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August 8, 2016
File: 160950528

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

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

Dear Mr. Borchuk,

**Reference: Q1 2016 Ambient Air Quality Monitoring Report for the Durham York Energy Centre –
Crago Road Station**

Please find attached with this letter the Q1 2016 quarterly report for the Durham York Energy Centre (DYEC) Crago Road Station.

This quarterly report provides a summary of the measurements collected at this station during January to March 2016 (calendar Quarter 1 of 2016). All equipment operated well during this measurement period.

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 calendar years. The values presented in Table 1 corresponds to the 98th percentile over the first year of monitoring at this station (November 2014-October 2015) and the first 5-months (November 2015 to March 2016) of the second year. An additional one year and 7-months of additional data will be required in order to provide a comparison to the current CAAQS criteria of 28 µg/m³. Please note that for explicit comparison to the CAAQS for PM_{2.5}, use of annual data based on calendar years is required, rather than annual periods based on the start of the monitoring as presented in Table 1. Also, to be statistically significant, a minimum of 2-years of data is required for an initial comparison, with 3-years of data required for explicit comparison. Therefore, the data in Table 1 should be considered preliminary and is included to provide an initial indication of ambient PM_{2.5} levels with respect to the CAAQS until 3-calendar years of data have been collected.



August 8, 2016
Mr. Greg Borchuk, P.Eng.
Project Manager, EFW
Waste Management Services

Page 2 of 2

Reference: Q1 2016 Ambient Air Quality Monitoring Report for the Durham York Energy Centre – Crago Road Station

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

Period	Crago Road Monitoring Station
November 2014 – October 2015 (Year 1)	20.5
November 2015 – March 2016 (5-months of data)	26.0

Regards,

STANTEC CONSULTING LTD.

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**Quarterly Ambient Air Quality
Monitoring Report for the Durham
York Energy Centre (Crago Road
Station) – January to March 2016**

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


August 8, 2016

Sign-off Sheet


This document entitled Quarterly Ambient Air Quality Monitoring Report for the Durham York Energy Centre (Crago Road Station) – January to March 2016 was prepared by Stantec Consulting Ltd. for the account of The Regional Municipality 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.

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Table of Contents

EXECUTIVE SUMMARY	IV
ABBREVIATIONS	VI
1.0 INTRODUCTION	1.1
1.1 BACKGROUND AND OBJECTIVES	1.1
1.2 LOCATION OF AMBIENT AIR QUALITY MONITORING STATION	1.2
2.0 KEY COMPONENTS ASSESSED	2.1
2.1 METEOROLOGY	2.1
2.2 AIR QUALITY CONTAMINANTS OF CONCERN	2.1
2.3 AIR QUALITY CRITERIA	2.3
3.0 INSTRUMENTATION SUMMARY	3.1
3.1 INSTRUMENTATION	3.1
3.2 INSTRUMENTATION ISSUES	3.3
3.3 INSTRUMENTATION RECOVERY RATES	3.4
4.0 SUMMARY OF AMBIENT MEASUREMENTS	4.1
4.1 METEOROLOGICAL DATA	4.1
4.2 CAC AMBIENT AIR QUALITY MEASUREMENTS	4.3
4.2.1 Sulphur Dioxide (SO ₂)	4.8
4.2.2 Nitrogen Dioxide (NO ₂)	4.9
4.2.3 Nitrogen Oxides (NO _x)	4.12
4.2.4 Particulate Matter Smaller than 2.5 Microns (PM _{2.5})	4.14
4.3 AMBIENT TSP / METALS CONCENTRATIONS.....	4.16
4.4 AMBIENT PAH CONCENTRATIONS.....	4.17
4.5 AMBIENT DIOXINS AND FURANS CONCENTRATIONS	4.19
5.0 CONCLUSIONS.....	5.1
6.0 REFERENCES.....	6.1

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

LIST OF TABLES

Table 2-1	Summary of Air Quality Criteria for CACs	2.4
Table 2-2	Summary of Air Quality Criteria for Metals.....	2.4
Table 2-3	Summary of Air Quality Criteria for PAHs and D/Fs	2.6
Table 3-1	Summary of Continuous Ambient Air Quality Monitors.....	3.1
Table 3-2	Summary of Non-Continuous Ambient Air Quality Monitors	3.2
Table 3-3	Summary of Meteorological Equipment	3.3
Table 3-4	Summary of Instrument Issues at the Crago Road Station	3.3
Table 3-5	Summary of Data Recovery Rates for the Crago Road Station – January to March 2016.....	3.4
Table 4-1	Summary of Hourly Meteorological Measurements – January to March 2016	4.1
Table 4-2	Summary of Ambient CAC Monitoring Data – January to March 2016	4.4
Table 4-3	Summary of Measured Ambient TSP/Metals Concentrations.....	4.16
Table 4-4	Summary of Measured Ambient PAH Concentrations	4.18
Table 4-5	Summary of Measured Ambient Dioxins and Furans Concentrations	4.20

LIST OF FIGURES

Figure 1-1	Durham York Energy Centre Site Location Plan.....	1.3
Figure 1-2	Location of Ambient Air Quality Monitoring Station.....	1.4
Figure 1-3	View of Crago Road Ambient Air Quality Monitoring Station	1.5
Figure 4-1	Wind Rose for January to March 2016	4.2
Figure 4-2	Comparison of NO ₂ , NO _x and SO ₂ Ambient Air Quality Monitoring Data to Applicable Criteria at the Stations	4.8
Figure 4-3	Pollution Rose of Measured Hourly Average SO ₂ Concentrations – January to March 2016.....	4.9
Figure 4-4	Pollution Rose of Measured Hourly Average NO ₂ – January to March 2016	4.11
Figure 4-5	Pollution Rose of Measured Hourly Average NO _x Concentrations – January to March 2016.....	4.13
Figure 4-6	Pollution Rose of Measured 24-Hour Average PM _{2.5} Concentrations – January to March 2016.....	4.15

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

LIST OF APPENDICES

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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Executive Summary

The Regional Municipalities of Durham and York operate 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 commercial operation on February 1, 2016.

An Ambient Air Quality Monitoring Plan – Durham York Residual Waste Study (Ambient Monitoring Plan) was developed and included two monitoring stations referred to as the Courtice Water Pollution Control Plant (WPCP) Station and the Rundle Road Station (as well as a temporary fence line monitor). The plan developed for these stations was based on the Regional Council's mandate to provide ambient air quality monitoring in the area of the DYEC for a three year period.

Subsequently, the Region decided to add a third ambient air monitoring station located near the corner of Crago and Osborne Roads (referred to as the Crago Road Station), which was installed in October/November 2014. The Crago Road Station is not part of the Ambient Monitoring Plan; however, it is operated following the same protocols as the other two stations. Results of the Crago Road Station are reported separately from the Courtice WPCP and Rundle Road Stations.

The Crago Road Station is equipped to measure concentrations of several air contaminants either continuously or at scheduled intervals (non-continuously) as outlined below:

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

Meteorological data is also measured at the station. The predominantly downwind Crago Road Station measures horizontal wind speed, wind direction, atmospheric temperature, relative humidity and rainfall.

The DYEC commenced commissioning on February 13, 2015 and was being commissioned until January 31, 2016. As per the Ambient Monitoring Plan (Stantec, 2012), collection of continuous parameters only during commissioning was required. At the request of the Regional Municipality of Durham, dioxins and furans sampling was initiated from October 21, 2015 to January 25, 2016, however this additional sampling was outside the scope of the Ambient Monitoring Plan

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

(Stantec, 2012). The EFW facility became fully operational on February 1, 2016 and monitoring of non-continuous air quality parameters resumed. The first sampling day for operation of all non-continuous monitors was February 6, 2016.

This quarterly report provides a summary of the ambient air quality data collected at the Crago Road Station for the period January to March 2016 (Calendar Quarter 1 (Q1)). All measured air quality parameters had above acceptable data recovery rates during this quarter. Instrumentation recovery rates 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 PM_{2.5} were below the applicable O. Reg. 419/05 criteria or human health risk assessment (HHRA) health-based standards presented in **Table 2-1** 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 the Crago Road Station for this quarterly report was three months, there was 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.
3. The maximum measured concentrations of TSP and all metals with Ministry of Environment and Climate Change (MOECC) air quality criteria were well below their applicable criteria (as presented in **Table 2-2** in this report).
4. The maximum measured concentrations of all PAHs with MOECC air quality criteria were well below their applicable criteria shown in **Table 2-3**, with the exception of the 24-hour benzo(a)pyrene (B(a)P) concentration for one sample, which exceeded the applicable Ontario Ambient Air Quality Criteria (AAQC) by 12%. The current Ontario 24-hour B(a)P AAQC was introduced in 2011 and levels above this recently enacted AAQC are commonly measured throughout Ontario. The measurements were however, well below the MOECC Schedule 6 Upper Risk Threshold, the MOECC O. Reg. 419 24-hour average guideline, and the HHRA health based standard.
5. The maximum measured toxic equivalent dioxin and furan concentration was below the applicable criteria presented in **Table 2-3**.

In summary, the measured concentrations of the air contaminants monitored were below their applicable MOECC criteria during the monitoring period between January and March 2016, with the exception of one benzo(a)pyrene sample. All measured levels of the monitored contaminants were below their applicable HHRA health-based standards.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Abbreviations

AAQC	Ambient Air Quality Criteria
CAAQS	Canadian Ambient Air Quality Standard
CAC	Criteria Air Contaminants
CDD	Chlorinated Dibenzo-p-dioxins
CDF	Chlorinated Dibenzo-p-furans
D/Fs	Dioxins and Furans
DYEC	Durham York Energy Centre
EFW	Energy from Waste
HHRA	Human Health Risk Assessment
MOECC	Ontario Ministry of the Environment and Climate Change
SO ₂	Sulphur Dioxide
NO _x	Nitrogen Oxides
O ₃	Ozone
PAH	Polycyclic aromatic hydrocarbons
Particulate	A particle of a solid or liquid that is suspended in air.
PCB	Polychlorinated biphenyl
PM	Particulate Matter
PM _{2.5}	Particulate Matter smaller than 2.5 microns
Q1, Q2, Q3, Q4	Quarter 1 (January, February and March); Quarter 2 (April, May and June); Quarter 3 (July, August, and September); and Quarter 4 (October, November and December)
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

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Ag	Silver
Tl	Thallium
Sn	Tin
V	Vanadium
Zn	Zinc

Miscellaneous

°C	Temperature in degrees Celsius
N/A	Not Available
%	Percent
ppm	Parts per million
ppb	Parts per billion
ppbv	Parts per billion by volume
ppt	Parts per trillion
min	Minimum
max	Maximum
mm	Millimetres
m	Metres
km/hr	Kilometres per hour
mg/m ³	Milligrams per cubic metre
µg/m ³	Micrograms per cubic metre
ng/m ³	Nanograms per cubic metre
pg/m ³	Picograms per cubic metre
pg TEQ/m ³	Picograms toxic exposure equivalents per cubic metre

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Introduction
August 8, 2016

1.0 INTRODUCTION

1.1 BACKGROUND AND OBJECTIVES

The Regional Municipalities of Durham and York operate 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 commercial operation on February 1, 2016.

An Ambient Air Quality Monitoring Plan – Durham York Residual Waste Study (Ambient Monitoring Plan) was developed and included two monitoring stations referred to as the Courtice Water Pollution Control Plant (WPCP) Station and the Rundle Road Station (as well as a temporary fence line monitor). The plan developed for these stations was 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.

At the request of the Regional Municipality of Durham (the Region), a third ambient air monitoring station located near the corner of Crago and Osborne Roads was installed. This station, which is not part of the Ambient Monitoring Plan, is operated following the same protocols as the other two stations (Courtice WPCP and Rundle Road Stations) already in operation.

The Crago Road Station is equipped to measure concentrations of several air contaminants either continuously or at scheduled intervals (non-continuously) as outlined below:

- Contaminants monitored continuously:
 - Sulphur Dioxide (SO₂)
 - Nitrogen Oxides (NO_x), and
 - Particulate Matter smaller than 2.5 microns (PM_{2.5}).

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Introduction

August 8, 2016

- Contaminants monitored non-continuously:
 - Metals in Total Suspended Particulate (TSP) matter
 - Polycyclic Aromatic Hydrocarbons (PAHs), and
 - Dioxins and Furans.

The DYEC commenced commissioning on February 13, 2015 and was being commissioned until January 31, 2016. As per the Ambient Monitoring Plan (Stantec, 2012), collection of continuous parameters only during commissioning was required. At the request of the Region, dioxins and furans sampling was initiated from October 21, 2015 to January 25, 2016 however this additional sampling was outside the scope of the Ambient Monitoring Plan (Stantec, 2012). The EFW facility became fully operational on February 1, 2016 and monitoring of non-continuous air quality parameters resumed with the first sampling day for all non-continuous monitors being February 6, 2016.

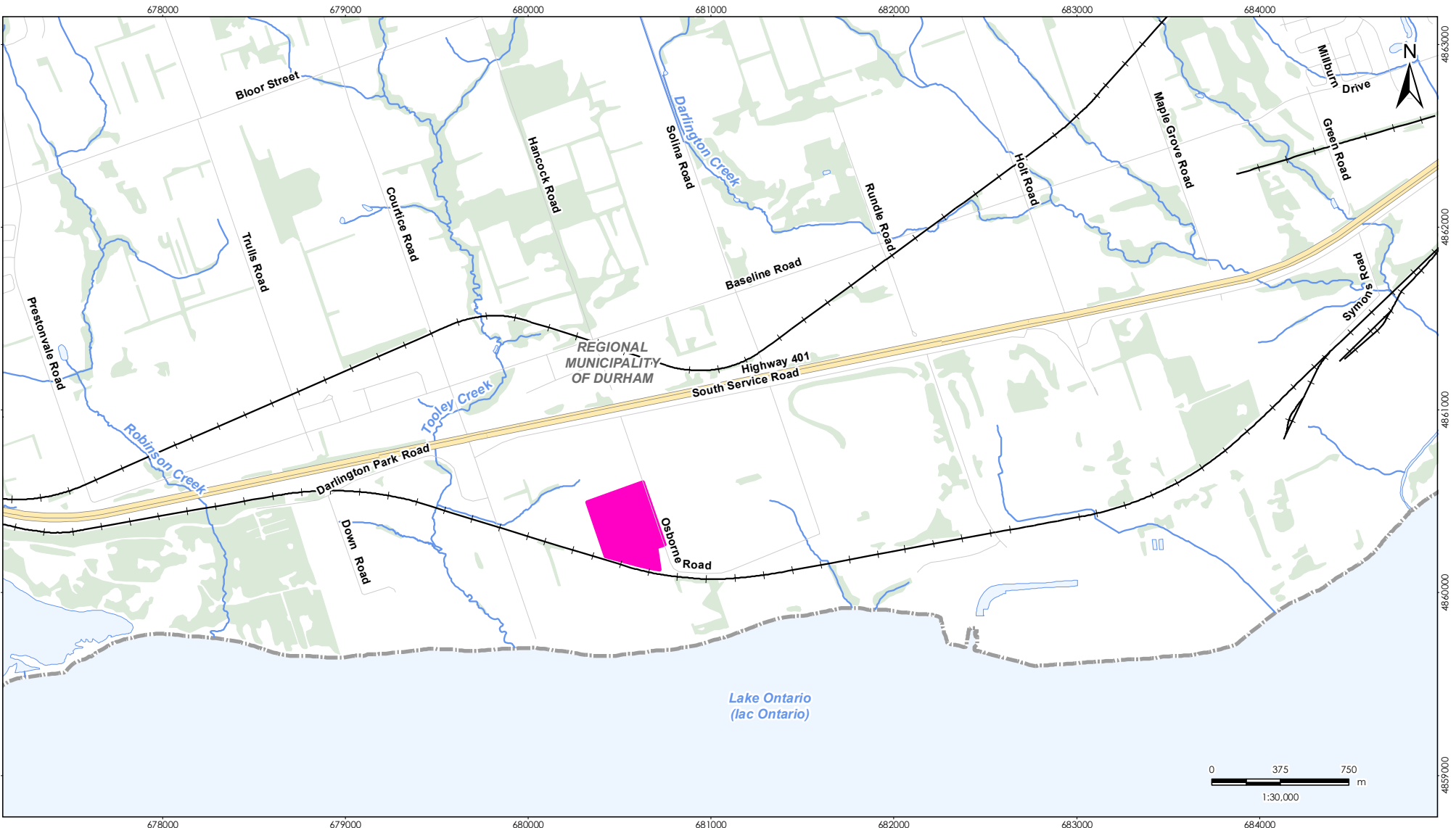
This quarterly report provides a summary of the ambient air quality data collected at this station for the period January to March 2016 (Q1).

1.2 LOCATION OF AMBIENT AIR QUALITY MONITORING STATION

The selection of the site for the monitoring station was accomplished in consultation with Regional Municipality of Durham representatives, with consideration of the location of the existing monitoring stations and general MOECC siting criteria. The final location of the monitoring station was influenced by the availability of electrical power, accessibility of each location, and security.

The Crago Road Station is sited east of the DYEC in the vicinity of the Darlington Hydro Upper and Lower Soccer Fields on the east side of Crago Road, north of Osborne Road. Its location is shown in **Figure 1-2 and Figure 1-3**. The monitoring station measures all the air contaminants listed in Section 1.1 and meteorological data.

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 Revised: 2013-10-28 By: scates



October 2013
160950528



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

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

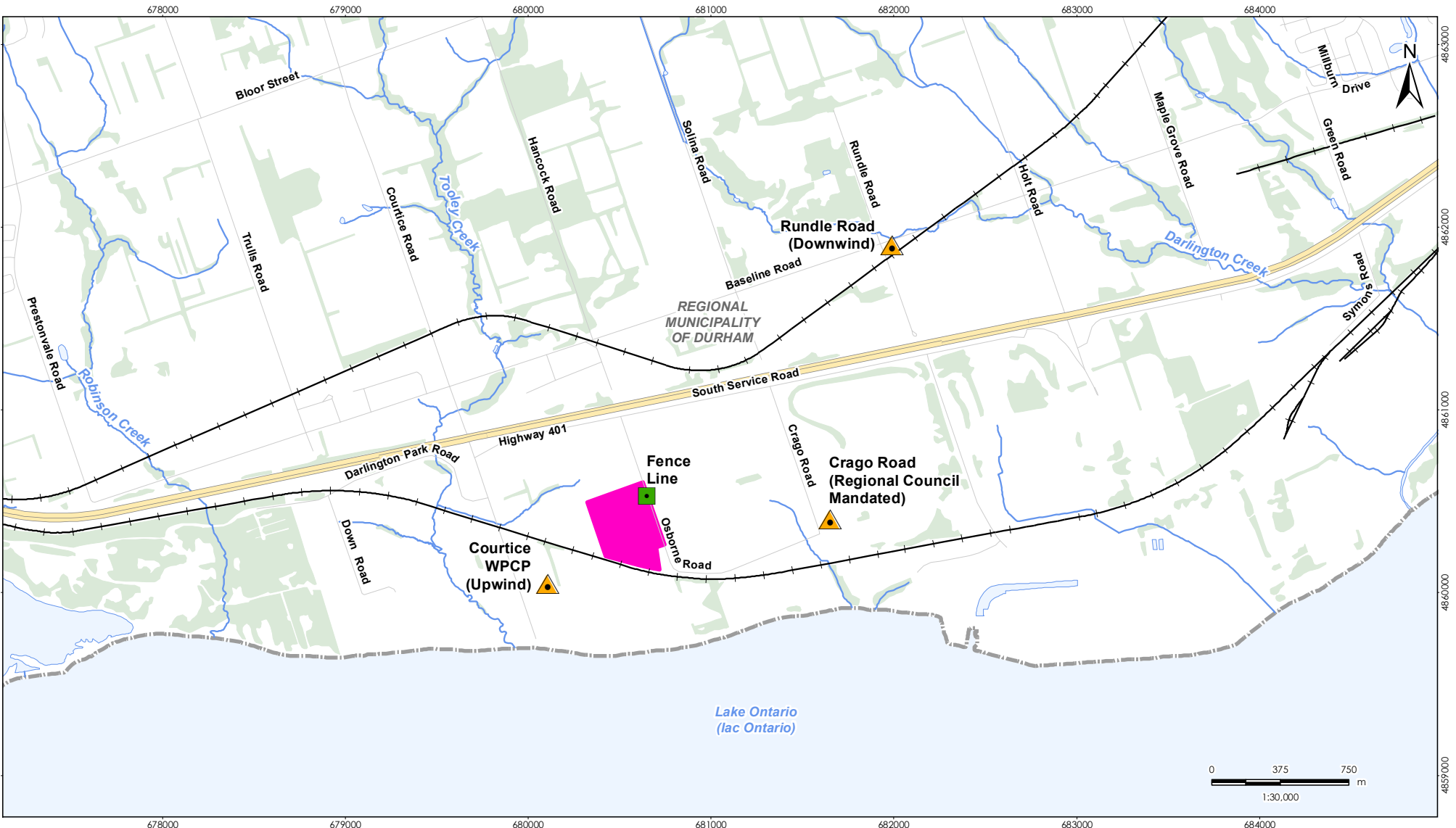


Client/Project
 The Region of Durham
 Durham York Energy Centre

Figure No.
1-1

Title
Site Location Plan

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 Revised: 2015-02-27 by: scs



- Legend**
- Station Location
 - Fence Line Station Location (Monitoring to begin after DYEC commissioning period)
 - Durham York Energy Centre Site
 - Railway
 - Road
 - Highway
 - Watercourse
 - Waterbody
 - Wooded Area

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

Client/Project
 The Region of Durham
 Durham York Energy Centre

Figure No.
1-2

Title
Locations of Ambient Monitoring Stations

February 2015
 160950528

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Introduction
August 8, 2016

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



QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Key Components Assessed
August 8, 2016

2.0 KEY COMPONENTS ASSESSED

2.1 METEOROLOGY

The following meteorological parameters are measured at the Crago Road monitoring station:

- Wind Speed and direction at a height of 10 m
- Ambient temperature at a height of 2 m
- Relative humidity, and
- Rainfall

2.2 AIR QUALITY CONTAMINANTS OF CONCERN

The ambient air quality monitoring program for the Crago Road Station includes the following contaminants specified in the Ambient Monitoring Plan (Stantec 2012):

- Continuously monitored criteria air contaminants (CACs)
 - Sulphur Dioxide (SO₂)
 - Nitrogen Oxides (NO_x), and
 - Particulate Matter smaller than 2.5 microns (PM_{2.5}).
- Non-continuously monitored
 - Metals in Total Suspended Particulate (TSP) matter
 - Polycyclic Aromatic Hydrocarbons (PAHs), and
 - Dioxins and Furans.

The facility commenced commissioning on February 13, 2015 and was being commissioned until January 31, 2016. Operation of the non-continuous monitors at the Crago Road Station was not required during the commissioning period as per Section 1.2 of the Ambient Monitoring Plan (Stantec, 2012). At the request of the Region, dioxins and furans sampling was resumed from October 21, 2015 to January 25, 2016 however this additional sampling was outside the scope of the Ambient Monitoring Plan (Stantec, 2012). Results of the January 2016 dioxins and furans sampling are included in this report.

The EFW facility started full commercial operation on February 1, 2016 and monitoring of non-continuous monitors resumed, as specified in the Ambient Monitoring Plan.

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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Key Components Assessed
August 8, 2016

Metals:

- Aluminum (Al)
- Antimony (Sb)
- Arsenic (As)
- Barium (Ba)
- Beryllium (Be)
- Bismuth (Bi)
- Boron (B)
- Cadmium (Cd)
- Cobalt (Co)
- Copper (Cu)
- Chromium (Cr) (Total)
- Iron (Fe)
- Lead (Pb)
- Magnesium (Mg)
- Manganese (Mn)
- Mercury (Hg)
- Molybdenum (Mo)
- Nickel (Ni)
- Phosphorus (Ph)
- Selenium (Se)
- Silver (Ag)
- Strontium (Sr)
- Thallium (Tl)
- Tin (Sn)
- Titanium (Ti)
- Uranium (U)
- Vanadium (V)
- Zinc (Zn)
- Zirconium (Zr)

Polycyclic Aromatic Hydrocarbons:

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

Dioxins and Furans:

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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Key Components Assessed
August 8, 2016

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 average Canada-Wide Standard (CWS) for PM_{2.5} of 30 µg/m³ (98th percentile averaged over 3 consecutive years), has been superseded by a new Canadian Ambient Air Quality Standard (CAAQS) of 28 µg/m³ (98th percentile averaged over 3 consecutive years) and an annual objective of 10 µg/m³ as noted in **Table 2-1**. The proposed CAAQS 24-hour objective for 2020 is 27µg/m³.

Summaries of the relevant air quality criteria for the contaminants monitored in Q1 2016 are presented in **Table 2-1** to **Table 2-3**.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Key Components Assessed
August 8, 2016

Table 2-1 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 NO₂, as NO₂ has adverse health effects at much lower concentrations than NO. Therefore the standard was compared to NO₂ in this report. However, as per the current April 2012 version of O. Reg. 419 Summary of Standards and Guidelines, the standard was also compared to the monitored NO_x.
- B. Canadian Ambient Air Quality Standards (CAAQS) for Respirable Particulate Matter and Ozone, effective by 2015 (CCME, 2012). The Respirable Particulate Matter Objective is referenced to the 98th percentile daily average concentration averaged 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).

Table 2-2 Summary of Air Quality Criteria for Metals

Contaminant	CAS	O. Reg. 419/05 – Schedule 3/AAQC			HHRA Health-Based Standards		
		1-Hour (µg/m ³)	24-Hour (µg/m ³)	Other time Period (µg/m ³)	1-Hour (µg/m ³)	24-Hour (µg/m ³)	Annual (µg/m ³)
Total Particulate	NA	-	120	-	-	120	60
Aluminum	7429-90-5	-	4.8	-	-	-	-
Antimony	7440-36-0	-	25	-	5	25	0.2
Arsenic	7440-38-2	-	0.3	-	0.2	0.3	0.015 ^A 0.0043 ^B
Barium	7440-39-3	-	10	-	5	10	1
Beryllium	7440-41-7	-	0.01	-	0.02	0.01	0.007 ^A 0.0024 ^B
Bismuth	7440-69-9	-					
Boron	7440-42-8	-	120	-	50	-	5

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Key Components Assessed
August 8, 2016

Table 2-2 Summary of Air Quality Criteria for Metals

Contaminant	CAS	O. Reg. 419/05 – Schedule 3/AAQC			HHRA Health-Based Standards		
		1-Hour (µg/m ³)	24-Hour (µg/m ³)	Other time Period (µg/m ³)	1-Hour (µg/m ³)	24-Hour (µg/m ³)	Annual (µg/m ³)
Cadmium	7440-43-9	-	0.025	0.005; annual	0.1	0.025	0.005 ^A 0.0098 ^B
Chromium (Total)	7440-47-3	-	0.5	-	1	-	60
Cobalt	7440-48-4	-	0.1	-	0.2	0.1	0.1
Copper	8440-50-8	-	50	-	-	-	-
Iron	15438-31-0	-	4	-	-	-	-
Lead	7439-92-1	-	0.5	0.2; 30-day	1.5	0.5	0.5
Magnesium	7439-95-4	-					
Manganese	7439-96-5	-	0.4	-	-	-	-
Mercury	7439-97-6	-	2	-	0.6	2	0.3
Molybdenum	7439-87-7	-	120	-	-	-	-
Nickel	7440-02-0	-	0.2	0.04; annual	6	-	0.05
Phosphorus	7723-14-0	-	-	-	-	-	6.4 x 10 ⁷
Selenium	7782-49-2	-	10	-	2	10	0.2
Silver	7440-22-4	-	1	-	0.1	1	0.01
Strontium	7440-24-6	-	120	-	-	-	-
Thallium	7440-28-0	-	-	-	1	-	0.1
Tin	7440-31-5	-	10	-	20	10	2
Titanium	7440-32-6	-	120	-	-	-	-
Vanadium	7440-62-2	-	2	-	0.5	1	1
Uranium	7440-61-1	-	1.5	0.03; annual	-	-	-
Zinc	7440-66-6	-	120	-	50	-	5
Zirconium	7440-67-7	-	20	-	-	-	-

Notes:

- A. Annual Average
- B. Carcinogenic Annual Average

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Key Components Assessed
August 8, 2016

Table 2-3 Summary of Air Quality Criteria for PAHs and D/Fs

Contaminant	CAS	O. Reg. 419/05 – Schedule 3/AAQC			HHRA Health-Based Standards			
		1-Hour (ng/m ³)	24-Hour (ng/m ³)	Other time Period (ng/m ³)	1-Hour (ng/m ³)	24-Hour (ng/m ³)	Annual (ng/m ³)	Toxic Equivalency Factor Annual ^{A, G} (ng/m ³) ⁻¹
1-Methylnaphthalene	90-12-0	-	12,000	-	-	-	3,000	-
2-Methylnaphthalene	91-57-6	-	10,000	-	-	-	3,000	-
Acenaphthene	83-32-9	-	-	-	1,000	-	-	1
Acenaphthylene	208-96-8	-	3,500	-	1,000	-	-	10
Anthracene	120-12-7	-	200	-	500	-	50	-
Benzo(a)anthracene	56-55-3	-	-	-	500	-	-	100
Benzo(b)fluoranthene	205-99-2	-	-	-	500	-	-	100
Benzo(k)fluoranthene	207-08-9	-	-	-	500	-	-	100
Benzo(a)fluorene	238-84-6	-	-	-	500	-	50	-
Benzo(b)fluorene	243-17-4	-	-	-	500	-	50	-
Benzo (g,h,i) perylene	191-24-2	-	-	-	500	-	-	100
Benzo(a)pyrene	50-32-8	-	0.05 ^B 5 ^C 1.1 ^D	0.01; annual	-	1	87 ^A	-
Benzo(e)pyrene	192-97-2	-	-	-	500	-	-	10
Biphenyl	92-52-4	-	-	-	-	-	224,000	-
Chrysene	218-01-9	-						-
Dibenzo(a,c)anthracene	215-58-7	-	-	-	-	-	-	100
Dibenzo(a,h)anthracene	53-70-3	-	-	-	500	-	-	1,000
Fluoranthene	206-44-0	-	-	-	500	-	-	1
Indeno(1,2,3-cd)pyrene	193-39-5	-	-	-	500	-	-	100
Naphthalene	91-20-3	-	22,500	-	-	22,500	3,000	-
o-Terphenyl	84-15-1	-	-	-	50,000	-	5,000	-
Perylene	198-55-0	-	-	-	500	-	-	1

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Key Components Assessed
August 8, 2016

Table 2-3 Summary of Air Quality Criteria for PAHs and D/Fs

Contaminant	CAS	O. Reg. 419/05 – Schedule 3/AAQC			HHRA Health-Based Standards			
		1-Hour (ng/m ³)	24-Hour (ng/m ³)	Other time Period (ng/m ³)	1-Hour (ng/m ³)	24-Hour (ng/m ³)	Annual (ng/m ³)	Toxic Equivalency Factor Annual ^{A, G} (ng/m ³) ⁻¹
Phenanthrene	85-01-8	-	-	-	500	-	-	1
Pyrene	129-00-0	-	-	-	500	-	-	1
Tetralin	119-64-2	-						-
Dioxins and Furans Total Toxic Equivalency ^E	NA	-	0.1 (pg TEQ/m ³) ^F 1 (pg TEQ/m ³) ^C	-	-	-	-	-

Notes:

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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Instrumentation Summary
August 8, 2016

3.0 INSTRUMENTATION SUMMARY

3.1 INSTRUMENTATION

The measurement program at the monitoring site includes both continuous and non-continuous monitors to sample air contaminant concentrations.

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

Table 3-1 Summary of Continuous Ambient Air Quality Monitors

Contaminant	Monitor	Principle of Operation	Range	Time Interval
PM _{2.5}	Thermo Sharp 5030 Synchronized Hybrid Ambient Real-time Particulate Monitor	Light Scattering Photometry / Beta Attenuation - Consists of a carbon 14 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 Fluorescence - 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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Instrumentation Summary
August 8, 2016

Two manually operated, hi-volume air samplers are installed at the Crago Road Station to collect metals in total suspended particulate (TSP), polycyclic aromatic hydrocarbons (PAHs), and dioxins and furans.

As mentioned above, Stantec was requested to conduct additional dioxins and furans sampling on a 12-day schedule between October 21, 2015 and January 25, 2016. The methodology and analyses for the dioxins and furans sampling during this period follow those described in the Ambient Air Monitoring Plan (Stantec 2012) as presented in **Table 3-2**, with the exception of the sampling schedule (dioxins and furans sampling is on a 24-day schedule in the Ambient Monitoring Plan). The samples were submitted to Maxxam Analytics Inc., a Canadian Association for Laboratory Accreditation Inc. (CALA) / Standards Council of Canada (SCC) accredited laboratory, for analysis.

After the EFW facility started full commercial operation on February 1, 2016, monitoring of all non-continuous monitors following the sampling requirements specified in the Ambient Monitoring Plan resumed.

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

Contaminant	Sampler	Filter Media	Lab Analysis	Sampling Schedule
TSP and metals	Tisch Environmental TE-5170 mass-flow high volume sampler	Pre-weighed, conditioned Teflon coated glass fibre filters	Weighed for particulate loading and analysed using the Atomic Emission Spectroscopy / Inductively Coupled Plasma (AES/ICP) technique to determine metals content	24 hour sample taken every 6 days
PAHs	Tisch Environmental TE-1000 mass-flow high volume air sampler	Dual chambered sampling module with a Teflon-coated glass fibre filter and a Poly-Urethane Foam (PUF) cartridge	Gas Chromatography / Mass Spectrometry (GC/MS)	24 hour sample taken every 12 days
Dioxins and Furans				24 hour sample taken every 12 days (for January 2016 additional D/F sampling) 24 hour sample taken every 24 days (from February 6, 2016 onwards)

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Instrumentation Summary
August 8, 2016

Horizontal wind speed, wind direction, atmospheric temperature, relative humidity, and rainfall are measured at the predominantly downwind Crago Road Station. The meteorological sensors at the Crago Road Station are mounted on an external 10 m aluminum tower and are logged using a digital data acquisition system (DAS).

The meteorological equipment at the Crago Road Station is summarized in **Table 3-3**.

Table 3-3 Summary of Meteorological Equipment

Parameter	Equipment
Wind Speed/Wind Direction	Met One Instruments Inc. Model 034B
Temperature/Relative Humidity	Campbell Scientific Model HMP60
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 3-4**.

Table 3-4 Summary of Instrument Issues at the Crago Road Station

Parameter	Issues	Time Frame	Remedial Action
SO ₂	-	-	-
NO _x	-	-	-
PM _{2.5}	Water leak around Sharp sample mast into equipment shelter	March 14-15	Sample mast re-sealed. All data intact.
TSP/Metals Hi-Vol.	-	-	-
PAH/ D/F Hi-Vol	-	-	-
Other	Modem Connection Issue	January 25-29	Reset modem. All data intact.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Instrumentation Summary
August 8, 2016

3.3 INSTRUMENTATION RECOVERY RATES

Data recovery rates for each continuous monitor at the monitoring station during Q1 are presented in **Table 3-5**.

Table 3-5 Summary of Data Recovery Rates for the Crago Road Station – January to March 2016

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO ₂	2154	99.7% ^C
NO _x	2149	99.5% ^C
PM _{2.5}	2151	99.6% ^C
Temperature	2159	100%
Rainfall	2159	100%
Relative Humidity	2159	100%
Wind Speed/Direction	2159	100%
TSP/Metals ^A	10 ^D	100%
PAHs ^A	5 ^D	100%
Dioxins and Furans ^{A, B}	6 ^D	100%

Note:

- A. Monitoring as per the Ambient Air Monitoring Plan resumed on February 6, 2016 after the facility was fully operational.
- B. Additional sampling for dioxins and furans was conducted from October 21, 2015 to January 25, 2016. The sampling was outside the scope of the Ambient Air Monitoring Plan.
- C. Includes instrumentation issues summarized in **Table 3-4** and monthly calibrations.
- D. Number of filters/24-hour average samples.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

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 monitoring station for the January to March 2016 period are presented in **Table 4-1**.

Table 4-1 Summary of Hourly Meteorological Measurements – January to March 2016

Parameter		Crago Road Station (Predominately Downwind)	Units
Temperature	Maximum	11.9	C
	Minimum	-26.9	C
	Mean (January)	-3.3	C
	Mean (February)	-2.9	C
	Mean (March)	1.0	C
	Mean (Period)	-1.7	C
	Standard Deviation	6.2	C
Rainfall	Maximum	8.1	mm
	Minimum	0.0	mm
	Mean (January)	0.07	mm
	Mean (February)	0.06	mm
	Mean (March)	0.07	mm
	Mean (Period)	0.06	mm
	Standard Deviation	0.39	mm
Relative Humidity	Maximum	98.7	%
	Minimum	30.5	%
	Mean (January)	73.0	%
	Mean (February)	70.2	%
	Mean (March)	74.0	%
	Mean (Period)	72.5	%
	Standard Deviation	14.1	%

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Table 4-1 Summary of Hourly Meteorological Measurements – January to March 2016

Parameter		Crago Road Station (Predominately Downwind)	Units
Wind Speed ^A	Maximum	46.5	km/hr
	Minimum	0.0	km/hr
	Mean (January)	16.1	km/hr
	Mean (February)	16.2	km/hr
	Mean (March)	12.1	km/hr
	Mean (Period)	14.7	km/hr
	Standard Deviation	8.2	km/hr

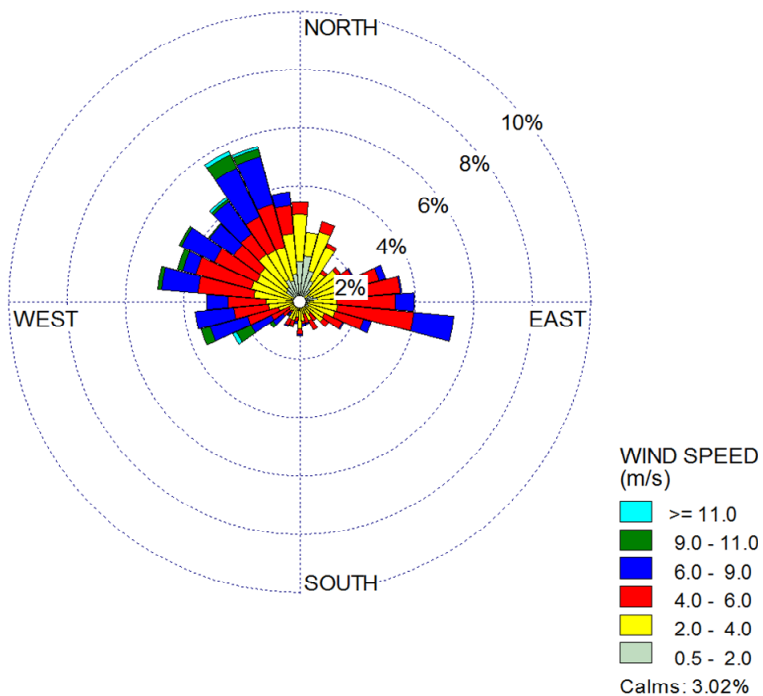
Notes:

A. Wind speed is measured at 10 m.

A wind rose showing directionality and speed is 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 occurred predominantly from westerly to northwesterly and easterly directions. Wind contribution from the south was low. Higher wind speeds occurred from the west-southwest and north-westerly directions.

Figure 4-1 Wind Rose for January to March 2016



QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

4.2 CAC AMBIENT AIR QUALITY MEASUREMENTS

A summary of the maximum, minimum, arithmetic mean and standard deviation of the measured CAC pollutant concentrations 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 between January to March, 2016.

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 O. Reg. 419 Schedule 3 criteria for NO_x which are based on health effects of NO₂. As specified in the MOECC's listing of AAQCs (MOECC, 2012a) the AAQC were compared to measured NO₂ concentrations in this report. However, as per the current April 2012 version of O. Reg. 419 Summary of Standards and Guidelines, the Schedule 3 criterion for NO_x (MOECC, 2012b) was compared to the monitored NO_x levels.

The maximum concentration levels measured at the Crago Road Station in this quarter are compared in **Figure 4-2** to their respective air quality criteria as well as the levels measured at the Courtice WPCP and Rundle Road Stations (Stantec, 2016).

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) –
JANUARY TO MARCH 2016**

Summary of Ambient Measurements
August 8, 2016

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2016

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Crago Road Station (Predominately Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)
SO ₂	1	250	690	Maximum	41.3	116.2
				Minimum	0.0	0.0
				Mean (January)	1.5	4.2
				Mean (February)	2.2	6.3
				Mean (March)	0.9	2.6
				Mean (Period)	1.5	4.3
				Standard Deviation	3.9	10.9
				# of Exceedances	0	0
	24	100	275	Maximum	24.7	69.5
				Minimum	0.0	0.0
				Mean (January)	1.5	4.2
				Mean (February)	2.2	6.3
				Mean (March)	0.9	2.6
				Mean (Period)	1.5	4.3
				Standard Deviation	2.7	7.7
				# of Exceedances	0	0

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2016

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Crago Road Station (Predominately Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)
PM _{2.5}	24	N/A	28 ^A	Maximum	-	29.6
				Minimum	-	0.2
				Mean (January)	-	8.2
				Mean (February)	-	6.8
				Mean (March)	-	7.6
				Mean (Period)	-	7.6
				Standard Deviation	-	5.6
				# of Exceedances	-	N/A
NO ₂	1	200	400	Maximum	41.7	82.1
				Minimum	0.0	0.0
				Mean (January)	7.5	15.5
				Mean (February)	5.2	10.7
				Mean (March)	6.8	13.9
				Mean (Period)	6.5	13.5
				Standard Deviation	6.8	14.0
				# of Exceedances	0	0
	24	100	200	Maximum	20.9	43.3
				Minimum	0.1	0.2
				Mean (January)	7.4	15.4
				Mean (February)	5.3	10.9
				Mean (March)	6.8	13.7

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) –
JANUARY TO MARCH 2016**

Summary of Ambient Measurements
August 8, 2016

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2016

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Crago Road Station (Predominately Downwind)				
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)			
NO ^c				Mean (Period)	6.5	13.4			
				Standard Deviation	4.2	8.5			
				# of Exceedances	0	0			
	1	NA	NA	Maximum	78.4	103.5			
				Minimum	0.0	0.0			
				Mean (January)	2.1	2.9			
				Mean (February)	1.3	1.7			
				Mean (March)	1.5	2.0			
				Mean (Period)	1.6	2.2			
				Standard Deviation	3.8	5.0			
				# of Exceedances	N/A	N/A			
				24	NA	NA	Maximum	13.3	18.0
							Minimum	0.3	0.3
							Mean (January)	2.1	2.9
							Mean (February)	1.3	1.7
Mean (March)	1.5	1.9							
Mean (Period)	1.6	2.2							
Standard Deviation	1.8	2.4							
# of Exceedances	N/A	N/A							

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Table 4-2 Summary of Ambient CAC Monitoring Data – January to March 2016

Pollutant	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Standards			Crago Road Station (Predominately Downwind)	
		ppb	µg/m ³		Concentration (ppbv)	Concentration (µg/m ³)
NO _x	1	200 ^B	400 ^B	Maximum	107.2	216.9
				Minimum	0.0	0.0
				Mean (January)	9.7	20.1
				Mean (February)	6.5	13.4
				Mean (March)	8.2	16.8
				Mean (Period)	8.2	16.8
				Standard Deviation	9.3	19.2
				# of Exceedances	0	0
	24	100 ^C	200 ^C	Maximum	34.1	70.8
				Minimum	0.4	1.0
				Mean (January)	9.6	19.9
				Mean (February)	6.6	13.6
				Mean (March)	8.2	16.6
				Mean (Period)	8.2	16.8
Standard Deviation				5.6	11.6	
# of Exceedances				0	0	

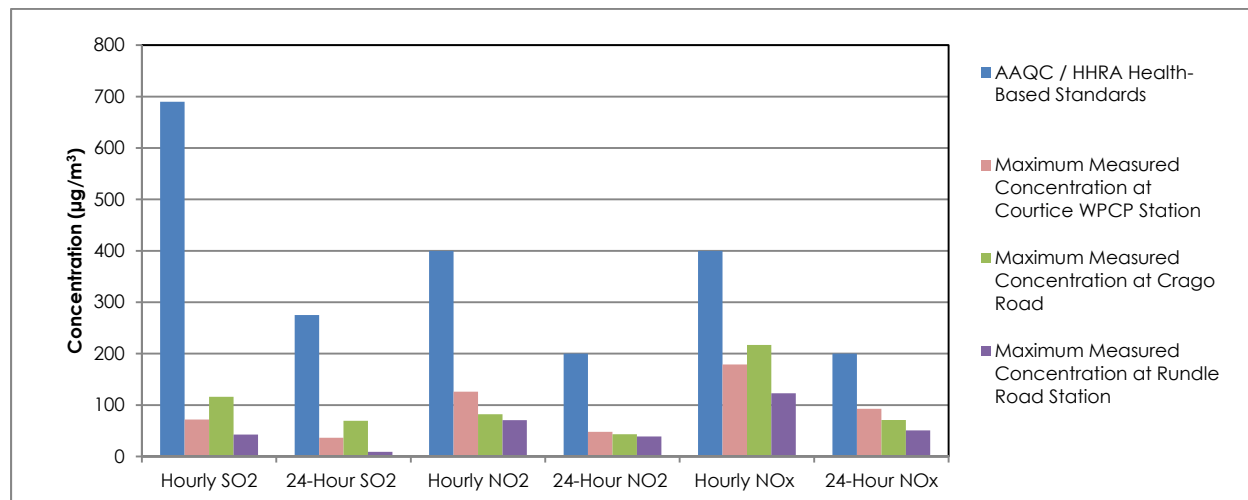
Note:

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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Figure 4-2 Comparison of NO₂, NO_x and SO₂ Ambient Air Quality Monitoring Data to Applicable Criteria at the Stations



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

4.2.1 Sulphur Dioxide (SO₂)

Data summaries are presented in **Appendix A** for sulphur dioxide for each month as well as time history plots of hourly and 24-hour average SO₂ concentrations. For hourly and 24-hour averages, the Ontario AAQCs of 690 $\mu\text{g}/\text{m}^3$ and 275 $\mu\text{g}/\text{m}^3$ are shown with blue lines on the respective plot. As shown in these figures, measured ambient SO₂ concentrations at the station were well below the criteria.

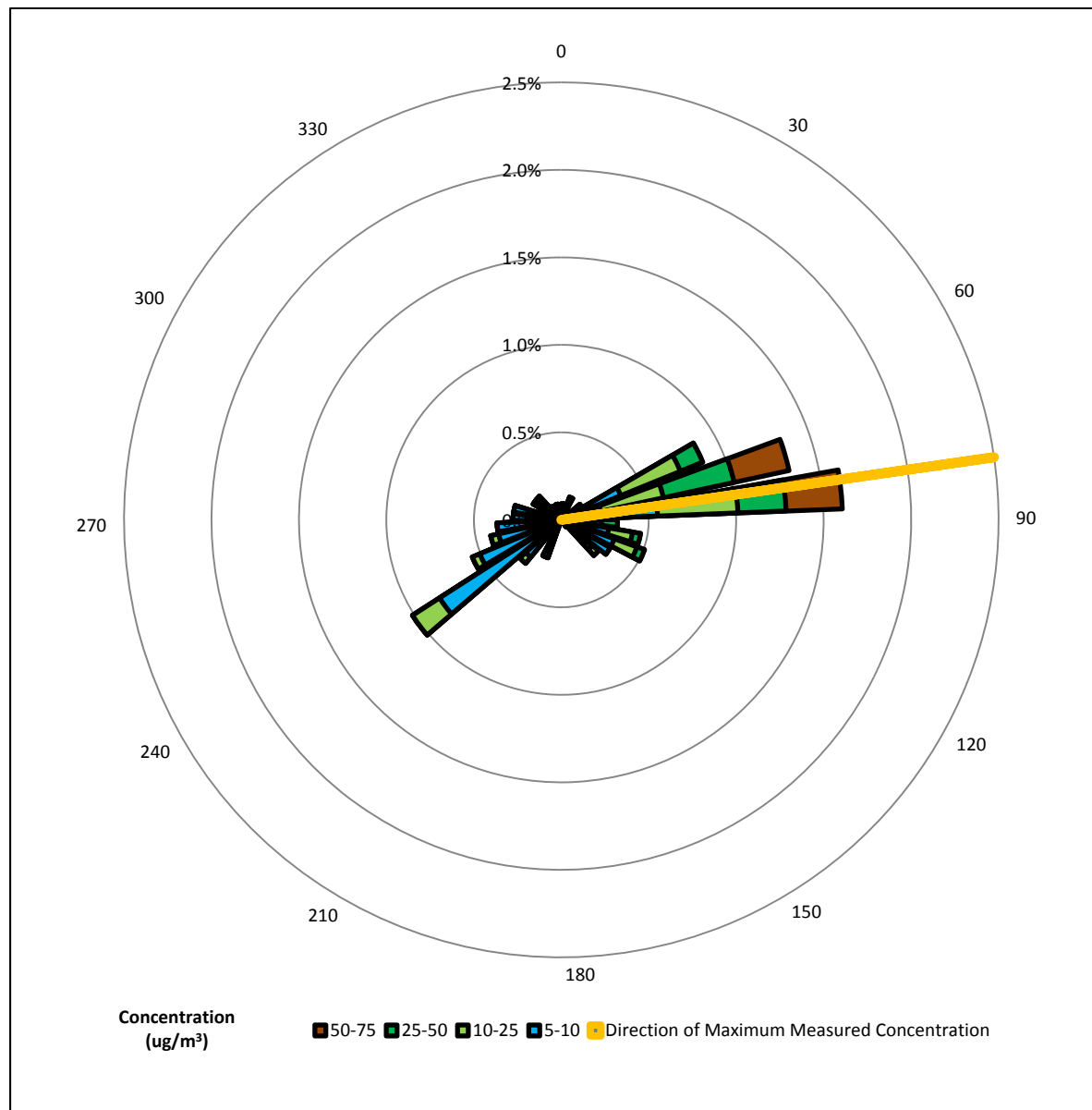
The maximum hourly and 24-hour average SO₂ concentrations measured at the Crago Road Station during January to March 2016 were 116.2 and 69.5 $\mu\text{g}/\text{m}^3$ respectively, which are 17% and 25% of the applicable 1-hour and 24-hour ambient air quality criteria.

A pollution rose of hourly average SO₂ concentrations measured at the Crago Road Station is presented in **Figure 4-3**. The pollution rose plot presents measured hourly average contaminant concentrations versus measured wind direction (over 10° wind sectors). Concentrations less than 5 $\mu\text{g}/\text{m}^3$, which account for 89% of the measurements, have been removed from the plot to allow the distribution of maximum levels to be more clearly shown in the figure. In this period, the Crago Road Station generally measured higher hourly concentrations for winds blowing from easterly directions with the highest measured hourly concentration occurring from the east.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Figure 4-3 Pollution Rose of Measured Hourly Average SO₂ Concentrations – January to March 2016



4.2.2 Nitrogen Dioxide (NO₂)

Nitrogen oxides (NO_x) are almost entirely made up of nitric oxide (NO) and nitrogen dioxide (NO₂). Together, they are often referred to as NO_x. Most NO₂ in the atmosphere is formed by the oxidation of NO, which is emitted directly by combustion processes, particularly those at high temperature and pressure. Exposure to both NO and NO₂ can result in adverse health effects to an exposed population. NO₂ is the regulated form of NO_x. Similar to other jurisdictions (e.g.,

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Alberta Environment, World Health Organization), the O. Reg. 419/05 Schedule 3 standards for NO_x are based on health effects of NO₂, as health effects are seen at much lower concentrations of NO₂ than NO. In this report, because NO₂ is the regulated form of NO_x, the AAQC were compared to measured NO₂ concentrations (as per 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 the station for each month as well as time history plots of the hourly and 24-hour average NO₂ concentrations. For the hourly and 24-hour averages, the Ontario AAQCs of 400 µg/m³ and 200 µg/m³ are shown with blue lines on the respective plot. As shown in these figures, measured ambient NO₂ concentrations were well below the criteria.

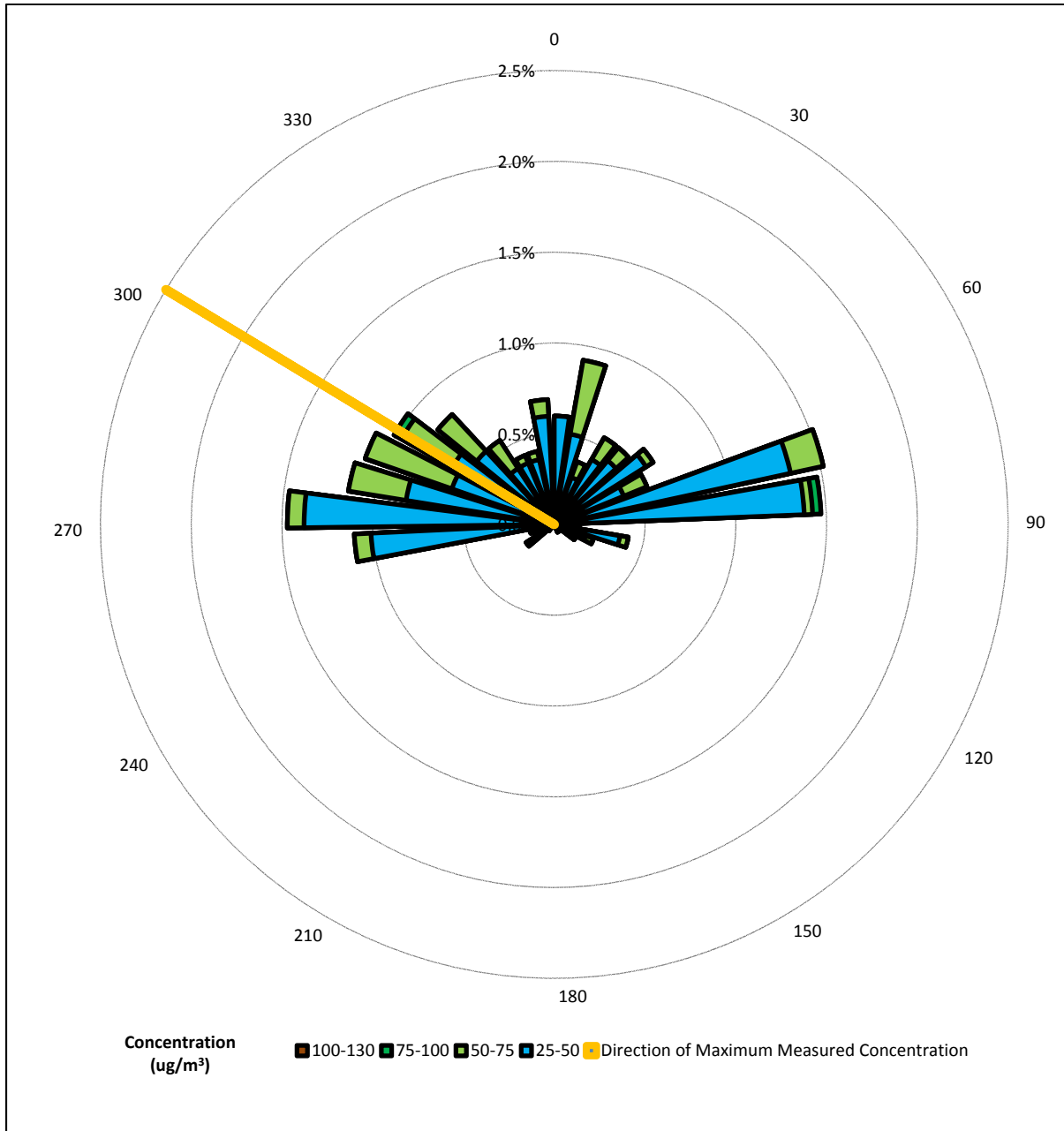
The maximum measured hourly and 24-hour average concentrations were 82.1 and 43.3 µg/m³, which are 21% and 22% of the applicable 1-hour and 24-hour ambient air quality criteria.

A pollution rose of measured hourly average NO₂ concentrations is presented in **Figure 4-4**. Concentrations less than 25 µg/m³, which account for 82% of the measurements, have been removed from the plot to allow the distribution of maximum levels to be more clearly shown in the figure. Higher measured hourly average concentrations generally occurred from northwesterly and easterly directions with the highest measured hourly concentration occurring from the northwest.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Figure 4-4 Pollution Rose of Measured Hourly Average NO₂ – January to March 2016



QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

4.2.3 Nitrogen Oxides (NO_x)

Data summaries are presented in **Appendix C** for nitrogen oxides for each month as well as time history plots of the hourly and 24-hour average NO_x concentrations. For the hourly and 24-hour averages, the Ontario Schedule 3 criteria of 400 µg/m³ and 200 µg/m³ are shown with blue lines on the respective plot.

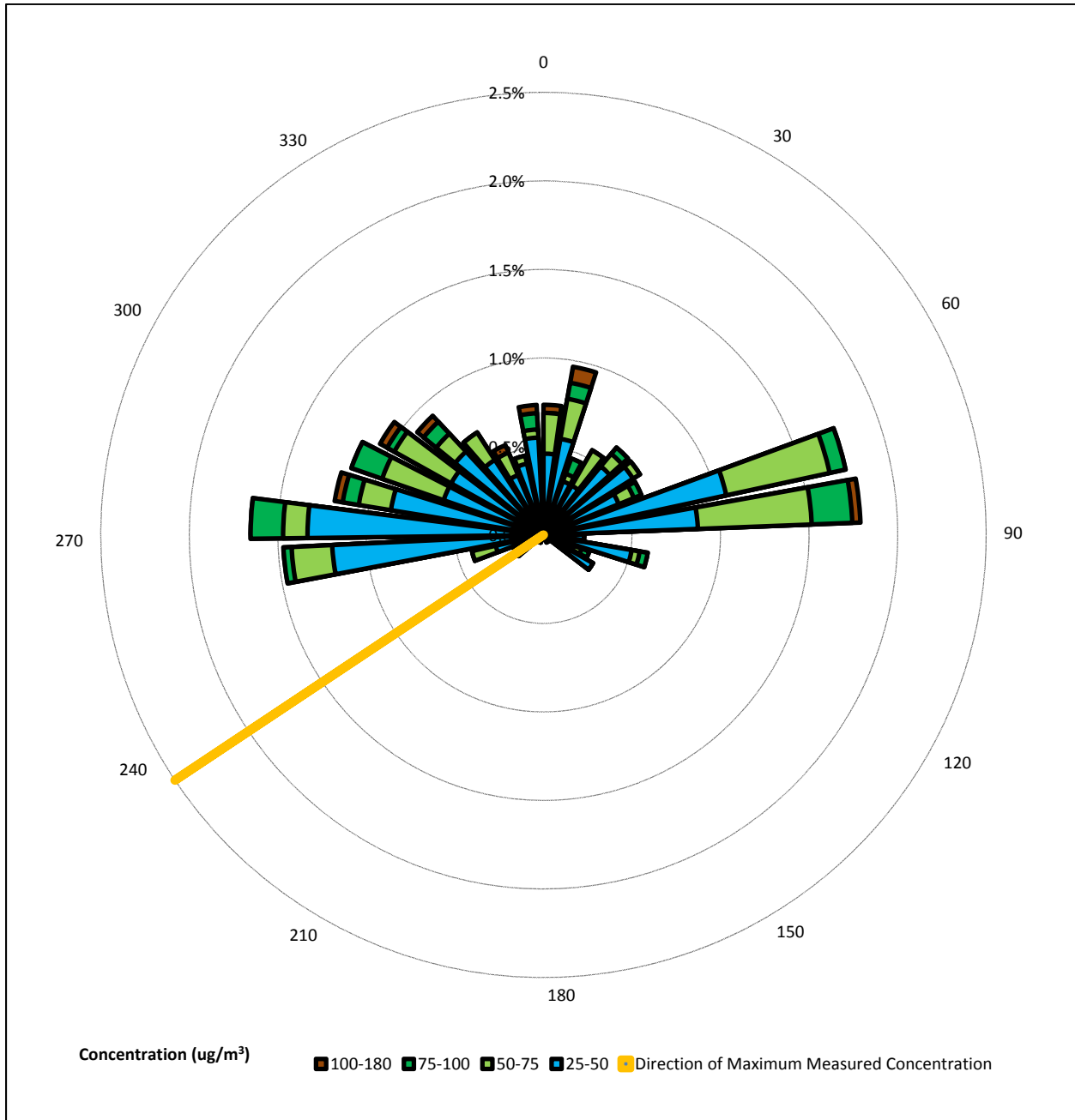
The maximum hourly NO_x concentration measured at the Crago Road Station was 216.9 µg/m³, which is 54% of the 1-hour ambient criteria. The 24-hour average NO_x concentration measured at this station was 70.8 µg/m³, which is 35% of the applicable 24-hour criteria. See **Table 4-2** for detailed results.

A pollution rose of measured hourly average NO_x concentrations is presented in **Figure 4-5**. Concentrations less than 25 µg/m³, which account for 79% of the measurements, have been removed from the plot to allow the distribution of maximum levels to be more clearly shown. In **Figure 4-5**, higher measured hourly average NO_x concentrations typically occurred for winds blowing from northwesterly to northerly and easterly directions with the highest measured hourly concentration occurring from the southeast.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Figure 4-5 Pollution Rose of Measured Hourly Average NO_x Concentrations – January to March 2016



QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

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}.

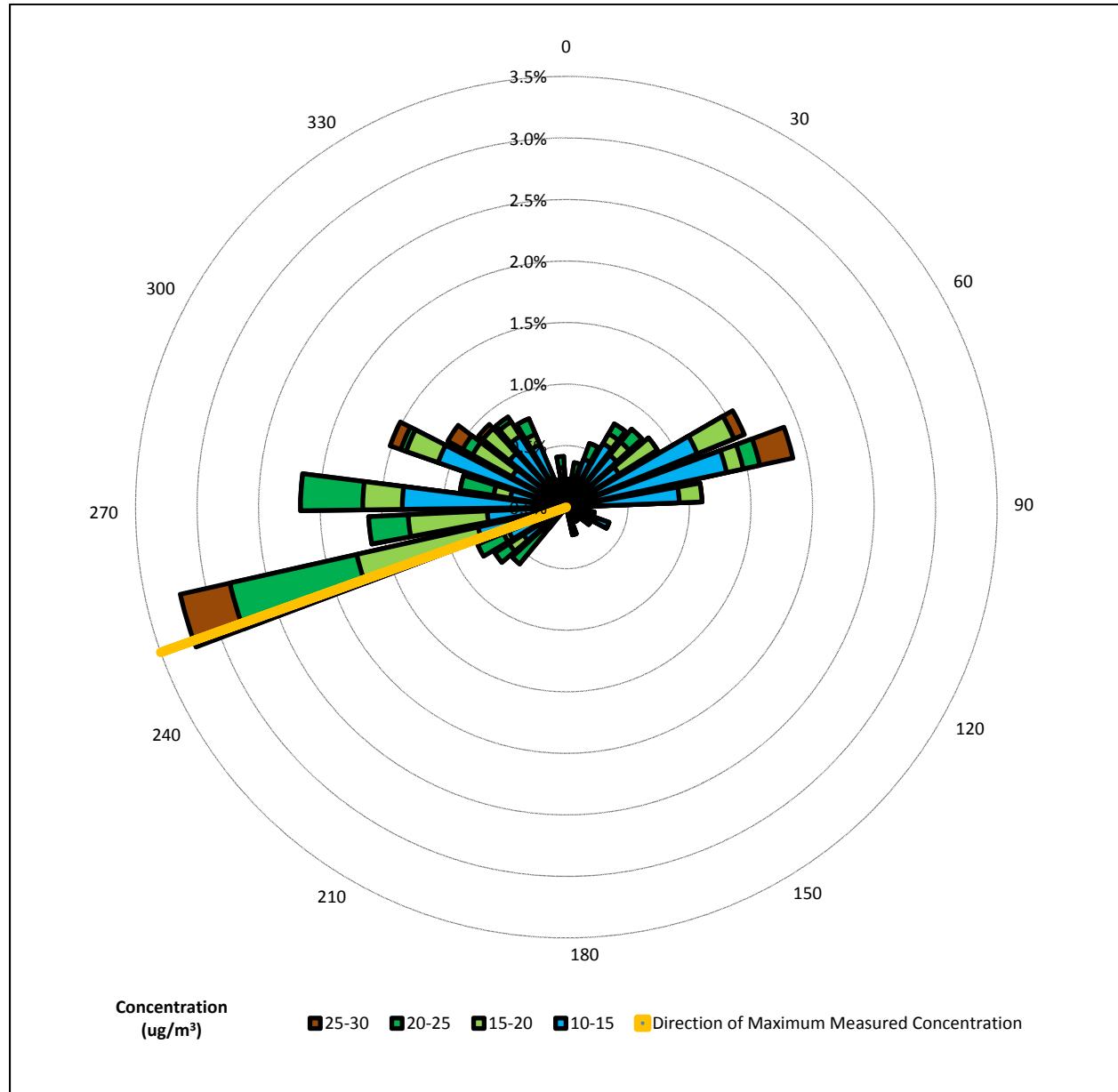
The maximum measured 24-hour average PM_{2.5} concentration was 29.6 µg/m³ during this quarter. It should be noted that since an exceedance of the 24-hour CAAQS for PM_{2.5} requires the average of the 98th percentile levels in each of three consecutive years to be greater than 28 µg/m³ whereas the PM_{2.5} measurements in this report consisted of 3 months of data, there is insufficient data to determine with any certainty if exceedances of the CAAQS would occur. Discussion of PM_{2.5} measurements with respect to the CAAQS will be provided in the 2016 annual report, at which time sufficient data will have been collected to make preliminary comparisons.

A pollution rose showing the measured 24-hour average ambient PM_{2.5} concentrations versus direction is shown in **Figure 4-6**. Concentrations less than 10 µg/m³, which account for 74% of the measurements, have been removed from the plot to allow the distribution of maximum levels to be more clearly shown in the figure. Higher measured concentrations typically occurred from west-southwesterly and east-northeasterly directions, with the highest measured 24-hour concentration occurring from the west-southwest.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Figure 4-6 Pollution Rose of Measured 24-Hour Average PM_{2.5} Concentrations – January to March 2016



QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

4.3 AMBIENT TSP / METALS CONCENTRATIONS

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

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

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

Contaminant	Units	MOECC Criteria	HHRA Health Based Standard	Results		
				Max	Min	No. of Exceedances
Particulate	µg/m ³	120	120	28.4	8.9	0
Total Mercury (Hg)	µg/m ³	2	2	1.8E-05 ^A	4.8E-06 ^A	0
Aluminum (Al)	µg/m ³	4.8	-	1.2E-01	3.2E-02	0
Antimony (Sb)	µg/m ³	25	25	3.1E-03 ^A	2.4E-03 ^A	0
Arsenic (As)	µg/m ³	0.3	0.3	1.9E-03 ^A	1.5E-03 ^A	0
Barium (Ba)	µg/m ³	10	10	6.8E-03	2.8E-03	0
Beryllium (Be)	µg/m ³	0.01	0.01	3.1E-04 ^A	2.4E-04 ^A	0
Bismuth (Bi)	µg/m ³	-	-	1.9E-03 ^A	1.5E-03 ^A	-
Boron (B)	µg/m ³	120	-	4.4E-03 ^A	1.5E-03 ^A	0
Cadmium (Cd)	µg/m ³	0.025	0.025	6.3E-04 ^A	4.8E-04 ^A	0
Chromium (Cr)	µg/m ³	0.5	-	5.9E-03 ^A	1.2E-03 ^A	0
Cobalt (Co)	µg/m ³	0.1	0.1	6.3E-04 ^A	4.8E-04 ^A	0
Copper (Cu)	µg/m ³	50	-	4.3E-02	1.1E-02	0
Iron (Fe)	µg/m ³	4	-	4.5E-01 ^A	8.3E-02 ^A	0
Lead (Pb)	µg/m ³	0.5	0.5	4.5E-03	7.9E-04	0
Magnesium (Mg)	µg/m ³	-	-	1.9E-01	5.6E-02	-
Manganese (Mn)	µg/m ³	0.4	-	1.4E-02	2.8E-03	0
Molybdenum (Mo)	µg/m ³	120	-	1.9E-03 ^A	7.3E-04 ^A	0
Nickel (Ni)	µg/m ³	0.2	-	9.4E-04 ^A	7.3E-04 ^A	0
Phosphorus (P)	µg/m ³	-	-	1.2E-01 ^A	6.1E-03 ^A	-
Selenium (Se)	µg/m ³	10	10	3.1E-03 ^A	2.4E-03 ^A	0

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

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

Contaminant	Units	MOECC Criteria	HHRA Health Based Standard	Results		
				Max	Min	No. of Exceedances
Silver (Ag)	µg/m ³	1	1	1.6E-03 ^A	1.2E-03 ^A	0
Strontium (Sr)	µg/m ³	120	-	7.9E-03 ^A	1.5E-03 ^A	0
Thallium (Tl)	µg/m ³	-	-	3.1E-03 ^A	2.4E-03 ^A	-
Tin (Sn)	µg/m ³	10	10	3.1E-03	2.4E-03	0
Titanium (Ti)	µg/m ³	120	-	9.7E-03 ^A	2.4E-03 ^A	0
Vanadium (V)	µg/m ³	2	1	1.6E-03 ^A	1.2E-03 ^A	0
Zinc (Zn)	µg/m ³	120	-	4.2E-02	7.6E-03	0
Zirconium (Zr)	µg/m ³	20	-	1.6E-03 ^A	1.2E-03 ^A	0
Total Uranium (U)	µg/m ³	1.5	-	1.4E-04 ^A	1.1E-04 ^A	0

Note:

A. Measured concentration was less than the laboratory method detection limit.

4.4 AMBIENT PAH CONCENTRATIONS

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

The maximum measured concentrations of the PAHs with MOECC air quality criteria were well below their applicable 24-hour criteria, with the exception of one (1) measurement of benzo(a)pyrene (B(a)P). The B(a)P the sample collected on February 18, 2016, exceeded the Ontario AAQC by 12%. The sample was however, well below the MOECC Schedule 6 Upper Risk Threshold, the MOECC O. Reg. 419 24-hour average guideline, and the HHRA health based standard. Northerly winds were occurring at the time of sampling. Contributors to the measurement may have included agricultural activity and CN rail, both of which are located to the north of the Crago Road Station.

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

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

The current Ontario 24-hour B(a)P AAQC was introduced in 2011 and levels above this recently enacted AAQC are commonly measured throughout Ontario. B(a)P measurement data available from the National Air Pollutant Surveillance (NAPS) network for Ontario in 2013 (for Simcoe, Toronto and Hamilton), all had maximum levels above the AAQC (varying between 136% -6220% of the criteria). Available NAPS data for Ontario in 2012 (for Windsor, Toronto and Hamilton) showed maximum B(a)P levels at these stations that varied between 716% -2920% of the criteria. In 2011, NAPS data available for seven Ontario stations (Windsor, Toronto, Etobicoke, Hamilton, Simcoe, Pt. Petrie and Burnt Island) showed exceedances at six of the seven stations, with only the remote Burnt Island Ontario station reporting a maximum level below the MOECC AAQC. In 2010, all of these stations, including the Burnt Island station, measured B(a)P levels above the AAQC.

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

Table 4-4 Summary of Measured Ambient PAH Concentrations

Contaminant	Units	MOECC Criteria	HHRA Health Based Standard	Results		
				Max	Min	No. of Exceedances
Benzo(a)pyrene	ng/m ³	0.05 ^A	1	5.61E-02	2.45E-02	1
		5 ^B				0
		1.1 ^C				0
1-Methylnaphthalene	ng/m ³	12,000	-	4.29	1.58	0
2-Methylnaphthalene	ng/m ³	10,000	-	6.48	2.39	0
Acenaphthene	ng/m ³	-	-	2.00	4.84E-01	-
Acenaphthylene	ng/m ³	3500	-	3.79E-01	7.30E-02 ^F	0
Anthracene	ng/m ³	200	-	1.08E-01 ^F	7.30E-02 ^F	0
Benzo(a)anthracene	ng/m ³	-	-	1.08E-01 ^F	7.30E-02 ^F	-
Benzo(a)fluorene	ng/m ³	-	-	2.16E-01 ^F	1.46E-01 ^F	-
Benzo(b)fluoranthene	ng/m ³	-	-	2.34E-01	1.05E-01 ^F	-
Benzo(b)fluorene	ng/m ³	-	-	2.16E-01 ^F	1.46E-01 ^F	-
Benzo(e)pyrene	ng/m ³	-	-	2.16E-01 ^F	1.46E-01 ^F	-
Benzo(g,h,i)perylene	ng/m ³	-	-	1.08E-01 ^F	7.30E-02 ^F	-
Benzo(k)fluoranthene	ng/m ³	-	-	1.08E-01 ^F	7.30E-02 ^F	-

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Table 4-4 Summary of Measured Ambient PAH Concentrations

Contaminant	Units	MOECC Criteria	HHRA Health Based Standard	Results		
				Max	Min	No. of Exceedances
Biphenyl	ng/m ³	-	-	2.11	9.80E-01	-
Chrysene	ng/m ³	-	-	1.88E-01	7.30E-02 ^F	-
Dibenz(a,h)anthracene ^D	ng/m ³	-	-	1.08E-01 ^F	7.30E-02 ^F	-
Dibenzo(a,c)anthracene + Picene	ng/m ³	-	-	4.87E-01 ^F	4.21E-01 ^F	-
Fluoranthene	ng/m ³	-	-	5.90E-01	3.98E-01	-
Indeno (1,2,3-cd)pyrene	ng/m ³	-	-	1.08E-01 ^F	7.30E-02 ^F	-
Naphthalene	ng/m ³	22,500	22,500	2.62E+01	1.09E+01	0
o-Terphenyl	ng/m ³	-	-	2.16E-01 ^F	1.46E-01 ^F	-
Perylene	ng/m ³	-	-	2.16E-01 ^F	1.46E-01 ^F	-
Phenanthrene	ng/m ³	-	-	2.51	1.44	-
Pyrene	ng/m ³	-	-	4.74E-01	3.03E-01	-
Tetralin	ng/m ³	-	-	1.98	8.64E-01	-
Total PAH ^E	ng/m ³	-	-	45.5	21.6	-

Notes:

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

4.5 AMBIENT DIOXINS AND FURANS CONCENTRATIONS

A summary of the maximum and minimum ambient dioxins and furans concentrations (for a daily averaging period) are presented in **Table 4-5**. In this summary, both individual dioxin and furan concentrations (pg/m³) as well as the total toxic equivalency concentration (TEQ) are reported. A detailed summary of the concentrations measured for each sample is presented in **Appendix H**.

The maximum measured toxic equivalent dioxin and furan concentration was below the applicable 24-hour criteria AAQC of 0.1 pg TEQ/m³.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Table 4-5 Summary of Measured Ambient Dioxins and Furans Concentrations

Contaminant	Units	MOECC Criteria	HHRA Health Based Standard	Rundle Road (Predominately Downwind)		
				Max	Min	No. of Exceedances
2,3,7,8-Tetra CDD *	pg/m ³	-	-	7.45E-03 ^A	2.83E-03 ^A	N/A
1,2,3,7,8-Penta CDD	pg/m ³			8.07E-03	3.15E-03 ^A	
1,2,3,4,7,8-Hexa CDD	pg/m ³			1.57E-02	3.59E-03 ^A	
1,2,3,6,7,8-Hexa CDD	pg/m ³			2.04E-02	3.89E-03 ^A	
1,2,3,7,8,9-Hexa CDD	pg/m ³			2.53E-02 ^A	4.19E-03 ^A	
1,2,3,4,6,7,8-Hepta CDD	pg/m ³			1.81E-01	4.13E-02	
Octa CDD	pg/m ³			4.74E-01	1.87E-01	
Total Tetra CDD	pg/m ³			3.58E-02	5.69E-03 ^A	
Total Penta CDD	pg/m ³			6.78E-02	4.19E-03 ^A	
Total Hexa CDD	pg/m ³			1.79E-01	1.14E-02	
Total Hepta CDD	pg/m ³			4.28E-01	1.08E-01	
2,3,7,8-Tetra CDF **	pg/m ³			3.62E-02	4.03E-03 ^A	
1,2,3,7,8-Penta CDF	pg/m ³			1.94E-02	3.30E-03 ^A	
2,3,4,7,8-Penta CDF	pg/m ³			1.97E-02	3.30E-03 ^A	
1,2,3,4,7,8-Hexa CDF	pg/m ³			4.82E-02 ^A	3.15E-03 ^A	
1,2,3,6,7,8-Hexa CDF	pg/m ³			1.83E-02	2.59E-03 ^A	
2,3,4,6,7,8-Hexa CDF	pg/m ³			2.69E-02	2.73E-03 ^A	
1,2,3,7,8,9-Hexa CDF	pg/m ³			1.52E-02	3.02E-03 ^A	
1,2,3,4,6,7,8-Hepta CDF	pg/m ³			1.25E-01	7.79E-03	
1,2,3,4,7,8,9-Hepta CDF	pg/m ³			1.67E-02	3.02E-03 ^A	
Octa CDF	pg/m ³			1.20E-01	1.47E-02	
Total Tetra CDF	pg/m ³			1.93E-01	7.19E-03	
Total Penta CDF	pg/m ³			1.63E-01	3.30E-03 ^A	
Total Hexa CDF	pg/m ³			2.06E-01	3.15E-03 ^A	
Total Hepta CDF	pg/m ³			2.04E-01	4.34E-03 ^A	

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Summary of Ambient Measurements
August 8, 2016

Table 4-5 Summary of Measured Ambient Dioxins and Furans Concentrations

Contaminant	Units	MOECC Criteria	HHRA Health Based Standard	Rundle Road (Predominately Downwind)		
				Max	Min	No. of Exceedances
TOTAL TOXIC EQUIVALENCY ^B	pg TEQ/m ³	0.1 ^C 1 ^D	-	3.78E-02	1.14E-02	0 0

Notes:

- A. Measured concentration was less than the laboratory method detection limit.
 - B. Total Toxicity Equivalent (TEQ) concentration contributed by all dioxins, furans and dioxin-like PCBs calculated as per O. Reg. 419 methodology using corresponding WHO₂₀₀₅ toxic equivalency factors (TEFs) and a value of half the minimum detection limit (MDL) substituted for concentrations less than the MDL.
 - C. Ontario Ambient Air Quality Criteria
 - D. O. Reg. 419 Schedule 6 Upper Risk Thresholds
- * CDD - Chloro Dibenzo-p-Dioxin, ** CDF - Chloro Dibenzo-p-Furan

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

Conclusions
August 8, 2016

5.0 CONCLUSIONS

This quarterly report provides a summary of the ambient air quality data collected at the Crago Road monitoring station for the period January to March 2016.

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

1. Measured levels of NO₂, SO₂ and PM_{2.5} were below the applicable O. Reg. 419/05 criteria or human health risk assessment (HHRA) health-based standards presented in **Table 2-1** 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 the Crago Road Station for this quarterly report was three months, there was 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.
3. The maximum measured concentrations of TSP and all metals with Ministry of Environment and Climate Change (MOECC) air quality criteria were well below their applicable criteria (as presented in **Table 2-2** in this report).
4. The maximum measured concentrations of all PAHs with MOECC air quality criteria were well below their applicable criteria shown in **Table 2-3**, with the exception of the 24-hour benzo(a)pyrene concentration for one sample, which exceeded the applicable Ontario Ambient Air Quality Criteria (AAQC) by 12%. The current Ontario 24-hour B(a)P AAQC was introduced in 2011 and levels above this recently enacted AAQC are commonly measured throughout Ontario. The measurements were however, well below the MOECC Schedule 6 Upper Risk Threshold, the MOECC O. Reg. 419 24-hour average guideline, and the HHRA health based standard.
5. The maximum measured toxic equivalent dioxin and furan concentration was below the applicable criteria presented in **Table 2-3**.

In summary, the measured concentrations of the air contaminants monitored were below their applicable MOECC criteria during the monitoring period between January and March 2016, with the exception of one benzo(a)pyrene sample. All measured levels of the monitored contaminants were below their applicable HHRA health-based standards.

QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE (CRAGO ROAD STATION) – JANUARY TO MARCH 2016

References
August 8, 2016

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**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Appendix A SO₂ Data Summaries and Time History Plots
August 8, 2016

**Appendix A SO₂ DATA SUMMARIES AND TIME HISTORY
PLOTS**

**SO2 - Crago Road
January 2016
(µg/m³)**

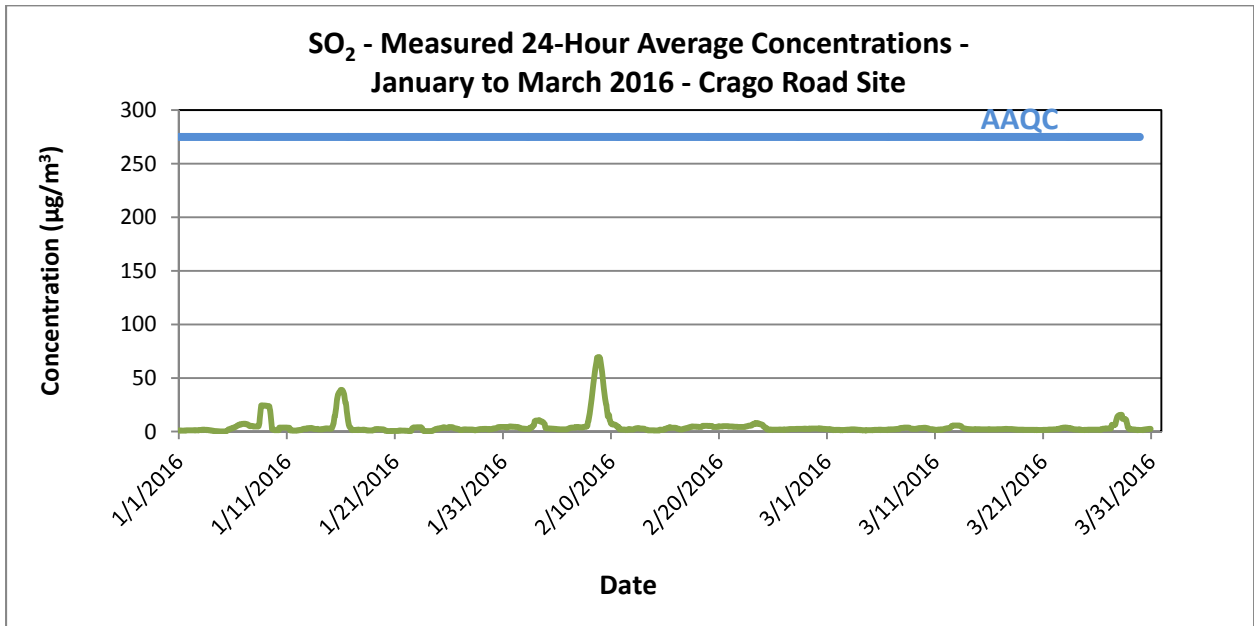
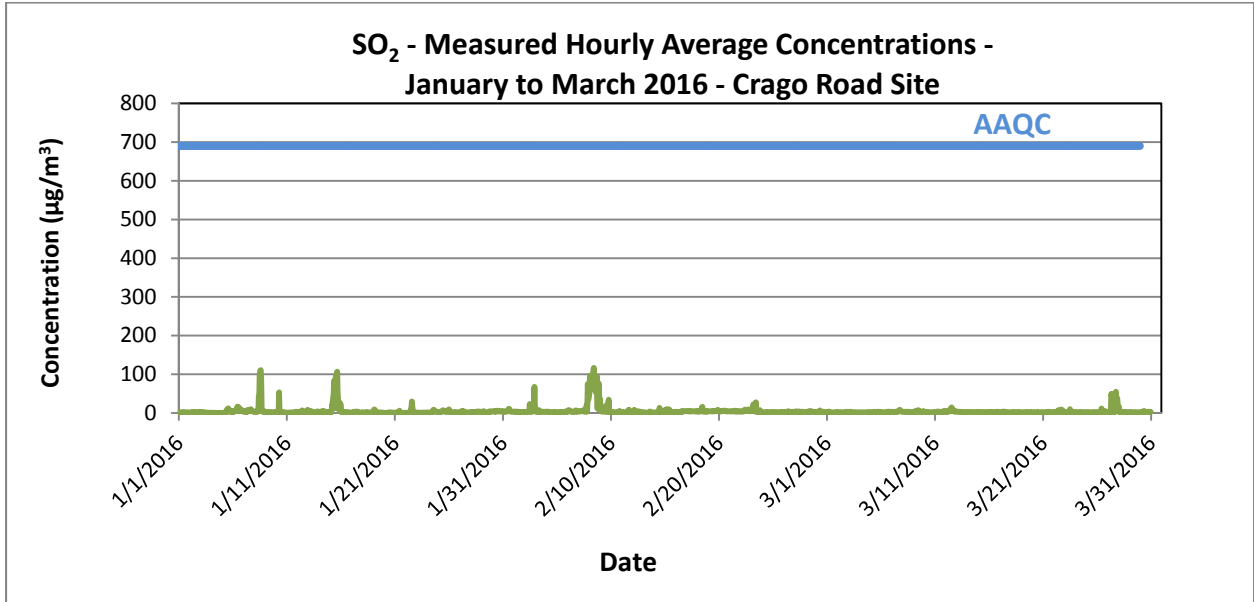
Day	Hour	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count	Maximum	Minimum	Average	Hrs>690	Days>275
1		0.7	1.3	1.6	1.2	0.8	0.9	0.7	0.7	0.8	1.4	1.5	0.8	1.1	1.1	1.4	1.5	1.1	1.4	1.4	1.4	1.1	0.8	0.8	0.8	24	1.6	0.7	1.1	0	0
2		0.9	0.8	1.2	0.7	0.7	0.7	2.2	1.3	1.2	2.1	2.1	1.6	0.9	1.4	0.9	0.8	0.7	1.1	1.5	2.6	1.9	2.5	2.3	1.0	24	2.6	0.7	1.4	0	0
3		2.5	1.6	1.5	1.5	1.8	2.7	2.0	1.6	1.1	1.1	1.1	1.0	0.8	0.9	0.8	0.3	0.2	0.6	0.5	0.3	0.4	0.5	0.6	0.1	24	2.7	0.1	1.1	0	0
4		0.0	0.1	0.2	0.4	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	24	0.4	0.0	0.1	0	0
5		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.7	6.6	7.0	8.3	7.2	11.5	4.9	4.8	2.8	2.7	2.8	4.0	5.6	4.8	3.5	24	11.5	0.0	3.3	0	0
6		2.0	3.0	3.5	3.8	5.1	5.5	5.0	7.4	5.3	7.1	16.1	13.8	11.7	14.5	9.3	6.5	6.6	9.1	7.9	5.8	6.9	5.5	4.1	5.2	24	16.1	2.0	7.1	0	0
7		4.5	4.3	3.2	2.7	3.0	2.9	3.9	2.9	3.4	4.2	8.1	5.8	6.0	4.9	6.1	8.7	9.4	7.2	5.6	4.9	4.0	3.6	3.2	3.3	24	9.4	2.7	4.8	0	0
8		3.1	2.7	3.1	3.4	3.1	3.6	3.5	3.4	4.1	4.8	45.6	51.3	95.7	109.5	110.4	92.4	14.2	4.3	4.1	6.5	3.6	3.3	3.2	2.6	24	110.4	2.6	24.2	0	0
9		1.5	1.5	1.9	1.4	1.1	1.5	1.0	1.4	1.3	1.2	2.0	1.9	1.1	1.4	1.2	1.5	1.1	1.3	0.6	0.8	1.1	0.8	0.6	1.5	24	2.0	0.6	1.3	0	0
10		0.9	2.7	1.2	0.8	1.0	1.3	2.5	52.9	4.6	1.5	1.4	1.3	1.4	1.4	1.4	2.3	2.1	1.5	1.1	1.4	0.8	0.7	0.6	0.7	24	52.9	0.6	3.7	0	0
11		0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.7	1.0	1.0	0.6	0.8	0.1	0.9	0.8	0.7	1.3	1.1	0.8	2.7	2.5	2.6	2.4	24	2.7	0.1	1.1	0	0
12		2.9	2.0	1.9	1.6	1.5	1.0	1.9	2.9	3.4	4.0	6.6	5.1	3.4	3.7	2.8	2.1	2.3	2.1	1.6	1.7	1.6	4.6	8.0	5.8	24	8.0	1.0	3.1	0	0
13		3.5	2.2	1.1	0.8	1.2	5.4	3.2	2.2	1.1	0.8	1.7	2.2	1.3	0.9	0.7	0.7	1.2	1.6	1.5	3.2	3.0	3.8	2.4	2.5	24	5.4	0.7	2.0	0	0
14		2.1	2.0	2.0	1.9	2.6	3.7	4.4	4.6	3.1	3.8	3.8	3.5	4.1	3.2	2.6	2.3	1.8	1.8	1.0	1.4	1.4	2.3	2.5	1.4	24	4.6	1.0	2.6	0	0
15		1.5	3.4	4.2	1.9	18.4	18.6	30.3	40.1	40.8	83.1	64.5	12.5	78.7	96.5	74.9	60.1	106.4	54.3	32.1	29.9	18.9	6.3	14.8	24.1	24	106.4	1.5	38.2	0	0
16		17.3	2.3	2.3	2.2	2.1	2.8	3.2	2.1	1.7	1.5	1.7	1.7	2.1	2.2	1.7	1.4	1.5	1.0	0.6	0.7	0.8	0.7	1.2	1.0	24	17.3	0.6	2.3	0	0
17		0.7	0.7	0.8	1.0	1.1	2.6	2.7	1.6	2.8	3.1	3.5	2.9	2.3	3.3	2.5	0.9	0.7	0.9	0.8	0.7	0.7	0.7	0.5	1.0	24	3.5	0.5	1.6	0	0
18		1.0	0.9	1.6	1.0	0.7	0.7	0.6	0.0	0.8	1.1	2.3	2.1	1.8	1.4	0.8	0.7	0.7	0.9	0.9	0.9	1.4	1.6	0.8	1.0	24	2.3	0.0	1.1	0	0
19		3.2	5.6	8.6	8.2	3.4	1.3	1.6	2.8	2.4	1.7	0.6	0.3	0.5	1.1	0.7	0.6	0.7	0.1	0.4	0.5	0.6	0.2	0.3	0.4	24	8.6	0.1	1.9	0	0
20		0.1	0.0	0.2	0.1	0.1	0.0	0.2	0.4	0.2	0.4	0.6	1.6	1.0	1.1	1.2	0.4	0.1	0.5	0.7	0.6	0.6	0.3	0.2	0.0	24	1.6	0.0	0.4	0	0
21		0.4	0.1	0.3	0.7	0.9	0.8	0.9	0.7	1.0	3.1	5.8	1.3	0.6	0.5	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	5.8	0.0	0.7	0	0
22		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.7	0.2	1.3	6.3	7.2	16.5	29.2	15.4	6.3	3.2	1.5	1.3	0.8	0.7	0.6	0.6	24	29.2	0.0	3.8	0	0
23		0.6	0.8	0.2	0.1	0.4	0.5	0.2	0.1	0.3	0.2	0.1	0.3	0.1	0.1	0.7	0.6	0.5	0.1	0.6	0.5	0.5	0.6	0.4	0.6	24	0.8	0.1	0.4	0	0
24		0.1	0.6	0.6	0.4	0.3	0.4	0.6	0.7	0.8	1.1	1.8	1.9	1.8	7.0	8.1	5.9	6.2	5.2	4.6	4.2	3.2	3.1	2.5	2.1	24	8.1	0.1	2.6	0	0
25		2.1	2.0	2.2	2.1	2.9	2.3	2.3	3.0	3.2	3.6	5.4	6.9	5.8	4.5	3.8	3.6	4.3	4.3	3.7	3.3	2.8	3.2	4.3	7.1	24	7.1	2.0	3.7	0	0
26		8.6	6.3	2.3	1.8	1.7	1.6	1.5	1.5	1.4	1.2	1.2	1.6	1.7	1.1	1.7	1.9	1.4	1.7	1.5	1.3	1.1	1.2	1.2	0.8	24	8.6	0.8	2.0	0	0
27		1.3	1.3	1.5	1.6	2.5	5.2	2.9	3.3	3.4	3.5	3.7	2.0	1.2	0.6	1.2	0.7	0.6	0.9	0.9	0.7	0.8	0.9	0.7	2.2	24	5.2	0.6	1.8	0	0
28		1.7	1.5	1.2	1.2	2.6	2.2	1.8	1.9	1.6	1.5	1.5	2.1	2.3	2.3	3.1	3.8	3.0	2.9	2.3	2.8	3.2	3.2	2.8	2.1	24	3.8	1.2	2.3	0	0
29		2.2	1.6	1.3	0.8	1.3	4.6	3.8	3.1	2.5	1.0	0.9	1.0	0.8	0.8	0.8	C	C	2.5	3.6	3.7	3.9	3.8	4.0	4.0	22	4.6	0.8	2.4	0	0
30		3.7	3.8	3.6	3.9	3.6	3.6	5.0	4.6	5.0	3.5	4.9	5.8	4.5	4.6	5.7	4.6	3.8	3.6	3.9	4.2	4.3	4.3	4.3	3.8	24	5.8	3.5	4.3	0	0
31		4.4	3.6	3.2	3.0	3.3	3.4	3.2	3.4	3.5	4.2	4.3	6.1	8.1	10.3	10.2	4.9	4.1	3.6	3.6	3.3	3.3	3.1	2.9	3.1	24	10.3	2.9	4.4	0	0
Count		31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	742	31	30	30.9		
Maximum		17.3	6.3	8.6	8.2	18.4	18.6	30.3	52.9	40.8	83.1	64.5	51.3	95.7	109.5	110.4	92.4	106.4	54.3	32.1	29.9	18.9	6.3	14.8	24.1	24	110.4	6.3	45.6		
Minimum		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22	0.4	0.0	0.0		
Average		2.4	1.9	1.8	1.6	2.2	2.6	3.0	4.9	3.3	4.8	6.5	4.9	8.3	9.8	9.6	7.7	6.2	3.9	3.0	3.0	2.6	2.3	2.5	2.7	24	15	1	4		
Percentiles			10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data			0.2		0.7		0.9		1.2		1.6		2.3		3.1		3.8		5.9		10.1		77.1		110.4						110.4
Notes		C - Calibration / Span Cycle		NA - No Data Available			T - Test			A- MOE Audit			M - Equipment Malfunction / Down			R - Rate of Change															

SO2 - Crago Road February 2016 (µg/m³)																																
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>690	Days>275		
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300								
1	3.0	3.3	3.2	3.0	3.0	2.8	3.4	2.6	3.2	3.0	2.2	2.7	2.3	2.4	2.4	2.2	2.5	2.6	2.3	2.3	2.2	2.2	2.3	2.3	24	3.4	2.2	2.6	0	0		
2	2.4	2.0	2.1	1.6	1.9	3.1	2.6	2.9	2.7	3.0	3.1	8.0	22.6	5.4	3.9	3.4	2.9	7.6	15.7	20.3	8.8	13.2	67.0	29.7	24	67.0	1.6	9.8	0	0		
3	8.2	3.5	3.5	2.8	2.8	2.6	2.5	2.3	6.4	2.7	2.6	2.7	2.5	3.0	2.8	3.0	3.1	3.0	3.0	2.3	2.3	2.5	3.0	24	8.2	2.3	3.2	0	0			
4	3.0	3.1	3.2	3.4	2.9	2.7	2.6	2.5	2.3	2.3	2.2	2.1	1.9	2.1	2.1	2.1	2.2	2.3	1.7	1.6	1.9	1.6	1.9	1.7	24	3.4	1.6	2.3	0	0		
5	1.8	1.7	1.8	2.1	1.8	1.7	1.9	2.4	2.4	2.1	1.9	2.1	2.0	2.3	2.1	2.3	2.3	2.3	2.2	2.1	2.2	2.7	4.8	5.8	24	5.8	1.7	2.4	0	0		
6	5.5	3.8	6.0	7.4	6.3	4.8	4.7	4.0	3.3	3.4	2.7	2.5	2.5	2.4	3.1	3.7	3.2	3.6	6.6	5.1	4.3	4.2	3.1	3.6	24	7.4	2.4	4.2	0	0		
7	3.7	4.1	4.3	4.4	4.5	4.8	4.6	4.6	4.5	5.2	6.6	5.0	4.3	3.3	3.3	3.3	3.8	9.6	20.2	3.6	20.4	75.3	35.5	45.7	24	75.3	3.3	11.9	0	0		
8	48.9	75.4	96.2	88.9	70.3	84.2	65.6	92.6	100.6	106.1	116.2	72.8	63.2	69.4	54.6	77.5	76.7	94.8	13.3	10.8	28.7	75.4	40.6	31.3	24	116.2	10.8	68.9	0	0		
9	35.1	6.9	13.1	5.0	3.7	3.2	3.1	3.3	3.1	3.2	4.3	5.0	9.3	18.9	16.6	3.7	2.4	4.2	20.8	33.9	9.3	2.8	2.8	2.6	24	35.1	2.4	9.0	0	0		
10	2.5	1.8	1.7	2.0	1.4	1.5	1.5	1.1	1.1	1.3	1.3	1.7	1.7	1.6	2.1	2.4	1.9	2.3	2.5	4.8	3.1	1.8	2.1	1.6	24	4.8	1.1	1.9	0	0		
11	1.1	1.0	2.3	0.8	0.8	0.9	0.7	0.9	0.7	0.6	0.4	1.0	1.9	2.1	3.0	6.1	7.9	5.0	2.9	1.5	0.8	0.2	0.7	1.9	24	7.9	0.2	1.9	0	0		
12	2.0	2.3	2.9	4.8	8.0	3.9	2.9	3.8	2.8	2.2	2.2	4.2	3.5	2.0	2.3	3.4	3.5	1.4	1.0	0.9	1.4	0.4	0.9	1.6	24	8.0	0.4	2.7	0	0		
13	1.7	1.5	1.5	1.0	0.4	0.3	0.3	0.5	0.3	0.2	0.1	0.0	0.9	2.1	3.3	3.2	2.5	2.0	1.1	0.9	1.1	0.1	0.0	0.5	24	3.3	0.0	1.1	0	0		
14	1.1	0.9	0.9	0.5	0.6	0.4	0.1	0.1	0.1	0.2	0.5	3.6	12.6	5.4	2.7	2.4	1.3	1.5	1.2	1.3	2.0	5.3	2.9	2.1	24	12.6	0.1	2.1	0	0		
15	6.2	7.9	2.0	2.7	9.5	3.7	1.9	3.1	2.0	8.9	7.5	3.0	2.0	2.0	1.9	1.9	1.7	1.7	1.7	1.8	2.2	2.4	2.5	2.4	24	9.5	1.7	3.4	0	0		
16	2.7	2.5	2.5	2.0	1.6	1.4	1.0	1.2	1.6	1.6	1.6	1.3	3.4	4.9	5.1	4.9	4.7	4.6	4.5	4.7	4.6	4.6	4.7	4.6	24	5.1	1.0	3.2	0	0		
17	5.0	4.9	4.8	5.4	4.7	4.3	4.7	5.0	4.9	4.2	4.1	4.1	3.9	4.2	3.9	4.0	4.3	4.0	4.5	4.7	4.3	4.3	4.4	4.3	24	5.4	3.9	4.5	0	0		
18	4.6	4.0	3.8	4.4	4.0	4.0	4.2	4.3	4.2	13.5	15.8	8.6	4.1	3.8	4.2	4.8	4.2	4.1	3.8	4.3	4.4	3.5	4.3	4.2	24	15.8	3.5	5.2	0	0		
19	4.2	4.1	4.2	4.1	4.2	4.0	4.0	4.0	3.9	4.3	5.1	4.5	4.6	5.3	4.4	4.6	4.5	4.6	4.6	4.7	7.7	5.8	5.6	4.7	24	7.7	3.9	4.7	0	0		
20	4.6	4.7	4.1	4.4	4.4	4.6	5.5	5.3	5.5	5.2	5.2	5.4	6.0	5.0	4.7	4.5	4.4	4.4	4.4	4.2	4.1	3.9	4.2	4.0	24	6.0	3.9	4.7	0	0		
21	4.0	4.4	4.5	4.4	4.2	4.0	4.1	4.2	4.1	4.1	5.8	5.6	4.0	3.9	4.5	4.9	4.4	3.9	4.0	4.0	3.9	4.0	3.9	3.8	24	5.8	3.8	4.3	0	0		
22	4.0	3.9	4.0	4.0	3.7	4.1	4.0	6.0	6.1	8.7	7.9	7.5	6.6	5.7	6.3	8.0	9.0	6.5	5.7	5.0	4.6	4.6	5.3	5.4	24	9.0	3.7	5.7	0	0		
23	4.9	11.8	11.4	21.5	8.5	4.3	4.2	4.1	4.9	27.4	5.5	4.3	4.2	4.2	C	C	1.7	1.4	7.0	1.6	1.6	1.6	1.5	1.9	22	27.4	1.4	6.3	0	0		
24	1.7	1.7	1.8	1.6	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.3	1.5	1.6	1.5	1.6	1.9	1.8	1.6	2.0	2.2	1.7	2.0	24	2.2	1.3	1.7	0	0		
25	2.0	1.6	2.1	1.9	1.8	1.6	1.8	2.0	1.8	1.8	1.8	1.5	1.5	1.8	1.9	1.5	1.3	1.5	1.5	1.7	1.6	2.6	2.3	1.9	24	2.6	1.3	1.8	0	0		
26	1.5	2.1	2.4	2.6	2.4	2.2	1.8	1.9	3.6	4.3	3.7	3.2	3.0	2.2	2.4	1.6	1.6	1.2	1.5	1.5	1.5	3.1	2.5	1.0	24	4.3	1.0	2.3	0	0		
27	1.9	2.7	3.6	4.0	2.9	2.4	2.3	2.3	3.1	3.0	3.4	3.1	2.4	2.2	2.5	2.1	3.3	2.0	1.6	1.8	2.3	2.2	1.8	2.2	24	4.0	1.6	2.6	0	0		
28	2.1	2.0	2.4	2.7	2.3	2.7	3.8	3.9	2.6	3.6	4.6	3.8	3.5	3.3	3.2	2.9	3.0	2.7	2.1	1.7	1.9	1.5	1.6	1.6	24	4.6	1.5	2.7	0	0		
29	2.3	2.0	2.3	1.9	2.0	1.9	4.4	6.2	4.3	2.5	1.8	1.6	2.4	3.1	2.5	3.1	2.1	1.5	1.2	1.0	0.7	1.2	0.8	23	6.2	0.7	2.3	0	0			
30																									0							
31																										0						
Count	29	29	29	29	29	29	29	29	29	29	29	29	29	29	28	28	29	29	29	29	29	29	29	28	693	29	28	28.9				
Maximum	48.9	75.4	96.2	88.9	70.3	84.2	65.6	92.6	100.6	106.1	116.2	72.8	63.2	69.4	54.6	77.5	76.7	94.8	20.8	33.9	28.7	75.4	67.0	45.7	24	116.2	20.8	71.9				
Minimum	1.1	0.9	0.9	0.5	0.4	0.3	0.1	0.1	0.1	0.2	0.1	0.0	0.9	1.5	1.6	1.5	1.3	1.2	1.0	0.9	0.7	0.1	0.0	0.5	0	2.175597186	0.0					
Average	5.9	5.9	6.8	6.7	5.7	5.6	5.0	6.2	6.5	7.9	7.6	5.9	6.4	6.0	5.5	6.0	5.8	6.5	5.0	4.7	4.7	8.1	7.4	6.3	22	16	2	6.2				
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum	
Data		1.4		1.7		2.1		2.4		3.0		3.7		4.2		4.7		7.4		20.2		84.5		116.2							116.2	
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down R - Rate of Change																															

**SO2 - Crago Road
March 2016
(µg/m³)**

Day	Hour																								Count	Maximum	Minimum	Average	Hrs>690	Days>275
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
1	0.9	0.8	1.2	3.3	2.3	2.8	2.3	2.3	1.8	1.4	0.9	0.9	1.1	1.3	1.4	1.4	1.2	1.6	1.6	1.6	1.6	1.2	0.4	1.6	24	3.3	0.4	1.5	0	0
2	1.4	1.6	1.6	1.6	1.6	1.4	1.0	1.3	1.4	1.4	1.4	1.4	1.5	1.6	1.8	1.7	2.0	2.4	2.0	2.3	2.5	2.9	1.4	1.2	24	2.9	1.0	1.7	0	0
3	1.9	2.5	1.9	2.9	2.7	2.3	2.5	1.6	1.7	1.6	1.2	1.1	1.3	0.9	1.2	1.4	0.9	1.0	1.5	1.1	1.2	1.4	1.2	1.1	24	2.9	0.9	1.6	0	0
4	1.3	1.4	1.3	1.4	1.2	0.8	1.0	0.9	1.2	1.0	1.1	1.3	1.2	1.3	1.3	1.2	1.4	1.7	1.3	1.6	1.8	1.6	1.6	1.3	24	1.8	0.8	1.3	0	0
5	1.6	1.8	1.3	1.2	1.5	1.2	1.4	1.6	3.0	2.6	1.5	1.1	1.3	0.8	1.4	1.6	1.3	1.1	2.1	3.2	2.6	1.6	1.6	1.0	24	3.2	0.8	1.6	0	0
6	1.5	1.3	1.0	1.3	1.5	1.6	1.4	1.5	1.5	1.7	1.7	1.7	2.1	2.5	2.5	2.7	3.8	3.0	2.3	2.3	2.1	1.7	2.5	3.2	24	3.8	1.0	2.0	0	0
7	1.7	1.7	1.6	1.5	1.1	1.7	2.0	2.9	3.0	2.6	2.4	2.8	3.1	3.4	3.8	3.9	5.7	7.3	7.8	5.1	4.1	3.6	3.1	3.0	24	7.8	1.1	3.3	0	0
8	3.0	2.9	2.7	3.0	2.8	2.6	2.6	2.6	3.0	2.7	3.0	2.8	2.7	2.3	2.3	2.5	2.5	2.0	1.9	1.9	2.1	2.3	2.3	2.0	24	3.0	1.9	2.5	0	0
9	2.1	2.7	2.5	1.9	3.4	4.8	3.8	3.8	3.4	3.7	6.7	7.0	4.7	3.9	2.6	2.4	2.7	2.4	2.5	3.1	2.5	2.9	3.0	4.6	24	7.0	1.9	3.5	0	0
10	3.6	2.3	1.7	1.9	1.3	1.4	1.5	1.9	2.3	1.5	1.4	1.6	1.6	1.6	1.5	1.7	1.5	1.5	1.4	1.4	1.6	1.6	1.3	1.5	24	3.6	1.3	1.7	0	0
11	1.5	1.1	1.0	1.0	2.7	3.0	3.9	3.4	3.2	2.8	1.6	1.4	0.0	1.3	C	C	2.7	3.7	3.7	4.1	4.6	5.2	3.9	3.3	22	5.2	0.0	2.7	0	0
12	3.4	3.1	3.1	2.9	2.9	4.6	4.3	4.0	4.0	6.4	7.5	11.0	9.5	14.1	8.5	8.1	7.0	4.5	4.1	5.0	4.8	3.4	3.5	3.5	24	14.1	2.9	5.6	0	0
13	3.4	3.3	3.0	3.0	3.0	3.0	3.0	2.8	2.4	2.4	2.2	2.1	2.3	2.0	1.7	1.7	1.9	2.1	2.1	2.0	1.7	1.5	2.1	2.4	24	3.4	1.5	2.4	0	0
14	2.4	2.5	2.3	2.2	2.1	2.1	2.0	2.1	2.0	2.2	1.8	2.1	2.2	1.9	2.1	2.0	2.1	1.9	2.2	2.2	2.3	1.7	2.2	2.2	24	2.5	1.7	2.1	0	0
15	2.1	2.1	2.5	2.0	1.8	1.8	1.6	2.0	2.2	1.8	1.8	1.9	2.0	2.0	1.9	2.1	2.1	2.0	1.8	1.6	1.8	2.0	1.6	2.2	24	2.5	1.6	2.0	0	0
16	2.0	2.2	2.5	2.3	2.5	1.8	1.6	1.9	2.0	2.2	1.9	2.4	2.1	2.1	2.2	2.2	2.3	2.4	2.8	2.7	2.1	1.9	2.0	1.9	24	2.8	1.6	2.2	0	0
17	1.6	1.7	2.0	2.0	2.5	2.7	2.9	3.4	3.1	2.6	2.8	3.0	2.6	2.2	2.4	2.2	2.0	2.1	1.6	1.6	1.6	1.8	1.7	1.6	24	3.4	1.6	2.2	0	0
18	1.6	1.8	1.9	1.9	2.1	2.1	2.0	1.6	1.8	1.9	1.5	1.6	1.6	1.5	1.8	1.9	2.0	1.6	1.3	1.5	1.5	1.5	1.9	1.6	24	2.1	1.3	1.7	0	0
19	1.5	1.6	1.4	1.4	1.5	1.5	1.7	1.7	1.4	1.4	1.6	1.4	1.6	1.5	1.3	1.6	1.5	1.7	1.3	1.5	1.6	1.3	1.7	1.3	24	1.7	1.3	1.5	0	0
20	1.4	1.6	1.5	1.6	1.5	1.2	1.4	1.9	1.4	1.6	1.5	1.5	1.1	0.4	1.8	1.8	1.7	1.5	1.6	1.5	1.6	1.4	1.5	1.5	24	1.9	0.4	1.5	0	0
21	1.7	1.6	1.6	1.6	1.6	1.9	1.9	1.8	1.8	1.9	1.9	2.4	3.0	2.6	2.1	1.5	1.6	1.9	1.9	1.8	1.8	1.8	2.2	2.2	24	3.0	1.5	1.9	0	0
22	2.3	2.1	1.5	1.6	1.7	2.0	1.8	2.5	3.7	5.9	5.3	6.9	3.5	4.2	3.2	5.0	2.5	8.6	7.0	2.7	2.0	4.5	3.1	2.5	24	8.6	1.5	3.6	0	0
23	2.0	1.7	1.7	1.8	1.6	1.5	1.7	1.6	1.5	1.6	1.6	1.9	9.5	1.8	1.8	2.0	2.0	1.7	1.0	1.4	1.4	1.2	1.9	1.5	24	9.5	1.0	2.0	0	0
24	1.4	1.5	1.3	1.0	1.4	1.3	1.4	1.4	1.5	1.6	1.4	1.3	1.7	1.9	1.5	1.2	1.6	1.6	1.5	1.6	1.9	1.8	1.6	1.7	24	1.9	1.0	1.5	0	0
25	2.0	2.0	1.8	1.6	2.1	2.0	2.2	1.7	1.6	1.6	1.5	1.5	1.6	1.7	1.5	1.5	1.6	1.4	1.5	1.6	1.8	2.1	1.9	1.8	24	2.2	1.4	1.7	0	0
26	1.7	1.4	1.7	1.5	1.4	1.5	1.7	1.7	2.6	3.9	11.1	3.4	5.3	4.5	2.8	2.9	2.4	2.0	4.7	1.9	2.3	1.7	1.5	1.6	24	11.1	1.4	2.8	0	0
27	1.4	1.6	1.2	0.3	1.7	1.7	2.0	4.7	49.0	39.5	4.7	1.7	2.3	2.2	3.5	14.6	2.9	21.3	54.6	41.2	38.6	36.8	17.5	4.9	24	54.6	0.3	14.6	0	0
28	3.5	15.0	4.1	2.2	2.3	2.6	2.4	1.9	2.1	2.4	2.2	2.3	2.2	2.3	2.5	2.4	2.5	2.0	1.9	1.7	1.6	2.1	2.1	1.9	24	15.0	1.6	2.8	0	0
29	1.6	1.5	1.6	M	1.8	1.8	1.5	1.5	1.3	1.1	1.4	1.0	1.1	0.9	1.4	1.5	1.4	1.3	1.3	1.3	1.7	1.6	1.6	1.8	23	1.8	0.9	1.4	0	0
30	1.7	1.8	1.5	1.4	1.9	2.8	2.1	2.8	4.8	3.7	2.5	2.1	2.6	3.0	2.6	2.4	2.3	2.8	2.8	2.6	2.3	2.4	2.8	2.7	24	4.8	1.4	2.5	0	0
31	5.4	5.2	2.3	2.3	2.3	2.2	2.1	1.7	1.7	2.2	2.2	2.0	1.8	2.2	2.2	2.2	2.0	2.2	2.3	2.4	2.2	2.3	2.3	2.3	24	5.4	1.7	2.4	0	0
Count	31	31	31	30	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	741	31	30	30.9		
Maximum	5.4	15.0	4.1	3.3	3.4	4.8	4.3	4.7	49.0	39.5	11.1	11.0	9.5	14.1	14.6	8.1	7.0	21.3	54.6	41.2	38.6	36.8	17.5	4.9	24	54.6	3.3	17.7		
Minimum	0.9	0.8	1.0	0.3	1.1	0.8	1.0	0.9	1.2	1.0	0.9	0.9	0.0	0.4	1.2	1.2	0.9	1.0	1.0	1.1	1.2	1.2	0.4	1.0	22	1.7	0.0	0.9		
Average	2.1	2.4	1.9	1.8	2.0	2.1	2.1	2.2	3.8	3.6	2.6	2.5	2.6	2.5	2.6	2.3	2.3	3.0	4.1	3.5	3.3	3.2	2.5	2.2	24	6	1	2.6		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		1.3		1.5		1.6		1.7		1.9		2.1		2.3		2.7		3.6		4.9		16.5		54.6						54.6
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 SO₂ Concentrations- Crago Road Station



**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Appendix B NO₂ Data Summaries and Time History Plots
August 8, 2016

**Appendix B NO₂ DATA SUMMARIES AND TIME HISTORY
PLOTS**

NO ₂ - Crago Road January 2016 (µg/m ³)																															
Day	Hour																									Count	Maximum	Minimum	Average	Hrs>400	Days>200
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	12.8	8.2	7.3	7.3	7.9	7.8	8.6	5.4	4.3	6.2	9.6	5.9	4.8	6.2	7.0	10.0	7.6	9.8	10.8	15.0	13.5	13.7	12.1	17.9	24	17.9	4.3	9.1	0	0	
2	13.8	9.2	12.0	11.6	9.2	14.6	18.2	6.1	4.5	7.8	12.7	10.3	7.5	6.6	6.7	8.0	10.4	8.1	5.5	7.8	6.0	4.5	3.7	2.7	24	18.2	2.7	8.7	0	0	
3	5.5	6.2	6.8	7.6	7.4	7.1	6.7	5.4	7.4	8.8	11.7	10.7	2.9	1.5	1.3	0.9	1.0	1.8	1.9	1.4	2.1	1.2	1.2	1.1	24	11.7	0.9	4.6	0	0	
4	0.5	0.2	0.0	0.1	0.2	1.1	2.2	1.9	2.4	1.6	0.9	0.3	0.5	0.5	1.1	1.2	2.0	6.4	8.4	24.9	25.9	34.7	27.5	22.9	24	34.7	0.0	7.0	0	0	
5	42.5	35.2	25.0	21.5	25.2	26.7	26.8	31.2	31.5	27.7	36.8	58.6	32.5	11.3	16.4	10.9	12.2	7.8	6.5	3.6	3.8	7.1	6.9	33.0	24	58.6	3.6	22.5	0	0	
6	10.3	9.2	13.1	32.2	47.9	57.7	53.8	53.2	45.9	35.6	12.7	13.8	13.1	13.4	10.4	9.3	11.3	15.2	16.3	15.5	13.2	11.3	38.4	24	57.7	9.2	23.7	0	0		
7	56.4	61.1	55.5	55.8	55.9	57.6	54.7	51.9	45.1	39.7	38.2	36.9	25.8	24.0	21.3	20.1	25.1	23.9	36.4	50.1	53.4	51.4	50.4	47.6	24	61.1	20.1	43.3	0	0	
8	43.7	34.6	23.3	20.8	28.5	32.8	26.9	31.8	31.3	26.1	31.9	31.7	31.3	34.8	38.4	35.9	26.0	25.9	23.2	30.6	24.8	14.9	15.8	14.6	24	43.7	14.6	28.3	0	0	
9	10.1	10.4	11.7	10.0	14.5	8.6	8.8	14.9	15.1	11.6	12.0	8.7	8.3	7.4	8.9	9.2	14.9	8.2	8.9	19.2	11.8	14.0	10.9	11.4	24	19.2	7.4	11.2	0	0	
10	4.7	6.5	3.7	3.1	4.1	3.4	5.4	26.3	2.9	1.7	1.6	1.6	3.2	4.0	3.5	10.4	7.6	6.1	6.5	7.2	7.4	4.2	4.4	4.0	24	26.3	1.6	5.6	0	0	
11	1.7	1.5	2.2	3.2	2.9	4.3	6.8	6.6	7.2	9.7	8.4	4.3	6.0	5.4	5.6	6.9	10.6	13.3	21.8	21.4	38.8	53.3	68.7	54.2	24	68.7	1.5	15.3	0	0	
12	37.6	27.4	27.3	10.7	4.5	3.6	2.9	5.6	8.0	26.1	57.5	43.7	11.4	7.6	16.2	15.2	13.9	12.5	9.6	22.5	12.2	9.8	13.9	8.9	24	57.5	2.9	17.0	0	0	
13	8.1	7.9	5.1	12.4	11.0	16.0	30.8	53.1	34.6	26.3	26.9	23.2	12.8	9.7	7.9	10.7	18.2	18.4	24.9	24.6	17.2	38.3	35.2	28.1	24	53.1	5.1	20.9	0	0	
14	28.9	17.9	16.5	30.5	24.3	30.5	34.8	44.6	46.0	46.9	39.5	29.7	31.6	21.7	25.4	22.0	22.8	31.9	58.8	34.6	22.4	56.1	33.2	17.5	24	58.8	16.5	32.0	0	0	
15	12.5	15.1	16.9	14.8	18.1	18.6	23.8	29.6	32.4	37.1	28.1	12.3	29.3	35.9	31.4	35.2	46.4	33.1	26.5	29.5	25.1	24.6	30.9	38.6	24	46.4	12.3	26.9	0	0	
16	32.9	23.2	17.2	7.8	5.5	6.7	9.4	13.4	14.5	12.8	7.5	4.6	3.4	1.8	1.9	1.9	2.9	5.0	7.2	5.5	9.5	9.2	6.0	5.2	24	32.9	1.8	8.9	0	0	
17	5.0	8.3	8.6	5.4	0.8	1.9	5.3	2.8	3.4	7.7	6.3	4.9	3.9	5.9	11.3	4.8	5.8	5.3	4.2	5.4	8.9	13.0	11.9	13.2	24	13.2	0.8	6.4	0	0	
18	12.2	6.6	5.7	5.7	8.2	8.5	16.7	16.5	15.9	7.4	3.4	4.1	2.0	2.7	2.5	3.1	5.5	9.2	11.7	16.0	16.4	20.3	21.7	22.5	24	22.5	2.0	10.2	0	0	
19	8.6	4.0	4.6	8.7	3.7	8.8	14.1	22.5	31.5	35.7	8.8	4.9	3.9	4.4	4.7	3.9	7.4	4.5	6.3	7.1	7.5	5.3	6.4	6.4	24	35.7	3.7	9.3	0	0	
20	3.1	4.8	4.9	3.4	6.2	6.2	16.6	16.0	21.6	23.9	29.7	22.4	12.8	20.2	33.0	19.9	16.2	17.8	23.1	28.8	37.1	20.7	16.5	16.1	24	37.1	3.1	17.5	0	0	
21	17.5	9.8	7.2	5.0	6.7	19.1	14.9	10.1	9.7	4.5	2.6	0.8	0.6	0.9	0.8	2.1	4.0	10.8	27.0	18.6	24.4	21.2	21.8	19.5	24	27.0	0.6	10.8	0	0	
22	25.3	17.9	11.0	10.0	13.1	16.2	20.0	28.1	48.3	27.3	14.8	9.9	4.9	6.5	15.5	8.5	3.4	12.5	23.2	21.0	39.2	29.0	10.7	11.1	24	48.3	3.4	17.8	0	0	
23	10.8	5.4	5.1	1.9	1.6	2.1	1.8	4.3	5.7	2.2	0.6	0.2	0.3	0.2	0.0	0.3	0.9	2.1	10.1	18.7	16.2	13.3	11.4	2.5	24	18.7	0.0	4.9	0	0	
24	5.6	9.2	3.8	2.9	6.9	9.3	13.2	26.2	34.0	27.8	18.6	14.8	5.7	6.6	9.7	13.9	15.4	24.4	37.7	42.4	49.4	56.3	46.5	17.7	24	56.3	2.9	20.7	0	0	
25	38.7	48.8	49.1	48.7	57.5	54.2	41.8	20.7	8.2	8.6	13.6	19.0	16.6	8.8	7.1	8.0	15.7	33.7	31.0	29.4	28.4	39.8	20.8	18.3	24	57.5	7.1	27.8	0	0	
26	19.6	10.6	5.7	5.8	5.2	5.9	6.6	5.7	4.6	6.1	6.5	5.0	7.0	10.7	13.6	13.8	14.6	13.5	13.3	11.8	11.1	9.9	14.2	15.2	24	19.6	4.6	9.8	0	0	
27	13.0	12.4	12.6	12.4	11.9	2.2	5.5	6.2	6.5	9.4	5.7	2.2	2.8	2.1	1.4	2.4	3.4	4.8	9.2	13.7	8.4	6.0	1.1	1.5	3.3	24	13.7	1.1	6.6	0	0
28	4.9	2.8	2.2	2.5	2.9	5.2	7.1	5.2	5.0	4.5	4.6	7.1	6.6	7.2	8.5	8.3	9.1	10.0	10.9	10.9	12.2	13.2	14.9	24.1	24	24.1	2.2	7.9	0	0	
29	37.6	35.3	30.3	17.2	8.3	4.7	3.4	3.7	3.7	2.6	2.2	1.1	3.0	1.9	2.9	C	C	C	2.6	4.6	8.0	11.9	6.0	9.0	21	37.6	1.1	9.5	0	0	
30	8.8	20.5	25.2	28.6	41.6	29.3	3.2	5.3	4.6	3.8	5.9	5.5	6.2	7.4	9.4	6.5	6.9	6.7	10.4	19.2	23.6	13.2	12.6	46.6	24	46.6	3.2	14.6	0	0	
31	49.8	44.9	29.9	24.3	30.2	26.4	22.7	27.4	28.2	24.2	27.7	21.4	23.2	16.8	15.9	13.2	11.6	11.4	19.8	23.2	12.2	7.8	8.6	5.6	24	49.8	5.6	21.9	0	0	
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	741	31	30	30.9			
Maximum	56.4	61.1	55.5	55.8	57.5	57.7	54.7	53.2	48.3	46.9	57.5	58.6	32.5	35.9	38.4	35.9	46.4	33.7	58.8	50.1	53.4	56.3	68.7	54.2	24	68.7	32.5	51.1			
Minimum	0.5	0.2	0.0	0.1	0.2	1.1	1.8	1.9	2.4	1.6	0.6	0.2	0.3	0.2	0.0	0.3	0.9	1.8	1.9	1.4	2.1	1.1	1.2	1.1	21	11.7	0.0	0.9			
Average	18.8	16.6	14.5	13.9	15.2	16.0	16.6	18.8	18.2	16.8	15.7	13.6	10.4	9.5	11.0	10.6	11.8	13.3	16.7	18.7	19.0	20.2	18.0	18.6	24	38	5	16			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		2.7		4.8		6.5		8.3		10.8		13.7		18.7		26.1		35.2		46.4		57.0		68.7						68.7	
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down R - Rate of Change																														

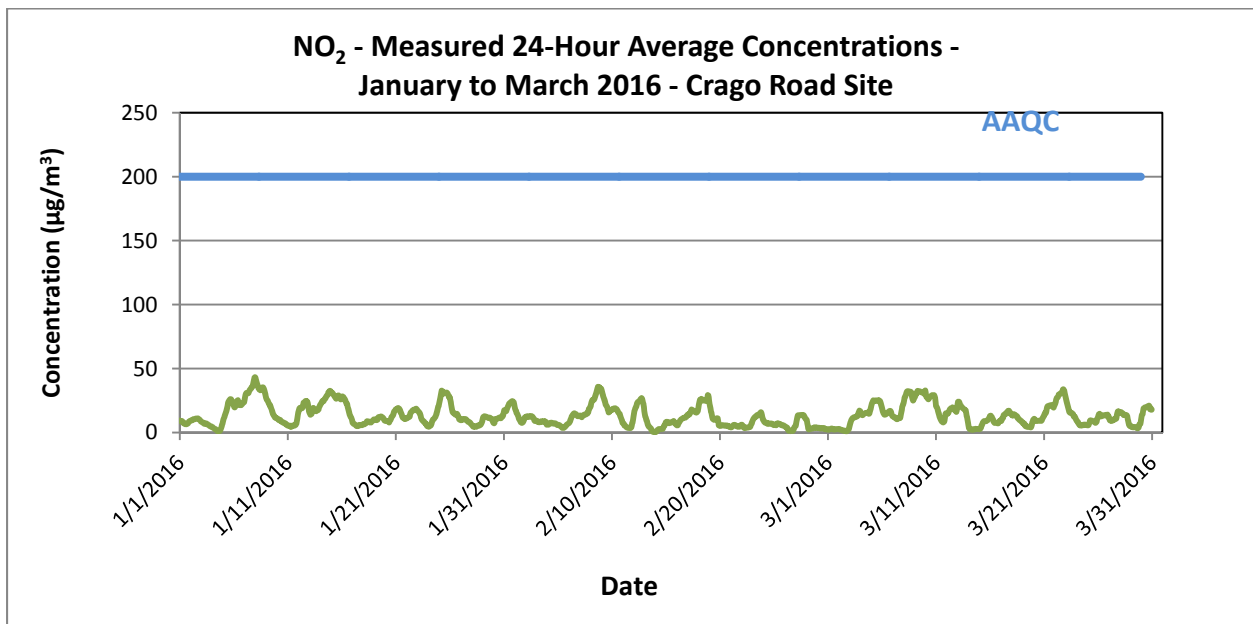
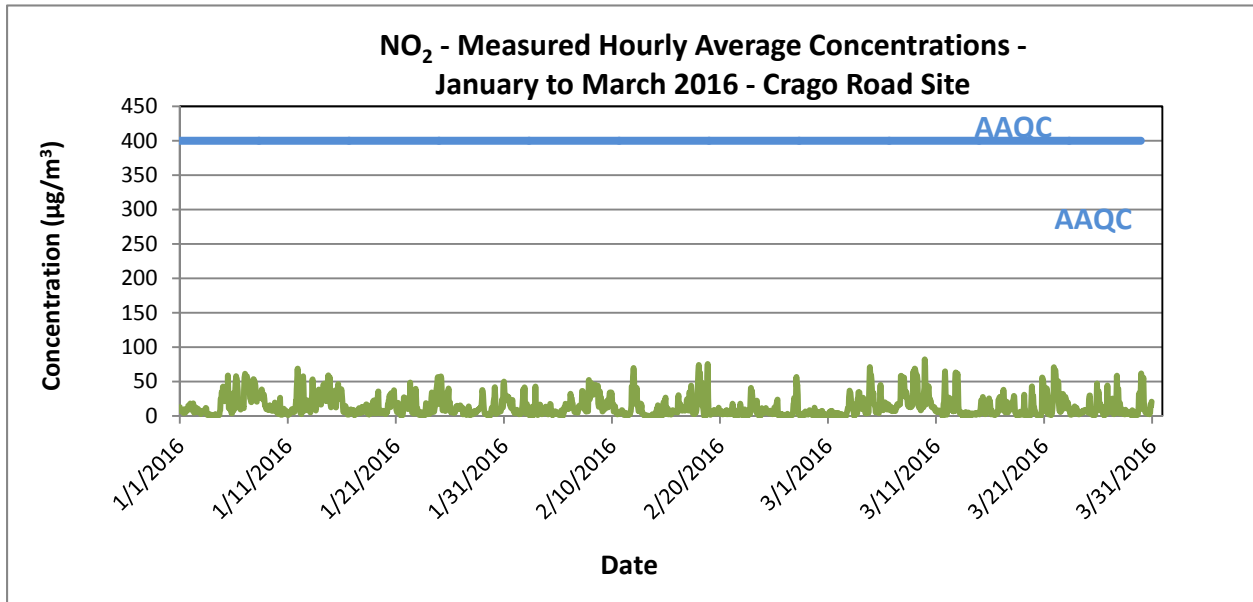
NO₂ - Crago Road
February 2016
(µg/m³)

Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200		
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300								
1	4.2	4.0	6.6	7.8	5.7	8.8	6.7	6.1	5.9	3.8	2.6	7.0	3.3	2.7	3.4	6.2	9.0	15.0	25.8	38.3	28.0	26.3	41.4	20.4	24	41.4	2.6	12.0	0	0		
2	7.7	3.6	6.4	17.3	5.2	4.9	8.1	7.8	8.1	1.7	0.0	5.8	12.2	3.0	2.7	1.0	0.0	6.5	9.6	15.2	9.7	16.6	42.6	26.1	24	42.6	0.0	9.2	0	0		
3	6.2	2.6	2.1	1.3	3.8	4.3	3.4	5.5	16.3	5.3	4.8	8.4	4.4	2.6	3.0	6.3	5.9	4.3	8.6	6.8	12.7	13.4	11.6	5.2	24	16.3	1.3	6.2	0	0		
4	4.3	2.9	2.3	4.0	6.7	11.1	10.1	17.5	16.5	8.4	5.2	1.6	1.8	1.5	5.8	3.6	4.0	5.9	6.8	3.1	4.3	5.0	4.6	2.8	24	17.5	1.5	5.8	0	0		
5	4.5	5.0	1.6	1.4	1.5	3.7	4.4	6.3	8.2	0.5	0.0	0.0	3.4	4.4	12.3	10.3	8.9	17.7	14.8	15.1	12.8	10.3	11.0	10.0	24	17.7	0.0	7.0	0	0		
6	10.9	11.8	12.0	18.1	32.2	26.4	25.6	25.3	19.6	17.2	11.8	10.3	8.9	5.8	5.6	5.3	5.2	6.4	7.0	5.0	4.6	8.1	13.8	13.0	24	32.2	4.6	12.9	0	0		
7	14.8	11.8	15.3	13.2	14.3	20.6	36.2	36.0	32.2	25.1	15.1	9.8	10.1	11.4	7.3	6.2	9.7	13.4	29.0	6.8	25.4	52.1	24.4	24.6	24	52.1	6.2	19.4	0	0		
8	31.9	40.8	47.8	41.2	39.0	36.2	30.7	38.8	37.4	41.3	45.1	32.4	32.7	37.3	39.0	44.3	36.2	43.4	17.1	13.2	21.4	35.5	21.6	23.6	24	47.8	13.2	34.5	0	0		
9	26.7	13.6	13.3	6.5	9.6	8.3	9.7	10.6	10.3	10.4	13.2	15.5	15.9	22.0	18.0	13.8	12.5	15.3	27.2	33.9	28.0	30.0	28.6	34.0	24	34.0	6.5	17.8	0	0		
10	30.3	14.2	16.9	16.9	6.2	14.5	10.9	13.9	9.8	6.5	4.6	3.0	2.4	2.8	3.0	3.8	3.2	4.7	5.9	5.2	4.9	4.9	8.3	8.2	24	30.3	2.4	8.5	0	0		
11	5.7	6.0	3.5	1.4	2.1	2.3	2.7	4.3	1.7	1.6	1.2	2.3	1.0	0.8	1.1	2.5	2.8	5.3	7.4	14.9	42.7	42.3	27.6	57.6	24	57.6	0.8	10.1	0	0		
12	69.5	60.0	43.9	23.7	31.3	23.3	16.9	40.5	24.8	19.8	12.8	7.1	7.7	6.7	9.7	15.8	18.0	11.8	16.0	3.9	4.5	4.0	2.1	1.0	24	69.5	1.0	19.8	0	0		
13	0.6	1.0	0.7	0.9	0.1	0.2	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.3	0.0	0.3	0.0	0.0	0.0	24	2.3	0.0	0.3	0	0		
14	0.0	2.1	5.5	6.5	10.6	10.0	15.4	7.2	1.9	0.0	0.0	1.5	3.3	0.0	0.0	0.5	0.7	3.7	16.8	20.0	19.6	7.2	21.5	26.4	24	26.4	0.0	7.5	0	0		
15	13.4	9.8	2.7	4.7	10.6	5.4	2.3	3.9	4.5	4.1	2.7	2.0	2.4	5.3	5.6	8.3	7.7	7.4	7.0	6.3	7.2	6.9	7.0	5.9	24	13.4	2.0	6.0	0	0		
16	8.0	5.2	5.3	23.8	29.9	17.4	18.1	16.9	17.1	13.5	13.9	7.6	8.9	10.1	10.0	12.5	10.4	7.7	9.5	10.5	11.2	22.5	24.5	16.0	24	29.9	5.2	13.8	0	0		
17	12.1	8.0	15.4	34.2	33.1	29.3	37.0	44.0	33.4	7.6	5.1	4.5	3.1	3.2	2.7	3.7	4.0	4.5	6.5	10.1	20.3	30.4	43.4	62.7	24	62.7	2.7	19.1	0	0		
18	73.9	46.3	43.5	62.9	25.2	39.7	48.6	33.9	14.5	13.8	10.2	2.3	0.0	0.0	0.3	0.0	0.6	8.7	6.7	57.7	75.3	26.0	4.2	6.4	24	75.3	0.0	25.0	0	0		
19	6.7	3.2	1.6	4.5	3.0	4.0	3.2	5.3	5.7	5.6	8.7	4.5	5.1	3.9	3.4	5.0	7.3	6.3	6.4	6.7	12.0	9.5	4.0	3.6	24	12.0	1.6	5.4	0	0		
20	6.1	6.3	4.2	6.9	3.0	2.4	3.7	3.7	3.2	4.4	6.3	4.0	3.6	3.3	8.3	2.4	3.5	3.4	2.6	5.6	4.6	2.6	3.4	3.5	24	8.3	2.4	4.2	0	0		
21	3.6	9.2	12.9	17.6	14.2	7.0	5.6	8.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.4	1.6	3.8	5.1	7.3	17.6	14.7	10.2	2.0	24	17.6	0.0	5.9	0	0		
22	3.6	1.2	0.9	1.2	1.2	3.5	9.3	3.6	0.4	1.4	1.9	0.6	1.1	0.3	3.6	2.2	8.6	6.2	2.6	21.8	40.7	33.2	36.4	28.4	24	40.7	0.3	8.9	0	0		
23	18.3	22.3	11.1	16.3	10.6	13.2	10.0	6.5	5.8	22.0	10.6	2.3	3.4	2.0	C	C	C	C	8.2	7.3	11.1	8.2	8.4	6.0	20	22.3	2.0	9.8	0	0		
24	8.3	4.1	6.8	8.2	8.1	11.4	7.1	7.8	5.6	5.2	4.5	4.1	3.5	6.1	5.3	7.4	7.3	6.4	5.6	3.3	2.5	3.4	4.4	5.2	24	11.4	2.5	5.9	0	0		
25	12.1	7.7	2.8	3.0	5.5	17.2	21.8	23.8	1.5	1.8	1.2	1.0	1.1	2.5	3.1	2.1	2.0	1.8	1.7	2.1	1.3	1.0	1.4	0.8	24	23.8	0.8	5.0	0	0		
26	1.1	0.4	0.1	0.3	0.8	3.0	2.3	0.8	1.5	0.7	0.6	0.6	1.3	1.1	1.0	1.3	1.5	5.1	16.6	18.4	26.0	16.7	13.8	8.8	24	26.0	0.1	5.2	0	0		
27	23.4	56.5	42.6	45.4	30.4	5.6	2.0	1.4	2.1	1.6	2.3	0.9	1.7	0.9	0.7	0.7	3.4	2.7	1.4	1.6	3.9	6.5	4.5	4.5	24	56.5	0.7	10.3	0	0		
28	3.0	2.1	2.1	4.7	2.6	2.8	8.4	5.6	2.8	4.3	2.4	2.6	1.6	1.7	6.2	5.9	2.7	11.9	1.7	0.7	4.1	1.2	1.3	5.5	24	11.9	0.7	3.7	0	0		
29	3.5	1.0	0.2	5.3	1.6	1.0	2.2	1.6	3.0	7.3	7.2	5.0	1.3	2.5	1.3	2.2	2.5	0.4	0.6	1.3	1.7	0.0	1.1		23	7.3	0.0	2.3	0	0		
30																									0							
31																										0						
Count	29	29	29	29	29	29	29	29	29	29	29	29	29	29	28	28	28	28	29	29	29	29	29	28	691	29	28	28.8				
Maximum	73.9	60.0	47.8	62.9	39.0	39.7	48.6	44.0	37.4	41.3	45.1	32.4	32.7	37.3	39.0	44.3	36.2	43.4	29.0	57.7	75.3	52.1	43.4	62.7	24	75.3	29.0	46.9				
Minimum	0.0	0.4	0.1	0.3	0.1	0.2	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.0	0.3	0.0	0.0	0.0	0	2.3	0.0					
Average	14.3	12.5	11.4	13.8	12.0	11.6	12.5	13.4	10.1	8.1	6.5	5.0	5.0	5.0	5.8	6.2	6.4	8.2	9.5	11.8	15.8	15.1	14.7	14.7	22	31	2	10.4				
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum	
Data		0.9		2.1		3.2		4.4		5.9		7.7		10.6		16.0		28.0		38.5		57.6		75.3							75.3	
Notes	C - Calibration / Span Cycle		NA - No Data Available			T - Test		A- MOE Audit			M - Equipment Malfunction / Down			R - Rate of Change																		

**NO₂ - Crago Road
March 2016
(µg/m³)**

Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	2.3	2.2	1.3	5.0	6.1	2.5	7.0	3.0	3.3	7.3	1.0	1.2	1.4	0.8	1.6	3.6	2.3	4.2	2.4	1.2	0.7	1.1	0.9	4.1	24	7.3	0.7	2.8	0	0	
2	1.9	0.0	0.0	0.0	0.0	2.8	2.6	2.0	1.2	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	1.0	4.8	7.1	11.1	11.1	10.9	27.2	24	27.2	0.0	3.5	0	0	
3	36.8	34.9	33.2	25.0	18.9	15.8	18.1	14.3	8.8	4.5	0.0	0.0	3.9	3.6	3.3	3.3	4.2	4.0	24.5	24.6	34.3	34.1	34.2	21.8	24	36.8	0.0	16.9	0	0	
4	20.8	13.4	12.3	10.2	14.4	15.1	26.4	21.4	14.6	8.6	6.9	4.6	5.2	3.8	3.8	4.8	4.6	13.6	4.3	17.8	44.0	70.9	62.3	46.6	24	70.9	3.8	18.7	0	0	
5	59.1	51.8	37.1	32.5	24.5	33.4	20.4	16.2	16.3	12.0	5.6	6.2	5.4	5.3	6.7	6.7	5.4	4.2	7.9	14.1	30.3	44.8	28.3	19.1	24	59.1	4.2	20.6	0	0	
6	19.8	13.4	13.2	8.3	11.9	15.9	18.7	19.5	18.1	17.0	13.1	11.4	9.4	17.1	16.6	10.5	15.0	9.3	8.5	11.4	13.2	7.8	6.9	7.4	24	19.8	6.9	13.1	0	0	
7	8.5	8.1	7.6	8.4	8.8	7.1	7.4	12.8	11.6	13.2	16.7	17.5	17.3	15.3	16.3	16.5	17.0	25.8	58.4	55.9	56.9	56.8	33.6	32.8	24	58.4	7.1	22.1	0	0	
8	33.7	55.7	44.6	33.0	28.0	32.0	34.7	31.7	27.6	17.3	14.8	15.6	13.1	16.6	13.6	12.8	15.7	13.3	14.3	14.9	16.2	33.1	64.9	36.5	24	64.9	12.8	26.4	0	0	
9	52.5	68.7	66.0	62.3	45.6	32.0	58.7	52.8	25.8	14.3	13.9	11.8	15.4	12.3	8.0	9.5	12.5	11.2	13.1	13.2	12.9	32.1	41.0	82.1	24	82.1	8.0	32.0	0	0	
10	72.5	27.3	16.7	31.7	36.4	32.6	35.7	43.1	42.0	24.2	25.3	21.9	21.9	20.6	14.0	14.4	12.6	11.9	12.8	13.2	11.8	11.7	7.9	7.3	24	72.5	7.3	23.7	0	0	
11	6.6	6.0	5.7	7.7	6.4	6.2	7.6	7.9	7.5	6.6	6.3	5.2	4.4	4.4	C	C	C	17.6	19.7	40.4	64.7	53.4	23.1	2.9	21	64.7	2.9	14.8	0	0	
12	1.9	7.2	15.6	7.2	21.5	26.5	26.1	20.1	13.0	13.8	10.9	10.1	7.9	8.8	6.9	6.6	8.2	7.1	12.1	50.6	63.1	16.6	55.2	57.3	24	63.1	1.9	19.8	0	0	
13	61.4	49.8	14.6	6.5	4.6	5.2	4.7	5.7	3.0	1.6	3.7	0.5	1.3	0.3	0.0	0.2	0.0	4.7	5.5	1.9	3.0	4.0	4.3	3.6	24	61.4	0.0	7.9	0	0	
14	4.8	1.4	1.7	1.0	1.3	1.5	2.2	1.9	3.7	2.5	2.1	2.1	2.9	2.5	3.3	4.2	3.5	1.6	3.3	3.7	3.2	3.1	4.7	3.2	24	4.8	1.0	2.7	0	0	
15	2.3	2.6	5.8	11.8	21.9	22.8	22.0	22.1	27.5	15.5	12.9	5.8	3.5	2.5	2.5	4.9	5.4	7.2	9.3	10.2	12.7	12.7	25.3	16.0	24	27.5	2.3	11.9	0	0	
16	21.2	12.0	2.4	5.3	8.0	2.9	3.4	3.3	2.7	1.5	1.6	3.0	2.5	2.2	4.9	2.9	4.4	4.7	8.2	23.4	24.4	26.8	24.2	28.0	24	28.0	1.5	9.3	0	0	
17	20.0	8.8	27.6	25.2	11.7	13.5	37.9	21.3	8.9	6.1	5.1	6.7	8.5	20.7	18.2	10.5	5.1	14.9	10.4	10.0	10.1	13.0	9.0	18.5	24	37.9	5.1	14.2	0	0	
18	10.1	10.5	14.5	21.9	23.4	29.0	27.7	12.8	5.0	3.9	2.1	1.0	1.4	0.8	0.9	1.0	1.0	1.4	3.4	6.0	5.2	4.7	3.0	4.0	24	29.0	0.8	8.1	0	0	
19	1.9	2.5	3.7	14.5	30.7	11.4	9.5	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.1	0.0	1.9	4.0	24.4	42.8	33.8	26.5	24	42.8	0.0	8.7	0	0	
20	28.9	14.2	12.7	9.0	7.1	4.1	3.1	2.3	1.6	0.7	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.0	4.2	10.6	55.8	53.6	51.6	43.1	24	55.8	0.0	12.6	0	0	
21	39.5	39.6	35.7	6.5	16.9	35.9	40.0	36.6	21.2	3.5	2.4	2.6	2.5	3.2	2.7	1.6	2.4	1.7	4.5	12.1	26.1	36.1	70.7	59.4	24	70.7	1.6	21.0	0	0	
22	60.4	66.7	59.7	46.3	40.9	49.6	45.5	50.4	45.9	19.4	8.3	8.6	5.7	6.7	6.7	11.4	14.5	22.4	31.9	15.8	10.7	25.7	20.7	27.9	24	66.7	5.7	29.3	0	0	
23	25.4	23.9	15.6	11.0	20.0	18.8	16.4	13.2	9.7	6.8	5.2	1.9	8.4	2.6	2.1	4.3	6.2	2.7	8.9	8.5	13.7	8.2	7.7	4.5	24	25.4	1.9	10.2	0	0	
24	11.9	8.6	4.4	3.2	2.5	3.7	2.4	3.1	5.6	4.9	3.9	3.7	5.1	4.5	5.5	7.5	5.3	7.5	6.5	7.7	8.9	7.0	7.9	8.0	7.1	24	11.9	2.4	6.0	0	0
25	6.5	5.6	4.9	9.5	24.2	29.6	29.8	13.0	3.2	3.3	2.5	2.5	1.3	1.6	1.5	0.9	0.9	1.0	2.8	11.1	14.6	27.9	47.0	22.5	24	47.0	0.9	11.2	0	0	
26	28.2	35.8	30.5	14.2	8.1	17.6	9.9	14.7	7.8	8.6	9.8	2.5	2.5	1.0	0.3	3.4	4.2	3.2	4.4	3.4	11.4	44.2	11.8	25.0	24	44.2	0.3	12.6	0	0	
27	12.0	7.5	5.3	5.8	16.8	10.5	9.4	7.3	25.2	16.8	4.7	2.5	3.6	5.8	10.3	5.4	4.6	24.3	58.3	38.3	39.2	39.2	16.2	5.3	24	58.3	2.5	15.6	0	0	
28	3.5	18.1	7.6	5.9	10.2	8.7	4.1	3.2	4.9	4.4	2.9	8.7	2.3	3.6	8.8	5.6	4.2	3.2	3.1	3.7	3.2	3.9	5.9	3.4	3.4	24	18.1	2.3	5.3	0	0
29	4.1	2.4	1.8	M	8.1	4.6	6.5	4.3	3.9	3.2	3.2	1.8	1.1	1.8	1.9	1.2	1.6	4.1	13.4	31.8	33.6	11.7	10.1	36.1	23	36.1	1.1	8.4	0	0	
30	61.6	55.9	23.9	23.3	51.3	55.3	21.3	10.3	7.6	5.8	5.3	3.8	5.4	9.0	8.6	3.3	6.4	9.1	2.7	3.6	4.3	16.6	14.4	20.8	24	61.6	2.7	17.9	0	0	
31	17.5	23.9	17.0	5.6	3.2	3.5	3.1	7.7	5.3	13.1	6.7	5.6	5.2	4.9	7.8	6.5	10.5	5.7	4.4	3.4	7.7	10.7	3.0	7.5	24	23.9	3.0	7.9	0	0	
Count	31	31	31	30	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	740	31	30	30.8		
Maximum	72.5	68.7	66.0	62.3	51.3	55.3	58.7	52.8	45.9	24.2	25.3	21.9	21.9	20.7	18.2	16.5	17.0	25.8	58.4	55.9	64.7	70.9	70.7	82.1	24	82.1	16.5	47.0			
Minimum	1.9	0.0	0.0	0.0	0.0	1.5	2.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.2	0.7	1.1	0.9	2.9	21	4.8	0.0	0.6			
Average	23.8	21.9	17.5	15.3	17.2	17.8	18.1	15.5	12.3	8.4	6.4	5.3	5.5	6.1	5.9	5.4	6.0	7.8	12.0	15.3	21.6	24.8	23.8	22.8	24	44	3	14.0			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100							Maximum
Data		1.6		3.1		4.3		5.9		8.2		11.7		15.6		23.3		35.7		50.6		64.8		82.1							82.1
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 NO₂ Concentrations – Crago Road Station



**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Appendix C NO_x Data Summaries and Time History Plots
August 8, 2016

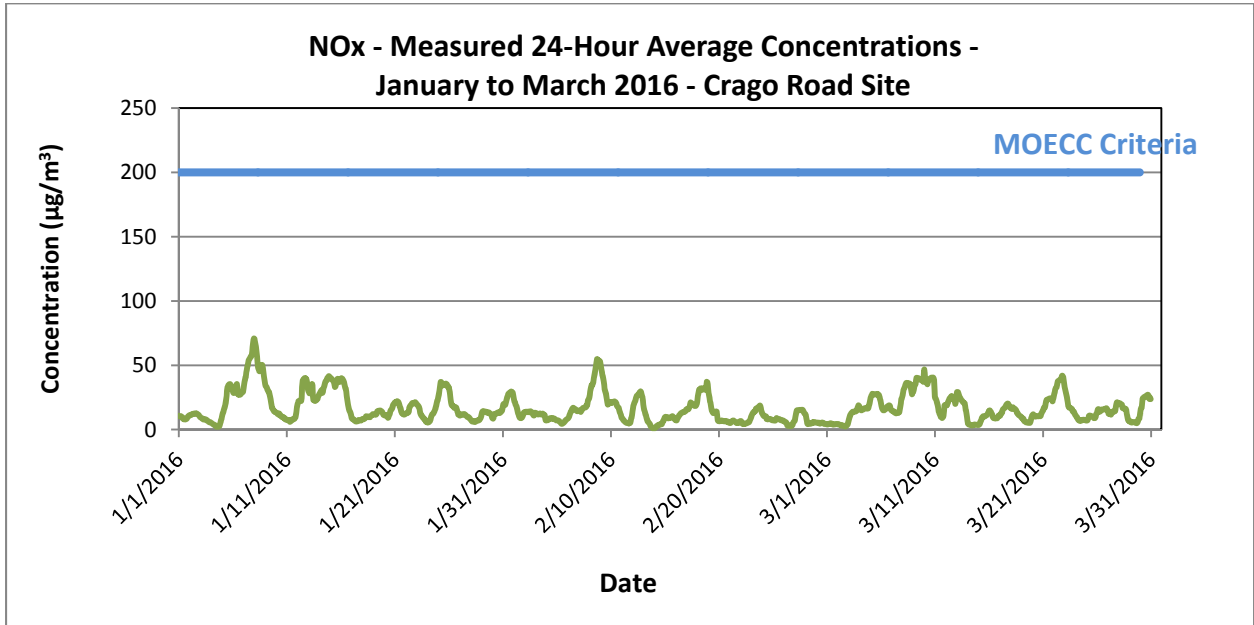
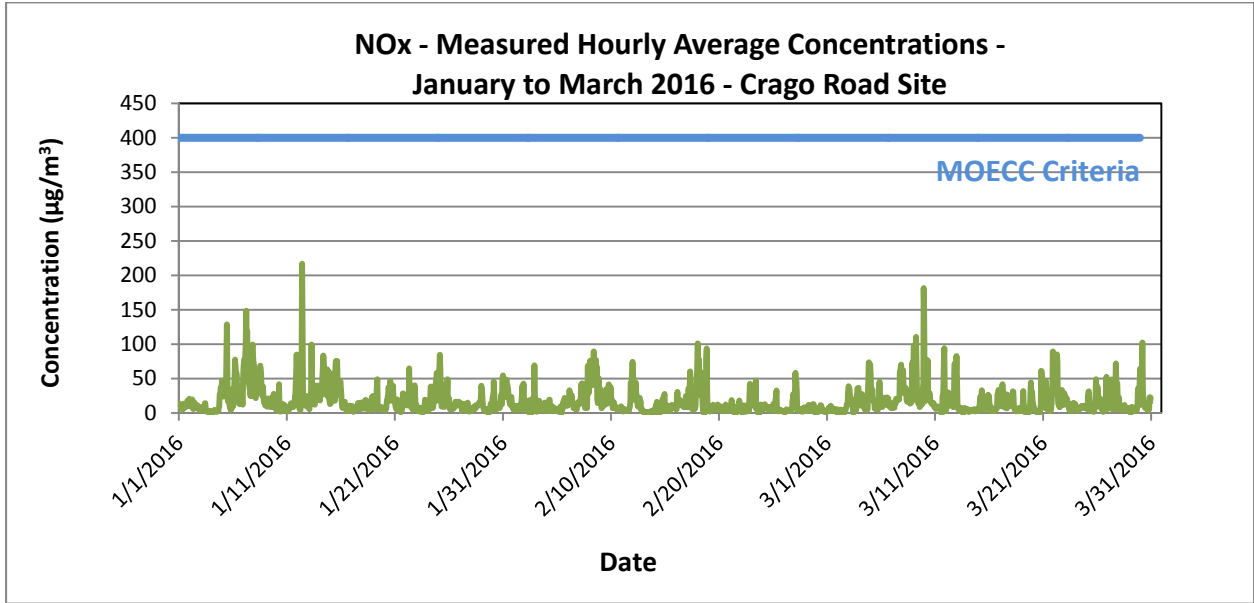
**Appendix C NO_x DATA SUMMARIES AND TIME HISTORY
PLOTS**

NOx Crago Road January 2016 (µg/m³)																															
Day	Hour																									Count	Maximum	Minimum	Average	Hrs>400	Days>200
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	14.0	9.2	7.9	8.5	9.5	9.4	10.7	6.8	5.0	7.4	13.2	8.6	7.5	9.1	8.8	12.4	8.8	11.3	12.4	17.3	15.8	15.8	13.2	20.4	24	20.4	5.0	11.0	0	0	
2	15.3	10.3	13.3	12.4	10.1	15.7	19.5	7.5	5.8	9.2	15.7	12.2	9.0	7.6	7.6	9.0	11.6	8.6	6.2	9.7	6.9	5.2	4.1	3.5	24	19.5	3.5	9.8	0	0	
3	6.2	6.7	7.2	8.3	8.0	7.5	7.5	5.8	8.4	10.0	13.9	13.9	4.0	2.7	2.4	1.7	1.8	2.7	2.9	2.0	3.2	2.0	2.1	1.9	24	13.9	1.7	5.5	0	0	
4	1.2	0.8	0.6	0.8	0.7	1.8	3.4	3.2	4.1	3.4	2.4	2.0	2.1	2.0	2.8	2.6	3.3	7.4	9.4	26.8	26.9	37.0	29.7	24.7	24	37.0	0.6	8.3	0	0	
5	47.0	39.7	27.3	23.9	28.8	33.7	30.9	35.6	39.6	43.1	77.1	128.6	55.6	17.3	24.5	15.9	14.0	9.2	9.0	4.4	4.6	8.1	7.5	34.5	24	128.6	4.4	31.7	0	0	
6	11.3	9.8	13.8	33.5	51.0	77.5	68.2	60.5	58.2	54.8	22.4	23.1	22.7	22.2	15.6	12.9	14.1	17.8	17.4	17.4	16.3	14.5	12.0	46.6	24	77.5	9.8	29.7	0	0	
7	65.6	77.1	73.8	69.5	83.8	104.5	148.3	102.0	118.6	67.4	67.0	104.5	77.4	43.1	36.0	30.9	25.3	29.1	24.5	37.7	90.3	99.2	84.6	74.6	69.5	24	148.3	24.5	70.8	0	0
8	56.5	43.0	24.5	21.6	31.3	38.0	28.3	34.2	35.0	32.8	47.4	50.4	57.1	68.6	64.3	56.0	31.5	30.3	24.7	38.5	26.0	15.4	19.0	15.7	24	68.6	15.4	37.1	0	0	
9	10.9	12.5	12.3	10.5	16.9	9.0	9.2	21.1	17.3	12.4	17.6	10.7	12.6	8.7	12.2	11.9	22.5	8.7	10.1	27.7	12.6	16.5	11.3	11.8	24	27.7	8.7	13.6	0	0	
10	5.0	6.9	4.2	3.6	4.7	3.9	6.2	41.5	3.5	2.2	2.1	2.2	4.4	5.1	4.9	13.1	9.1	9.6	10.4	11.0	10.8	6.4	6.4	5.1	24	41.5	2.1	7.6	0	0	
11	2.7	2.1	3.3	4.4	3.9	5.3	8.3	7.8	10.5	14.0	13.5	10.9	9.8	9.0	8.7	9.5	13.2	14.9	24.0	23.2	40.3	57.5	84.7	60.1	24	84.7	2.1	18.4	0	0	
12	38.8	28.5	27.9	11.1	6.2	5.0	3.8	9.0	11.3	69.7	216.9	125.6	24.9	11.7	26.1	21.5	17.0	14.2	10.4	24.7	12.9	10.5	15.1	10.0	24	216.9	3.8	31.4	0	0	
13	8.7	8.5	5.7	13.4	11.7	17.1	31.9	99.2	43.0	36.5	42.0	38.0	20.6	15.2	12.2	15.8	21.6	21.3	27.2	26.8	18.6	40.1	36.5	29.2	24	99.2	5.7	26.7	0	0	
14	29.8	19.6	18.4	31.7	25.6	31.6	36.0	48.3	61.4	83.6	78.9	58.4	56.0	38.9	38.8	30.4	26.4	32.4	63.3	35.5	23.4	60.3	34.8	17.9	24	83.6	17.9	40.9	0	0	
15	13.1	15.9	17.6	15.4	21.3	21.6	29.9	38.0	44.1	57.3	47.1	17.9	62.9	75.4	59.7	53.3	75.5	45.7	35.3	37.0	30.2	25.8	35.6	46.0	24	75.5	13.1	38.4	0	0	
16	37.3	27.6	17.6	8.3	7.1	7.5	10.1	14.2	15.7	16.0	9.9	5.9	5.5	3.3	3.4	2.9	4.1	6.7	9.3	6.9	10.7	9.9	6.5	6.5	24	37.3	2.9	10.5	0	0	
17	5.4	10.0	9.4	6.8	1.6	3.2	5.9	4.2	4.1	8.9	9.1	8.2	5.7	7.5	14.4	5.8	6.9	5.9	5.0	6.1	11.1	14.8	14.4	15.0	24	15.0	1.6	7.9	0	0	
18	13.8	7.2	6.3	6.3	8.9	9.1	18.2	17.6	18.5	10.8	6.4	8.3	4.9	5.8	4.6	4.9	7.5	10.1	12.5	17.5	18.1	23.0	23.7	24.6	24	24.6	4.6	12.0	0	0	
19	10.0	5.3	5.6	10.4	4.6	10.3	15.1	24.3	36.7	48.8	12.3	7.2	6.0	7.2	7.3	5.4	8.6	5.2	7.0	8.0	8.2	6.0	6.7	7.2	24	48.8	4.6	11.4	0	0	
20	3.8	5.3	5.6	4.1	7.4	6.9	17.8	16.9	23.3	27.4	37.4	30.0	18.7	28.4	46.8	25.1	17.9	18.8	24.0	29.9	39.5	21.9	17.5	17.0	24	46.8	3.8	20.5	0	0	
21	18.4	10.8	8.0	5.5	7.3	19.8	16.6	11.1	10.8	6.4	4.6	2.2	1.7	2.6	1.8	3.5	5.1	11.4	28.3	19.6	25.9	22.8	22.4	20.2	24	28.3	1.7	12.0	0	0	
22	26.5	19.5	11.9	10.9	13.7	16.9	21.1	30.3	64.7	35.5	20.4	15.4	8.3	10.2	21.6	10.9	4.4	13.0	24.0	21.5	40.0	30.0	11.4	11.9	24	64.7	4.4	20.6	0	0	
23	11.8	6.0	5.8	2.6	2.4	2.8	2.5	5.2	7.4	4.4	2.0	1.4	1.4	1.0	0.7	1.4	1.8	2.6	10.7	19.2	17.9	13.9	12.2	2.9	24	19.2	0.7	5.8	0	0	
24	6.3	9.9	4.2	3.1	7.3	9.8	13.8	27.0	38.3	36.0	24.5	19.0	7.2	8.3	12.5	18.0	17.3	25.0	38.4	43.5	51.1	58.1	51.1	18.1	24	58.1	3.1	22.8	0	0	
25	39.4	49.4	49.8	65.1	84.5	64.2	42.8	23.4	9.3	9.3	19.1	22.4	22.5	11.0	8.7	10.3	21.8	42.4	37.7	36.7	33.1	48.9	24.4	19.3	24	84.5	8.7	33.1	0	0	
26	21.2	11.0	6.1	6.5	5.6	6.6	8.4	8.2	5.2	7.6	9.8	6.9	8.4	12.5	15.5	15.6	16.5	15.1	14.2	12.6	12.4	10.6	16.2	15.7	24	21.2	5.2	11.2	0	0	
27	13.8	13.1	13.7	13.1	13.3	3.0	6.9	7.4	7.9	13.3	10.2	5.6	4.4	3.3	4.3	5.3	7.2	10.3	14.9	10.1	7.9	2.1	2.2	4.0	24	14.9	2.1	8.2	0	0	
28	7.1	3.6	2.8	3.1	3.5	7.0	8.1	8.3	6.5	5.4	5.8	10.9	8.0	8.3	10.5	10.1	10.4	11.8	13.5	12.9	15.1	15.8	15.3	25.1	24	25.1	2.8	9.5	0	0	
29	39.4	37.0	31.3	17.7	9.1	5.9	4.4	4.6	5.4	4.4	4.4	3.3	6.0	4.1	5.7	C	C	C	3.5	5.7	9.5	13.4	6.7	9.5	21	39.4	3.3	11.0	0	0	
30	9.1	21.1	25.9	30.1	45.5	30.3	4.3	8.4	5.8	4.5	11.4	8.9	9.0	9.6	12.2	7.7	8.2	7.3	11.1	20.4	25.8	13.5	12.8	49.8	24	49.8	4.3	16.4	0	0	
31	54.4	51.7	35.2	24.9	35.9	29.8	23.2	39.0	48.3	32.9	40.6	32.8	33.0	22.6	18.8	15.2	12.2	11.9	20.0	23.3	13.0	8.3	9.6	6.7	24	54.4	6.7	26.8	0	0	
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	741	31	30	30.9			
Maximum	65.6	77.1	73.8	69.5	84.5	104.5	148.3	102.0	118.6	83.6	216.9	128.6	62.9	75.4	64.3	56.0	75.5	45.7	63.3	90.3	99.2	84.6	84.7	69.5	24	216.9	45.7	89.4			
Minimum	1.2	0.8	0.6	0.8	0.7	1.8	2.5	3.2	3.5	2.2	2.0	1.4	1.4	1.0	0.7	1.4	1.8	2.6	2.9	2.0	3.2	2.0	2.1	1.9	21	13.9	0.6	1.8			
Average	20.8	18.7	16.0	15.7	18.4	19.8	21.3	24.9	25.0	25.0	29.2	24.8	17.5	15.3	16.4	14.4	15.0	15.2	18.5	22.1	22.2	23.0	20.6	21.0	24	57	6	20			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum		
Data		4.0		6.0		8.1		10.0		12.5		15.9		22.2		30.3		45.7		62.9		99.2		216.9					216.9		
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down R - Rate of Change																														

NOx Crago Road February 2016 (µg/m³)																															
Day	Hour																									Count	Maximum	Minimum	Average	Hrs>400	Days>200
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300							
1	4.7	4.2	7.0	8.8	6.8	10.4	7.2	7.0	7.2	5.2	4.3	10.5	5.6	4.5	5.3	8.2	12.4	15.8	26.6	39.1	28.6	26.8	42.5	20.9	24	42.5	4.2	13.3	0	0	
2	8.3	4.0	6.9	18.0	5.7	5.5	9.7	8.2	9.8	2.5	0.7	8.5	18.6	5.0	6.5	2.4	0.5	8.0	14.1	21.7	12.3	23.5	69.1	40.9	24	69.1	0.5	12.9	0	0	
3	8.7	3.1	2.7	1.8	4.9	4.9	4.0	7.1	17.6	6.1	5.8	10.4	5.1	3.4	3.7	9.4	7.5	4.7	9.6	7.3	14.6	15.1	12.4	5.7	24	17.6	1.8	7.3	0	0	
4	5.6	4.2	2.6	4.2	6.9	12.7	10.7	19.1	19.3	11.0	7.5	3.2	4.1	3.1	9.6	6.1	5.0	6.9	7.5	3.6	4.8	5.5	5.3	3.3	24	19.3	2.6	7.2	0	0	
5	5.0	5.5	2.2	1.8	2.1	4.3	5.1	7.0	9.6	1.6	0.4	0.7	5.8	6.8	16.2	12.9	10.4	21.7	16.3	15.8	13.3	11.2	11.9	10.5	24	21.7	0.4	8.3	0	0	
6	12.0	12.9	12.2	18.6	32.8	26.9	26.2	25.9	21.8	25.4	17.7	13.1	12.2	7.4	8.0	7.1	6.0	7.5	8.4	5.7	4.8	8.6	15.0	13.5	24	32.8	4.8	14.6	0	0	
7	15.4	12.6	16.6	14.0	14.8	22.9	41.4	37.9	43.0	41.9	22.1	15.6	13.4	15.1	9.1	7.2	10.9	14.7	36.3	7.1	32.9	68.6	28.6	29.8	24	68.6	7.1	23.8	0	0	
8	44.0	61.8	75.8	59.2	56.7	51.7	40.3	56.9	62.4	72.2	89.4	55.3	53.2	65.3	66.9	76.7	58.0	66.1	19.0	14.4	26.0	50.3	28.2	29.7	24	89.4	14.4	53.3	0	0	
9	35.6	14.7	17.0	7.0	10.1	8.8	10.1	11.1	11.1	11.3	15.5	18.8	22.3	34.1	26.1	16.6	13.5	16.3	30.0	41.3	31.9	30.9	29.7	37.8	24	41.3	7.0	20.9	0	0	
10	34.1	15.2	17.5	18.1	7.0	15.9	11.9	15.1	12.1	10.0	7.9	6.1	5.6	5.8	6.1	6.4	4.7	6.0	6.9	6.1	5.5	5.3	9.6	9.3	24	34.1	4.7	10.3	0	0	
11	6.4	6.8	4.1	2.0	3.2	3.2	4.2	5.6	3.3	4.1	4.2	3.6	2.8	3.3	4.7	4.7	4.2	6.5	8.3	15.7	44.0	43.7	28.4	60.1	24	60.1	2.0	11.5	0	0	
12	74.3	62.6	45.4	25.7	33.6	24.3	18.5	44.0	29.6	27.0	18.3	10.9	11.1	9.3	12.6	20.3	22.0	13.8	17.3	4.5	5.1	5.6	2.8	1.7	24	74.3	1.7	22.5	0	0	
13	1.4	1.8	1.4	2.1	0.8	1.2	1.0	1.3	1.3	0.6	0.9	0.8	1.0	0.6	0.3	0.8	0.7	1.0	3.1	0.8	1.4	0.1	0.2	0.5	24	3.1	0.1	1.0	0	0	
14	0.2	2.6	5.9	6.9	11.3	10.6	16.1	8.6	3.9	0.6	1.7	6.9	10.1	2.6	1.3	2.5	2.0	4.4	17.2	20.7	21.2	8.2	22.9	27.5	24	27.5	0.2	9.0	0	0	
15	13.9	10.3	3.2	5.1	11.5	5.7	2.9	5.5	5.6	6.8	6.6	3.9	3.8	8.1	8.0	11.6	10.4	9.1	9.0	7.1	8.2	7.7	7.9	6.5	24	13.9	2.9	7.4	0	0	
16	12.6	5.7	5.6	24.5	30.4	17.9	18.7	18.1	19.3	16.2	18.3	11.1	12.9	15.3	14.0	15.6	11.6	8.4	10.2	11.1	11.6	22.8	24.9	16.5	24	30.4	5.6	15.6	0	0	
17	13.5	8.4	16.2	35.0	33.9	30.3	40.1	60.2	49.5	11.2	7.8	6.8	5.4	6.0	5.0	5.4	5.5	5.5	7.6	11.3	22.0	32.7	48.6	70.6	24	70.6	5.0	22.4	0	0	
18	101.0	50.9	46.8	77.7	27.1	43.8	59.6	51.7	25.2	27.5	22.1	8.5	1.3	0.6	2.3	0.0	1.5	10.3	8.8	78.3	93.4	26.5	5.7	7.7	24	101.0	0.0	32.4	0	0	
19	10.6	3.4	2.1	4.9	3.3	4.9	4.1	6.6	7.6	7.4	11.8	4.9	8.3	5.4	4.2	5.6	9.3	6.9	7.1	7.1	12.3	10.9	4.7	3.9	24	12.3	2.1	6.6	0	0	
20	6.7	6.8	4.4	9.5	3.6	2.7	4.5	4.5	4.8	6.7	9.4	6.3	6.0	5.0	12.1	3.2	4.1	3.6	2.8	5.9	4.9	2.7	3.9	3.9	24	12.1	2.7	5.3	0	0	
21	3.8	9.7	13.2	18.5	14.5	7.4	6.4	10.6	1.1	0.5	0.7	0.3	0.3	0.4	0.8	1.3	2.5	4.6	5.8	7.9	17.9	15.1	10.6	2.4	24	18.5	0.3	6.5	0	0	
22	3.9	1.4	1.4	2.0	1.8	4.1	10.9	5.0	1.7	3.9	5.2	3.1	4.5	2.2	8.5	3.9	12.4	7.2	3.0	22.3	42.2	34.9	38.1	29.1	24	42.2	1.4	10.5	0	0	
23	18.8	23.3	12.2	18.4	11.4	13.6	11.1	8.8	9.8	46.9	7.7	5.1	6.5	4.0	C	C	C	C	9.3	7.9	12.0	8.9	9.3	7.0	20	46.9	4.0	12.6	0	0	
24	9.3	4.9	7.5	9.0	9.2	12.5	8.3	9.5	7.3	7.6	6.8	5.8	5.0	7.9	6.7	8.8	8.4	7.4	6.6	4.2	3.5	4.3	5.3	6.0	24	12.5	3.5	7.2	0	0	
25	13.0	8.8	3.5	4.2	6.4	19.7	23.6	32.5	3.0	3.5	3.7	2.7	2.5	4.5	4.9	3.8	3.3	3.0	2.8	3.5	2.5	2.1	2.6	2.1	24	32.5	2.1	6.8	0	0	
26	2.5	1.6	1.5	1.7	2.1	5.3	4.0	2.5	3.4	3.1	2.9	2.8	4.0	2.8	3.4	3.2	3.1	6.2	17.6	19.4	27.3	17.6	14.8	10.1	24	27.3	1.5	6.8	0	0	
27	24.6	58.1	43.9	46.3	31.3	6.6	3.7	3.4	5.0	4.5	5.6	3.3	4.9	2.5	2.3	2.1	6.3	4.6	2.5	2.4	5.2	8.1	5.4	5.7	24	58.1	2.1	12.0	0	0	
28	3.8	3.0	3.0	7.0	3.6	3.9	11.7	8.2	4.6	6.9	4.7	3.9	5.0	3.1	3.3	11.8	8.1	4.0	12.9	2.6	1.5	6.9	2.2	2.1	6.3	24	12.9	1.5	5.4	0	0
29	4.4	1.7	1.1	7.0	2.9	2.5	3.6	3.3	5.9	11.3	11.0	8.6	3.7	5.5	3.4	3.4	3.8	1.7	2.0	2.4	3.0	1.3	2.1	23	11.3	1.1	4.2	0	0		
30																									0						
31																									0						
Count	29	29	29	29	29	29	29	29	29	29	29	29	29	29	28	28	28	28	29	29	29	29	29	28	691	29	28	28.8			
Maximum	101.0	62.6	75.8	77.7	56.7	51.7	59.6	60.2	62.4	72.2	89.4	55.3	53.2	65.3	66.9	76.7	58.0	66.1	36.3	78.3	93.4	68.6	69.1	70.6	24	101.0	36.3	67.8			
Minimum	0.2	1.4	1.1	1.7	0.8	1.2	1.0	1.3	1.1	0.5	0.4	0.3	0.3	0.4	0.3	0.0	0.5	1.0	2.0	0.8	1.4	0.1	0.2	0.5	0	3.1	0.0				
Average	17.2	14.1	13.2	15.8	13.4	13.2	14.5	16.7	14.0	13.2	11.1	8.4	8.4	8.3	9.4	9.2	8.7	10.2	11.0	13.7	17.9	17.3	17.0	16.8	22	38	3	13.0			
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum	
Data		2.1		3.4		4.7		5.8		7.2		9.4		12.4		18.3		31.9		46.8		74.4		101.0						101.0	
Notes	C - Calibration / Span Cycle NA - No Data Available T - Test A- MOE Audit M - Equipment Malfunction / Down R - Rate of Change																														

NOx Crago Road March 2016 (µg/m³)																														
Day	Hour																								Count	Maximum	Minimum	Average	Hrs>400	Days>200
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300						
1	3.5	3.1	2.4	6.1	7.3	3.6	8.5	4.4	5.2	10.3	2.9	3.6	3.7	2.8	3.8	6.1	4.3	5.5	3.3	2.4	1.8	2.2	1.7	5.3	24	10.3	1.7	4.3	0	0
2	3.2	1.4	0.1	0.0	0.8	4.3	4.9	3.8	3.6	2.0	3.7	1.9	2.9	1.8	1.7	2.1	1.3	2.7	6.2	8.4	12.3	12.2	12.2	29.6	24	29.6	0.0	5.1	0	0
3	38.8	36.6	34.9	26.8	20.2	17.3	20.2	16.4	13.0	9.3	2.2	0.3	5.5	4.7	4.1	4.1	4.8	4.6	24.8	25.1	35.8	36.1	36.5	22.5	24	38.8	0.3	18.5	0	0
4	21.3	13.6	12.8	10.6	14.7	15.6	27.3	23.1	18.1	12.0	10.1	6.6	7.4	4.8	5.0	6.9	5.6	18.6	4.8	22.8	47.8	73.6	66.9	48.0	24	73.6	4.8	20.7	0	0
5	70.4	59.3	37.6	33.3	24.8	34.0	20.8	17.1	18.7	14.5	6.5	7.6	6.4	6.8	9.2	8.9	6.9	4.6	8.5	14.6	30.7	45.1	28.8	19.4	24	70.4	4.6	22.3	0	0
6	20.4	13.8	13.7	8.6	12.2	16.4	19.0	21.2	22.0	21.7	16.9	14.9	12.1	22.5	22.3	12.8	21.0	10.5	9.9	13.2	14.8	8.7	7.1	7.8	24	22.5	7.1	15.1	0	0
7	9.8	8.8	7.8	9.2	10.9	7.6	7.9	16.8	13.6	15.6	20.8	20.0	20.2	18.8	20.2	19.9	19.7	27.4	60.5	62.8	68.9	70.3	34.1	33.7	24	70.3	7.6	25.2	0	0
8	45.0	62.0	46.1	33.5	28.6	32.5	35.2	36.4	34.7	19.0	16.4	19.2	16.8	22.5	16.7	15.0	17.5	13.6	14.5	14.9	16.4	33.8	73.2	37.4	24	73.2	13.6	29.2	0	0
9	56.5	97.9	97.5	66.9	49.5	32.1	110.4	72.9	32.1	16.3	15.8	14.0	16.9	13.1	8.7	10.2	13.4	11.6	13.7	13.7	13.3	33.2	43.4	181.3	24	181.3	8.7	43.1	0	0
10	142.3	35.4	17.3	32.4	37.1	33.4	38.6	58.1	76.5	28.2	29.4	27.6	27.9	26.6	16.2	15.9	14.0	13.1	13.5	14.3	13.3	13.9	9.0	8.4	24	142.3	8.4	30.9	0	0
11	7.7	6.9	5.8	8.2	7.0	6.9	9.5	8.8	8.4	7.7	7.8	6.8	5.8	5.6	C	C	C	24.5	21.3	44.2	82.1	93.9	24.7	3.8	21	93.9	3.8	18.9	0	0
12	2.6	8.3	16.7	8.3	27.9	29.5	29.6	28.9	19.1	20.9	17.1	15.8	13.3	15.6	11.0	9.6	10.2	8.5	13.4	54.2	71.8	18.1	61.8	63.4	24	71.8	2.6	24.0	0	0
13	82.6	52.0	15.2	7.4	5.4	5.9	5.6	7.2	4.4	3.2	6.9	2.1	3.5	1.7	0.6	1.5	0.8	7.0	7.1	2.8	4.0	4.9	5.1	4.5	24	82.6	0.6	10.0	0	0
14	5.7	2.3	2.6	1.9	2.0	2.3	3.2	2.7	4.9	3.6	3.1	3.2	4.2	3.5	4.1	5.6	4.5	2.3	4.2	4.5	3.9	3.9	5.5	4.1	24	5.7	1.9	3.7	0	0
15	3.1	3.3	6.7	12.7	22.9	23.7	23.0	23.9	32.7	19.4	16.0	8.2	5.2	4.1	4.0	7.4	6.6	8.7	10.5	11.3	14.2	13.6	26.4	17.4	24	32.7	3.1	13.5	0	0
16	24.2	13.2	3.2	6.2	8.9	3.7	4.6	4.9	4.2	3.0	3.2	4.8	3.7	3.2	6.6	5.6	7.8	6.5	9.8	26.8	25.8	33.3	25.2	29.1	24	33.3	3.0	11.1	0	0
17	20.9	9.7	28.6	26.6	12.5	14.6	41.5	25.8	12.7	9.1	8.2	12.9	11.9	24.6	27.2	13.2	6.8	26.1	11.3	11.0	11.3	14.3	10.1	19.6	24	41.5	6.8	17.1	0	0
18	11.1	11.4	15.6	23.0	25.0	31.4	30.8	16.1	7.4	6.1	4.0	2.7	2.8	2.5	2.5	2.4	2.5	2.8	4.9	7.2	6.5	5.8	4.1	5.3	24	31.4	2.4	9.7	0	0
19	2.8	3.7	4.7	15.4	31.5	12.5	10.8	2.2	1.0	0.5	0.6	1.5	0.0	0.2	1.8	3.2	3.8	1.0	3.2	5.1	25.6	44.2	34.7	28.2	24	44.2	0.0	9.9	0	0
20	29.7	15.1	13.7	10.1	8.2	5.0	4.3	4.0	3.6	2.7	0.9	1.7	0.4	0.4	1.3	3.1	2.4	1.0	6.5	11.7	61.1	60.6	54.1	44.4	24	61.1	0.4	14.4	0	0
21	40.7	40.7	37.5	7.7	18.4	38.9	43.7	45.5	29.3	6.3	4.7	4.8	4.4	5.2	4.6	3.2	4.1	2.9	5.5	12.8	27.4	39.5	89.3	72.2	24	89.3	2.9	24.5	0	0
22	80.1	83.6	65.8	49.6	43.1	52.7	54.3	84.9	73.7	30.8	13.0	13.2	9.0	9.6	8.9	13.4	16.2	24.1	33.3	16.7	11.5	26.7	21.5	28.9	24	84.9	8.9	36.0	0	0
23	26.3	24.8	17.1	12.3	21.6	20.3	18.0	14.5	11.7	8.6	6.9	3.4	12.4	4.1	3.5	6.7	9.0	3.6	10.7	9.8	14.7	9.0	8.7	5.4	24	26.3	3.4	11.8	0	0
24	12.9	9.6	5.5	4.2	3.5	4.8	3.3	4.1	6.9	6.1	5.9	7.5	6.7	7.4	10.1	8.0	9.8	7.9	8.9	9.7	8.1	8.9	8.9	8.1	24	12.9	3.3	7.4	0	0
25	8.3	6.7	5.7	10.4	25.1	30.5	31.4	14.5	4.2	4.6	4.2	4.4	2.8	3.2	2.8	2.1	2.1	1.9	3.8	12.0	15.6	28.9	48.8	23.3	24	48.8	1.9	12.4	0	0
26	29.5	38.1	31.9	15.1	8.9	18.7	11.3	20.7	12.1	14.9	18.2	5.2	5.5	2.9	1.5	6.3	7.4	4.8	5.4	4.2	12.5	52.4	12.5	26.9	24	52.4	1.5	15.3	0	0
27	12.9	8.4	6.5	6.6	18.1	11.4	10.6	10.4	48.5	32.8	9.5	4.9	6.3	9.5	15.3	7.9	6.0	30.6	71.8	43.6	42.9	42.7	17.6	6.4	24	71.8	4.9	20.0	0	0
28	4.3	21.8	9.0	7.1	11.1	9.7	5.1	4.0	7.2	6.7	4.3	3.9	5.0	11.4	7.3	5.8	5.1	4.5	4.9	4.6	5.4	7.2	4.4	4.7	24	21.8	3.9	6.9	0	0
29	5.2	3.7	3.0	M	8.1	6.3	8.6	6.8	6.3	5.9	5.9	4.2	3.1	3.9	3.9	3.1	3.5	6.4	15.3	33.5	36.5	13.7	11.5	46.6	23	46.6	3.0	10.6	0	0
30	64.4	60.8	25.3	24.7	62.8	102.3	35.3	16.4	13.1	10.2	9.5	7.2	9.1	14.2	13.0	5.2	8.1	10.8	3.8	5.0	5.6	22.7	16.2	22.0	24	102.3	3.8	23.6	0	0
31	18.8	25.1	20.5	6.9	4.4	4.5	4.8	11.3	7.7	19.0	9.0	7.3	6.9	6.6	10.1	8.1	14.5	7.4	5.7	4.8	8.7	12.3	4.8	10.6	24	25.1	4.4	10.0	0	0
Count	31	31	31	30	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	740	31	30	31		
Maximum	142.3	97.9	97.5	66.9	62.8	102.3	110.4	84.9	76.5	32.8	29.4	27.6	27.9	26.6	27.2	19.9	21.0	30.6	71.8	62.8	82.1	93.9	89.3	181.3	24	181.3	19.9	69.4		
Minimum	2.6	1.4	0.1	0.0	0.8	2.3	3.2	2.2	1.0	0.5	0.6	0.3	0.0	0.2	0.6	1.5	0.8	1.0	3.2	2.4	1.8	2.2	1.7	3.8	21	5.7	0.0	1.4		
Average	29.2	25.2	19.7	16.4	18.8	20.4	22.0	20.3	18.0	12.0	9.1	7.8	7.8	8.5	8.3	7.4	8.0	9.9	13.6	17.0	24.2	28.6	26.1	28.0	24	58	4	17.0		
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						Maximum
Data		3.1		4.4		5.8		7.7		10.1		13.4		18.0		25.9		37.7		59.4		87.6		181.3						181.3
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 – Crago Road Station



**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Appendix D PM_{2.5} Data Summaries and Time History Plots
August 8, 2016

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

PM_{2.5} - Crago Road
January 2016
(µg/m³)

Day	Hour																								Count	Maximum	Minimum	Average	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300					
1	16.9	16.1	15.1	12.7	14.1	9.2	5.8	6.4	5.9	7.1	7.5	4.4	4.1	4.8	6.1	7.3	6.9	7.3	9.7	11.3	10.7	9.5	8.7	8.7	24	16.9	4.1	9.0	
2	8.9	8.8	9.3	8.3	6.8	8.5	13.9	10.5	9.8	10.6	11.4	9.8	9.2	9.2	9.0	9.0	8.4	8.5	8.3	8.5	6.4	5.9	4.8	3.9	24	13.9	3.9	8.7	
3	5.9	6.8	9.4	10.4	11.3	11.6	10.8	9.2	7.4	6.0	3.9	1.8	1.0	1.2	0.8	0.5	0.6	0.5	0.3	0.9	2.3	2.4	2.8	3.2	24	11.6	0.3	4.6	
4	3.9	4.8	5.4	5.0	4.6	4.2	4.1	3.6	3.9	3.3	2.7	2.1	1.8	1.5	1.6	1.7	2.2	3.4	3.4	5.2	5.5	6.5	8.9	8.8	24	8.9	1.5	4.1	
5	9.9	11.3	8.0	7.7	9.7	8.5	7.1	6.4	7.0	6.8	7.9	10.5	7.9	3.9	4.8	3.9	5.0	5.3	5.0	4.1	3.8	4.5	4.9	8.2	24	11.3	3.8	6.8	
6	6.5	7.5	9.1	11.3	12.4	13.6	14.1	13.0	13.8	13.2	6.1	7.6	6.7	6.8	6.4	6.0	7.5	9.9	10.2	11.1	11.0	10.1	8.1	12.3	24	14.1	6.0	9.8	
7	17.3	19.5	20.6	19.8	22.0	23.9	26.1	27.3	28.7	23.2	22.0	23.1	18.9	20.5	19.4	16.2	17.2	18.9	21.4	37.0	31.8	30.0	27.4	25.9	24	37.0	16.2	23.3	
8	24.4	21.9	19.3	19.4	20.5	19.6	17.8	17.7	15.1	12.3	25.0	31.9	43.0	40.4	45.0	21.2	11.6	11.9	12.9	14.1	13.5	12.8	12.9	19.3	24	45.0	11.6	21.0	
9	18.1	13.6	11.8	10.8	7.8	4.0	2.8	4.6	2.9	1.6	1.6	1.8	1.6	1.8	2.1	2.9	3.8	4.7	5.5	5.8	6.4	9.1	12.4	11.9	24	18.1	1.6	6.2	
10	5.3	4.6	3.4	3.5	3.8	3.9	6.7	36.9	2.3	1.2	0.8	0.7	0.6	0.7	0.3	0.8	0.4	0.4	0.3	0.3	0.3	0.2	0.0	0.2	24	36.9	0.0	3.2	
11	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.4	0.5	0.4	0.4	0.3	0.5	0.5	0.6	0.8	1.0	1.2	2.2	3.3	4.1	4.4	24	4.4	0.0	0.9	
12	4.1	4.2	5.3	5.2	5.0	5.3	5.3	5.6	5.9	6.6	6.2	8.0	7.7	10.8	13.8	13.1	10.6	9.2	9.4	10.7	5.6	3.2	3.7	3.1	24	13.8	3.1	7.0	
13	1.8	0.3	0.2	0.1	0.2	1.2	1.2	1.4	1.0	0.9	1.4	1.8	1.2	1.2	1.5	3.4	5.6	5.0	8.0	11.8	15.3	18.2	11.2	8.4	24	18.2	0.1	4.3	
14	9.5	9.5	8.7	10.1	9.7	11.8	15.0	16.4	18.1	19.1	17.4	14.5	14.4	12.5	11.8	11.4	10.2	12.4	14.8	12.3	11.5	21.8	21.4	14.2	24	21.8	8.7	13.7	
15	12.0	15.2	13.9	11.5	34.3	22.6	25.6	32.1	47.5	51.1	25.0	9.6	36.9	39.2	28.8	21.3	30.3	20.4	16.9	25.1	22.3	18.1	23.6	37.2	24	51.1	9.6	25.8	
16	23.3	13.3	14.1	4.4	2.4	9.1	28.0	31.1	9.5	3.9	2.3	2.0	1.5	1.3	1.4	1.5	2.1	1.7	1.7	2.0	1.8	1.9	1.9	4.4	24	31.1	1.3	6.9	
17	2.3	1.6	1.7	1.5	1.6	2.6	3.5	2.8	4.7	7.0	7.6	8.3	8.3	8.9	13.2	5.7	5.2	4.7	4.1	3.6	3.5	3.2	2.6	3.1	24	13.2	1.5	4.6	
18	2.9	2.2	1.5	0.7	0.2	0.1	0.1	0.5	1.3	0.8	1.2	1.6	1.6	1.2	0.8	0.6	0.9	1.2	1.5	1.9	2.3	2.6	3.4	4.8	24	4.8	0.1	1.5	
19	4.0	1.4	1.8	1.9	1.1	1.3	1.3	1.9	2.5	2.5	0.6	1.3	0.5	0.9	0.5	0.4	0.8	0.7	1.0	1.6	1.7	2.0	2.2	2.1	24	4.0	0.4	1.5	
20	1.3	1.7	1.7	1.3	1.1	1.2	1.9	2.0	2.1	3.1	6.4	4.3	3.5	5.4	7.4	7.1	6.8	7.5	7.2	8.4	11.1	9.0	7.8	9.4	24	11.1	1.1	4.9	
21	10.6	11.4	8.3	4.1	3.8	5.3	6.6	10.6	9.4	3.2	1.6	0.6	0.6	0.5	0.5	0.2	0.3	1.0	1.6	2.2	2.9	2.3	2.4	2.5	24	11.4	0.2	3.9	
22	3.3	1.6	1.6	1.3	0.9	0.8	1.1	1.5	3.0	2.5	1.7	1.9	1.1	2.7	8.2	4.7	1.3	2.3	6.4	6.1	6.9	14.7	3.3	3.3	24	14.7	0.8	3.4	
23	3.7	4.0	2.3	1.8	1.4	1.2	0.9	1.0	1.3	1.3	1.4	1.4	1.9	1.9	2.6	4.2	4.6	6.4	9.7	13.3	12.2	9.3	7.7	7.4	24	13.3	0.9	4.3	
24	7.3	8.6	9.6	9.6	8.2	7.0	6.7	6.7	7.1	5.9	4.3	3.7	5.2	7.3	9.9	11.4	12.9	14.9	19.2	21.3	19.4	21.0	19.7	19.3	24	21.3	3.7	11.1	
25	21.0	24.3	25.8	26.9	30.0	30.4	28.0	13.6	10.3	11.0	10.2	11.3	11.1	10.9	13.1	13.4	12.6	13.6	12.8	14.1	14.2	10.1	6.0	5.0	24	30.4	5.0	15.8	
26	4.5	3.6	3.5	3.5	4.0	3.9	3.8	4.2	5.2	5.9	6.0	9.9	13.6	9.5	7.7	15.1	20.1	21.7	21.9	19.7	13.1	14.9	14.1	8.8	24	21.9	3.5	9.9	
27	8.8	9.0	9.2	9.7	4.9	1.0	1.4	1.5	1.1	1.3	1.1	1.0	0.8	0.7	1.2	1.4	1.1	1.2	1.6	2.7	1.1	1.5	3.0	4.5	24	9.7	0.7	3.0	
28	6.4	6.2	5.7	6.7	6.7	8.5	9.6	10.4	8.0	7.7	7.3	8.1	9.6	10.1	10.6	11.1	12.7	13.9	14.5	14.9	16.1	17.0	18.7	20.4	24	20.4	5.7	10.9	
29	20.3	14.5	7.7	2.2	0.7	0.8	1.1	1.1	1.4	1.5	1.6	1.6	1.7	1.7	1.7	C	C	C	4.2	4.9	5.7	5.8	5.4	6.3	21	20.3	0.7	4.4	
30	6.1	6.2	6.3	5.5	6.5	7.2	4.4	4.8	4.2	3.9	4.7	4.8	5.2	6.5	6.1	6.5	7.0	8.5	15.9	12.9	12.7	11.5	14.4	16.4	24	16.4	3.9	7.8	
31	20.4	20.1	21.4	21.1	24.0	22.1	24.2	22.7	25.2	24.6	22.5	17.8	14.8	12.1	11.2	10.0	9.2	10.3	14.0	13.2	9.7	8.8	8.4	6.9	24	25.2	6.9	16.4	
Count	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	741	31	30	30.9
Maximum	24.4	24.3	25.8	26.9	34.3	30.4	28.0	36.9	47.5	51.1	25.0	31.9	43.0	40.4	45.0	21.3	30.3	21.7	21.9	37.0	31.8	30.0	27.4	37.2	24	51.1	21.3	32.2	
Minimum	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.4	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.4	0.3	0.3	0.3	0.2	0.0	0.2	21	4.0	0.0	0.2	
Average	9.4	8.8	8.4	7.7	8.4	8.1	9.0	9.9	8.6	8.0	7.1	6.7	7.6	7.6	8.0	7.1	7.3	7.6	8.5	9.7	9.1	9.4	8.9	9.5	24	19	3	8	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		1.0		1.6		2.9		4.5		6.3		8.3		10.2		13.2		19.7		24.2		37.0		51.1					51.1
Notes	C - Calibration / Span Cycle		NA - No Data Available				T - Test		A- MOE Audit		M - Equipment Malfunction / Down				R - Rate of Change														

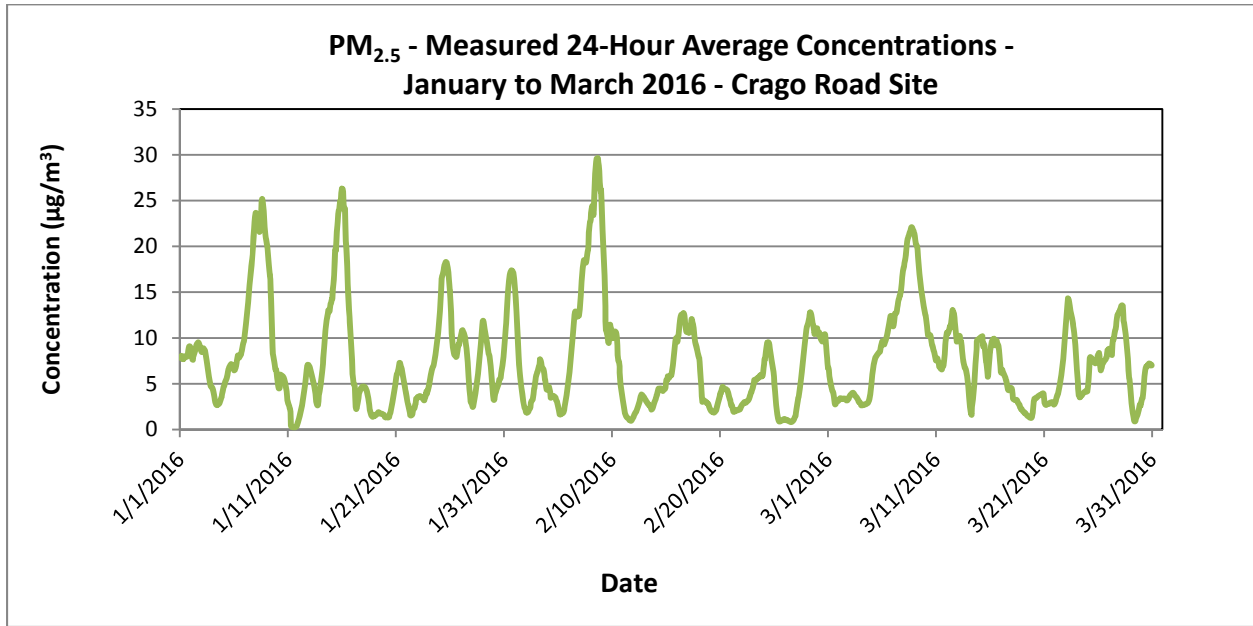
PM_{2.5} - Crago Road
February 2016
(µg/m³)

Day	Hour																								Count	Maximum	Minimum	Average	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300					
1	5.7	6.2	4.5	1.7	1.9	0.9	0.6	0.3	0.5	0.6	0.7	1.2	0.8	0.8	0.9	1.2	1.6	2.4	3.4	2.9	3.5	3.6	4.5	4.1	24	6.2	0.3	2.3	
2	2.5	2.0	1.9	2.0	1.6	2.0	2.2	2.5	2.9	2.6	2.8	5.9	9.9	4.3	3.1	3.0	3.7	8.0	11.7	15.5	8.0	14.5	12.5	11.6	24	15.5	1.6	5.7	
3	7.9	5.5	6.4	4.7	5.0	6.7	7.3	6.1	17.1	1.1	0.6	0.4	1.0	0.7	1.2	2.2	2.2	2.6	2.9	3.1	6.5	3.7	4.5	5.6	24	17.1	0.4	4.4	
4	6.9	7.2	6.7	9.4	6.5	1.7	1.7	2.9	2.1	1.6	1.4	1.2	1.2	0.9	3.3	1.8	1.4	2.0	1.7	0.9	1.0	1.7	1.7	1.7	24	9.4	0.9	2.9	
5	1.6	1.3	1.5	1.8	2.0	1.7	1.3	5.4	2.4	1.6	1.7	1.7	2.9	4.8	7.3	8.6	8.8	10.6	10.0	7.7	7.3	9.3	11.1	10.4	24	11.1	1.3	5.1	
6	10.4	11.5	12.3	12.8	13.9	14.0	14.6	16.8	20.2	20.2	14.9	16.9	16.5	15.1	13.5	10.6	6.1	3.9	5.6	7.8	9.4	9.1	11.0	13.1	24	20.2	3.9	12.5	
7	16.8	27.1	28.5	29.4	30.3	30.5	33.8	33.2	30.7	25.8	19.1	14.6	14.2	13.9	12.8	13.3	13.3	14.6	14.0	12.8	19.5	44.1	25.4	24.5	24	44.1	12.8	22.6	
8	20.5	32.3	44.8	40.9	36.0	32.5	19.0	23.0	45.0	55.2	68.6	34.3	24.5	31.5	20.0	14.5	13.8	13.2	4.3	3.9	5.7	14.3	11.4	15.1	24	68.6	3.9	26.0	
9	24.4	6.4	12.1	3.6	3.1	3.5	3.9	4.2	4.1	4.2	7.4	10.5	21.1	27.0	14.2	6.0	5.2	11.3	20.4	27.9	13.3	8.5	8.0	7.6	24	27.9	3.1	10.7	
10	7.5	8.0	9.1	11.2	8.7	6.7	4.9	3.9	3.4	2.9	2.1	1.6	1.3	1.6	1.8	2.2	1.6	1.7	1.7	1.6	1.2	0.7	0.7	0.8	24	11.2	0.7	3.6	
11	0.7	0.9	1.6	1.6	1.2	1.3	1.3	1.1	1.0	1.1	0.9	0.7	0.5	0.5	0.5	0.6	0.8	0.9	1.1	1.7	2.8	3.0	2.3	3.0	24	3.0	0.5	1.3	
12	2.9	4.4	3.7	3.4	4.2	3.1	3.1	4.3	3.9	4.3	4.6	3.8	4.3	4.6	5.2	6.4	5.8	3.8	3.1	0.7	0.9	1.2	1.3	1.6	24	6.4	0.7	3.5	
13	1.6	1.7	1.7	1.5	1.8	1.7	1.7	2.0	2.2	2.7	3.2	3.3	2.8	2.8	2.4	2.8	3.7	4.8	5.2	4.3	4.5	4.6	4.9	5.2	24	5.2	1.5	3.0	
14	4.9	4.7	5.2	5.2	5.7	7.0	6.7	7.0	3.5	1.9	1.6	2.6	6.6	2.3	1.6	1.8	1.9	2.4	8.2	6.1	5.3	3.4	6.2	8.4	24	8.4	1.6	4.6	
15	16.1	12.8	5.2	5.1	15.7	6.6	5.0	5.2	5.7	4.0	3.3	4.5	5.8	8.0	8.4	10.1	12.7	15.9	17.8	17.8	16.5	14.6	12.7	10.3	24	17.8	3.3	10.0	
16	9.6	9.2	9.5	16.0	18.3	19.2	19.7	16.3	11.7	9.2	6.8	5.1	6.7	12.1	12.7	10.6	10.6	6.7	6.4	6.7	7.2	10.0	11.8	9.5	24	19.7	5.1	10.9	
17	9.5	8.1	13.4	25.1	24.6	21.1	20.6	20.9	18.5	2.3	0.6	0.7	0.7	1.0	1.0	1.2	1.5	1.8	2.1	2.5	3.4	3.7	4.9	5.0	24	25.1	0.6	8.1	
18	5.0	4.4	4.5	4.8	4.5	4.9	4.6	4.2	3.1	3.5	2.8	1.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	2.1	3.0	2.0	1.4	1.7	24	5.0	0.3	2.5	
19	1.5	1.7	1.8	2.7	3.4	3.9	4.9	3.6	2.5	2.2	2.5	2.0	1.6	2.2	1.9	2.5	4.7	5.6	6.1	6.6	7.5	5.4	5.5	7.5	24	7.5	1.5	3.7	
20	7.1	2.0	5.6	8.3	7.9	6.3	3.8	1.7	1.3	1.4	1.6	1.6	1.4	1.5	1.6	1.5	1.7	1.8	2.0	2.4	2.2	1.7	1.6	1.5	24	8.3	1.3	2.9	
21	1.5	2.3	2.8	2.6	3.1	2.6	2.6	2.7	2.0	2.0	2.6	2.6	1.3	1.3	2.1	2.4	2.1	1.9	2.2	2.6	4.4	4.4	4.0	4.0	24	4.4	1.3	2.6	
22	3.8	4.0	4.0	3.4	4.8	4.2	2.9	1.9	1.4	2.5	4.0	4.2	3.5	2.9	2.8	3.0	3.9	5.0	6.4	5.1	5.9	9.2	6.0	8.9	6.9	24	9.2	1.4	4.4
23	6.6	9.7	8.5	13.6	4.8	2.6	3.2	3.0	3.5	5.2	3.2	3.8	3.7	3.8	C	C	C	C	6.9	5.9	6.3	8.3	8.5	13.6	20	13.6	2.6	6.2	
24	17.2	17.4	18.6	13.7	12.5	11.9	10.9	10.1	8.0	5.0	4.5	3.4	1.6	0.7	0.4	0.4	0.5	0.2	0.1	0.0	0.0	0.0	0.1	1.0	24	18.6	0.0	5.8	
25	2.0	1.6	0.3	0.3	0.6	1.2	1.6	2.2	1.5	1.4	1.7	1.6	1.7	1.8	0.9	0.7	0.6	1.3	1.0	0.6	0.7	0.6	0.7	0.6	24	2.2	0.3	1.1	
26	0.6	0.6	0.5	0.5	0.6	0.7	0.9	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.4	1.4	1.7	2.0	2.8	2.1	3.1	3.8	3.3	3.6	24	3.8	0.5	1.5	
27	7.8	9.3	8.2	8.7	8.1	6.4	4.2	6.1	9.8	10.9	11.7	12.7	13.7	12.8	11.6	11.2	11.4	12.3	13.4	13.6	14.3	14.9	14.2	14.3	24	14.9	4.2	10.9	
28	14.8	12.9	11.6	11.9	12.5	13.5	14.5	12.0	10.2	8.2	7.2	5.9	5.6	6.3	7.3	6.2	1.5	3.7	17.0	17.5	19.4	15.9	15.0	14.5	24	19.4	1.5	11.0	
29	2.6	9.7	13.9	15.0	9.8	8.8	8.1	8.5	7.5	6.3	5.0	6.4	11.4	13.2	8.3	7.9	4.4	1.5	2.0	2.1	2.2	2.0	2.4		23	15.0	1.5	6.9	
30																										0			
31																										0			
Count	29	29	29	29	29	29	29	29	29	29	29	29	29	29	28	28	28	28	29	29	29	29	29	28	691	29	28	28.8	
Maximum	24.4	32.3	44.8	40.9	36.0	32.5	33.8	33.2	45.0	55.2	68.6	34.3	24.5	31.5	20.0	14.5	13.8	15.9	20.4	27.9	19.5	44.1	25.4	24.5	24	68.6	13.8	31.8	
Minimum	0.6	0.6	0.3	0.3	0.6	0.7	0.6	0.3	0.5	0.6	0.6	0.4	0.3	0.3	0.4	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.1	0.6	0	2.165083333	0.0		
Average	7.6	7.8	8.6	9.0	8.7	7.8	7.2	7.3	7.8	6.6	6.5	5.3	5.8	6.2	5.3	4.8	4.6	5.1	6.2	6.4	6.5	7.4	6.9	7.4	22	15	2	6.8	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100				Maximum	
Data		1.0		1.6		2.1		3.0		4.2		5.6		7.8		11.4		15.0		20.3		34.5		68.6				68.6	
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} - Crago Road
 March 2016
 (µg/m³)

Day	Hour																								Count	Maximum	Minimum	Average	
	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300					
1	2.4	2.7	3.3	3.1	3.0	3.0	3.3	2.9	3.4	2.8	2.5	2.6	2.6	3.3	2.3	2.3	4.0	5.3	4.5	4.1	3.7	3.3	2.5	2.7	24	5.3	2.3	3.2	
2	4.0	4.7	4.6	4.2	3.1	2.7	2.4	2.9	2.9	2.9	2.8	3.1	3.0	2.2	2.3	2.3	2.6	3.3	3.8	4.1	5.9	4.6	4.3	6.0	24	6.0	2.2	3.5	
3	6.4	6.6	6.7	4.8	4.1	3.5	4.4	3.4	2.8	1.6	1.2	1.0	1.0	1.0	1.1	1.1	1.0	1.1	1.7	2.0	2.4	3.0	4.3	4.1	24	6.7	1.0	2.9	
4	4.2	4.6	4.4	4.1	4.3	4.1	4.5	4.0	3.5	1.7	1.3	1.4	1.5	1.5	1.4	1.9	2.0	2.6	3.8	4.6	7.1	9.6	9.3	11.9	24	11.9	1.3	4.1	
5	16.6	21.3	15.4	14.4	12.4	10.4	10.1	11.0	9.7	6.4	3.1	10.4	3.3	3.5	3.3	3.2	3.1	3.6	4.4	5.0	5.4	9.0	17.7	15.4	16.3	24	21.3	3.1	9.3
6	22.0	23.5	13.1	11.1	9.5	10.4	13.2	14.4	12.9	9.5	8.8	9.2	6.4	9.9	10.6	9.5	11.2	11.0	11.1	11.5	9.5	8.6	11.2	13.3	24	23.5	6.4	11.7	
7	16.0	18.3	18.3	20.1	21.7	17.7	14.3	13.7	15.2	14.6	15.8	16.0	16.1	15.0	14.3	14.2	13.8	16.3	19.4	20.2	21.2	21.9	23.0	22.0	24	23.0	13.7	17.5	
8	20.9	22.9	25.6	27.4	26.7	26.8	26.6	27.3	24.5	21.3	19.3	20.0	19.2	18.3	18.2	17.6	18.3	20.8	20.2	19.1	17.8	18.3	20.9	18.2	24	27.4	17.6	21.5	
9	17.5	16.2	15.3	19.0	23.1	25.0	24.5	19.6	8.4	4.9	4.7	4.9	6.0	7.1	9.6	11.2	11.6	11.6	9.2	9.9	9.3	12.5	13.6	13.7	24	25.0	4.7	12.8	
10	11.2	11.9	9.0	9.0	12.8	11.9	14.0	18.5	8.6	6.3	4.8	3.8	2.7	2.4	0.6	4.1	7.9	7.3	5.3	5.3	5.7	6.6	7.1	7.8	24	18.5	0.6	7.7	
11	7.6	13.0	13.3	8.8	7.3	10.1	10.3	8.5	7.1	5.6	2.6	1.8	1.9	2.1	C	5.5	8.0	11.9	15.2	18.0	21.0	20.6	19.6	15.9	23	21.0	1.8	10.2	
12	15.0	13.0	12.0	10.0	11.2	13.0	15.5	13.1	3.0	11.8	13.6	11.9	13.4	8.0	6.8	5.2	4.6	2.3	2.9	5.8	7.8	6.0	8.6	16.8	24	16.8	2.3	9.6	
13	15.0	13.0	16.4	18.0	13.0	12.0	8.4	4.9	2.4	1.8	1.2	2.1	1.0	0.6	0.5	0.6	0.5	1.0	0.7	0.7	0.9	1.2	1.1	1.3	24	18.0	0.5	4.9	
14	1.5	2.0	2.4	2.7	3.0	3.7	2.8	2.6	23.5	12.2	12.8	9.1	10.8	20.3	20.6	20.3	16.7	17.8	19.6	21.8	5.0	2.1	2.0	2.3	24	23.5	1.5	9.9	
15	2.5	3.0	3.2	3.8	3.2	3.6	4.0	4.3	5.3	3.2	20.0	7.3	6.7	6.6	6.2	8.1	13.8	7.1	7.6	7.5	10.8	15.5	17.7	17.1	24	20.0	2.5	7.8	
16	19.1	10.9	9.0	9.5	9.1	6.5	6.9	5.3	5.2	4.6	4.7	5.5	7.1	10.2	11.6	10.0	6.9	5.7	4.6	4.4	1.6	2.0	2.2	3.1	24	19.1	1.6	6.9	
17	5.5	8.0	12.7	13.6	4.6	3.4	4.9	3.1	2.2	1.6	1.7	2.0	3.2	4.8	4.4	3.4	3.0	3.3	5.1	5.1	3.8	4.2	2.1	3.6	24	13.6	1.6	4.5	
18	4.2	3.0	2.7	2.6	2.3	2.6	4.0	2.3	2.3	1.9	2.0	1.8	1.8	1.7	1.7	1.5	1.8	1.3	1.5	1.7	1.7	1.6	2.1	1.6	24	4.2	1.3	2.1	
19	3.0	1.1	1.1	1.3	1.8	1.8	1.8	1.5	1.1	0.7	0.6	0.7	0.7	0.8	0.7	0.7	1.1	0.9	1.1	1.5	2.0	3.6	6.9	8.0	24	8.0	0.6	1.9	
20	17.4	14.7	6.2	4.5	2.7	2.1	2.4	1.9	2.2	1.8	1.7	2.1	1.5	1.5	1.4	1.3	1.5	1.3	1.4	1.5	3.4	4.9	7.3	6.6	24	17.4	1.3	3.9	
21	5.0	4.9	3.3	1.8	2.1	2.6	3.0	3.5	2.5	1.3	1.5	2.1	2.5	2.7	2.7	1.8	1.9	1.1	1.4	1.8	2.2	2.7	4.9	7.2	24	7.2	1.1	2.8	
22	7.7	7.4	6.7	6.7	6.2	6.3	6.7	5.9	9.0	8.6	8.5	9.5	8.7	8.7	7.1	8.0	10.1	12.7	13.0	14.6	14.7	18.1	21.8	22.6	24	22.6	5.9	10.4	
23	24.5	26.9	22.7	19.7	21.2	20.4	3.8	4.9	1.9	0.8	1.6	2.0	2.6	2.0	2.2	2.5	2.8	3.6	4.7	5.2	4.6	3.9	6.7	6.2	24	26.9	0.8	8.2	
24	5.9	5.6	5.6	4.4	4.3	2.6	1.9	1.6	2.1	2.6	3.4	2.8	2.8	4.2	4.3	3.9	4.0	4.9	5.7	6.0	4.9	5.1	5.4	5.7	24	6.0	1.6	4.1	
25	6.6	11.6	15.7	19.0	23.4	24.8	16.8	4.2	1.0	1.4	1.6	1.8	1.7	2.0	2.3	2.4	2.6	3.0	4.3	7.7	5.7	7.7	10.8	11.2	24	24.8	1.0	7.9	
26	12.4	13.7	19.0	12.1	8.7	8.7	8.9	8.5	4.7	5.5	7.3	3.1	3.7	3.8	3.8	4.3	4.0	4.8	7.5	9.5	14.5	17.3	11.6	11.7	24	19.0	3.1	8.7	
27	14.6	13.8	11.8	7.7	8.2	7.8	6.8	7.6	30.0	21.6	6.0	7.3	10.0	11.5	10.2	7.5	12.3	15.8	17.1	16.9	17.5	18.9	14.5	13.1	24	30.0	6.0	12.9	
28	15.4	19.2	13.8	12.7	10.8	8.9	6.7	6.0	8.7	3.8	0.5	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.4	0.4	0.3	0.5	8.6	3.3	24	19.2	0.0	5.0	
29	0.7	0.5	0.5	M	0.7	0.7	0.6	0.6	0.6	0.8	0.6	1.6	4.1	3.6	3.1	2.7	3.2	3.5	4.5	7.1	7.0	4.2	5.2	6.8	23	7.1	0.5	2.7	
30	6.4	6.1	4.6	4.6	7.7	12.4	22.1	14.4	11.6	8.1	6.7	4.9	4.4	5.1	5.3	4.1	4.2	5.2	4.5	4.1	5.6	6.4	5.1	4.8	24	22.1	4.1	7.0	
31	4.9	5.9	6.8	6.8	9.3	7.8	6.0	5.8	6.2	6.1	5.3	6.8	8.0	7.9	5.9	2.4	2.3	2.9	5.0	5.6	5.4	5.1	3.4	1.9	24	9.3	1.9	5.6	
Count	31	31	31	30	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	742	31	30	30.9
Maximum	24.5	26.9	25.6	27.4	26.7	26.8	26.6	27.3	30.0	21.6	20.0	20.0	19.2	20.3	20.6	20.3	18.3	20.8	20.2	21.8	21.2	21.9	23.0	22.6	24	30.0	18.3	23.1	
Minimum	0.7	0.5	0.5	1.3	0.7	0.7	0.6	0.6	0.6	0.7	0.5	0.0	0.3	0.1	0.0	0.0	0.0	0.2	0.4	0.4	0.3	0.5	1.1	1.3	23	4.2	0.0	0.5	
Average	10.2	10.6	9.8	9.6	9.1	8.9	8.4	7.4	7.2	5.7	5.4	4.9	5.1	5.6	5.5	5.3	5.8	6.3	6.8	7.5	7.5	8.3	9.0	9.3	24	17	3	7.5	
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100					Maximum
Data		1.5		2.2		3.0		4.1		5.2		6.8		9.2		12.9		17.7		20.6		25.4		30.0					30.0
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 – Crago Road Station



**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Appendix E Continuous Parameter Edit Log
August 8, 2016

Appendix E CONTINUOUS PARAMETER EDIT LOG

Start date:	1-Jan-16	End date:	31-Mar-16
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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:	Crago Road				
Station address:	Crago 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 Number:	1228		
Data edit period	Start date:	1-Jan-16	End date:	31-Mar-16	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-Mar-16	TH	Invalidate	1/29/2016	15:00	1/29/2016	16:00	Monthly calibration
2	4-Mar-16	TH	Invalidate	2/23/2016	15:00	2/23/2016	16:00	Monthly calibration
3	16-May-16	TH	Invalidate	3/11/2016	14:00	3/11/2016	15:00	Monthly calibration
4	1-Jun-16	CL	Invalidate	3/29/2016	03:00	3/29/2016	03:00	Invalidate due to power outage
5	1-Jun-16	CL	Zero Correction	2/9/2016	15:00	2/23/2016	14:00	Zero correction of 1.41 ppb applied due to negative drift during this period.

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:		Crago Road		
Station address:		Crago 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 Number: 1424		
Data edit period		Start date: 1-Jan-16		End date: 31-Mar-16		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-Mar-16	TH	Invalidate	1/29/2016	15:00	1/29/2016	17:00	Monthly calibration
2	4-Mar-16	TH	Invalidate	2/23/2016	15:00	2/23/2016	18:00	Monthly calibration
3	16-May-16	TH	Invalidate	3/11/2016	14:00	3/11/2016	16:00	Monthly calibration
4	1-Jun-16	CL	Invalidate	3/29/2016	03:00	3/29/2016	03:00	Invalidate due to power outage
5	1-Jun-16	GC	Zero Correction	1/3/2016	13:00	1/4/2016	14:00	Zero offset of 2.203 ppb applied to NO2 channel due to negative zero drift. NOx channel zero offset adjusted to reflect the edit to NO2 channel.
6	1-Jun-16	GC	Zero Correction	2/25/2016	12:00	2/26/2016	16:00	Zero offset of 2.34 ppb applied to NO2 channel due to negative zero drift. NOx channel zero offset adjusted to reflect the edit to NO2 channel.
7	2-Jun-16	CL	Zero Correction	1/1/2016	00:00	1/3/2016	12:00	Zero offsets of 0.215, 1.931 and 2.146 ppb applied to NO, NO2 and NOx channels to correct negative offsets.
8	2-Jun-16	CL	Zero Correction	1/4/2016	15:00	1/29/2016	14:00	
9	2-Jun-16	CL	Zero Correction	1/29/2016	18:00	2/23/2016	14:00	Zero offsets of 0.9, 1.08, 1.98 ppb applied to NO, NO2 and NOx channels to correct negative offsets.
10	2-Jun-16	CL	Zero Correction	2/23/2016	19:00	2/25/2016	11:00	Zero offsets of 0.487, 1.80, 2.289 ppb applied to NO, NO2 and NOx channels to correct negative offsets.
				2/26/2016	17:00	3/11/2016	13:00	
11	2-Jun-16	CL	Zero Correction	11-Mar-16	17:00	31-Mar-16	23:00	Zero offsets of 1.2, 0.78, 1.98 ppb applied to NO, NO2 and NOx channels to correct negative offsets.

Examples of Acceptable Edit Actions:

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

EDIT LOG TABLE

Project Name	Durham York Energy Centre Ambient Air Monitoring Program							
Contact	Greg Crooks / Connie Lim / Tim Hung	Phone:	905-944-7777	E-mail:	greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com			
Station number:	N/A		Station Name:	Crago Road				
Station address:	Crago 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:	CM 0269			
Data edit period	Start date:	1-Jan-16	End date:	31-Mar-16	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-Mar-16	TH	Invalidate	1/29/2016	15:00	1/29/2016	17:00	Monthly calibration
2	4-Mar-16	TH	Invalidate	2/23/2016	15:00	2/23/2016	18:00	Monthly calibration
3	16-May-16	TH	Invalidate	3/11/2016	14:00	3/11/2016	14:00	Monthly calibration
4	1-Jun-16	CL	Invalidate	3/29/2016	03:00	3/29/2016	03:00	Invalidate due to power outage

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:		Crago Road		
Station address:		Crago Road		Emitter Address:		The Region of Durham, 605 Rossland Rd, Whitby, ON		
Pollutant or parameter:		Temperature	Instrument make & model:		Campbell Scientific Model HMP60			
Data edit period		Start date:	1-Jan-16	End date:	31-Mar-16	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	1-Jun-16	CL	Invalidate	3/29/2016	03:00	3/29/2016	03:00	Invalidate due to power outage

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:		Crago Road		
Station address:		Crago Road		Emitter Address:		The Region of Durham, 605 Rossland Rd, Whitby, ON		
Pollutant or parameter:		Rainfall	Instrument make & model:		Texas Electronic TE525M			
Data edit period		Start date:	1-Jan-16	End date:	31-Mar-16	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	1-Jun-16	CL	Invalidate	3/29/2016	03:00	3/29/2016	03:00	Invalidate due to power outage

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:		Crago Road				
Station address:		Crago Road	Emitter Address:		The Region of Durham, 605 Rossland Rd, Whitby, ON				
Pollutant or parameter:	Relative Humidity	Instrument make & model:			Campbell Scientific Model HMP60				
Data edit period	Start date:	1-Jan-16	End date:	31-Mar-16	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	1-Jun-16	CL	Invalidate	3/29/2016	03:00	3/29/2016	03:00	Invalidate due to power outage	

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:		Crago Road				
Station address:		Crago 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				
Data edit period	Start date:	1-Jan-16	End date:	31-Mar-16	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	1-Jun-16	CL	Invalidate	3/29/2016	03:00	3/29/2016	03:00	Invalidate due to power outage	

Examples of Acceptable Edit Actions:

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

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Appendix F Metals Data Summary
August 8, 2016

Appendix F METALS DATA SUMMARY

Metals and Total Particulates		Crago Station																					
Location		Crago		Crago		Crago		Crago		Crago		Crago		Crago		Crago		Crago		Crago			
Date	dd/mm/yyyy	06/02/2016		12/02/2016		18/02/2016		24/02/2016		01/03/2016		07/03/2016		13/03/2016		19/03/2016		25/03/2016		31/03/2016			
Start Time	hh:mm	0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00		0:00			
Sample Duration	minutes	23.16		23.98		23.3		23.62		23.75		23.37		23.76		22.95		24.47		23.36			
Technician	TH	TH		TH		TH		TH		TH		TH		TH		TH		TH		TH			
Filter Number		16011170		16011174		16012924		16012928		16020444		16020448		16021141		16021145		16021192		16021196			
Analytical Report #		B628195		B632673		B635989		B639778		B644845		B651421		B652146		B659622		B662559		B665823			
Total Volumetric Flow	Am ³ /sample	1632.61		1712.51		1594.32		1632.91		1605.14		1684.86		1647.58		1892.55		2062.12		1987.70			
Analytical Results	Units	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL		
Particulate	mg	34.7	5.0	48.7	5	40.2	5.0	14.6	5.0	32.2	5.0	42.8	5.0	25.9	5.0	25.0	5.0	27.9	5.0	27.3	5.0		
Total Mercury (Hg)	µg	<0.02	0.02	0.03	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02	<0.02	0.02		
Aluminum (Al)	µg	155	50	209	50	184	50	53	50	117	50	136	50	179	50	114	50	153	50	167	50		
Antimony (Sb)	µg	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10		
Arsenic (As)	µg	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0		
Barium (Ba)	µg	10.1	1.0	9.0	1.0	9.2	1.0	11.1	1.0	4.5	1.0	11.4	1.0	9.5	1.0	6.4	1.0	8.0	1.0	8.2	1.0		
Beryllium (Be)	µg	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0	<1.0	1.0		
Bismuth (Bi)	µg	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0		
Boron (B)	µg	<6.0	6.0	<6.0	6.0	7.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0	<6.0	6.0		
Cadmium (Cd)	µg	<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		
Chromium (Cr)	µg	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	9.7	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0		
Cobalt (Co)	µg	<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		
Copper (Cu)	µg	48.3	5.0	29.7	5.0	68.2	5.0	18.5	5.0	20.2	5.0	25.2	5.0	25.9	5.0	45.5	5.0	48.3	5.0	46.3	5.0		
Iron (Fe)	µg	413	50	517	50	486	50	136	50	255	50	534	50	742	50	391	50	327	50	349	50		
Lead (Pb)	µg	3.5	3.0	5.2	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	7.6	3.0	<3.0	3.0	<3.0	3.0	3.6	3.0	4.1	3.0		
Magnesium (Mg)	µg	243	50	298	50	301	50	91	50	137	50	263	50	186	50	191	50	155	50	203	50		
Manganese (Mn)	µg	12.6	1.0	23.9	1.0	12.8	1.0	4.5	1.0	7.4	1.0	20.1	1.0	12.8	1.0	10.7	1.0	7.9	1.0	11.7	1.0		
Molybdenum (Mo)	µg	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	3.1	3.0	<3.0	3.0	3.7	3.0		
Nickel (Ni)	µg	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0	<3.0	3.0		
Phosphorus (P)	µg	<25	25	<25	25	<25	25	<25	25	<25	25	27	25	204	25	<25	25	<25	25	<25	25		
Selenium (Se)	µg	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10		
Silver (Ag)	µg	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0		
Strontium (Sr)	µg	6.2	1.0	7.4	1.0	12.6	1.0	2.4	1.0	3.0	1.0	5.3	1.0	6.2	1.0	6.2	1.0	5.1	1.0	5.2	1.0		
Thallium (Tl)	µg	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10		
Tin (Sn)	µg	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10		
Titanium (Ti)	µg	10	10	11	10	14	10	<10	10	<10	10	<10	10	16	10	<10	10	<10	10	<10	10		
Vanadium (V)	µg	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0		
Zinc (Zn)	µg	39.8	5.0	72.6	5.0	17.8	5.0	18.2	5.0	15.5	5.0	70.5	5.0	20.6	5.0	14.4	5.0	22.3	5.0	27.8	5.0		
Zirconium (Zr)	µg	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0	<5.0	5.0		
Total Uranium (U)	µg	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45	<0.45	0.45		
Calculated Concentrations	Quarter 1 2016			Crago		Crago		Crago		Crago		Crago		Crago		Crago		Crago		Crago			
	Units	Maximum	Minimum	1		2		3		4		5		6		7		8		9		10	
				2/6/2016	2/12/2016	2/18/2016	2/24/2016	3/1/2016	3/7/2016	3/13/2016	3/19/2016	3/25/2016	3/31/2016	3/31/2016	3/31/2016								

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Appendix G PAHs Data Summary
August 8, 2016

Appendix G

PAHS DATA SUMMARY

Polycyclic Aromatic Hydrocarbons		Crago Road Station		2016		2016		2016		2016		2016		2016	
Location		Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago
Date	dd/mm/yyyy	01/01/2016	13/01/2016	25/01/2016	06/02/2016	18/02/2016	01/03/2016	13/03/2016	25/03/2016	01/01/2016	13/01/2016	25/01/2016	06/02/2016	18/02/2016	01/03/2016
Start Time	hh:mm	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00	0:00
Sample Duration	minutes	23.99	23.93	23.8	23.24	23.31	23.54	23.79	24.02	TH	TH	TH	TH	TH	TH
Technician		N/A	N/A	N/A	BTN780-01	BT9749-01	BT0057-01	BT0142-01	BT0313-01						
Filter Number		N/A	N/A	N/A	BVK704	BKA278	BT0056-01	BX0145	BX0307						
Maxam ID		N/A	N/A	N/A	8628189	8635975	8644821	8652160	8662572						
Analytical Report #															
Total Volumetric Flow	Am ³ /sample	347.62	333.81	371.67	355.91	308.29	347.04	342.69	354.62						
Analytical Results		Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL	Value	RDL
Benzo(a)pyrene	µg	0.0141	0.030	0.0173	0.020	0.0085	0.030	0.0091	0.0040	0.0048	0.0028				
1-Methylnaphthalene	µg	1.32	0.15	0.95	0.10	0.55	0.15	1.47	0.10	1.63	0.15				
2-Methylnaphthalene	µg	2.00	0.15	1.47	0.10	0.83	0.15	2.22	0.10	2.99	0.15				
Acenaphthene	µg	0.276	0.075	0.158	0.050	0.168	0.075	0.686	0.050	0.867	0.075				
Acenaphthylene	µg	0.135	0.075	0.076	0.050	0.090	0.075	<0.050	0.050	<0.075	0.075				
Anthracene	µg	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050	<0.075	0.075				
Benzo(a)anthracene	µg	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050	<0.075	0.075				
Benzo(a)fluorene	µg	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10	<0.15	0.15				
Benzo(b)fluoranthene	µg	<0.075	0.075	0.072	0.050	<0.075	0.075	0.062	0.050	<0.075	0.075				
Benzo(b)fluorene	µg	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10	<0.15	0.15				
Benzo(e)pyrene	µg	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10	<0.15	0.15				
Benzo(g,h,i)perylene	µg	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050	<0.075	0.075				
Benzo(k)fluoranthene	µg	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050	<0.075	0.075				
Biphenyl	µg	0.75	0.15	0.46	0.10	0.34	0.15	0.61	0.10	0.77	0.15				
Chrysenes	µg	<0.075	0.075	0.058	0.050	<0.075	0.075	<0.050	0.050	<0.075	0.075				
Dibenz(a,h)anthracene	µg	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050	<0.075	0.075				
Dibenz(a,c)anthracene + Picene	µg	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3	<0.3	0.3				
Fluoranthene	µg	0.210	0.075	0.178	0.050	0.138	0.075	0.182	0.050	0.168	0.075				
Indeno(1,2,3-cd)pyrene	µg	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050	<0.075	0.075				
Naphthalene	µg	9.31	0.11	5.42	0.072	3.79	0.11	6.64	0.072	7.65	0.11				
o-Terphenyl	µg	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10	<0.15	0.15				
Perylene	µg	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10	<0.15	0.15				
Phenanthrene	µg	0.744	0.075	0.506	0.050	0.501	0.15	0.860	0.050	0.816	0.075				
Pyrene	µg	0.117	0.075	0.146	0.050	0.105	0.075	0.118	0.050	0.102	0.075				
Tetralin	µg	0.63	0.15	0.49	0.10	0.30	0.15	0.68	0.10	0.60	0.15				
Calculated Concentrations		Quarter 1 2016		Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago	Crago
Units	Maximum	Minimum	1/1/2016	13/01/2016	1/25/2016	2/6/2016	2/18/2016	3/1/2016	3/13/2016	25/03/2016					
Benzo(a)pyrene	ng/m ³	5.61E-02	2.45E-02	0.00E+00	0.00E+00	0.00E+00	3.96E-02	5.61E-02	2.45E-02	2.66E-02	1.35E-02				
1-Methylnaphthalene	ng/m ³	4.29E+00	1.58E+00	0.00E+00	0.00E+00	0.00E+00	3.71E+00	3.08E+00	1.58E+00	4.29E+00	4.60E+00				
2-Methylnaphthalene	ng/m ³	6.48E+00	2.39E+00	0.00E+00	0.00E+00	0.00E+00	5.62E+00	4.77E+00	2.39E+00	6.48E+00	8.43E+00				
Acenaphthene	ng/m ³	2.00E+00	4.84E-01	0.00E+00	0.00E+00	0.00E+00	7.75E-01	5.12E-01	4.84E-01	2.00E+00	2.44E+00				
Acenaphthylene	ng/m ³	3.79E-01	7.30E-02	0.00E+00	0.00E+00	0.00E+00	3.79E-01	2.47E-01	2.59E-01	7.30E-02	1.06E-01				
Anthracene	ng/m ³	1.08E-01	7.30E-02	0.00E+00	0.00E+00	0.00E+00	1.05E-01	8.11E-02	1.08E-01	7.30E-02	1.06E-01				
Benzo(a)anthracene	ng/m ³	1.08E-01	7.30E-02	0.00E+00	0.00E+00	0.00E+00	1.05E-01	8.11E-02	1.08E-01	7.30E-02	1.06E-01				
Benzo(a)fluorene	ng/m ³	2.16E-01	1.46E-01	0.00E+00	0.00E+00	0.00E+00	2.11E-01	1.62E-01	2.16E-01	1.46E-01	2.11E-01				
Benzo(b)fluoranthene	ng/m ³	2.34E-01	1.05E-01	0.00E+00	0.00E+00	0.00E+00	1.05E-01	2.34E-01	1.08E-01	1.81E-01	1.06E-01				
Benzo(b)fluorene	ng/m ³	2.16E-01	1.46E-01	0.00E+00	0.00E+00	0.00E+00	2.11E-01	1.62E-01	2.16E-01	1.46E-01	2.11E-01				
Benzo(e)pyrene	ng/m ³	2.16E-01	1.46E-01	0.00E+00	0.00E+00	0.00E+00	2.11E-01	1.62E-01	2.16E-01	1.46E-01	2.11E-01				
Benzo(g,h,i)perylene	ng/m ³	1.08E-01	7.30E-02	0.00E+00	0.00E+00	0.00E+00	1.05E-01	8.11E-02	1.08E-01	7.30E-02	1.06E-01				
Benzo(k)fluoranthene	ng/m ³	1.08E-01	7.30E-02	0.00E+00	0.00E+00	0.00E+00	1.05E-01	8.11E-02	1.08E-01	7.30E-02	1.06E-01				
Biphenyl	ng/m ³	2.11E+00	9.80E-01	0.00E+00	0.00E+00	0.00E+00	2.11E+00	1.49E+00	9.80E-01	1.78E+00	2.17E+00				
Chrysenes	ng/m ³	1.88E-01	7.30E-02	0.00E+00	0.00E+00	0.00E+00	1.05E-01	1.88E-01	1.08E-01	7.30E-02	1.06E-01				
Dibenz(a,h)anthracene	ng/m ³	1.08E-01	7.30E-02	0.00E+00	0.00E+00	0.00E+00	1.05E-01	8.11E-02	1.08E-01	7.30E-02	1.06E-01				
Dibenz(a,c)anthracene + Picene	ng/m ³	4.87E-01	4.21E-01	0.00E+00	0.00E+00	0.00E+00	4.21E-01	4.87E-01	4.32E-01	4.38E-01	4.23E-01				
Fluoranthene	ng/m ³	5.90E-01	3.98E-01	0.00E+00	0.00E+00	0.00E+00	5.90E-01	5.77E-01	3.98E-01	5.31E-01	4.74E-01				
Indeno(1,2,3-cd)pyrene	ng/m ³	1.08E-01	7.30E-02	0.00E+00	0.00E+00	0.00E+00	1.05E-01	8.11E-02	1.08E-01	7.30E-02	1.06E-01				
Naphthalene	ng/m ³	2.62E+01	1.09E+01	0.00E+00	0.00E+00	0.00E+00	2.62E+01	1.76E+01	1.09E+01	1.94E+01	2.16E+01				
o-Terphenyl	ng/m ³	2.16E-01	1.46E-01	0.00E+00	0.00E+00	0.00E+00	2.11E-01	1.62E-01	2.16E-01	1.46E-01	2.11E-01				
Perylene	ng/m ³	2.16E-01	1.46E-01	0.00E+00	0.00E+00	0.00E+00	2.11E-01	1.62E-01	2.16E-01	1.46E-01	2.11E-01				
Phenanthrene	ng/m ³	2.51E+00	1.44E+00	0.00E+00	0.00E+00	0.00E+00	2.09E+00	1.44E+00	1.44E+00	2.51E+00	2.30E+00				
Pyrene	ng/m ³	4.74E-01	3.03E-01	0.00E+00	0.00E+00	0.00E+00	3.29E-01	4.74E-01	3.03E-01	3.44E-01	2.88E-01				
Tetralin	ng/m ³	1.98E+00	8.64E-01	0.00E+00	0.00E+00	0.00E+00	1.77E+00	1.59E+00	8.64E-01	1.98E+00	1.69E+00				
Total PAH	ng/m ³	4.59E+01	2.20E+01	0.00E+00	0.00E+00	0.00E+00	4.59E+01	3.42E+01	2.20E+01	4.13E+01	4.64E+01				

Note:
RDL = Reportable Detection Limit

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

2. The data has been reviewed for Dibenz(a,c)anthracene and Picene and no peaks were found at the appropriate retention time.

**QUARTERLY AMBIENT AIR QUALITY MONITORING REPORT FOR THE DURHAM YORK ENERGY CENTRE
(CRAGO ROAD STATION) – JANUARY TO MARCH 2016**

Appendix H Dioxins and Furans Data Summary
August 8, 2016

Appendix H DIOXINS AND FURANS DATA SUMMARY

