12.9	14.4	16.7	23.0	7.7	10.5	24	24.8	7.6	16.6	0	0
13	11.7	18.8	9.6	10.8	5.4	6.0	3.8	7.2	7.0	5.5	4.6	6.7	11.2	7.8	6.3	7.1	9.7	14.3	9.7	19.7	20.5	15.1	15.8	10.5	24	20.5	3.8	10.2	0	0
14	11.7	14.6	11.6	18.1	11.3	38.3	14.5	37.7	43.8	36.5	28.3	33.2	A	A	23.7	40.1	43.1	23.0	23.7	23.7	14.7	19.9	13.3	15.5	22	43.8	11.3	24.6	0	0
15	18.1	11.0	13.0	16.1	18.0	12.8	13.1	21.5	38.1	15.8	9.1	8.9	5.6	5.7	6.4	9.1	11.7	4.9	2.9	3.1	3.1	2.9	2.5	3.2	24	38.1	2.5	10.7	0	0
16	2.8	2.2	3.0	21.8	3.2	16.0	4.3	18.6	14.9	11.5	14.7	9.4	7.3	13.4	16.0	20.5	22.7	19.1	25.4	21.7	15.4	20.2	47.8	36.6	24	47.8	2.2	16.2	0	0
17	20.7	38.6	22.5	14.1	31.5	36.9	25.5	61.3	63.2	21.5	22.6	22.7	22.8	29.3	20.7	20.6	18.5	15.5	23.3	14.8	14.5	11.0	5.2	9.1	24	63.2	5.2	24.4	0	0
18	4.3	6.2	9.4	10.9	4.9	3.3	9.7	9.3	14.0	22.0	18.8	20.4	17.4	20.0	23.3	26.7	24.7	24.6	25.8	18.7	15.0	10.9	7.7	8.2	24	26.7	3.3	14.8	0	0
19	12.6	9.3	8.2	8.3	11.4	12.9	11.9	16.8	16.3	13.7	10.7	12.9	10.8	10.0	11.4	10.2	10.5	11.2	6.2	4.8	8.7	6.6	4.7	6.9	24	16.8	4.7	10.3	0	0
20	6.8	4.6	7.9	10.0	9.6	8.8	8.9	8.7	8.7	20.6	9.7	14.7	12.3	9.1	14.2	11.7	12.3	12.0	26.7	15.4	48.6	17.1	15.1	15.9	24	48.6	4.6	13.7	0	0
21	15.0	16.9	15.1	34.0	22.2	24.8	25.5	13.9	13.6	13.6	16.4	15.9	15.6	14.2	15.7	18.2	15.8	16.9	26.4	19.8	24.3	16.7	20.7	19.0	24	34.0	13.6	18.8	0	0
22	25.1	39.3	36.0	26.2	43.0	71.0	42.6	45.5	53.8	31.3	59.2	58.5	33.2	24.4	37.1	30.7	33.0	26.8	71.4	51.4	61.3	28.0	29.5	34.0	24	71.4	24.4	41.3	0	0
23	44.3	47.9	47.2	45.0	24.1	36.7	21.1	17.4	14.8	17.0	18.2	14.8	16.5	15.8	13.3	15.9	20.6	11.6	13.5	13.8	22.4	29.9	27.7	53.5	24	53.5	11.6	25.1	0	0
24	13.8	15.2	19.1	12.0	11.2	8.2	5.4	9.5	8.9	8.5	11.5	9.9	12.6	9.9	10.6	9.0	8.0	9.7	13.0	15.6	7.8	6.4	7.1	13.9	24	19.1	5.4	10.7	0	0
25	19.7	21.8	12.1	11.9	9.5	8.7	10.3	11.7	11.6	13.1	22.7	22.8	15.6	14.9	20.5	13.8	4.1	4.1	3.2	5.2	4.4	5.1	4.7	4.2	24	22.8	3.2	11.5	0	0
26	4.0	3.6	3.8	4.8	6.2	4.5	3.4	3.8	4.4	9.7	6.8	18.3	6.8	13.9	4.8	20.3	8.1	5.8	4.7	10.1	6.2	5.0	18.6	4.9	24	20.3	3.4	7.6	0	0
27	5.0	3.9	4.2	4.2	3.9	3.7	3.2	3.2	2.7	2.6	3.1	3.3	3.4	2.4	2.4	2.3	2.0	2.5	2.6	2.1	1.6	2.1	1.9	1.6	24	5.0	1.6	2.9	0	0
28	1.7	1.3	1.7	1.8	2.0	1.7	2.3	2.7	3.4	7.1	4.8	6.6	8.1	16.8	5.6	5.3	4.8	4.4	4.5	4.8	4.4	4.3	5.3	6.3	24	16.8	1.3	4.7	0	0
29	19.5	14.9	8.7	5.8	6.1	6.2	10.9	7.5	5.3	8.4	9.5	14.5	12.3	12.0	16.2	13.4	14.1	11.9	9.1	9.4	29.4	15.2	26.0	23.7	24	29.4	5.3	12.9	0	0
30	24.6	27.8	20.9	22.0	16.7	27.5	23.6	21.6	30.1	31.0	32.5	28.4	29.1	23.4	21.3	37.3	27.9	22.8	29.5	51.0	52.3	38.7	34.7	37.9	24	52.3	16.7	29.7	0	0
31	34.8	30.5	23.8	20.4	18.7	23.4	37.6	11.8	35.3	26.3	23.6	28.3	31.1	24.3	11.6	12.3	17.0	14.9	13.8	11.4	11.8	10.0	11.4	17.2	24	37.6	10.0	20.9	0	0
Count	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	31	31	31	31	31	31	31	740	31	30	31		
Maximum	61.5	55.7	47.2	52.3	43.0	71.0	57.5	61.3	114.1	91.1	71.9	82.5	60.3	64.9	75.4	57.1	76.5	58.1	71.4	51.4	61.3	65.6	56.9	53.5	24	114.1	43.0	65.1		
Minimum	1.7	1.3	1.7	1.8	2.0	1.7	2.3	2.7	2.7	2.6	3.1	3.3	3.4	2.4	2.4	2.3	2.0	2.5	2.6	2.1	1.6	2.1	1.9	1.6	22	5.0	1.3	2.2		
Average	19.3	20.0	17.7	17.2	17.3	20.7	19.1	21.6	27.2	25.0	22.6	23.7	19.1	19.7	19.2	20.3	21.2	19.1	19.8	19.2	20.9	19.7	18.8	20.4	24	42	9	20.4		
#>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
Data	4.9	8.6	11.5	14.5	16.9	20.6	24.0	30.0	38.6	50.6	71.2	114.1

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				114.1
	Day				54.4
	Month				20.4

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

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



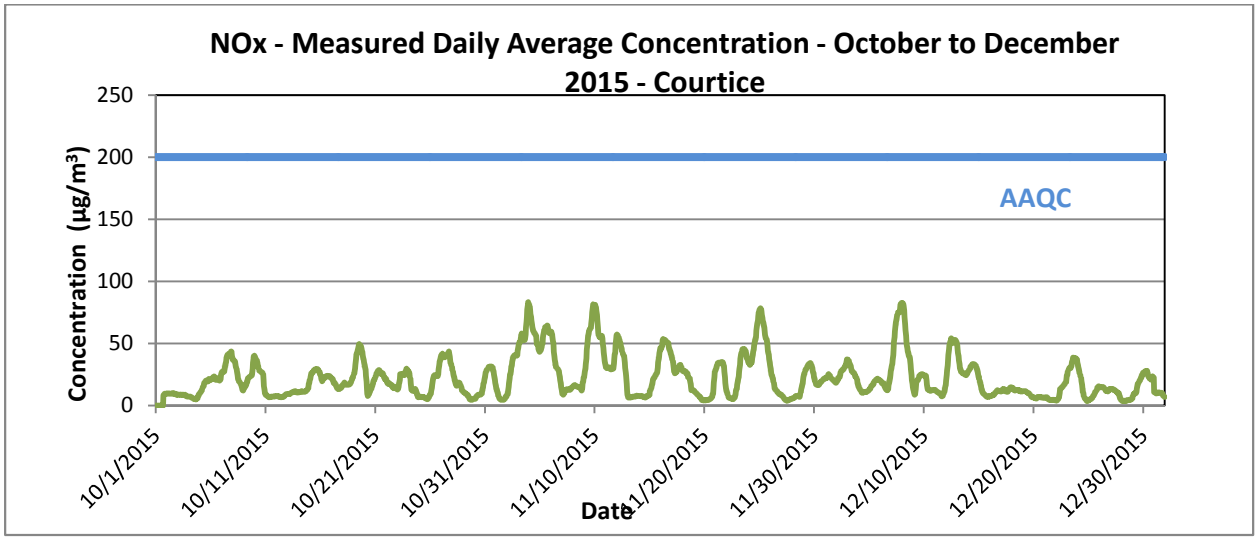
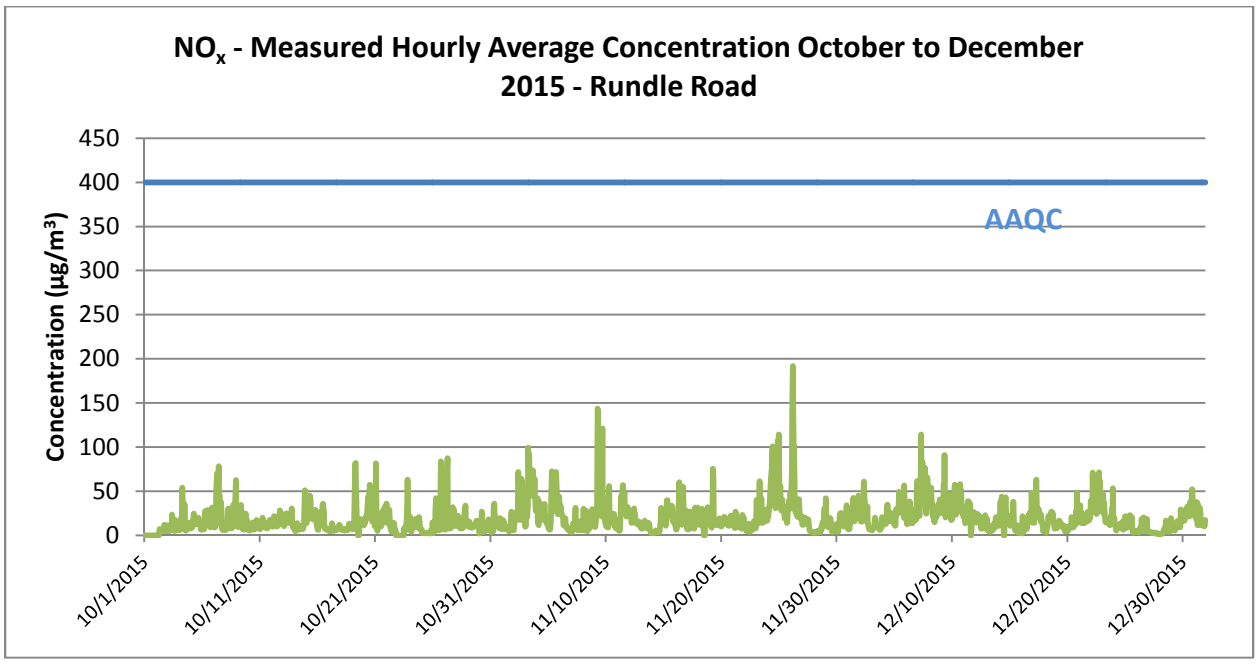
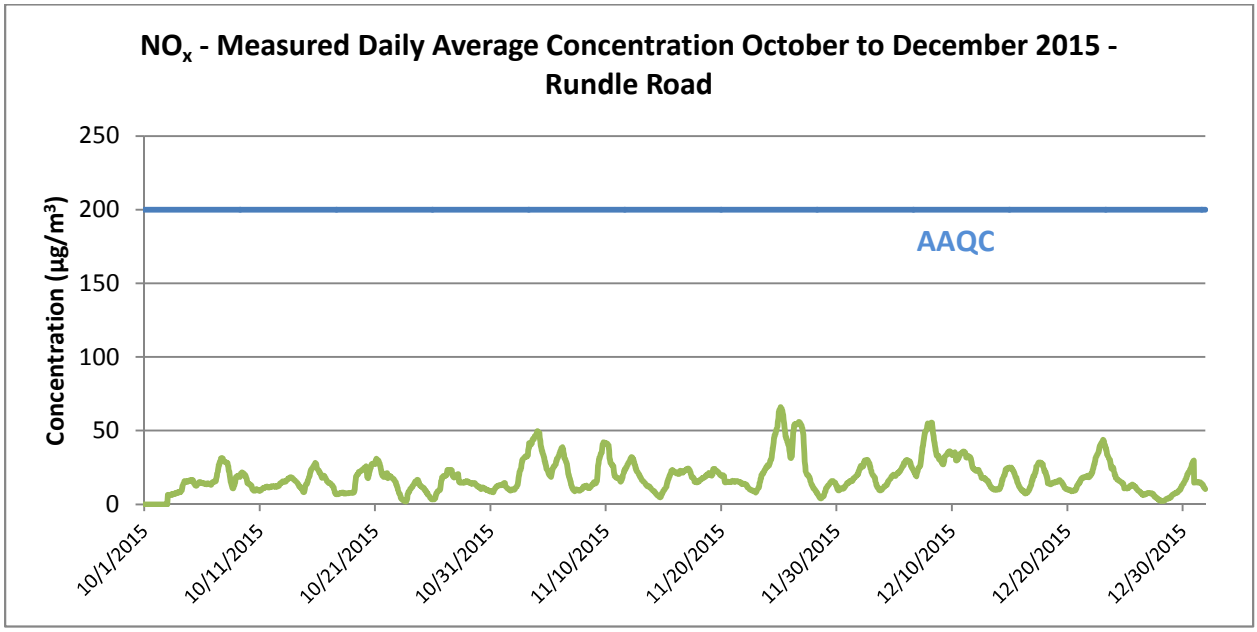


Figure C-2 Time History Plots of Measured Hourly Average and 24-Hour Average NO_X Concentrations – Rundle Road Station





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

$PM_{2.5}$ - COURTICE
October 2015
(µg/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	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	0.2	0.2	0.2
2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	0.9	0.2	0.2
3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	0.3	0.2	0.2
4	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	0.4	0.2	0.2
5	0.3	1.2	1.4	1.2	1.0	0.9	1.2	0.9	3.5	5.4	6.7	4.9	4.1	4.2	4.4	4.1	4.7	4.7	5.6	6.3	6.7	5.9	5.6	5.8	24	6.7	0.3	3.8
6	5.9	5.9	5.7	5.7	4.9	4.0	2.9	2.4	0.6	0.2	0.2	0.3	0.6	0.2	0.2	0.2	0.9	1.6	1.7	1.5	3.4	4.3	5.3	6.6	24	6.6	0.2	2.7
7	8.0	8.9	7.0	5.1	4.9	5.0	5.5	6.2	4.6	4.0	6.2	11.7	9.9	12.0	13.9	17.5	10.4	2.2	1.1	0.6	1.0	2.3	3.0	3.2	24	17.5	0.6	6.4
8	2.6	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	1.7	2.8	4.6	4.7	5.6	24	5.6	0.2	1.1
9	13.2	17.4	13.7	10.0	8.5	9.3	10.3	12.7	16.1	14.1	11.2	3.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.1	3.4	4.0	4.6	5.5	24	17.4	0.2	6.7
10	3.9	2.2	1.0	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.6	2.5	4.3	4.2	3.2	3.4	2.9	2.8	24	4.3	0.2	1.4
11	2.1	2.1	2.5	2.1	2.5	2.9	3.6	1.8	3.1	3.4	3.1	3.2	5.4	7.4	6.5	5.0	4.0	4.6	5.7	5.1	5.6	6.5	6.2	6.3	24	7.4	1.8	4.2
12	7.1	6.1	6.1	5.8	6.2	7.3	7.7	5.1	3.4	2.9	3.1	3.0	3.6	3.4	3.5	2.3	1.8	1.5	4.1	4.2	4.6	9.2	12.4	10.7	24	12.4	1.5	5.2
13	7.3	6.6	7.5	8.3	10.3	8.9	7.9	7.9	0.8	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.8	1.4	1.9	1.9	0.5	0.2	0.2	0.2	24	10.3	0.2	3.1
14	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.9	1.1	24	1.1	0.2	0.2
15	1.5	2.4	2.1	3.0	3.7	2.7	2.1	1.8	0.9	0.7	1.5	1.7	1.6	1.5	2.4	0.7	2.7	3.6	4.4	4.5	2.7	2.9	2.2	2.7	24	4.5	0.7	2.3
16	5.4	2.3	0.5	0.7	2.5	3.0	1.5	0.9	0.2	0.2	0.2	1.4	1.0	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	5.4	0.2	0.9
17	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.2	2.3	4.2	5.2	5.4	24	5.4	0.2	0.9
18	4.5	5.1	4.3	4.4	4.3	2.2	0.9	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	2.6	5.5	7.6	7.6	9.9	9.8	7.3	24	9.9	0.2	3.3
19	7.8	9.0	8.0	5.9	5.6	4.9	4.4	5.8	1.2	1.2	2.4	C	C	C	2.0	2.8	4.1	5.4	6.1	6.3	6.4	12.5	11.3	12.9	21	12.9	1.2	6.0
20	10.7	10.4	10.9	8.6	6.1	5.8	5.3	6.2	8.4	8.4	6.4	4.5	5.3	5.7	5.5	8.2	13.2	16.3	14.2	16.7	16.5	13.7	20.5	20.8	24	20.8	4.5	10.3
21	22.1	34.7	30.7	10.4	5.5	1.9	1.0	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.7	1.6	2.2	3.0	2.9	2.1	3.2	13.7	20.2	16.4	24	34.7	0.2	7.2
22	13.5	12.6	9.9	10.4	12.7	16.0	19.7	13.9	4.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	19.7	0.2	4.8
23	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	1.3	0.2	0.2	0.2	0.2	24	1.3	0.2	0.2
24	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8	1.7	3.1	5.4	11.5	17.0	14.9	13.0	11.2	11.7	7.8	5.0	24	17.0	0.2	4.4
25	6.9	5.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	6.9	0.2	0.7
26	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	4.3	7.6	5.5	3.5	1.6	24	7.6	0.2	1.1
27	1.6	1.6	0.9	0.7	0.7	0.4	1.2	4.2	0.3	8.6	1.2	0.2	0.2	0.2	0.2	0.2	1.7	5.3	0.9	0.2	0.2	0.4	3.9	3.7	24	8.6	0.2	1.6
28	5.8	8.5	7.5	7.5	9.9	11.9	10.1	5.9	4.3	5.2	4.3	4.3	46.4	14.7	12.4	24.0	2.9	4.4	3.8	4.2	4.0	3.0	3.0	2.3	24	46.4	2.3	8.8
29	3.0	2.2	0.6	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	3	3.0	0.6	
30	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	
31	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	
Count	29	29	29	28	28	28	28	28	28	28	28	27	27	27	28	28	28	28	28	28	28	28	28	28	672	29	27	28
Maximum	22.1	34.7	30.7	10.4	12.7	16.0	19.7	13.9	16.1	14.1	11.2	11.7	46.4	14.7	13.9	24.0	13.2	17.0	14.9	16.7	16.5	13.7	20.5	20.8	24	46.4	10.4	18.6
Minimum	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0.0	0.2	
Average	4.7	5.1	4.2	3.3	3.3	3.2	3.1	2.8	2.0	2.0	1.7	1.5	3.0	2.0	2.1	2.7	2.3	2.8	2.9	3.2	3.4	4.3	4.8	4.5	22	10	1	3.1
#>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		Regs	Acceptable	Desirable	Violations	Maximum
																									Hour				46.4
																									Day				10.3
Data		0.2		0.2		0.2		0.2		0.7		2.2		4.0		5.5		8.6		12.6		20.3		46.4	Month				3.1

Notes C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down R - Rate of Change

$PM_{2.5}$ - COURTICE
November 2015
(µg/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	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	
2	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	
3	M	M	M	M	M	M	M	M	M	M	10.3	14.9	17.5	18.6	18.5	16.1	16.3	21.5	21.5	24.9	26.1	26.6	25.2	24.9	14	26.6	10.3	
4	27.3	40.3	38.3	27.1	16.1	13.5	12.8	11.7	9.8	10.5	14.2	12.8	12.5	14.1	13.0	10.7	13.9	21.2	26.1	32.2	38.4	29.5	25.4	22.5	24	40.3	9.8	20.6
5	18.6	16.2	14.7	15.8	15.6	14.9	15.6	21.5	27.1	25.7	23.1	20.9	14.4	16.5	18.7	16.5	25.1	29.4	20.6	20.7	24.6	28.0	27.8	28.6	24	29.4	14.4	20.9
6	29.8	34.4	45.2	37.3	27.0	16.9	12.4	10.2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	8	45.2	10.2	
7	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	
8	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	
9	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	
10	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	
11	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	
12	M	M	M	M	M	M	M	M	M	M	M	M	M	M	2.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	10	2.1	0.2	
13	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	0.2	0.2	0.2
14	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	24	0.7	0.2	0.2
15	2.5	5.6	8.1	6.5	8.0	9.0	8.4	7.2	4.3	2.6	2.9	3.6	4.5	6.0	7.1	7.6	8.2	12.3	19.3	25.0	23.2	22.6	21.6	19.7	24	25.0	2.5	10.2
16	20.7	21.8	21.6	19.5	18.5	20.4	21.0	22.3	22.3	20.6	13.7	12.0	6.4	1.1	0.5	0.3	1.4	4.5	5.1	6.3	3.4	2.7	1.5	0.2	24	22.3	0.2	11.1
17	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8	0.5	0.7	1.3	0.3	0.2	0.2	0.2	1.7	1.7	1.7	1.2	0.4	1.0	2.5	24	2.5	0.2	0.7
18	6.1	13.5	24.2	20.8	17.0	13.2	9.3	7.5	7.7	C	C	C	C	C	2.9	2.0	1.9	1.9	2.5	3.4	3.3	4.8	4.5	3.9	19	24.2	1.9	7.9
19	6.1	7.5	6.4	1.9	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	1.3	1.3	1.6	0.2	0.7	0.2	0.2	24	7.5	0.2	1.2
20	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.0	3.7	8.0	14.4	14.4	24	14.4	0.2	1.9
21	9.9	7.8	5.6	6.0	6.2	3.7	4.8	0.2	1.1	1.1	0.7	0.7	0.7	0.4	0.2	1.5	5.0	5.5	2.4	3.5	0.2	0.2	1.3	1.0	24	9.9	0.2	2.9
22	1.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.0	3.9	0.4	0.2	24	3.9	0.2	0.5
23	1.6	2.2	2.5	2.2	1.7	0.2	0.7	1.3	0.6	0.2	0.2	1.6	2.3	0.2	0.2	0.2	0.2	0.7	0.2	0.2	1.8	2.2	2.7	6.4	24	6.4	0.2	1.3
24	7.6	12.4	14.1	15.0	18.4	22.7	28.1	29.0	31.7	33.1	34.7	34.6	35.0	34.1	29.7	23.7	10.2	3.1	6.4	7.8	8.6	11.8	11.5	12.2	24	35.0	3.1	19.8
25	11.2	12.5	13.8	9.2	8.8	13.5	19.6	33.1	39.5	36.3	73.2	28.1	11.4	8.1	7.5	1.0	1.3	1.8	1.6	1.7	1.8	2.1	1.6	1.5	24	73.2	1.0	14.2
26	2.5	4.2	6.4	8.0	6.8	4.0	2.3	1.0	1.5	1.7	1.8	2.1	2.1	2.1	2.3	2.7	3.2	3.8	4.3	4.1	3.7	3.4	2.9	2.5	24	8.0	1.0	3.3
27	2.4	2.7	2.7	2.4	2.6	2.3	2.2	2.5	2.5	2.9	2.8	3.8	5.7	5.4	4.9	1.2	0.5	1.0	0.2	0.3	0.2	0.2	0.2	0.2	24	5.7	0.2	2.2
28	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	1.3	7.0	12.5	15.7	13.7	14.5	14.6	13.4	24	15.7	0.2	4.0
29	12.4	9.4	12.2	8.3	6.5	6.8	6.9	6.4	4.6	1.6	1.3	0.8	0.2	0.2	0.2	0.2	1.2	3.2	2.5	3.1	3.2	1.8	1.6	1.9	24	12.4	0.2	4.0
30	0.8	0.8	1.0	1.0	0.9	0.6	0.9	1.3	1.1	0.9	1.1	1.0	0.8	0.3	0.8	0.9	3.4	5.7	8.3	7.1	6.7	6.9	7.4	6.5	24	8.3	0.3	2.8
31																									0	0.0	0.0	
Count	21	21	21	21	21	21	21	21	20	19	20	20	20	20	22	22	22	22	22	22	22	22	22	22	507	22	19	21
Maximum	29.8	40.3	45.2	37.3	27.0	22.7	28.1	33.1	39.5	36.3	73.2	34.6	35.0	34.1	29.7	23.7	25.1	29.4	26.1	32.2	38.4	29.5	27.8	28.6	24	73.2	22.7	33.6
Minimum	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0.0	0.2	
Average	7.7	9.2	10.4	8.7	7.4	6.8	7.0	7.4	7.8	7.3	9.1	6.9	5.8	5.4	5.0	3.9	4.3	5.7	6.2	7.3	7.6	7.7	7.6	7.4	16	14	2	6.5
#>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	Regs	Acceptable	Desirable	Violations	Maximum
																									Hour				73.2
																									Day				20.9
Data		0.2		0.2		0.2		1.1		2.2		4.0		7.7		13.9		22.0		27.9		38.3		73.2	Month				6.5

Notes C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down

$PM_{2.5}$ - COURTICE

December 2015

($\mu g/m^3$)

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	5.9	6.6	6.7	6.9	6.4	14.4	24.5	29.6	34.5	8.6	6.5	1.6	1.1	1.2	1.1	1.4	1.6	3.4	3.0	2.8	3.4	2.7	3.6	2.6	24	34.5	1.1	7.5
2	0.2	3.0	7.0	4.2	6.8	6.6	7.2	7.6	6.8	7.3	7.2	4.8	1.5	1.5	0.4	0.4	0.9	2.5	2.1	0.4	0.6	0.7	1.6	3.3	24	7.6	0.2	3.5
3	4.0	5.0	4.9	3.7	3.0	3.8	3.7	3.5	3.4	4.8	1.9	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	24	5.0	0.2	1.9
4	0.4	1.9	2.0	4.0	9.2	10.9	7.6	12.9	17.5	16.9	14.3	11.2	9.4	6.5	4.3	2.8	5.5	7.7	7.6	7.6	8.6	8.3	10.6	11.4	24	17.5	0.4	8.3
5	12.3	14.7	16.4	21.3	35.5	37.7	33.3	26.0	29.3	35.7	42.7	34.3	28.3	27.4	24.8	22.5	23.2	22.7	21.5	18.7	17.4	18.4	19.0	18.2	24	42.7	12.3	25.0
6	17.8	14.6	13.0	16.4	19.7	20.9	21.6	20.8	19.5	16.8	15.6	14.4	16.6	18.3	16.1	16.6	19.7	21.7	22.7	28.8	38.3	31.8	22.2	12.2	24	38.3	12.2	19.8
7	9.8	11.9	17.2	21.1	22.3	23.9	23.7	24.2	24.1	23.0	24.1	24.2	22.2	23.4	20.5	20.8	22.6	21.7	21.5	29.7	32.5	36.3	35.5	36.6	24	36.6	9.8	23.9
8	36.8	37.2	28.7	21.1	14.3	8.3	8.2	6.1	7.7	7.6	6.2	5.3	4.3	5.2	7.2	12.8	12.8	10.4	14.4	14.9	13.1	15.4	21.3	22.8	24	37.2	4.3	14.3
9	14.2	16.5	16.9	16.7	16.5	16.9	19.6	22.3	20.7	11.6	7.5	8.1	9.7	12.2	12.4	11.0	6.8	4.4	6.8	6.8	8.4	13.1	23.4	27.1	24	27.1	4.4	13.7
10	27.4	30.2	19.7	15.2	11.7	16.1	22.4	28.6	29.7	29.1	28.3	29.5	30.1	28.8	30.2	32.8	28.8	22.2	15.3	7.5	4.2	5.7	6.4	7.1	24	32.8	4.2	21.1
11	8.0	7.4	6.6	6.9	7.7	10.6	12.5	12.4	11.2	12.2	9.1	4.9	2.6	C	5.9	3.6	1.3	0.8	1.3	1.4	1.8	3.6	6.6	6.4	23	12.5	0.8	6.3
12	7.2	9.9	13.0	12.3	13.2	12.8	10.7	10.1	11.6	12.7	12.6	6.5	2.4	1.5	3.0	3.8	3.9	7.5	10.5	10.8	6.4	6.9	5.4	4.5	24	13.2	1.5	8.3
13	4.4	5.1	3.1	2.7	2.8	1.3	1.1	0.7	1.1	2.1	-0.4	1.6	0.9	0.9	0.8	2.9	11.2	17.8	10.6	23.9	12.0	15.0	21.6	15.9	24	23.9	-0.4	6.6
14	12.3	12.0	12.7	12.7	15.0	14.5	16.0	16.6	15.8	16.3	A	A	8.7	14.1	16.8	21.5	14.1	7.8	5.6	4.8	0.2	0.2	0.2	0.2	22	21.5	0.2	10.8
15	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	0.2	0.2	0.2
16	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	7.1	28.1	8.4	0.2	5.5	0.3	4.6	10.5	3.7	0.2	0.2	0.2	0.2	0.2	0.2	24	28.1	0.2	3.0
17	0.7	2.4	4.3	4.8	6.9	8.2	7.7	7.2	2.8	2.0	1.8	2.4	1.5	2.4	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	24	8.2	0.2	2.4
18	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.1	0.5	0.2	0.9	3.4	4.3	4.9	4.9	6.2	11.4	6.6	2.9	2.6	0.2	0.2	24	11.4	0.2	2.2
19	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	0.2	0.2	0.2
20	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	1.0	2.8	2.0	2.8	5.9	3.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	5.9	0.2	0.9
21	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.2	2.0	2.9	3.4	3.5	3.5	3.6	3.1	3.4	3.4	3.7	5.4	6.1	7.2	7.7	8.6	24	8.6	0.2	2.9
22	10.5	11.6	11.9	8.7	7.0	8.6	6.8	7.1	7.0	7.4	6.9	5.1	3.9	4.8	4.4	6.8	10.2	9.9	12.2	12.8	15.7	16.2	13.0	15.3	24	16.2	3.9	9.3
23	17.4	17.5	15.8	10.9	9.1	11.7	13.6	20.2	31.6	141.3	77.4	57.1	36.8	5.4	5.9	2.6	0.7	1.0	1.7	2.3	1.4	0.3	0.2	0.2	24	141.3	0.2	20.1
24	0.2	0.2	0.4	0.2	0.2	0.2	0.2	0.2	0.6	0.8	0.7	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	0.8	0.2	0.3
25	0.2	0.2	1.5	1.4	1.8	4.1	4.2	3.6	2.2	2.3	4.6	3.4	0.3	0.8	5.1	5.5	0.5	1.8	2.1	4.2	8.5	5.9	6.3	4.5	24	8.5	0.2	3.1
26	5.7	8.6	4.4	3.4	3.2	2.9	0.3	0.2	0.2	0.6	0.2	0.2	0.2	0.2	0.8	7.9	5.1	0.2	0.2	0.5	1.7	2.6	12.3	11.1	24	12.3	0.2	3.0
27	27.4	0.6	0.7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	24	27.4	0.2	1.3
28	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	6.8	1.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.7	24	6.8	0.2	0.5
29	34.5	81.0	46.4	12.4	0.2	0.2	0.2	0.2	0.2	48.4	51.6	49.6	19.2	1.1	0.2	0.2	0.2	0.3	1.7	3.2	1.3	1.6	1.7	3.6	24	81.0	0.2	15.0
30	4.1	3.7	7.6	4.0	6.0	4.5	1.9	2.9	4.8	7.9	8.7	7.2	6.8	3.0	3.3	5.2	2.6	10.0	17.9	12.6	8.7	6.0	10.6	9.4	24	17.9	1.9	6.6
31	11.8	12.4	11.3	10.1	9.9	8.7	9.8	1.9	4.7	0.7	0.2	0.2	0.7	0.5	1.0	1.1	0.5	0.2	0.2	0.2	0.3	2.3	5.1	9.6	24	12.4	0.2	4.3
Count	31	31	31	31	31	31	31	31	31	31	30	30	31	30	31	31	31	31	31	31	31	31	31	31	741	31	30	31
Maximum	36.8	81.0	46.4	21.3	35.5	37.7	33.3	29.6	34.5	141.3	77.4	57.1	36.8	28.8	30.2	32.8	28.8	22.7	22.7	29.7	38.3	36.3	35.5	36.6	24	141.3	21.3	42.1
Minimum	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	22	0.2	-0.4	0.1
Average	8.8	10.2	8.8	7.2	7.4	8.0	8.3	8.6	9.3	13.8	12.0	9.6	6.9	6.1	5.8	6.4	6.2	6.1	6.3	6.7	6.3	6.6	7.6	7.5	24	24	2	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				

	Regs	Acceptable	Desirable	Violations	Maximum
Percentiles	Hour				141.3
	Day				25.0
Data	Month				7.9

10	20	30	40	50	60	70	80	90	95	99	100
0.2	0.2	0.3	1.9	3.8	6.6	9.4	14.1	21.7	28.8	44.9	141.3

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

$PM_{2.5}$ - Rundle Road
October 2015
(µg/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	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	
2	M	M	M	M	M	M	M	M	2.0	2.0	2.0	1.6	1.1	1.0	0.9	0.9	0.9	1.1	2.1	4.6	1.9	1.9	1.9	2.0	16	4.6	0.9	
3	6.6	10.5	9.8	9.2	7.8	6.4	6.5	6.1	6.0	6.3	5.8	17.5	2.3	2.4	12.7	19.6	3.3	3.9	5.0	5.6	5.5	5.0	4.2	3.8	24	19.6	2.3	7.2
4	3.5	2.7	2.7	2.9	2.6	3.4	2.2	3.1	5.1	6.1	4.1	2.9	1.8	1.7	1.2	1.2	1.4	1.4	2.0	2.7	5.9	7.4	5.3	4.5	24	7.4	1.2	3.2
5	4.8	5.2	4.2	2.2	1.7	1.9	3.2	10.5	3.8	6.0	4.6	3.9	4.6	5.8	4.0	5.1	4.0	3.0	3.6	3.0	4.1	3.5	3.1	3.0	24	10.5	1.7	4.1
6	3.5	3.8	2.8	2.7	2.9	2.2	2.9	2.8	2.1	1.3	2.0	1.9	2.8	1.3	1.2	2.8	6.9	6.1	6.9	6.1	8.3	8.1	8.2	8.1	24	8.3	1.2	4.1
7	8.5	8.8	6.6	4.8	5.5	6.0	7.2	7.2	7.3	6.8	10.0	12.5	8.9	12.7	11.7	12.5	8.6	6.5	2.5	2.4	2.5	3.3	4.2	7.6	24	12.7	2.4	7.3
8	4.8	4.7	3.7	3.3	3.3	4.2	6.6	6.1	3.8	2.3	2.1	2.3	2.5	2.9	2.6	2.1	2.9	4.4	6.3	7.3	5.8	6.3	5.0	5.1	24	7.3	2.1	4.2
9	3.6	3.1	2.2	2.4	2.6	3.7	4.5	7.4	10.6	8.0	5.9	2.0	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.8	1.6	1.9	3.6	4.3	24	10.6	0.2	2.9
10	4.2	3.7	3.9	4.1	3.9	3.9	3.7	3.5	4.1	1.1	0.8	0.7	0.8	1.0	1.2	1.7	2.0	3.4	5.5	3.4	2.1	2.3	2.2	2.3	24	5.5	0.7	2.7
11	3.4	4.9	6.0	5.1	5.9	6.8	6.9	5.7	5.3	6.3	6.0	4.8	5.4	5.6	3.9	3.3	3.3	3.6	3.7	4.7	5.1	7.0	5.4	6.1	24	7.0	3.3	5.2
12	4.7	4.8	4.8	4.7	4.7	5.3	6.3	5.3	5.6	5.5	6.2	8.1	8.4	8.1	8.2	7.7	8.4	13.4	13.1	8.6	7.4	9.5	10.0	8.6	24	13.4	4.7	7.4
13	8.8	8.4	8.5	8.5	10.4	9.6	9.1	12.3	6.0	1.4	1.3	1.6	1.8	1.8	1.2	1.8	2.3	2.1	2.4	2.5	1.4	0.9	0.7	0.5	24	12.3	0.5	4.4
14	0.6	0.5	0.7	1.0	1.2	1.5	2.0	2.3	2.8	3.6	3.4	3.9	4.6	5.2	3.4	2.0	2.0	1.9	7.2	19.3	18.9	1.9	2.8	3.4	24	19.3	0.5	4.0
15	3.0	3.2	3.1	3.8	4.3	4.2	3.5	3.6	2.8	2.6	2.7	3.1	3.3	2.8	2.2	2.5	5.7	3.4	4.2	4.0	5.5	3.2	3.1	3.6	24	5.7	2.2	3.5
16	5.2	2.3	1.7	2.3	2.7	3.3	3.8	3.9	3.6	2.9	2.6	5.3	6.2	3.9	2.5	1.7	2.2	2.9	5.9	4.7	2.7	2.2	1.8	1.9	24	6.2	1.7	3.3
17	2.1	2.1	2.1	2.1	1.7	1.6	3.0	3.5	2.0	1.6	1.5	1.5	1.4	1.4	1.6	2.2	1.9	2.2	2.8	3.1	3.1	3.8	3.8	4.0	24	4.0	1.4	2.3
18	3.8	3.8	3.8	4.1	3.6	2.6	1.9	1.7	3.9	1.3	1.3	2.4	2.0	2.2	2.3	2.8	5.0	5.6	7.9	22.5	13.9	8.4	7.4	9.3	24	22.5	1.3	5.1
19	8.4	7.7	6.8	6.9	6.1	5.8	7.8	12.3	9.3	6.9	6.0	4.6	4.2	C	3.6	4.2	4.6	4.4	4.3	4.8	5.4	11.6	11.7	12.1	23	12.3	3.6	6.9
20	7.8	5.7	5.5	4.8	5.4	7.4	7.4	8.1	10.1	9.6	8.8	8.2	9.8	10.9	11.9	12.0	16.3	16.6	14.2	14.5	14.0	11.8	10.8	12.5	24	16.6	4.8	10.2
21	11.5	11.8	18.3	16.5	8.7	5.9	7.3	7.4	6.9	8.5	5.0	5.2	5.0	5.7	6.3	8.3	9.0	10.1	8.6	7.2	8.9	10.3	10.1	8.7	24	18.3	5.0	8.8
22	11.0	11.5	7.9	8.5	11.0	15.7	18.5	8.5	4.0	2.9	2.2	1.9	2.2	7.0	5.2	10.5	13.5	5.3	21.2	11.8	2.8	2.4	2.0	1.8	24	21.2	1.8	7.9
23	2.3	1.5	2.7	4.3	3.6	3.1	16.4	17.2	5.6	4.4	2.2	2.1	2.2	2.0	0.4	0.9	0.9	6.4	22.9	19.7	17.9	10.0	7.4	2.3	24	22.9	0.4	6.6
24	2.8	3.7	4.5	3.3	2.8	4.1	4.3	4.8	4.6	6.5	4.6	5.8	10.0	5.9	8.4	9.3	7.1	8.6	8.0	7.1	8.5	8.0	4.0	1.6	24	10.0	1.6	5.8
25	2.5	1.5	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.5	0.7	0.6	0.4	0.4	0.9	0.7	1.9	2.2	1.7	1.4	2.5	2.6	24	2.6	0.2	0.9
26	3.4	3.5	3.0	2.8	2.6	3.2	4.3	5.5	3.1	2.5	1.7	1.2	1.1	0.2	0.2	0.2	1.4	35.5	30.4	29.3	30.8	18.4	10.4	8.1	24	35.5	0.2	8.4
27	6.5	5.8	4.4	4.1	4.4	4.7	11.7	18.6	6.1	3.7	3.6	2.3	2.8	2.4	2.1	3.3	4.4	6.5	4.8	4.2	4.6	4.1	3.9	3.4	24	18.6	2.1	5.1
28	5.1	7.7	8.4	8.7	10.6	9.4	8.4	4.7	3.3	3.0	2.1	1.4	0.6	0.3	0.5	0.7	2.1	2.9	3.2	1.7	0.3	0.2	0.5	0.3	24	10.6	0.2	3.6
29	0.6	0.2	0.2	0.2	0.2	0.2	0.8	1.3	3.5	4.0	3.6	3.0	2.7	4.1	5.6	5.7	8.7	11.4	12.4	11.9	11.6	8.5	6.6	6.1	24	12.4	0.2	4.7
30	2.6	1.6	1.9	2.3	2.9	2.5	4.4	5.2	4.2	6.0	10.1	3.9	4.0	3.5	2.7	4.1	7.2	7.8	11.2	13.0	8.3	12.7	22.4	10.5	24	22.4	1.6	6.5
31	9.9	12.6	7.4	5.6	6.3	5.2	4.8	8.5	21.6	10.4	5.1	3.0	4.1	3.1	3.6	3.2	4.7	6.7	9.3	6.8	8.0	7.6	5.9	6.3	24	21.6	3.0	7.1
Count	29	29	29	29	29	29	29	29	30	30	30	30	30	29	30	30	30	30	30	30	30	30	30	30	711	30	29	30
Maximum	11.5	12.6	18.3	16.5	11.0	15.7	18.5	18.6	21.6	10.4	10.1	17.5	10.0	12.7	12.7	19.6	16.3	35.5	30.4	29.3	30.8	18.4	22.4	12.5	24	35.5	10.0	18.0
Minimum	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	0.5	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.8	0.3	0.2	0.5	0.3	0	0.0	0.2	
Average	5.0	5.1	4.8	4.5	4.5	4.6	5.9	6.5	5.3	4.4	3.9	4.0	3.6	3.6	3.7	4.4	4.7	6.3	7.8	8.0	7.3	6.1	5.7	5.2	23	13	2	5.3
#>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				

	Regs	Acceptable	Desirable	Violations	Maximum
Percentiles	Hour				35.5
	Day				10.2
Data	Month				5.3

Percentiles	10	20	30	40	50	60	70	80	90	95	99	100
Data	1.3	2.0	2.6	3.3	4.0	5.0	6.1	7.9	10.4	12.6	21.5	35.5

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

$PM_{2.5}$ - Rundle Road
November 2015
(µg/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	8.0	10.3	11.7	8.2	4.0	2.4	2.2	1.6	1.2	1.1	1.1	1.5	2.3	2.8	2.5	3.0	4.7	5.7	7.2	9.9	11.9	13.9	11.3	8.0	24	13.9	1.1	5.7
2	6.9	6.9	7.8	8.3	10.8	9.2	7.6	7.8	7.8	6.7	7.5	9.7	11.5	9.0	3.4	2.3	4.4	16.3	15.5	8.2	9.4	15.5	16.3	14.4	24	16.3	2.3	9.3
3	12.6	11.7	11.0	11.4	12.6	14.6	16.7	25.5	22.3	20.5	18.9	21.4	21.4	20.8	20.4	20.4	34.9	41.2	28.7	27.9	28.6	22.7	23.4	21.9	24	41.2	11.0	21.3
4	20.6	26.4	28.9	21.0	15.6	14.4	14.6	14.2	13.6	14.0	17.5	15.9	14.5	16.1	16.0	15.4	17.5	25.2	23.7	49.9	45.0	30.3	26.7	22.8	24	49.9	13.6	21.7
5	22.7	17.7	13.9	11.6	12.1	11.9	11.8	14.3	23.9	26.0	23.6	20.8	16.9	15.8	16.6	15.7	19.8	25.0	21.1	19.8	25.9	29.0	25.9	19.9	24	29.0	11.6	19.2
6	18.6	19.4	20.6	18.9	17.0	8.5	7.1	6.1	5.6	4.2	3.6	3.1	2.2	1.6	1.7	2.1	2.4	2.2	2.2	1.8	1.6	1.6	1.2	0.5	24	20.6	0.5	6.4
7	1.5	1.4	1.5	3.1	4.0	4.4	3.9	4.7	4.5	4.5	3.7	3.6	5.5	3.2	4.3	3.3	3.0	3.1	3.8	6.4	8.4	8.1	4.4	3.6	24	8.4	1.4	4.1
8	4.1	7.6	11.2	7.9	5.7	6.0	6.0	5.9	6.0	5.4	3.3	3.4	3.2	2.5	3.1	2.9	3.8	6.3	6.5	7.8	10.7	13.4	17.7	14.8	24	17.7	2.5	6.9
9	13.7	17.8	15.4	14.1	12.5	12.5	13.6	24.0	31.7	17.5	15.7	16.0	14.7	12.1	10.2	9.6	39.3	79.2	44.7	49.8	37.7	33.2	31.5	26.8	24	79.2	9.6	24.7
10	23.8	19.9	16.9	13.0	11.8	12.7	13.9	17.2	14.9	12.6	14.1	15.5	19.1	16.6	14.4	11.8	9.8	9.0	5.4	5.3	6.8	6.8	6.6	5.7	24	23.8	5.3	12.6
11	5.5	7.0	7.7	7.1	3.3	2.3	2.5	4.7	4.3	2.3	2.5	4.0	4.8	3.5	3.9	11.3	13.8	20.0	23.9	20.4	34.3	21.3	13.5	21.0	24	34.3	2.3	10.2
12	22.2	17.2	20.4	27.4	39.6	32.6	18.6	10.3	6.0	4.0	3.6	3.7	3.8	4.4	1.9	1.3	2.1	2.6	2.4	3.6	4.1	3.2	2.4	1.1	24	39.6	1.1	9.9
13	1.1	1.4	1.2	1.5	2.0	2.5	3.1	4.3	6.0	7.8	7.0	5.3	3.7	2.7	3.4	3.0	2.8	3.6	3.5	3.1	2.2	2.1	2.1	2.5	24	7.8	1.1	3.2
14	3.9	2.6	2.9	3.2	2.9	1.8	1.5	1.6	2.3	2.3	2.1	1.9	2.1	2.0	1.8	2.2	3.1	7.5	9.1	6.3	5.7	6.7	4.6	6.0	24	9.1	1.5	3.6
15	8.1	9.4	16.3	16.0	15.9	13.1	10.8	10.0	8.0	7.3	7.7	8.3	9.2	9.8	10.9	12.5	14.7	34.5	33.1	22.7	23.2	21.8	22.0	20.4	24	34.5	7.3	15.2
16	19.3	18.5	17.4	17.4	17.2	17.4	18.5	22.9	25.0	18.0	10.2	5.3	6.3	4.1	3.7	5.7	12.2	24.9	21.6	19.2	12.3	15.5	7.9	5.9	24	25.0	3.7	14.4
17	4.5	3.6	3.6	4.0	3.9	3.8	4.1	6.3	7.3	6.6	5.4	7.1	7.7	8.7	15.2	14.5	9.2	9.4	9.1	7.5	7.7	7.7	7.9	9.0	24	15.2	3.6	7.3
18	12.9	21.3	27.7	26.4	22.9	18.8	15.2	13.6	15.1	16.0	15.9	14.2	C	C	11.3	9.7	9.2	8.0	6.7	5.0	5.2	5.4	5.3	5.0	22	27.7	5.0	13.2
19	6.0	5.8	4.1	1.6	0.4	0.2	0.4	2.4	2.5	0.6	0.5	1.7	2.1	2.8	4.5	4.5	4.8	4.7	5.9	7.2	8.8	13.0	11.3	10.1	24	13.0	0.2	4.4
20	8.3	8.7	7.1	6.6	6.0	5.5	5.2	4.7	3.2	2.3	2.7	2.6	2.8	3.5	3.8	3.6	4.9	6.4	10.5	10.1	12.9	10.6	17.3	22.1	24	22.1	2.3	7.2
21	12.5	11.4	11.9	9.8	9.7	8.2	7.0	4.7	4.7	5.0	4.7	4.4	4.3	3.9	3.7	3.7	3.6	2.3	1.9	1.6	1.8	2.1	2.1	2.4	24	12.5	1.6	5.3
22	3.1	2.8	3.4	3.0	2.5	2.0	2.5	2.8	3.0	2.4	2.2	2.0	1.9	2.0	2.5	2.6	2.9	4.3	4.4	4.8	6.9	9.0	6.2	5.9	24	9.0	1.9	3.5
23	7.3	7.5	6.9	5.9	6.0	3.3	3.4	3.2	7.1	3.0	3.1	4.9	5.3	3.0	2.6	2.8	4.3	5.8	6.2	5.1	6.9	7.9	8.0	11.7	24	11.7	2.6	5.5
24	12.9	17.9	18.7	22.6	25.9	29.6	32.6	34.0	34.8	37.0	39.5	40.1	35.8	39.3	35.5	28.1	18.1	10.7	9.9	12.1	13.9	15.6	17.4	22.8	24	40.1	9.9	25.2
25	22.7	17.7	18.0	16.5	15.7	14.1	20.4	28.3	25.3	24.9	35.3	30.7	21.5	14.3	13.8	6.6	6.2	7.7	7.9	8.8	8.2	7.5	7.3	6.8	24	35.3	6.2	16.1
26	8.7	12.0	15.2	17.3	19.5	21.0	17.8	18.4	15.9	8.1	5.6	5.8	5.7	5.5	5.4	5.7	6.4	7.0	7.5	6.5	6.1	6.0	5.2	4.4	24	21.0	4.4	9.9
27	5.7	6.1	5.9	6.5	6.7	5.8	5.1	5.9	7.6	8.3	8.1	8.2	9.2	8.1	5.2	0.9	1.6	2.5	3.7	5.0	5.8	3.9	3.6	3.4	24	9.2	0.9	5.5
28	2.9	3.3	3.2	2.9	3.3	2.9	2.9	2.5	2.5	2.3	2.1	2.4	2.3	2.5	3.0	3.8	5.1	7.6	8.9	12.1	10.3	11.3	13.0	11.7	24	13.0	2.1	5.2
29	14.5	8.9	9.6	9.1	8.7	8.7	8.4	9.2	11.9	8.0	7.3	4.7	3.2	2.9	3.2	2.8	8.1	7.7	7.3	7.3	6.6	7.7	5.4	5.0	24	14.5	2.8	7.3
30	5.6	4.1	4.2	4.3	4.6	4.1	4.2	5.1	5.9	5.9	6.4	6.6	5.7	6.2	6.1	5.4	9.8	11.4	12.1	11.1	11.5	12.0	11.4	10.0	24	12.1	4.1	7.2
31																									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	23.8	26.4	28.9	27.4	39.6	32.6	32.6	34.0	34.8	37.0	39.5	40.1	35.8	39.3	35.5	28.1	39.3	79.2	44.7	49.9	45.0	33.2	31.5	26.8	24	79.2	23.8	36.9
Minimum	1.1	1.4	1.2	1.5	0.4	0.2	0.4	1.6	1.2	0.6	0.5	1.5	1.9	1.6	1.7	0.9	1.6	2.2	1.9	1.6	1.6	1.6	1.2	0.5	0	0.0	0.2	
Average	10.7	10.9	11.5	10.9	10.8	9.8	9.4	10.5	11.0	9.5	9.4	9.2	8.6	7.9	7.8	7.2	9.4	13.4	11.8	12.2	12.7	12.2	11.3	10.9	23	23	4	10.4
#>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				
Data		2.4		3.2		4.4		5.9		7.4		9.2		12.6		16.6		22.2		28.0		39.6		79.2				

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				79.2
	Day				25.2
	Month				10.4

Notes C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down R - Rate of Change

$PM_{2.5}$ - Rundle Road

December 2015

($\mu g/m^3$)

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	10.9	12.2	12.6	11.8	11.5	11.1	12.5	10.5	10.5	9.0	8.1	24.0	8.2	5.3	5.1	5.3	6.3	4.5	3.9	4.5	3.8	2.1	2.2	1.7	24	24.0	1.7	8.2
2	1.8	3.1	5.7	4.2	8.2	9.7	11.4	13.1	17.3	19.3	18.7	14.4	9.8	8.8	10.0	10.4	8.5	7.7	6.4	4.0	4.3	4.6	5.6	5.5	24	19.3	1.8	8.8
3	5.6	6.1	6.8	6.0	5.6	6.2	5.8	5.9	6.1	6.1	4.5	3.1	4.1	4.7	4.5	4.4	4.9	4.4	4.4	3.8	4.1	3.7	3.4	4.9	24	6.8	3.1	5.0
4	4.3	6.3	5.9	8.2	12.5	15.2	12.1	16.3	17.8	17.4	16.9	14.2	12.2	10.0	8.5	7.2	7.9	8.9	9.4	9.4	10.1	11.3	11.0	13.0	24	17.8	4.3	11.1
5	13.8	14.8	16.5	18.0	25.2	42.0	36.0	30.5	30.9	36.8	43.6	39.3	32.3	31.3	29.4	27.5	31.3	29.9	29.4	27.4	25.1	21.8	23.8	25.5	24	43.6	13.8	28.4
6	24.6	21.2	17.3	20.9	23.4	25.8	26.8	27.1	26.9	24.5	22.5	21.3	22.8	25.5	23.0	25.1	25.9	29.0	28.3	34.8	35.7	32.6	16.1	19.9	24	35.7	16.1	25.0
7	16.0	15.9	16.9	13.2	22.2	20.9	26.5	25.9	30.2	26.4	27.2	27.6	30.0	32.5	30.9	28.7	31.0	32.3	30.6	29.3	33.2	36.6	35.8	37.5	24	37.5	13.2	27.4
8	38.1	38.7	34.9	26.3	20.2	16.0	14.1	12.3	11.2	11.7	10.2	9.4	8.1	9.4	11.4	16.2	18.1	15.5	17.4	20.3	18.4	20.8	26.1	28.0	24	38.7	8.1	18.9
9	20.9	21.5	21.1	20.9	21.5	22.7	24.0	25.0	28.1	24.8	14.3	13.1	16.5	17.2	17.0	15.2	13.4	12.1	10.3	10.8	12.0	15.5	24.2	27.8	24	28.1	10.3	18.7
10	27.5	28.4	25.8	19.7	18.4	18.6	25.5	31.9	36.2	37.8	36.8	36.7	37.7	36.2	36.2	36.3	34.7	29.4	21.0	9.4	7.1	7.3	8.5	9.4	24	37.8	7.1	25.7
11	9.7	9.8	8.7	8.6	9.2	11.7	13.3	13.4	15.1	17.2	13.0	9.2	7.8	9.1	7.5	C	C	3.6	4.2	4.7	5.2	6.3	6.4	5.8	22	17.2	3.6	9.1
12	6.5	6.9	6.7	7.3	8.0	7.7	7.4	7.9	12.8	8.9	8.6	6.4	3.9	3.5	4.5	4.8	5.3	8.4	10.8	12.3	8.3	8.5	6.4	5.6	24	12.8	3.5	7.4
13	5.0	4.1	3.6	3.7	3.2	2.7	2.5	2.3	3.6	4.3	4.0	4.9	5.4	4.6	3.9	4.6	9.1	10.7	8.2	10.4	10.5	10.6	12.0	11.2	24	12.0	2.3	6.0
14	10.7	10.7	11.4	11.6	12.5	11.6	11.3	9.9	9.3	9.4	8.3	5.9	A	A	11.1	13.0	14.3	10.2	9.8	7.3	2.1	1.1	0.9	1.3	22	14.3	0.9	8.8
15	1.7	1.6	1.9	1.4	2.5	3.4	3.8	3.7	4.0	1.8	2.0	3.9	5.2	6.1	6.6	5.7	5.6	2.5	2.1	2.1	2.1	2.2	2.2	2.3	24	6.6	1.4	3.2
16	2.8	3.7	3.5	4.1	3.8	4.0	4.3	4.7	8.0	9.2	5.6	4.7	4.1	4.4	4.1	4.3	4.1	3.4	4.1	2.9	2.2	3.1	3.3	4.8	24	9.2	2.2	4.3
17	3.5	4.9	6.1	6.9	8.9	10.1	9.8	10.6	11.1	7.8	6.6	5.6	6.6	7.5	6.8	5.5	6.2	7.0	7.3	5.4	4.5	4.1	3.9	4.8	24	11.1	3.5	6.7
18	4.2	3.7	4.1	3.7	3.6	3.7	3.8	4.5	4.6	5.5	5.8	6.0	6.1	7.8	8.7	9.1	9.0	10.8	13.6	12.2	7.7	6.8	6.0	5.4	24	13.6	3.6	6.5
19	4.1	4.1	4.1	4.2	4.7	4.9	4.7	5.2	4.8	4.4	3.7	4.7	3.4	3.5	4.2	4.1	3.3	3.4	3.1	3.1	5.4	3.4	4.0	3.7	24	5.4	3.1	4.1
20	2.6	1.7	1.9	2.1	2.1	2.3	2.6	2.6	3.0	3.7	3.9	5.5	5.7	6.1	7.7	6.5	4.4	3.9	3.3	3.2	3.3	2.7	2.8	2.8	24	7.7	1.7	3.6
21	2.2	2.2	2.4	3.0	2.9	3.2	3.3	3.1	3.7	3.9	3.9	4.5	4.8	4.4	4.6	4.6	5.8	7.5	8.0	8.9	9.6	9.7	12.0	7.9	24	12.0	2.2	5.3
22	9.0	9.2	5.7	6.0	6.0	7.8	7.0	6.8	7.7	6.6	7.0	6.8	4.1	5.1	6.6	6.6	10.9	12.2	14.1	16.0	18.9	20.4	18.6	19.3	24	20.4	4.1	9.9
23	16.4	11.3	6.8	9.6	9.0	8.1	7.6	12.9	10.8	7.8	6.5	4.6	3.7	2.3	1.7	1.8	1.8	1.7	1.6	2.3	2.0	5.4	6.9	9.0	24	16.4	1.6	6.3
24	0.9	0.6	0.3	0.2	0.2	0.2	0.4	0.8	1.3	1.4	1.6	1.1	0.9	1.0	1.3	1.5	2.9	3.8	4.5	5.2	3.8	3.4	3.7	6.3	24	6.3	0.2	2.0
25	6.4	6.4	6.8	7.9	7.9	9.5	10.4	9.4	10.9	14.2	18.7	13.7	7.3	6.1	7.8	6.2	7.6	10.6	9.9	10.1	9.9	10.8	9.4	8.2	24	18.7	6.1	9.4
26	6.8	5.6	6.1	5.7	5.6	5.0	3.9	3.6	2.8	2.9	2.8	2.5	2.4	2.6	2.9	3.2	9.8	6.9	6.3	6.3	5.3	5.8	5.7	6.5	24	9.8	2.4	4.9
27	7.5	5.9	5.7	4.5	3.9	2.6	1.8	1.9	1.8	1.4	1.8	1.9	1.5	1.9	1.9	2.0	2.3	3.1	3.5	3.0	2.9	3.1	3.5	4.4	24	7.5	1.4	3.1
28	5.5	5.6	6.0	5.6	5.5	5.5	4.1	3.5	3.7	3.9	3.6	3.0	3.2	2.9	3.0	3.7	2.8	2.3	2.5	2.2	2.4	2.3	2.1	2.0	24	6.0	2.0	3.6
29	2.3	2.6	2.7	2.6	2.5	2.4	3.4	3.6	1.3	1.3	1.5	1.5	1.6	1.7	1.9	1.9	5.6	9.0	8.3	10.9	9.9	7.8	12.1	7.6	24	12.1	1.3	4.4
30	6.5	6.7	8.7	8.7	10.7	11.8	10.2	8.8	13.1	14.7	15.4	13.2	11.9	8.3	8.0	10.6	10.2	14.3	21.8	24.0	17.8	13.8	15.2	16.5	24	24.0	6.5	12.5
31	16.1	15.2	14.1	13.5	12.9	13.0	15.0	4.7	8.8	5.5	4.4	5.2	6.6	5.6	5.5	5.9	5.9	5.5	5.2	4.8	5.5	6.7	8.9	11.9	24	16.1	4.4	8.6
Count	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	30	30	31	31	31	31	31	31	31	740	31	30	31
Maximum	38.1	38.7	34.9	26.3	25.2	42.0	36.0	31.9	36.2	37.8	43.6	39.3	37.7	36.2	36.2	36.3	34.7	32.3	30.6	34.8	35.7	36.6	35.8	37.5	24	43.6	25.2	35.6
Minimum	0.9	0.6	0.3	0.2	0.2	0.2	0.4	0.8	1.3	1.3	1.5	1.1	0.9	1.0	1.3	1.5	1.8	1.7	1.6	2.1	2.0	1.1	0.9	1.3	22	5.4	0.2	1.1
Average	9.5	9.4	9.1	8.7	9.5	10.3	10.5	10.4	11.5	11.3	10.7	10.3	9.3	9.2	9.2	9.4	10.3	10.1	10.1	10.0	9.5	9.5	9.8	10.3	24	18	4	9.9
#>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				
Data		2.3		3.5		4.4		5.5		6.7		8.7		10.8		14.7		24.5		29.9		37.2		43.6				

	Regs	Acceptable	Desirable	Violations	Maximum
	Hour				43.6
	Day				28.4
	Month				9.9

Notes C - Calibration / Span Cycle; NA - No Data Available; T - Test; A- MOE Audit; M - Equipment Malfunction / Down; R - Rate of Change

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

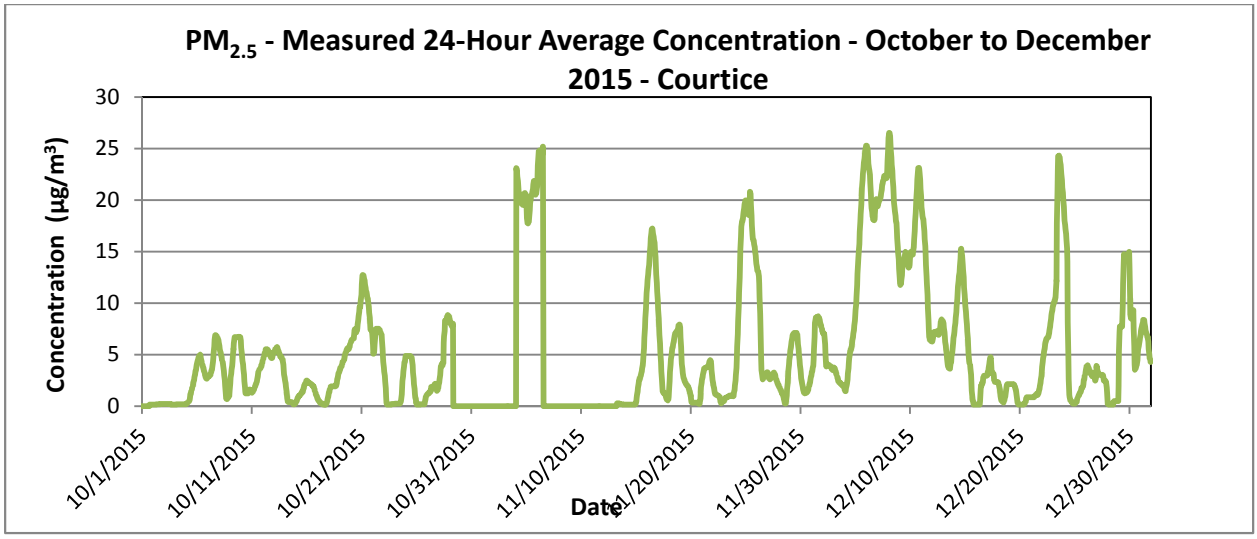
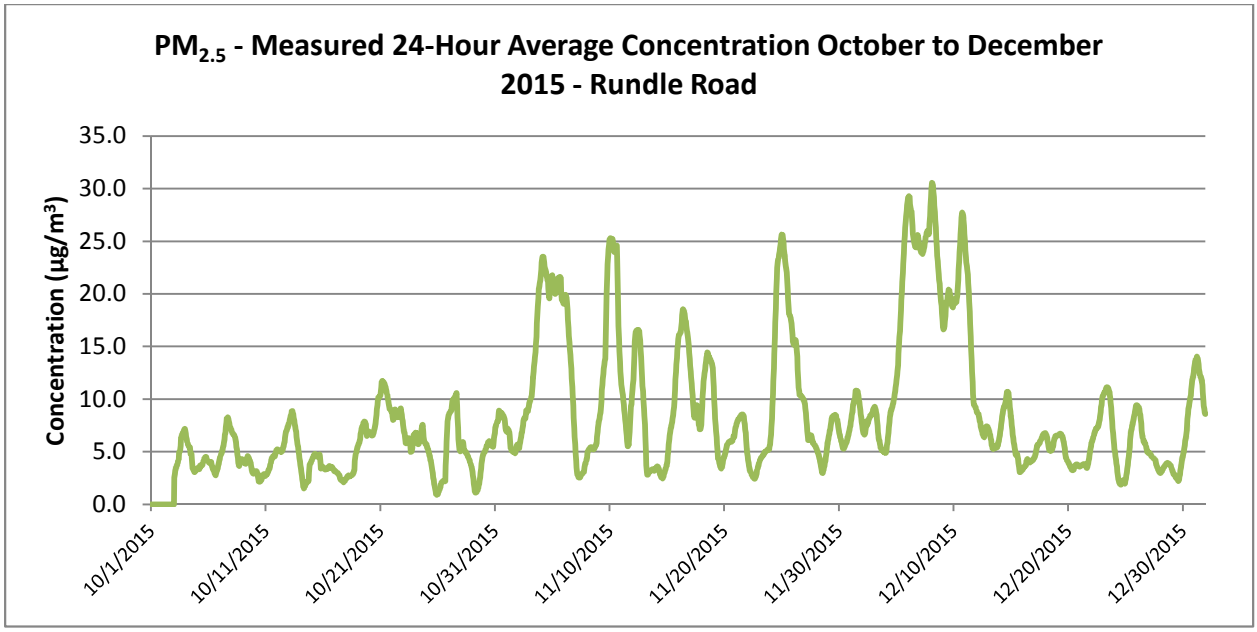


Figure D-2 Time History Plot of Measured 24-Hour Average $PM_{2.5}$ Concentrations – Rundle Road Station



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:**	**1-Jan-15**	**End date:**	**31-Dec-15**		**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	7-Apr-15	Timothy Hung	Invalidate	23-Jan-15	12:00	23-Jan-15	12:00	Monthly calibration
2	7-Apr-15	Timothy Hung	Invalidate	27-Feb-15	11:00	27-Feb-15	11:00	Monthly calibration
3	7-Apr-15	Timothy Hung	Invalidate	26-Mar-15	07:00	26-Mar-15	08:00	Monthly calibration
4	13-Apr-15	Timothy Hung	Invalidate	31-Mar-15	13:00	31-Mar-15	16:00	Invalidate the time when there was a power outage as provided by treatment plant personnel
5	17-Apr-15	Timothy Hung	Invalidate	4-Mar-15	10:00	4-Mar-15	12:00	MOE Audit
6	2-Jun-15	Timothy Hung	Invalidate	23-Apr-15	13:00	23-Apr-15	14:00	Monthly calibration
7	2-Jun-15	Timothy Hung	Invalidate	11-May-15	10:00	11-May-15	12:00	Monthly calibration
8	13-Jul-15	Timothy Hung	Invalidate	13-May-15	08:00	13-May-15	14:00	Power outage
9	13-Jul-15	Timothy Hung	Invalidate	29-Jun-15	11:00	29-Jun-15	13:00	Monthly calibration
10	13-Jul-15	Timothy Hung	Invalidate	30-Jun-15	08:00	30-Jun-15	11:00	MOE Audit
11	30-Sep-15	Connie Lim	Replace	17-Jul-15	10:00	17-Jul-15	15:00	Missing data from 10:00 - 12:51 on Jul 17 minute file. Replace with hourly data.
11	30-Sep-15	Connie Lim	Replace	9-Jul-15	09:00	9-Jul-15	10:00	Missing data from 9:15 - 10:30 on Jul 9 minute file. Replace with hourly data.
12	30-Sep-15	Connie Lim	Invalidate	31-Jul-15	10:00	31-Jul-15	12:00	Monthly calibration
13	30-Sep-15	Connie Lim	Invalidate	20-Aug-15	10:00	20-Aug-15	11:00	Monthly calibration
14	30-Sep-15	Connie Lim	Invalidate	31-Aug-15	08:00	31-Aug-15	09:00	MOE Audit
15	30-Sep-15	Connie Lim	Invalidate	23-Sep-15	10:00	23-Sep-15	12:00	Monthly calibration
16	30-Sep-15	Connie Lim	Invalidate	23-Sep-15	13:00	30-Sep-15	23:00	Monitor removed for annual maintenance
17	4-Dec-15	Connie Lim	Replace	22-Oct-15	20:00	23-Oct-15	12:00	Missing minute data from 10/22 20:39 to 10/23 1:41, and from 10/23 2:23 to 12:42. Replace with hourly data.
	13-Jan-16	Connie Lim	Invalidate	22-Oct-15	22:00	22-Oct-15	23:00	Auto calibration hour
18	13-Jan-16	Connie Lim	Invalidate	19-Oct-15	10:00	19-Oct-15	12:00	Monthly calibration
19	13-Jan-16	Connie Lim	Invalidate	18-Nov-15	09:00	18-Nov-15	12:00	Monthly calibration
20	13-Jan-16	Connie Lim	Invalidate	11-Dec-15	13:00	11-Dec-15	14:00	Monthly calibration
21	13-Jan-16	Connie Lim	Invalidate	12-Dec-15	16:00	12-Dec-15	16:00	Missing data from 15:47 to 16:25 in the minute file. Invalidate hour 16 due to low recovery rate for the hour.
22	19-Jan-16	Timothy Hung	Invalidate	14-Dec-15	10:00	14-Dec-15	11:00	MOECC Audit
23	26-Jan-16	Timothy Hung	Invalidate	23-Oct-15	08:00	23-Oct-15	08:00	Originally missing data was replaced with hourly data for this concentration. This hour spiked up to 21.86ug/m3 which is 10x greater than the readings before and after this hour (2.521 ug/m3 and 2.27ug/m3)

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:**	**1-Jan-15**	**End date:**	**31-Dec-15**	**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	7-Apr-15	Timothy Hung	Invalidate	23-Jan-15	12:00	23-Jan-15	12:00	Monthly calibration
2	7-Apr-15	Timothy Hung	Invalidate	27-Feb-15	11:00	27-Feb-15	11:00	Monthly calibration
3	7-Apr-15	Timothy Hung	Invalidate	26-Mar-15	07:00	26-Mar-15	08:00	Monthly calibration
4	13-Apr-15	Timothy Hung	Invalidate	31-Mar-15	13:00	31-Mar-15	16:00	Invalidate the time when there was a power outage as provided by treatment plant personnel
5	17-Apr-15	Timothy Hung	Invalidate	4-Mar-15	10:00	4-Mar-15	12:00	MOE Audit
6	2-Jun-15	Timothy Hung	Invalidate	23-Apr-15	13:00	23-Apr-15	14:00	Monthly calibration
7	2-Jun-15	Timothy Hung	Invalidate	11-May-15	10:00	11-May-15	12:00	Monthly calibration
8	13-Jul-15	Timothy Hung	Invalidate	13-May-15	08:00	13-May-15	14:00	Power outage
9	13-Jul-15	Timothy Hung	Invalidate	29-Jun-15	11:00	29-Jun-15	13:00	Monthly calibration
10	13-Jul-15	Timothy Hung	Invalidate	30-Jun-15	08:00	30-Jun-15	11:00	MOE Audit
11	30-Sep-15	Connie Lim	Invalidate	3-Jul-15	07:00	3-Jul-15	08:00	Calibration
12	30-Sep-15	Connie Lim	Replace	17-Jul-15	10:00	17-Jul-15	15:00	Missing data from 10:00 - 12:51 on Jul 17 in minute file. Replace with hourly data.
13	30-Sep-15	Connie Lim	Replace	9-Jul-15	09:00	9-Jul-15	10:00	Missing data from 9:15 - 10:30 on Jul 9 minute file. Replace with hourly data.
14	30-Sep-15	Connie Lim	Invalidate	31-Jul-15	10:00	31-Jul-15	12:00	Monthly calibration
15	30-Sep-15	Connie Lim	Invalidate	20-Aug-15	10:00	20-Aug-15	11:00	Monthly calibration
16	30-Sep-15	Connie Lim	Invalidate	31-Aug-15	08:00	31-Aug-15	08:00	MOE Audit
17	30-Sep-15	Connie Lim	Invalidate	23-Sep-15	10:00	23-Sep-15	12:00	Monthly calibration
18	30-Sep-15	Connie Lim	Invalidate	23-Sep-15	13:00	30-Sep-15	23:00	Monitor removed for annual maintenance
19	4-Dec-15	Connie Lim	Replace	22-Oct-15	20:00	23-Oct-15	12:00	Missing minute data from 10/22 20:39 to 10/23 1:41, and from 10/23 2:23 to 12:42. Replace with hourly data.
20	13-Jan-16	Connie Lim	Invalidate	19-Oct-15	10:00	19-Oct-15	13:00	Monthly calibration
21	13-Jan-16	Connie Lim	Invalidate	18-Nov-15	09:00	18-Nov-15	10:00	Monthly calibration
22	13-Jan-16	Connie Lim	Invalidate	11-Dec-15	14:00	11-Dec-15	15:00	Monthly calibration
23	13-Jan-16	Connie Lim	Invalidate	12-Dec-15	16:00	12-Dec-15	16:00	Missing data from 15:47 to 16:25 in the minute file. Invalidate hour 16 due to low recovery rate for the hour.
24	19-Jan-16	Timothy Hung	Invalidate	14-Dec-15	10:00	14-Dec-15	11:00	MOECC Audit

Examples of Acceptable Edit Actions:

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

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:**	**1-Jan-15**	**End date:**	**31-Dec-15**			**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	7-Apr-15	Timothy Hung	Invalidate	23-Jan-15	12:00	23-Jan-15	12:00	Monthly calibration
2	7-Apr-15	Timothy Hung	Invalidate	27-Feb-15	11:00	27-Feb-15	11:00	Monthly calibration
3	7-Apr-15	Timothy Hung	Invalidate	26-Mar-15	07:00	26-Mar-15	08:00	Monthly calibration
4	13-Apr-15	Timothy Hung	Invalidate	31-Mar-15	13:00	31-Mar-15	16:00	Invalidate the time when there was a power outage as provided by treatment plant personnel
5	17-Apr-15	Timothy Hung	Invalidate	4-Mar-15	10:00	4-Mar-15	12:00	MOE Audit
6	2-Jun-15	Timothy Hung	Invalidate	23-Apr-15	13:00	23-Apr-15	14:00	Monthly calibration
7	2-Jun-15	Timothy Hung	Invalidate	11-May-15	10:00	11-May-15	12:00	Monthly calibration
8	13-Jul-15	Timothy Hung	Invalidate	13-May-15	08:00	13-May-15	14:00	Power outage
9	13-Jul-15	Timothy Hung	Invalidate	29-Jun-15	11:00	29-Jun-15	13:00	Monthly calibration
10	13-Jul-15	Timothy Hung	Invalidate	30-Jun-15	08:00	30-Jun-15	11:00	MOE Audit
11	30-Sep-15	Connie Lim	Invalidate	20-Aug-15	10:00	20-Aug-15	11:00	Monthly calibration
12	30-Sep-15	Connie Lim	Invalidate	31-Aug-15	08:00	31-Aug-15	08:00	MOE Audit
13	30-Sep-15	Connie Lim	Invalidate	23-Sep-15	10:00	23-Sep-15	12:00	Monthly calibration
14	30-Sep-15	Connie Lim	Invalidate	23-Sep-15	12:00	30-Sep-15	23:00	Monitor removed for annual maintenance
15	2-Nov-15	Connie Lim	Invalidate	25-Jul-15	21:00	26-Jul-15	06:00	Invalidate elevated PM readings as the high humidity and high temperatures recorded during these time perods suggested water accretion on the filter tape.
				3-Aug-15	03:00	3-Aug-15	11:00	
				4-Aug-15	21:00	5-Aug-15	03:00	
				16-Aug-15	06:00	16-Aug-15	06:00	
				16-Aug-15	22:00	17-Aug-15	02:00	
				17-Aug-15	23:00	18-Aug-15	07:00	
				18-Aug-15	22:00	19-Aug-15	03:00	
				20-Aug-15	00:00	20-Aug-15	12:00	
				29-Aug-15	22:00	30-Aug-15	03:00	
				30-Aug-15	23:00	31-Aug-15	05:00	
				1-Sep-15	21:00	2-Sep-15	00:00	
				2-Sep-15	22:00	3-Sep-15	07:00	
				4-Sep-15	00:00	4-Sep-15	00:00	
				5-Sep-15	21:00	6-Sep-15	07:00	
				6-Sep-15	21:00	7-Sep-15	06:00	
				8-Sep-15	03:00	8-Sep-15	12:00	
				8-Sep-15	23:00	9-Sep-15	06:00	
16	4-Dec-15	Connie Lim	Replace	22-Oct-15	20:00	23-Oct-15	12:00	Missing minute data from 10/22 20:39 to 10/23 1:41, and from 10/23 2:23 to 12:42. Replace with hourly data.
17	13-Jan-16	Connie Lim	Invalidate	19-Oct-15	11:00	19-Oct-15	13:00	Monthly calibration
18	13-Jan-16	Connie Lim	Invalidate	18-Nov-15	09:00	18-Nov-15	13:00	Monthly calibration
19	13-Jan-16	Connie Lim	Invalidate	11-Dec-15	13:00	11-Dec-15	13:00	Monthly calibration
20	13-Jan-16	Connie Lim	Invalidate	12-Dec-15	16:00	12-Dec-15	16:00	Missing data from 15:47 to 16:25 in the minute file. Invalidate hour 16 due to low recovery rate for the hour.
21	13-Jan-16	Connie Lim	Invalidate	29-Oct-15	03:00	3-Nov-15	09:00	Error status due to power surge. Reset monitor.
22	13-Jan-16	Connie Lim	Invalidate	6-Nov-15	08:00	12-Nov-15	13:00	Inlet heater and motherboard failure. Replaced under waranty.
23	13-Jan-16	Connie Lim	Replace	11-Dec-15	13:00	14-Dec-15	09:00	Output unit from monitor to datalogger incorrectly set to mass instead of concentration. Replace hourly data downloaded directly from the monitor.
24	19-Jan-16	Timothy Hung	Invalidate	14-Dec-15	10:00	14-Dec-15	11:00	MOECC Audit

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

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:	Temperature	Instrument make & model:		Campbell Scientific Model HMP60			Serial Number:	
Data edit period	Start date:	1-Jan-15	End date:	31-Dec-15		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	4-Dec-15	Connie Lim	Replace	22-Oct-15	20:00	23-Oct-15	12:00	Missing minute data from 10/22 20:39 to 10/23 1:41, and from 10/23 2:23 to 12:42. Replace with hourly data.
2	13-Jan-16	Connie Lim	Invalidate	12-Dec-15	16:00	12-Dec-15	16:00	Missing data from 15:47 to 16:25 in the minute file. Invalidate hour 16 due to low recovery rate for the hour.

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:	Rainfall	Instrument make & model:		Texas Electronic TE525M			Serial Number:	
Data edit period	Start date:	1-Jan-15	End date:	31-Dec-15		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	13-Jul-15	Timothy Hung	Invalidate data	28-Jun-15	18:00	30-Jun-15	23:00	Rain gauge cable to data logger cut down by lawn mower. Still being repaired, however, for the purposes of the Q2 report, data has been invalidated up to the end of Q2 (June 30, 2015)
2	4-Dec-15	Connie Lim	Replace	22-Oct-15	20:00	23-Oct-15	12:00	Missing minute data from 10/22 20:39 to 10/23 1:41, and from 10/23 2:23 to 12:42. Replace with hourly data.
3	13-Jan-16	Connie Lim	Invalidate	12-Dec-15	16:00	12-Dec-15	16:00	Missing data from 15:47 to 16:25 in the minute file. Invalidate hour 16 due to low recovery rate for the hour.

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:	Relative Humidity	Instrument make & model:		Campbell Scientific Model HMP60			Serial Number:	
Data edit period	Start date:	1-Jan-15	End date:	31-Dec-15		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	4-Dec-15	Connie Lim	Replace	22-Oct-15	20:00	23-Oct-15	12:00	Missing minute data from 10/22 20:39 to 10/23 1:41, and from 10/23 2:23 to 12:42. Replace with hourly data.
2	13-Jan-16	Connie Lim	Invalidate	12-Dec-15	16:00	12-Dec-15	16:00	Missing data from 15:47 to 16:25 in the minute file. Invalidate hour 16 due to low recovery rate for the hour.

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:	Atmospheric Pressure	Instrument make & model:		Campbell Scientific Model CS106			Serial Number:	
Data edit period	Start date:	1-Jan-15	End date:	31-Dec-15		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	4-Dec-15	Connie Lim	Replace	22-Oct-15	20:00	23-Oct-15	12:00	Missing minute data from 10/22 20:39 to 10/23 1:41, and from 10/23 2:23 to 12:42. Replace with hourly data.
2	13-Jan-16	Connie Lim	Invalidate	12-Dec-15	16:00	12-Dec-15	16:00	Missing data from 15:47 to 16:25 in the minute file. Invalidate hour 16 due to low recovery rate for the hour.

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	**Lisa Heatherington**		**Phone:**	**N/A**	**E-mail:**	**Lisa.Hetherington@Durham.ca**		
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:	**Wind Speed/Wind direction**	**Instrument make & model:**		**N/A**			**Serial Number:**	
Data edit period	**Start date:**	**1-Jan-15**	**End date:**	**31-Dec-15**		**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)**	

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:	**45200**		**Station Name:**	**Rundle Road Station**				
Station address:	**Rundle Road / Baseline Road**		**Emitter Address:**	**The Region of Durham, 605 Rossland Rd, Whitby, ON**				
Pollutant or parameter:	**SO2**	**Instrument make & model:**		**Teledyne Monitor Labs Sulphur Dioxide Analyzer Model T100**		**Serial Numb**	**565**	
Data edit period	**Start date:**	**1-Jan-15**	**End date:**	**31-Dec-15**	**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	7-Apr-15	Timothy Hung	Invalidate data	23-Jan-15	14:00	23-Jan-15	14:00	Monthly calibration
2	7-Apr-15	Timothy Hung	Invalidate data	27-Feb-15	14:00	27-Feb-15	14:00	Monthly calibration
3	7-Apr-15	Timothy Hung	Invalidate data	26-Mar-15	15:00	26-Mar-15	15:00	Monthly calibration
4	7-Apr-15	Timothy Hung	Invalidate data	4-Mar-15	13:00	4-Mar-15	13:00	MOE Audit
5	2-Jun-15	Timothy Hung	Invalidate data	24-Apr-15	09:00	24-Apr-15	10:00	Monthly calibration
6	2-Jun-15	Timothy Hung	Invalidate data	11-May-15	13:00	11-May-15	14:00	Monthly calibration
7	13-Jul-15	Timothy Hung	Invalidate data	29-Jun-15	14:00	29-Jun-15	15:00	Monthly calibration
8	13-Jul-15	Timothy Hung	Invalidate data	30-Jun-15	11:00	30-Jun-15	13:00	MOE Audit
9	2-Oct-15	Connie Lim	Invalidate data	31-Jul-15	12:00	31-Jul-15	13:00	Monthly calibration
10	2-Oct-15	Connie Lim	Invalidate data	20-Aug-15	15:00	20-Aug-15	16:00	Monthly calibration
11	2-Oct-15	Connie Lim	Invalidate data	31-Aug-15	09:00	31-Aug-15	10:00	MOE Audit
12	2-Oct-15	Connie Lim	Invalidate data	23-Sep-15	12:00	23-Sep-15	14:00	Monthly calibration
13	2-Oct-15	Connie Lim	Invalidate data	30-Sep-15	11:00	2-Oct-15	07:00	Monitor removed for annual maintenance
14	15-Jan-16	Connie Lim	Invalidate data	19-Oct-15	13:00	19-Oct-15	14:00	Monthly calibration
15	15-Jan-16	Connie Lim	Invalidate data	18-Nov-15	12:00	18-Nov-15	13:00	Monthly calibration
16	15-Jan-16	Connie Lim	Invalidate data	11-Dec-15	15:00	11-Dec-15	17:00	Monthly calibration
17	15-Jan-16	Connie Lim	Invalidate data	14-Dec-15	12:00	14-Dec-15	13:00	MOE Audit

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

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:	45200		Station Name:	Rundle Road Station			
Station address:	Rundle Road / Baseline Road		Emitter Address:	The Region of Durham, 605 Rossland Rd, Whitby, ON			
Pollutant or para	NOx	Instrument make & model:		API Model 200E Chemiluminescence Analyzer		Serial Numb	675
Data edit period	Start date:	1-Jan-15	End date:	31-Dec-15		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	7-Apr-15	Timothy Hung	Invalidate data	23-Jan-15	14:00	23-Jan-15	14:00	Monthly calibration
2	7-Apr-15	Timothy Hung	Invalidate data	27-Feb-15	14:00	27-Feb-15	14:00	Monthly calibration
3	7-Apr-15	Timothy Hung	Invalidate data	26-Mar-15	15:00	26-Mar-15	15:00	Monthly calibration
4	7-Apr-15	Timothy Hung	Invalidate data	4-Mar-15	13:00	4-Mar-15	13:00	MOE Audit
5	2-Jun-15	Timothy Hung	Invalidate data	24-Apr-15	09:00	24-Apr-15	10:00	Monthly calibration
6	2-Jun-15	Timothy Hung	Invalidate data	11-May-15	13:00	11-May-15	14:00	Monthly calibration
7	13-Jul-15	Timothy Hung	Invalidate data	29-Jun-15	14:00	29-Jun-15	15:00	Monthly calibration
8	13-Jul-15	Timothy Hung	Invalidate data	30-Jun-15	11:00	30-Jun-15	13:00	MOE Audit
9	15-Jul-15	Timothy Hung	Invalidate data	3-Jul-15	06:00	3-Jul-15	07:00	Calibration for Nox only with new cal bottle
10	17-Jul-15	Timothy Hung	Apply span correction	29-Jun-15	16:00	3-Jul-15	05:00	July 3, 2015 calibration had >10% span correction required. Apply span correction from time of last calibration to July 3, 2015
11	2-Oct-15	Connie Lim	Invalidate data	31-Jul-15	13:00	31-Jul-15	14:00	Monthly calibration
12	2-Oct-15	Connie Lim	Invalidate data	20-Aug-15	14:00	20-Aug-15	16:00	Monthly calibration
13	2-Oct-15	Connie Lim	Invalidate data	31-Aug-15	09:00	31-Aug-15	10:00	MOE Audit
14	2-Oct-15	Connie Lim	Invalidate data	23-Sep-15	12:00	23-Sep-15	15:00	Monthly calibration
15	2-Oct-15	Connie Lim	Invalidate data	30-Sep-15	11:00	2-Oct-15	07:00	Monitor removed for annual maintenance
16	15-Jan-16	Connie Lim	Invalidate data	19-Oct-15	13:00	19-Oct-15	15:00	Monthly calibration
17	15-Jan-16	Connie Lim	Invalidate data	18-Nov-15	12:00	18-Nov-15	14:00	Monthly calibration
18	15-Jan-16	Connie Lim	Invalidate data	11-Dec-15	15:00	11-Dec-15	16:00	Monthly calibration
19	15-Jan-16	Connie Lim	Invalidate data	14-Dec-15	12:00	14-Dec-15	13:00	MOE Audit

Examples of Acceptable Edit Actions:

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

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:	**45200**		**Station Name:**	**Rundle Road Station**			
Station address:	**Rundle Road / Baseline Road**		**Emitter Address:**	**The Region of Durham, 605 Rossland Rd, Whitby, ON**			
Pollutant or parameter:	**PM2.5**	**Instrument make & model:**		**Thermo Sharp 5030 Synchronized Hybrid Ambient Real-time**	**Serial Number:**	**E-1569**	
Data edit period	**Start date:**	**1-Jan-15**	**End date:**	**31-Dec-15**	**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	7-Apr-15	Timothy Hung	Invalidate data	23-Jan-15	14:00	23-Jan-15	14:00	Monthly calibration
2	7-Apr-15	Timothy Hung	Invalidate data	27-Feb-15	14:00	27-Feb-15	14:00	Monthly calibration
3	7-Apr-15	Timothy Hung	Invalidate data	26-Mar-15	15:00	26-Mar-15	15:00	Monthly calibration
4	7-Apr-15	Timothy Hung	Invalidate data	4-Mar-15	13:00	4-Mar-15	13:00	MOE Audit
5	28-Apr-15	Timothy Hung	Invalidate data	23-Jan-15	11:00	23-Jan-15	11:00	Rate of change
6	2-Jun-15	Timothy Hung	Invalidate data	24-Apr-15	09:00	24-Apr-15	10:00	Monthly calibration
7	2-Jun-15	Timothy Hung	Invalidate data	11-May-15	13:00	11-May-15	14:00	Monthly calibration
8	13-Jul-15	Timothy Hung	Invalidate data	29-Jun-15	14:00	29-Jun-15	15:00	Monthly calibration
9	13-Jul-15	Timothy Hung	Invalidate data	30-Jun-15	11:00	30-Jun-15	13:00	MOE Audit
10	2-Oct-15	Connie Lim	Invalidate data	31-Jul-15	13:00	31-Jul-15	14:00	Monthly calibration
11	2-Oct-15	Connie Lim	Invalidate data	20-Aug-15	15:00	20-Aug-15	16:00	Monthly calibration
12	2-Oct-15	Connie Lim	Invalidate data	31-Aug-15	09:00	31-Aug-15	10:00	MOE Audit
13	2-Oct-15	Connie Lim	Invalidate data	23-Sep-15	12:00	23-Sep-15	14:00	Monthly calibration
14	2-Oct-15	Connie Lim	Invalidate data	30-Sep-15	11:00	2-Oct-15	07:00	Monitor removed for annual maintenance
15	15-Jan-16	Connie Lim	Invalidate data	19-Oct-15	13:00	19-Oct-15	13:00	Monthly calibration
16	15-Jan-16	Connie Lim	Invalidate data	18-Nov-15	12:00	18-Nov-15	13:00	Monthly calibration
17	15-Jan-16	Connie Lim	Invalidate data	11-Dec-15	15:00	11-Dec-15	17:00	Monthly calibration
18	15-Jan-16	Connie Lim	Invalidate data	14-Dec-15	12:00	14-Dec-15	13:00	MOE Audit

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

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:	**45200**		**Station Name:**	**Rundle Road Station**				
Station address:	**Rundle Road / Baseline Road**		**Emitter Address:**	**The Region of Durham, 605 Rossland Rd, Whitby, ON**				
Pollutant or parameter:	**Temperature**	**Instrument make & model:**		**Campbell Scientific Model HMP60**		**Serial Number:**		
Data edit period	**Start date:**	**1-Jan-15**	**End date:**	**31-Dec-15**	**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)**	

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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:	**45200**		**Station Name:**	**Rundle Road Station**				
Station address:	**Rundle Road / Baseline Road**		**Emitter Address:**	**The Region of Durham, 605 Rossland Rd, Whitby, ON**				
Pollutant or parameter:	**Rainfall**	**Instrument make & model:**		**Texas Electronic TE525M**		**Serial Number:**		
Data edit period	**Start date:**	**1-Jan-15**	**End date:**	**31-Dec-15**	**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	13-Jul-15	Timothy Hung	Invalidate Data	10-Jun-15	00:00	18-Jun-15	14:00	Rain gauge full of water due to blockage from debris. Discovered and cleared on June 18, 2015. Based on rainfall at Courtice, was likely blocked from June 10, 2015

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
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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:	**45200**		**Station Name:**	**Rundle Road Station**					
Station address:	**Rundle Road / Baseline Road**		**Emitter Address:**	**The Region of Durham, 605 Rossland Rd, Whitby, ON**					
Pollutant or parameter:	**Relative Humidity**	**Instrument make & model:**		**Campbell Scientific Model HMP60**		**Serial Number:**			
Data edit period	**Start date:**	**1-Jan-15**	**End date:**	**31-Dec-15**	**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)**		

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:	**45200**		**Station Name:**	**Rundle Road Station**					
Station address:	**Rundle Road / Baseline Road**		**Emitter Address:**	**The Region of Durham, 605 Rossland Rd, Whitby, ON**					
Pollutant or parameter:	**Wind Speed/Wind Direction**	**Instrument make & model:**		**Met One Instruments Inc. Model 034B**		**Serial Number:**			
Data edit period	**Start date:**	**1-Jan-15**	**End date:**	**31-Dec-15**	**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)**		

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