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

Durham York Energy Centre



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Sign-off Sheet

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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 Station). 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 from 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 Regional Municipality of Durham requested that the dioxin/ furan sampling frequency at the Crago Road Station (as well as the Courtice WPCP and Rundle Road monitoring stations) be increased from once every 24 days to once every 12 days for a 3-month period starting on September 9, 2016 and ending on November 20, 2016. The additional sampling followed the same methodologies and protocols specified in the Ambient Monitoring Plan (Stantec, 2012) for the existing monitoring program. The results of this additional sampling have been included in this report.

Site personnel noted ongoing Highway 418 construction on the north and south sides of Highway 401 between Courtice and Crago Roads causing significant dust suspension from haul trucks, bulldozers, graders, and excavators. These construction activities may have contributed to elevated PM_{2.5} measurements during this quarter.

This quarterly report provides a summary of the ambient air quality data collected at the Crago Road Station for the period October to December 2016 (Calendar Quarter 4). All measured air quality parameters had 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 Standards or human health risk assessment (HHRA) health-based criteria 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 three 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 Standards were well below their applicable Standards (as presented in **Table 2-2** in this report).
- 4. The maximum measured concentrations of all PAHs with MOECC air quality Standards 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 38%. The measurement was however, well below the MOECC Schedule 6 Upper Risk Threshold, the MOECC O. Reg. 419/05 24-hour average guideline, and the HHRA health based standard. The current Ontario 24-hour B(a)P AAQC was introduced in 2011 and levels above this AAQC are commonly measured throughout Ontario.

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5. The maximum measured toxic equivalent dioxin and furan concentration was below the applicable Standard presented in **Table 2-3**.

In summary, the measured concentrations of the air contaminants monitored were below their applicable MOECC Standards during the monitoring period between October and December 2016, with the exception of one (1) benzo(a)pyrene sample. All measured levels of the monitored contaminants were below their applicable HHRA health-based criteria.



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

SO₂ Sulphur Dioxide NO_x Nitrogen Oxides

O₃ Ozone

PAH Polycyclic Aromatic Hydrocarbons

Particulate A particle of a solid or liquid that is suspended in air.

PCB Polychlorinated Biphenyl

PCDD/PCDF Polychlorinated Dibenzo-p-dioxins and Dibenzofurans

PM Particulate Matter

PM_{2.5} Particulate Matter smaller than 2.5 microns

Quarter 1 (January, February, and March); Quarter 2 (April, May, and

Q1, Q2, Q3, Q4 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 Αl Aluminum As Arsenic Ве Beryllium Cr Chromium Cu Copper Mn Manganese



Ni Nickel
Ag Silver
TI 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 Millimetre
m Metre

km/hr Kilometre per hour

mg/m³ Milligrams per cubic metre

µg/m³ Micrograms per cubic metre

ng/m³ Nanograms per cubic metre

pg/m³ Picograms per cubic metre

pg TEQ/m³ Picograms toxic exposure equivalents per cubic metre



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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 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 Station). 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:

- 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 (NOx), and
 - Particulate Matter smaller than 2.5 microns (PM_{2.5}).

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

At the request of the Regional Municipality of Durham, the dioxin/ furan sampling frequency at the Crago Road Station (as well as the Courtice WPCP and Rundle Road monitoring stations) was increased to once every 12 days from once every 24 days between September 9 and November 20, 2016. The additional sampling followed the same methodologies and protocols specified in the Ambient Monitoring Plan (Stantec, 2012) for the existing monitoring program. The results of this additional sampling have been included in this report.

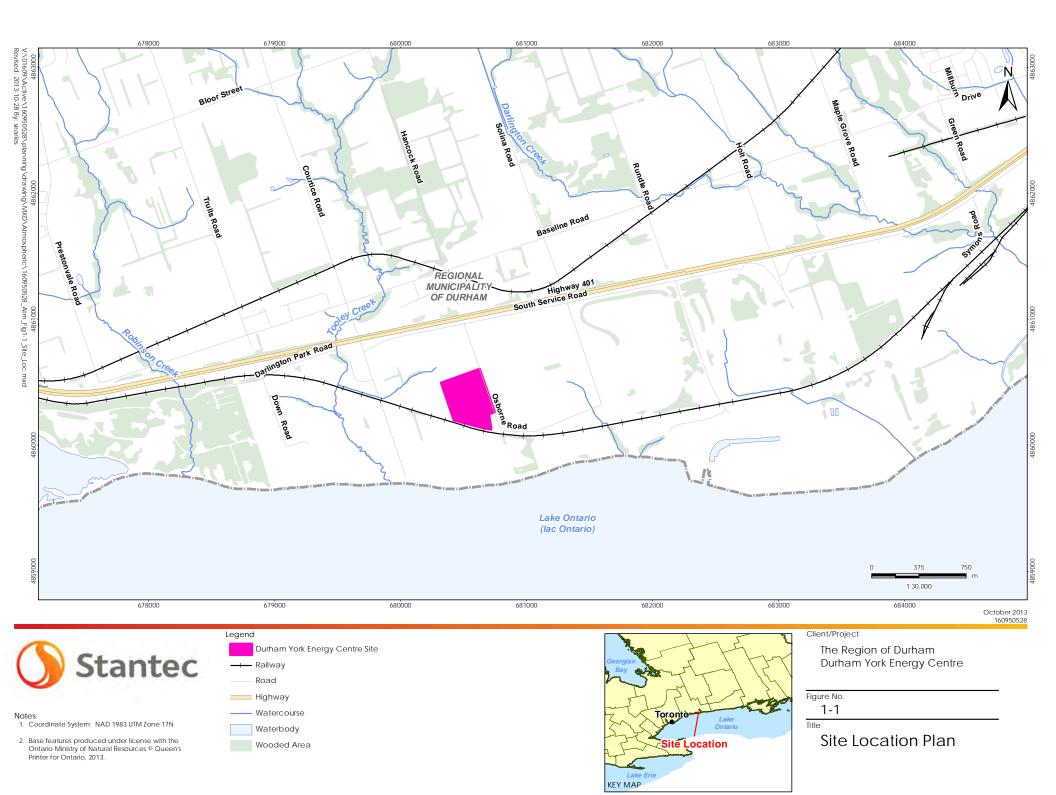
This quarterly report provides a summary of the ambient air quality data collected at this station for the period October to December 2016 (Q4).

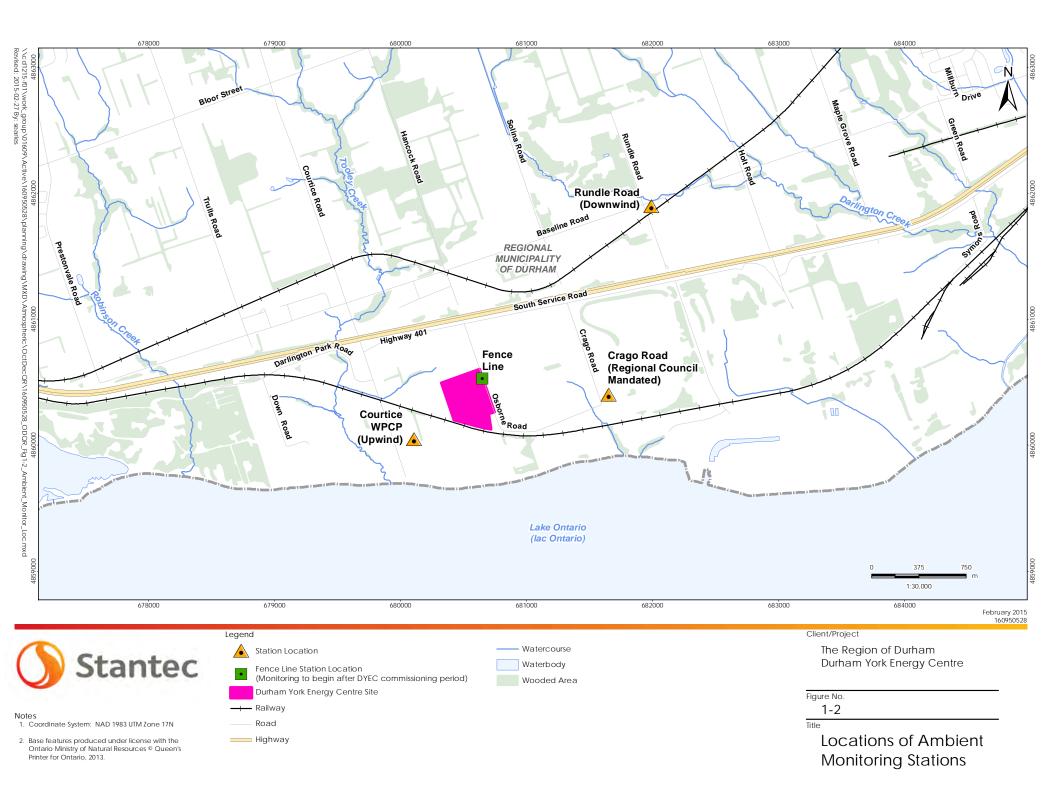
1.2 LOCATION OF AMBIENT AIR QUALITY MONITORING STATION

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



Key Components Assessed February 9, 2017

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 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 Monitoring Plan (Stantec, 2012).

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 (Aq)
- Strontium (Sr)

- Thallium (TI)
- Tin (Sn)
- Titanium (Ti)
- Uranium (U)
- Vanadium (V)
- Zinc (Zn)
- Zirconium (Zr)



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Polycyclic Aromatic Hydrocarbons:

- 1-Methylnaphthalene
- 2-Methylnaphthalene
- Acenaphthene
- Acenaphthylene
- Anthracene
- Benzo(a)anthracene
- Benzo(a)fluorene
- Benzo(a)pyrene
- Benzo(b)fluorene

- Benzo(b)fluoranthene
- Benzo(e)pyrene
- Benzo(g,h,i)perylene
- Benzo(k)fluoranthene
- Biphenol
- Chrysene
- Dibenz(a,h)anthracene
- Dibenz(a,c)anthracene
- Fluoranthene

- Indeno(1,2,3-cd)pyrene
- Naphthalene
- Perylene
- Phenanthrene
- Pyrene
- Tetralin
- o-Terphenyl
- Total PAHs

Dioxins and Furans:

- 2,3,7,8-Tetra CDD
- 1,2,3,7,8-Penta CDD
- 1,2,3,4,7,8-Hexa CDD
- 1,2,3,6,7,8-Hexa CDD
- 1,2,3,7,8,9-Hexa CDD
- 1,2,3,4,6,7,8-Hepta CDD
- Octa CDD
- Total Tetra CDD
- Total Penta CDD
- Total Hexa CDD

- Total Hepta CDD
- 2,3,7,8-Tetra CDF
- 1,2,3,7,8-Penta CDF
- 2,3,4,7,8-Penta CDF
- 1,2,3,4,7,8-Hexa CDF
- 1,2,3,6,7,8-Hexa CDF
- 2,3,4,6,7,8-Hexa CDF
- 1,2,3,7,8,9-Hexa CDF
- 1,2,3,4,6,7,8-Hepta CDF1,2,3,4,7,8,9-Hepta CDF

- Octa CDF
- Total Tetra CDF
- Total Penta CDF
- Total Hexa CDF
- Total Hepta CDF
- Total toxic equivalency (I-TEQ)

2.3 AIR QUALITY CRITERIA

Two sets of criteria were used for comparison to the air quality data as specified in the Ambient Monitoring Plan (Stantec, 2012). The first set of criteria was the Standards 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 Standards, or in some instances updated health-based criteria 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 criteria.

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



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Summaries of the relevant air quality criteria for the contaminants monitored in Q4 2016 are presented in **Table 2-1** to **Table 2-3**.

Table 2-1 Summary of Air Quality Criteria for CACs

	CAS	O. Reg. 419/05 – Schedule 3 Standards			HHRA H	ealth-Based	Criteria	
Contaminant		1-Hour (µg/m³)	24-Hour (µg/m³)	Other time Period (µg/m³)	1-Hour (µg/m³)	24-Hour (μg/m³)	Annual (µg/m³)	
Sulphur dioxide	7446095	690	275	-	690	275	29	
Nitrogen oxides ^A	10102-44-0	400	200	-	400	200	60	
		Canadian Ambient Air Quality Standards (CAAQS)			HHRA Health-Based Criteria			
Contaminant	CAS	1-Hour (µg/m³)	24-Hour (µg/m³)	Other time Period (µg/m³)	1-Hour (µg/m³)	24-Hour (μg/m³)	Other time Period (µg/m³)	
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. 419/05 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.

2.3

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



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Table 2-2 Summary of Air Quality Criteria for Metals

		O. Reg. 419/05 – Schedule 3 Standards			HHRA Health-Based Criteria		
Contaminant	CAS	1-Hour (µg/m³)	24-Hour (µg/m³)	Other time Period (µg/m³)	1-Hour (µg/m³)	24-Hour (µg/m³)	Annual (µg/m³)
Total Particulate	NA	-	120	-	-	120	60
Aluminum	7429-90-5	-	4.8	-	-	-	-
Antimony	7440-36-0	-	25	-	5	25	0.2
Arsenic	7440-38-2	-	0.3	-	0.2	0.3	0.015 ^A 0.0043 ^B
Barium	7440-39-3	-	10	-	5	10	1
Beryllium	7440-41-7	-	0.01	-	0.02	0.01	0.007 A 0.0024 B
Bismuth	7440-69-9			-			
Boron	7440-42-8	-	120	-	50	-	5
Cadmium	7440-43-9	-	0.025	0.005; annual	0.1	0.025	0.005 A 0.0098 B
Chromium (Total)	7440-47-3	-	0.5	-	1	-	60
Cobalt	7440-48-4	-	0.1	-	0.2	0.1	0.1
Copper	8440-50-8	-	50	-	-	-	-
Iron	15438-31-0	-	4	-	-	-	-
Lead	7439-92-1	-	0.5	0.2; 30-day	1.5	0.5	0.5
Magnesium	7439-95-4			-			
Manganese	7439-96-5	-	0.4	-	-	-	-
Mercury	7439-97-6	-	2	-	0.6	2	0.3
Molybdenum	7439-87-7	-	120	-	-	-	-
Nickel	7440-02-0	-	0.2	0.04; annual	6	-	0.05
Phosphorus	7723-14-0	-	-	-	-	-	6.4 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



Key Components Assessed February 9, 2017

Summary of Air Quality Criteria for Metals Table 2-2

		O. Reg.	419/05 – Sc Standards	hedule 3	HHRA Health-Based Criteria		
Contaminant	CAS	1-Hour (µg/m³)	24-Hour (µg/m³)	Other time Period (µg/m³)	1-Hour (µg/m³)	24-Hour (µg/m³)	Annual (µg/m³)
Uranium	7440-61-1	-	1.5	0.03; annual	-	-	-
Zinc	7440-66-6	-	120	-	50		5
Zirconium	7440-67-7	-	20	-	-	-	-

Notes:

A. Annual AverageB. Carcinogenic Annual Average

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

		O. Reg. 419/05 – Schedule 3 Standards			HHRA Health-Based Criteria			
Contaminant	CAS	1-Hour (ng/m³)	24-Hour (ng/m³)	Other time Period (ng/m³)	1-Hour (ng/m³)	24-Hour (ng/m³)	Annual (ng/m³)	Toxic Equivalency Factor Annual ^{A, F} (ng/m³)-1
1-Methylnaphthalene	90-12-0	-	12,000	-	-	-	3,000	-
2-Methylnaphthalene	91-57-6	-	10,000	-	-	-	3,000	-
Acenaphthene	83-32-9	-	-	-	1,000	-	-	1
Acenaphthylene	208-96-8	-	3,500	-	1,000	-	-	10
Anthracene	120-12-7	-	200	-	500	-	50	-
Benzo(a)anthracene	56-55-3	-	-	-	500	-	-	100
Benzo(b)fluoranthene	205-99-2	-	-	-	500	-	-	100
Benzo(k)fluoranthene	207 -08-9	-	-	-	500	-	-	100
Benzo(a)fluorene	238-84-6	-	-	-	500	-	50	-
Benzo(b)fluorene	243-17-4	-	-	-	500	-	50	-
Benzo (g,h,i) perylene	191-24-2	-	-	-	500	-	-	100
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	-	-	-	-	-	224,00 0	-
Chrysene	218-01-9			-				-



Key Components Assessed February 9, 2017

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

		O. Reg. 419/05 – Schedule 3 Standards			HHRA Health-Based Criteria			
Contaminant	CAS	1-Hour (ng/m³)	24-Hour (ng/m³)	Other time Period (ng/m³)	1-Hour (ng/m³)	24-Hour (ng/m³)		Toxic Equivalency Factor Annual ^{A, F} (ng/m ³)-1
Dibenzo(a,c)anthracene	215-58-7	-	-	-	-	-	-	100
Dibenzo(a,h)anthracene	53-70-3	-	-	-	500	-	-	1,000
Fluoranthene	206-44-0	-	-	-	500	-	-	1
Indeno(1,2,3-cd)pyrene	193-39-5	-	-	-	500	-	-	100
Naphthalene	91-20-3	-	22,500	-	-	22,500	3,000	-
o-Terphenyl	84-15-1	-	-	-	50,000	-	5,000	-
Perylene	198-55-0	-	-	-	500	-	-	1
Phenanthrene	85-01-8	-	-	-	500	-	-	1
Pyrene	129-00-0	-	-	-	500	-	-	1
Tetralin	119-64-2			-				-
Dioxins and Furans Total Toxic Equivalency ^E	NA	-	0.1 (pg TEQ/m³) ^E 1 (pg TEQ/m³) ^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. 419/05 Schedule 6 Upper Risk Thresholds.
- D. O. Reg. 419/05 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. 419/05 Summary of Standards and Guidelines, and the corresponding WHO₂₀₀₅ toxic equivalency factors (TEFs).
- F. Toxic Equivalency Factors (TEFs) are shown as benzo(a)pyrene equivalents.



Instrumentation Summary and Field Conditions February 9, 2017

3.0 INSTRUMENTATION SUMMARY AND FIELD CONDITIONS

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 (SO_2) are conducted on a continuous basis. A summary of the continuous monitors and a brief description of their principle of operation are provided in **Table 3-1** below.

Table 3-1 Summary of Continuous Ambient Air Quality Monitors

Contaminant	Monitor	Principle of Operation	Range	Time Interval
PM _{2.5}	Thermo Sharp 5030 Synchronized Hybrid Ambient Real-time Particulate Monitor	Light Scattering Photometry / Beta Attenuation - Consists of a carbon14 source, detector, and light scattering Nephelometer in a rack-mountable enclosure. The Thermo Sharp utilizes a continuous (non-step wise) hybrid mass measurement and a combination of beta attenuation and light scattering technology. The unit's filter tape is automatically advanced based upon a user defined frequency or particulate loading.	0 - 10 mg/m ³	1 minute
NO, NO ₂ , NO _X	API Model 200E Chemiluminescence Analyzer	Chemiluminescence - Uses a chemiluminescence detection principle and microprocessor technology for ambient continuous emissions monitoring (CEM). Measurements are automatically compensated for temperature and pressure changes.	0 – 1000 ppb	1 second
SO ₂	Teledyne Monitor Labs Sulphur Dioxide Analyzer Model T100	Pulsed Florescence - SO ₂ levels are measured based on the principle that SO ₂ has a strong ultraviolet (UV) absorption at a wavelength between 200 and 240 nanometres (nm). The absorption of photons at these wavelengths results in the emission of fluorescence photons at a higher wavelength. The amount of fluorescence measured is directly proportional to the concentration of SO ₂ .	0 – 1000 ppb	1 second



Instrumentation Summary and Field Conditions February 9, 2017

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. 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.

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	Dual chambered sampling module	Gas Chromatography / Mass Spectrometry	24 hour sample taken every 12 days
Dioxins and Furans	volume air sampler	with a Teflon- coated glass fibre filter and a Poly- Urethane Foam (PUF) cartridge	(GC/MS)	24 hour sample taken every 24 days. At the request of the Region this was increased to every 12 days from 9 September to 20 November 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		



Instrumentation Summary and Field Conditions February 9, 2017

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 instrumentation issues were encountered during this quarter including a station power outage and a data logger access failure requiring manufacturer repair. A summary of the 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	Timeframe	Remedial Action
SO ₂	Power outage.	27-Nov-16 11:00 AM - 5:30 PM	Reviewed and invalidated 7 hours of data.
NOx	Power outage.	27-Nov-16 11:00 AM - 5:30 PM	Reviewed and invalidated 7 hours of data.
PM _{2.5}	Power outage.	27-Nov-16 11:00 AM – 5:30 PM	Reviewed and invalidated 7 hours of data.
TSP/Metals Hi-Vol.	None	-	-
PAH/ D/F Hi-Vol	None	-	-
Other	Power outage.	27-Nov-16 11:00 AM – 5:30 PM	Reviewed and invalidated 7 hours of meteorological data.
	Unable to access data logger.	15-Dec-16, 10:00 AM – 21-Dec-16, 2:00 PM	Data logger replaced with spare unit and sent to manufacturer for repair. Data in the logger memory could not be retrieved by the manufacturer. All continuous data during this timeframe were invalidated.

3.3 INSTRUMENTATION RECOVERY RATES

Data recovery rates for each monitor at the station during Q4 are presented in Table 3-5.

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Instrumentation Summary and Field Conditions February 9, 2017

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

Parameter	Valid Measurement Hours	Data Recovery Rate (%)
SO ₂	2044 ^B	92.6% ^B
NOx	2045	92.6% ^B
PM _{2.5}	2046	92.7% ^B
Temperature	2059	93.3% ^B
Rainfall	2059	93.3% ^B
Relative Humidity	2059	93.3% ^B
Wind Speed/Direction	2059	93.3% ^B
TSP/Metals	15 ^{A,C}	100%
PAHs	8 A,C	100%
Dioxins and Furans	6 A,C	100%

Notes

- A. Number of filters/24-hour average samples.
- B. Includes instrumentation issues summarized in Table 3-4 and monthly calibrations.
- C. Includes additional dioxins and furans sampling requested by the Regional Municipality of Durham.

3.4 FIELD CONDITION OBSERVATIONS

During Q4 2016, activities in the vicinity of the Crago ambient air monitoring station were observed that had the potential to be affecting air quality levels. These observations were noted by Stantec and Valley Environmental Services personnel during field visits and by Regional Municipality of Durham personnel located at the DYEC.

Construction of Highway 418, which will connect with Highway 401 between Courtice Road and Crago Road was ongoing during this quarter. Highway 418 will provide a north-south link between Highway 401 and the Phase 2 expansion of Highway 407. The Highway 401/418 interchange will be located almost directly north of the DYEC. During October and November, the highway construction contractor worked in a large area immediately north of the DYEC between Energy Drive and Hwy 401 for the relocation/re-alignment of South Service Road. The new South Service Road will be located immediately south of the existing South Service Road and run between Courtice Road and Crago Road. A photograph of the South Service Road realignment is shown in **Figure 3-1**.

Other activities around the monitoring station that had the potential to affect local air quality included:

- Hydro crews working on the perimeter of the new South Service Road construction area in December 2016.
- A fire on the roof of the DYEC on December 11, 2016 lasting from approximately 10:00 12:00.

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Instrumentation Summary and Field Conditions February 9, 2017

Figure 3-1 View of South Service Road Realignment Construction (Looking from the Existing South Service Road)



Summary of Ambient Measurements February 9, 2017

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 October to December 2016 period are presented in **Table 4-1**.

Table 4-1 Summary of Hourly Meteorological Measurements – October to December 2016

Parameter		Crago Road Station (Predominately Downwind)	Units
Temperature	Maximum	20.8	0C
	Minimum	-13.1	0C
	Mean (October)	10.8	₀ C
	Mean (November)	5.4	₀ C
	Mean (December)	-0.5	₀ C
	Mean (Period)	5.7	0C
	Standard Deviation	6.6	0C
Rainfall	Maximum	4.5	mm
	Minimum	0.0	mm
	Mean (October)	0.05	mm
	Mean (November)	0.05	mm
	Mean (December)	0.08	mm
	Mean (Period)	0.06	mm
	Standard Deviation	0.32	mm
Relative Humidity	Maximum	97.7	%
	Minimum	36.7	%
	Mean (October)	76.0	%
	Mean (November)	78.2	%
	Mean (December)	74.2	%
	Mean (Period)	76.2	%
	Standard Deviation	13.3	%



Summary of Ambient Measurements February 9, 2017

Table 4-1 Summary of Hourly Meteorological Measurements – October to December 2016

Parameter		Crago Road Station (Predominately Downwind)	Units
Wind Speed ^A	Maximum	41.6	km/hr
	Minimum	0.0	km/hr
	Mean (October)	11.3	km/hr
	Mean (November)	12.2	km/hr
	Mean (December)	16.5	km/hr
	Mean (Period)	13.1	km/hr
	Standard Deviation	7.5	km/hr

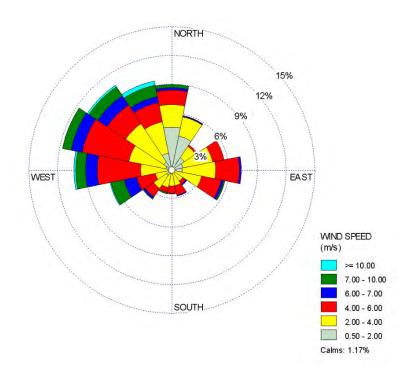
Note:

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 northwesterly directions. Wind contribution from the south was low. Higher wind speeds occurred from northwesterly directions.

Figure 4-1 Wind Rose for October to December 2016



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Summary of Ambient Measurements February 9, 2017

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 O. Reg. 419/05 Schedule 3 Standards, Ontario Ambient Air Quality Criteria (AAQC) or health-based criteria for each contaminant. All monitored contaminants were below their applicable criteria during the period between October to December, 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. 419/05 Schedule 3 Standards 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. 419/05 Summary of Standards and Guidelines, the Schedule 3 Standards 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 AAQC along with the levels measured at the Courtice WPCP and Rundle Road Stations (Stantec, 2016).

Project No.: 160950528

4.3



Summary of Ambient Measurements February 9, 2017

Table 4-2 Summary of Ambient CAC Monitoring Data – October to December 2016

Dellutant.	Averaging Period	AAQC / Schedule 3 / HHRA Health-Based Criteria			Crago Road Station (Predominately Down	
Pollutant		ppb	μg/m³		Concentration (ppbv)	Concentration (µg/m³)
			690	Maximum	16.3	45.3
				Minimum	0.0	0.0
				Mean (October)	0.5	1.4
	1	250		Mean (November)	0.5	1.4
	l			Mean (December)	0.5	1.4
				Mean (Period)	0.5	1.4
				Standard Deviation	0.8	2.4
0.2				# of Exceedances	0	0
SO ₂		100	275	Maximum	2.9	8.1
				Minimum	0.0	0.0
				Mean (October)	0.6	1.5
	24			Mean (November)	0.5	1.4
				Mean (December)	0.5	1.4
				Mean (Period)	0.5	1.4
				Standard Deviation	0.4	1.2
				# of Exceedances	0	0



Summary of Ambient Measurements February 9, 2017

Table 4-2 Summary of Ambient CAC Monitoring Data – October to December 2016

Pollutant Averagin	Averaging	AAQC / Schedule 3 / HHRA Health-Based Criteria			Crago Road Station (Pre	dominately Downwind)
Pollutant	Period	ppb	μg/m³		Concentration (ppbv)	Concentration (µg/m³)
			28 A	Maximum	-	96.0
				Minimum	-	0.4
				Mean (October)	-	3.6
PM _{2.5}	24	N. / A		Mean (November)	-	7.8
PIVI2.5	24	N/A		Mean (December)	-	11.3
				Mean (Period)	-	7.3
				Standard Deviation	-	10.3
				# of Exceedances	-	N/A
		200	200 400	Maximum	31.4	63.8
				Minimum	0.0	0.0
	1			Mean (October)	3.2	6.4
				Mean (November)	8.2	16.6
				Mean (December)	3.9	8.1
				Mean (Period)	5.2	10.4
NO_2				Standard Deviation	5.9	11.9
				# of Exceedances	0	0
		24 100	100 200	Maximum	18.5	36.9
				Minimum	0.0	0.0
	24			Mean (October)	3.2	6.3
				Mean (November)	8.3	16.7
				Mean (December)	4.1	8.1



Summary of Ambient Measurements February 9, 2017

Table 4-2 Summary of Ambient CAC Monitoring Data – October to December 2016

Bollistant Ave	Averaging	AAQC / Schedule 3 / HHRA Health-Based Criteria			Crago Road Station (Pre	dominately Downwind)
Pollutant	Period	ppb	μg/m³		Concentration (ppbv)	Concentration (µg/m³)
				Mean (Period)	5.2	10.4
				Standard Deviation	4.0	8.1
				# of Exceedances	0	0
			NA	Maximum	46.6	60.5
				Minimum	0.0	0.0
		NA		Mean (October)	1.2	1.5
	1			Mean (November)	3.3	4.3
	I			Mean (December)	2.2	3.0
				Mean (Period)	2.2	2.9
				Standard Deviation	4.6	6.0
NOC				# of Exceedances	N/A	N/A
NOc		24 NA	A NA	Maximum	16.9	21.9
				Minimum	0.0	0.0
				Mean (October)	1.1	1.5
	24			Mean (November)	3.3	4.3
	24			Mean (December)	2.1	2.8
				Mean (Period)	2.2	2.8
				Standard Deviation	2.5	3.3
				# of Exceedances	N/A	N/A



Summary of Ambient Measurements February 9, 2017

Table 4-2 Summary of Ambient CAC Monitoring Data – October to December 2016

Pollutant	Averaging	AAQC / Schedule 3 / HHRA Health-Based Criteria			Crago Road Station (Predominately Downwi	
	Period	ppb	μg/m³		Concentration (ppbv)	Concentration (µg/m³)
			400 ^B	Maximum	68.2	135.8
				Minimum	0.0	0.0
				Mean (October)	4.3	8.5
	1	200 ^B		Mean (November)	11.4	23.0
	l	200 5		Mean (December)	5.8	11.8
				Mean (Period)	7.2	14.5
				Standard Deviation	9.4	19.1
NO				# of Exceedances	0	0
NOx		100 °	200 ^C	Maximum	35.7	71.3
				Minimum	0.0	0.0
				Mean (October)	4.2	8.4
	2.4			Mean (November)	11.4	23.0
	24			Mean (December)	5.9	11.5
				Mean (Period)	7.2	14.4
				Standard Deviation	6.1	12.4
				# of Exceedances	0	0

Notes:

- 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. 419/05 Summary of Standards and Guidelines, the air standard for NO_X is compared to a monitored NO_X concentration, although the O. Reg. 419/05 Schedule 3 Standard for NO_X is based on health effects of NO₂.
- C. NO has no regulatory criteria.



Summary of Ambient Measurements February 9, 2017

AAQC / HHRA Health-Based Standards

Maximum Measured Concentration at Courtice WPCP Station

Maximum Measured Concentration at Crago Road

Maximum Measured

Concentration at

Rundle Station

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.

Hourly SO2 24-Hour SO2 Hourly NO2 24-Hour NO2 Hourly NOx 24-Hour NOx

4.2.1 Sulphur Dioxide (SO₂)

50

Ω

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 SO_2 concentrations. For hourly and 24-hour averages, the Ontario AAQCs of 250 ppb and 100 ppb (690 μ g/m³ and 275 μ g/m³) are shown with blue lines on the respective plot. As shown in these figures, measured ambient SO_2 concentrations at the station were well below the Ontario AAQCs.

The maximum hourly and 24-hour average SO₂ concentrations measured at the Crago Road Station during October to December 2016 were 16.3 and 2.9 ppb (45.3 and 8.1 μg/m³) respectively, which are 7% and 3% of the applicable 1-hour and 24-hour Ontario AAQCs.

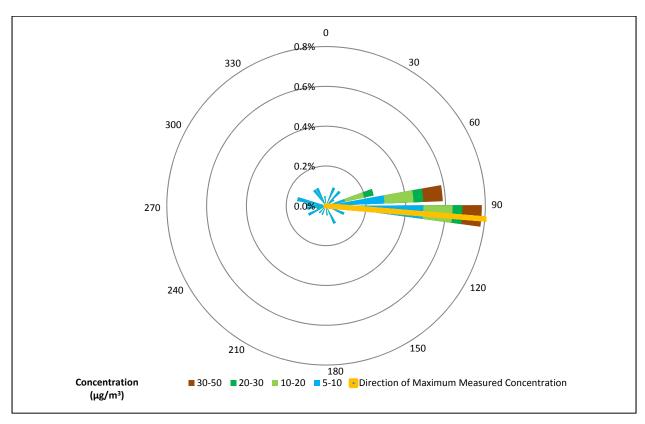
A pollution rose of hourly average SO_2 concentrations measured at the Crago Road Station is presented in **Figure 4-3**. The pollution rose plot presents measured hourly average contaminant concentrations versus measured wind direction (over 10° wind sectors). Concentrations less than $5 \, \mu g/m^3$, which account for 97% 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.

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Summary of Ambient Measurements February 9, 2017

The maximum hourly average concentration of SO₂ occurred on November 28, 2016 at 19:00, with winds blowing from the east (the direction of the St. Mary's Cement facility). The maximum 24-hour average SO₂ concentration also occurred for winds blowing from the direction of St. Mary's Cement on November 20, 2016.

Figure 4-3 Pollution Rose of Measured Hourly Average SO₂ Concentrations – October to December 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., 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 April 2012 version of O. Reg. 419/05 Summary of Standards and Guidelines, the



Summary of Ambient Measurements February 9, 2017

Schedule 3 NO_X Standards 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 NO_2 concentrations. For the hourly and 24-hour averages, the Ontario AAQCs of 200 ppb and 100 ppb (400 μ g/m³ and 200 μ g/m³) are shown with blue lines on the respective plot. As shown in these figures, measured ambient NO_2 concentrations were well below the Ontario AAQCs.

The maximum measured hourly and 24-hour average concentrations were 31.4 and 18.5 ppb (63.8 and 36.9 μ g/m³), which are 16% and 18% respectively, of the applicable 1-hour and 24-hour Ontario AAQCs.

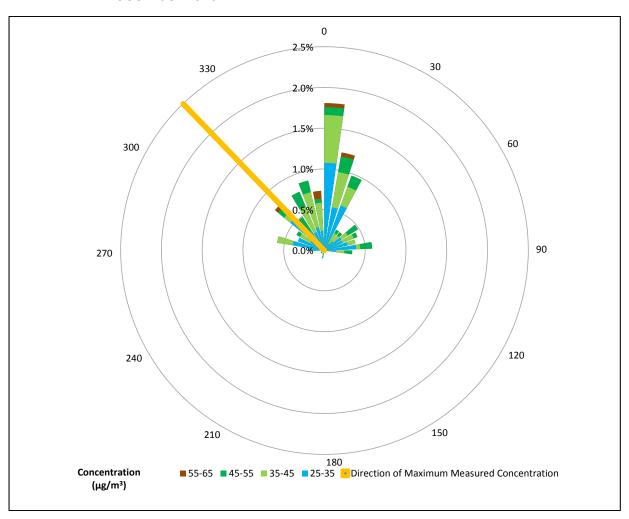
A pollution rose of measured hourly average NO₂ concentrations is presented in **Figure 4-4**. Concentrations less than 25 µg/m³, which account for 87% of the measurements, have been removed from the plot to allow the distribution of maximum levels to be more clearly shown in the figure. Higher measured hourly average concentrations generally occurred from the north.

The highest measured hourly average NO_2 concentration occurred on December 5, 2016 at 21:00. During this hour winds were blowing from the northwest for which Highway 401 was upwind. The highest 24-hour average concentration occurred when winds were blowing from the north on November 16, 2016, for which Highway 401 and Highway 418 construction activities were upwind.



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Figure 4-4 Pollution Rose of Measured Hourly Average NO₂ – October to December 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 O. Reg. 419/05 Schedule 3 Standards of 200 ppb and 100 ppb (400 μ g/m³ and 200 μ g/m³) are shown with blue lines on the respective plot.

The maximum hourly NO_x concentration measured at the Crago Road Station was 68.2 ppb (135.8 μ g/m³), which is 34% of the 1-hour Ontario AAQCs. The maximum 24-hour average NO_x concentration measured at this station was 35.7 ppb (71.3 μ g/m³), which is 36% of the applicable 24-hour Ontario AAQCs. See **Table 4-2** for detailed results.



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A pollution rose of measured hourly average NO_x concentrations is presented in **Figure 4-5**. Concentrations less than 25 μ g/m³, which account for 83% 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 the north.

The highest measured hourly average NO_x concentration occurred for a wind blowing from the north (from the direction of Highway 401) on November 16, 2016 at 7:00. The maximum 24-hour average NO_x concentration was also measured on November 16, 2016 when winds were blowing from the north for which Highway 401 and Highway 418 construction activities were upwind.

2.5%
330
2.0%
1.5%
0.660
1.0%
240
120
240
120
Concentration (μg/m³)
100-150 75-100 50-75 25-50 Direction of Maximum Measured Concentration

Figure 4-5 Pollution Rose of Measured Hourly Average NO_X Concentrations – October to December 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 96.0 μ g/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 calendar years to be greater than 28 μ g/m³ whereas the $PM_{2.5}$ measurements in this report consisted of three months of data, there is insufficient data to determine with any certainty if exceedances of the CAAQS



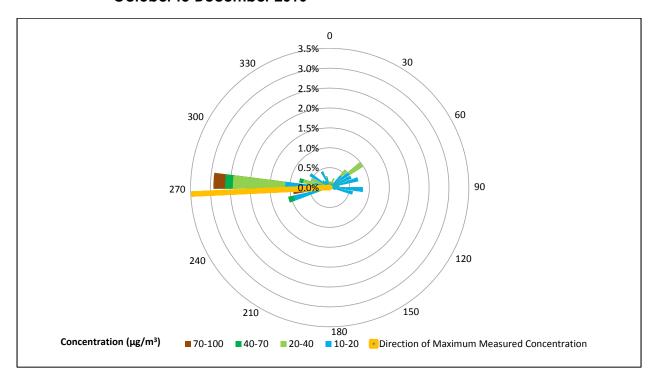
Summary of Ambient Measurements February 9, 2017

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 $10 \,\mu g/m^3$, which account for 85% 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 westerly directions.

The highest measured 24-hour average PM_{2.5} concentration occurred on December 8, 2016 with winds originating from the west with moderate wind speeds. For this wind direction the Courtice WPCP Station, the DYEC, agricultural fields and local roads were upwind of the Crago Road Station. Continuous emissions monitoring for opacity at the DYEC during this period were 0% for both boilers.

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





Summary of Ambient Measurements February 9, 2017

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 AAQCs were below their applicable 24-hour criteria (shown in **Table 4-3** below).

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

		440500	HHRA Health		Results	
Contaminant	Units	MOECC Standard	Based Criteria	Maximum	Minimum	No. of Exceedances
Particulate	μg/m³	120	120	49.26	10.51	0
Total Mercury (Hg)	μg/m³	2	2	1.3E-05	6.0E-06 ^A	0
Aluminum (Al)	μg/m³	4.8	-	2.7E-01	4.0E-02	0
Antimony (Sb)	μg/m³	25	25	3.5E-03 ^A	3.0E-03 ^A	0
Arsenic (As)	μg/m³	0.3	0.3	2.1E-03 ^A	1.8E-03 ^A	0
Barium (Ba)	µg/m³	10	10	1.9E-02	2.8E-03	0
Beryllium (Be)	µg/m³	0.01	0.01	3.5E-04 ^A	3.0E-04 ^A	0
Bismuth (Bi)	µg/m³	-	-	2.1E-03 ^A	1.8E-03 ^A	-
Boron (B)	μg/m³	120	-	2.1E-03 ^A	1.8E-03 ^A	0
Cadmium (Cd)	μg/m³	0.025	0.025	7.0E-04 ^A	6.0E-04 ^A	0
Chromium (Cr)	μg/m³	0.5	-	5.1E-03	1.5E-03 ^A	0
Cobalt (Co)	μg/m³	0.1	0.1	7.0E-04	6.0E-04	0
Copper (Cu)	μg/m³	50	-	4.7E-02	1.5E-02	0
Iron (Fe)	μg/m³	4	-	7.6E-01	1.1E-01	0
Lead (Pb)	μg/m³	0.5	0.5	6.2E-03	9.0E-04 ^A	0
Magnesium (Mg)	μg/m³	-	-	5.2E-01	5.9E-02	-
Manganese (Mn)	μg/m³	0.4	-	2.9E-02	3.9E-03	0
Molybdenum (Mo)	μg/m³	120	-	1.1E-03 ^A	9.0E-04 ^A	0
Nickel (Ni)	μg/m³	0.2	-	2.6E-03 ^A	9.0E-04 ^A	0
Phosphorus (P)	μg/m³	-	-	6.5E-02	8.1E-03 ^A	-
Selenium (Se)	μg/m³	10	10	3.5E-03 ^A	3.0E-03 ^A	0
Silver (Ag)	μg/m³	1	1	1.8E-03 ^A	1.5E-03 ^A	0
Strontium (Sr)	μg/m³	120	-	9.6E-03	1.4E-03	0
Thallium (TI)	μg/m³	-	-	3.5E-03 ^A	3.0E-03 ^A	-
Tin (Sn)	μg/m³	10	10	3.5E-03 ^A	3.0E-03 ^A	0



Summary of Ambient Measurements February 9, 2017

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

		440500	HHRA Health		Results	
Contaminant	Units	MOECC Standard	Based Criteria	Maximum	Minimum	No. of Exceedances
Titanium (Ti)	μg/m³	120	-	1.5E-02	3.0E-03 A	0
Vanadium (V)	μg/m³	2	1	1.8E-03 ^A	1.5E-03 ^A	0
Zinc (Zn)	μg/m³	120	-	6.7E-02	8.0E-03	0
Zirconium (Zr)	μg/m³	20	-	1.8E-03 ^A	1.5E-03 ^A	0
Total Uranium (U)	μg/m³	1.5	-	1.6E-04 ^A	1.4E-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 AAQCs were well below their applicable 24-hour criteria, with the exception of one (1) measurement of benzo(a)pyrene (B(a)P) on November 8, 2016.

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

The current Ontario 24-hour B(a)P AAQC was introduced in 2011 and levels above this 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% -6,220% 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% -2,920% 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.

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Summary of Ambient Measurements February 9, 2017

The B(a)P the sample collected on November 8, 2016, exceeded the Ontario AAQC by 38%. The sample was however, well below the MOECC Schedule 6 Upper Risk Threshold, the MOECC O. Reg. 419/05 24-hour average guideline, and the HHRA health based criteria. Northerly winds were occurring at the time of sampling. Contributors to the measurement may have included agricultural activity, a CN rail, and Highway 418 construction activities, all of which are located to the north of the Crago Road Station. The samples at the Courtice WPCP and the Rundle Road Stations on the same day also exceeded the B(a)P AAQC by 107% and 250%, respectively.

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

			HHRA		Results	
Contaminant	Units	MOECC Standard	Health Based Criteria	Maximum	Minimum	No. of Exceedances
		0.05 ^A				1
Benzo(a)pyrene	ng/m³	5 ^B	1	6.91E-02	1.02E-03	0
		1.1 ^C				0
1-Methylnaphthalene	ng/m³	12,000	-	9.98E+00	1.32E+00	0
2-Methylnaphthalene	ng/m³	10,000	-	1.47E+01	2.01E+00	0
Acenaphthene	ng/m³	-	-	2.78E+00	2.73E-01	-
Acenaphthylene	ng/m³	3500	-	4.07E-01 ^F	6.75E-02 ^F	0
Anthracene	ng/m³	200	-	8.92E-01	6.75E-02 ^F	0
Benzo(a)anthracene	ng/m³	-	-	2.41E-01 ^F	6.75E-02 ^F	-
Benzo(a)fluorene	ng/m³	-	-	2.07E-01 ^F	1.35E-01 ^F	-
Benzo(b)fluoranthene	ng/m³	-	-	5.89E-01 ^F	6.75E-02 ^F	-
Benzo(b)fluorene	ng/m³	-	-	2.07E-01 ^F	1.35E-01 ^F	-
Benzo(e)pyrene	ng/m³	-	-	2.07E-01 ^F	1.35E-01 ^F	-
Benzo(g,h,i)perylene	ng/m³	-	-	1.04E-01 ^F	6.75E-02 ^F	-
Benzo(k)fluoranthene	ng/m³	-	-	1.04E-01 ^F	6.75E-02 ^F	-
Biphenyl	ng/m³	-	-	5.03E+00	7.14E-01	-
Chrysene	ng/m³	-	-	4.56E-01 ^F	6.75E-02 ^F	-
Dibenz(a,h)anthracene D	ng/m³	-	-	1.04E-01 ^F	6.75E-02 ^F	-
Dibenzo(a,c)anthracene + Picene	ng/m³	-	-	2.04E-01 ^F	1.35E-01 ^F	-
Fluoranthene	ng/m³	-	-	1.76E+00	9.92E-02 ^F	-



Summary of Ambient Measurements February 9, 2017

Table 4-4 Summary of Measured Ambient PAH Concentrations

			HHRA		Results	
Contaminant	Units	MOECC Standard	Health Based Criteria	Maximum	Minimum	No. of Exceedances
Indeno (1,2,3-cd)pyrene	ng/m³	-	-	1.04E-01 ^F	6.75E-02 ^F	-
Naphthalene	ng/m³	22,500	22,500	6.72E+01	6.98E+00	0
o-Terphenyl	ng/m³	-	-	2.07E-01 ^F	1.35E-01 ^F	-
Perylene	ng/m³	-	-	2.07E-01 ^F	1.35E-01 ^F	-
Phenanthrene	ng/m³	-	-	7.48E+00	7.30E-01	-
Pyrene	ng/m³	-	-	1.15E+00	9.77E-02 ^F	-
Tetralin	ng/m³	-	-	4.95E+00	7.90E-01	-
Total PAH ^E	ng/m³	-	-	116	15.8	-

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. 419/05 Schedule 6 Upper Risk Thresholds.
- C. O. Reg. 419/05 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 analyzed 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 Ontario AAQC of 0.1 pg TEQ/m³ (as shown in **Table 4-5**).

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

		MOECC	HHRA Health		Results	
Contaminant	Units	Standard	Based Criteria	Maximum	Minimum	No. of Exceedances
2,3,7,8-Tetra CDD *	pg/m³			4.76E-03 ^A	3.34E-03 ^A	
1,2,3,7,8-Penta CDD	pg/m³			5.04E-03 A	3.88E-03 A	N1/A
1,2,3,4,7,8-Hexa CDD	pg/m³	-	-	6.08E-03 ^A	4.15E-03 ^A	N/A
1,2,3,6,7,8-Hexa CDD	pg/m³			6.21E-03 ^A	4.15E-03 ^A	



Summary of Ambient Measurements February 9, 2017

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

		MOECC	HHRA Health		Results	
Contaminant	Units	Standard	Based Criteria	Maximum	Minimum	No. of Exceedances
1,2,3,7,8,9-Hexa CDD	pg/m³			9.13E-03 ^A	4.01E-03 A	
1,2,3,4,6,7,8-Hepta CDD	pg/m³			1.21E-01	1.12E-02 ^A	
Octa CDD	pg/m³			4.62E-01	4.79E-02	
Total Tetra CDD	pg/m³			1.56E-02 A	3.34E-03 ^A	
Total Penta CDD	pg/m³			1.35E-02 ^A	3.88E-03 ^A	
Total Hexa CDD	pg/m³			6.91E-02	1.26E-02 ^A	
Total Hepta CDD	pg/m³			2.85E-01	2.38E-02	
2,3,7,8-Tetra CDF **	pg/m³			7.61E-03 ^A	4.14E-03 ^A	
1,2,3,7,8-Penta CDF	pg/m³			5.45E-03 ^A	3.61E-03 ^A	
2,3,4,7,8-Penta CDF	pg/m³			5.45E-03 A	3.65E-03 ^A	
1,2,3,4,7,8-Hexa CDF	pg/m³			1.49E-02	3.27E-03 ^A	
1,2,3,6,7,8-Hexa CDF	pg/m³			8.82E-03	3.13E-03 ^A	
2,3,4,6,7,8-Hexa CDF	pg/m³			4.84E-03 A	3.41E-03 A	
1,2,3,7,8,9-Hexa CDF	pg/m³			4.98E-03 ^A	3.54E-03 ^A	
1,2,3,4,6,7,8-Hepta CDF	pg/m³			4.04E-02	3.97E-03 ^A	
1,2,3,4,7,8,9-Hepta CDF	pg/m³			6.40E-03 ^A	3.48E-03 ^A	
Octa CDF	pg/m³			1.42E-02	4.23E-03 ^A	
Total Tetra CDF	pg/m³			7.61E-03	4.14E-03 A	
Total Penta CDF	pg/m³			1.68E-02	3.65E-03 ^A	
Total Hexa CDF	pg/m³			3.98E-02	3.27E-03 ^A	
Total Hepta CDF	pg/m³			4.04E-02	4.23E-03 ^A	
TOTAL TOXIC EQUIVALENCY ^B	pg TEQ/m³	0.1 1 ^C	-	0.018	0.014	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. 419/05 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. O. Reg. 419/05 Schedule 6 Upper Risk Thresholds.
 - * CDD Chloro Dibenzo-p-Dioxin, ** CDF Chloro Dibenzo-p-Furan



Conclusions February 9, 2017

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 October to December 2016.

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

- 1. Measured levels of NO_2 , SO_2 and $PM_{2.5}$ were below the applicable O. Reg. 419/05 Standards or human health risk assessment (HHRA) health-based criteria 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 three 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 Standards were well below their applicable Standards (as presented in **Table 2-2** in this report).
- 4. The maximum measured concentrations of all PAHs with MOECC air quality Standards were well below their applicable Standards shown in **Table 2-3**, with the exception of the 24-hour benzo(a) pyrene concentration for one sample, which exceeded the applicable Ontario AAQC by 38%. The measurement was however, well below the MOECC Schedule 6 Upper Risk Threshold, the MOECC O. Reg. 419/05 24-hour average guideline, and the HHRA health based standard. The current Ontario 24-hour B(a)P AAQC was introduced in 2011 and levels above this AAQC are commonly measured throughout Ontario.
- 5. The maximum measured toxic equivalent dioxin and furan concentration was below the applicable Standards presented in **Table 2-3**.

In summary, the measured concentrations of the air contaminants monitored were below their applicable MOECC Standards during the monitoring period between October and December 2016, with the exception of one (1) benzo(a)pyrene sample. All measured levels of the monitored contaminants were below their applicable HHRA health-based criteria.



References February 9, 2017

6.0 REFERENCES

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Appendix A SO2 Data Summaries and Time History Plots February 9, 2017

Appendix A SO₂ DATA SUMMARIES AND TIME HISTORY PLOTS

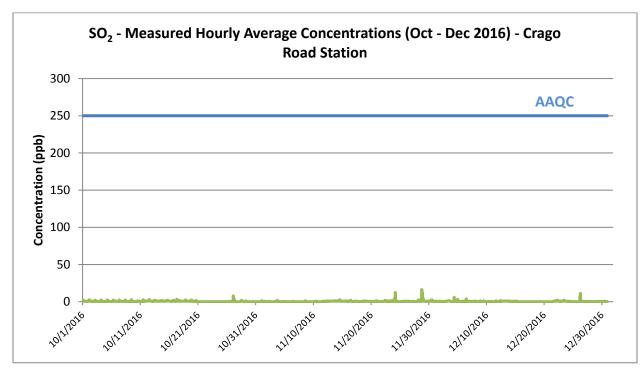


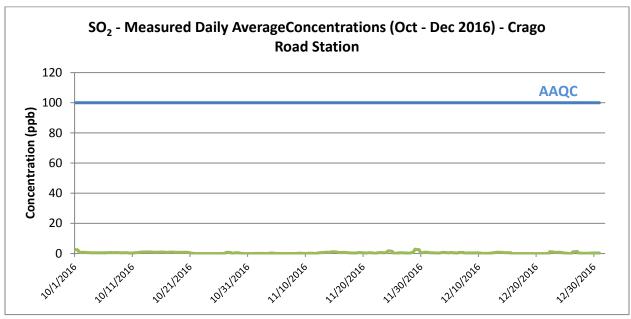
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	Hour										pp	D																	
Day		0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count Maxis	num Minim	um Average	Hrs>250 Days>100
1	_).6	0.6	0.5	2.2	1.3	0.9	0.8	0.7	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.8	0.5	0.3	0.5	1.2	0.5	24		0.3 0.7	
2	2 0.	0.9	1.2	0.9	0.7	2.8	1.4	1.0	0.8	0.6	0.6	0.6	0.7	0.7	0.7	0.5	0.6	0.4	0.6	0.6	0.5	0.5	0.5	0.4	0.4	24	2.8	0.4 0.8	0 0
3	0.).5	0.3	0.5	0.3	0.2	2.1	1.2	0.7	0.6	0.5	0.4	0.5	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	24	2.1	0.2 0.5	0 0
4	1 0.	0.3	0.2	0.3	0.3	0.3	0.3	2.5	1.3	0.7	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	24	2.5	0.2 0.5	, 0 0
5	0.).5	0.3	0.2	0.3	0.2	0.3	0.2	2.5	0.9	0.6	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	24	2.5	0.2 0.5	0 0
6	0.	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.2	2.4	1.2	0.9	0.9	0.7	8.0	0.8	0.7	0.6	0.5	0.6	0.4	0.5	0.5	0.3	0.6	24		0.2 0.6	
7		0.3	0.4	0.5	0.3	0.4	0.3	0.5	0.4	0.4	2.4	1.3	0.8	0.7	0.6	0.5	0.6	0.6	0.7	0.5	0.4	0.4	0.5	0.4	0.4	24		0.3 0.6	
8		0.6	0.5	0.5	0.5	0.4	0.6	0.5	0.3	0.5	0.2	2.4	1.1	0.7	0.5	0.5	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.3	24		0.2 0.5	
9	_).2	0.2	0.2	0.2	0.2	0.3	0.7	1.2	1.4	1.0	0.5	2.8	1.0	0.4	0.3	0.2	0.2	0.3	0.4	0.3	0.2	0.2	0.3	0.2	24		0.2 0.5	
10).2	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.5	1.1	0.7	0.7	0.5	0.6	0.6	0.5	0.6	0.5	0.4	0.4	0.3	24		0.0 0.4	
11).2).8	0.3 0.8	0.2	0.3	0.5 0.8	0.5 0.9	0.6 1.0	0.9 1.0	1.0	0.4 1.1	0.3 1.1	0.3 0.9	0.6 1.1	2.6 1.0	1.4 3.0	0.8 1.7	0.8 1.2	0.6 1.1	0.4	0.5 0.7	0.5 0.8	0.8 0.7	1.1 0.7	1.0 0.7	24 24		0.2 0.7 0.7 1.0	
12).8	0.8	0.8	0.5	0.8 C	0.5 C	C C	1.1	1.0	1.0	1.7	1.4	1.4	1.3	1.5	1.9	1.4	1.1	0.8	0.7	0.8	0.7	0.7	0.7	21		0.5 1.0	
1/),9	0.7	0.6	0.9	1.0	0.8	0.7	0.7	0.8	1.0	0.8	0.8	0.8	0.6	0.5	0.6	1.8	1.0	0.9	1.4	0.9	1.2	1.1	0.7	24		0.5 0.9	
15).7	0.8	0.7	0.7	0.7	0.8	0.8	0.6	0.6	0.6	0.8	0.8	0.9	1.4	1.4	1.3	0.9	2.1	1.7	1.2	0.9	0.9	0.9	0.9	24		0.6 1.0	
16		0.8	0.8	0.8	0.7	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.5	0.6	0.7	0.5	0.6	0.7	2.1	1.4	0.9	0.9	0.7	0.6	24		0.5 0.8	
17	7 0.).7	0.5	0.6	0.6	0.6	0.6	0.6	1.3	3.4	1.6	0.9	0.9	0.8	0.5	0.6	0.5	0.7	0.7	0.6	1.9	1.2	0.7	0.7	0.7	24		0.5 0.9	0 0
18	0.	0.8	0.7	0.7	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.9	0.9	0.7	0.7	2.6	1.3	0.8	0.8	24	2.6	0.6 0.8	0 0
19	0.	0.6	0.6	0.5	0.5	0.5	0.6	0.8	0.9	0.8	0.6	0.6	0.5	0.6	0.8	0.8	1.2	1.1	0.6	0.7	0.8	0.6	2.3	1.6	1.2	24	2.3	0.5 0.8	0 0
20	0.	0.8	0.7	0.6	0.8	0.6	0.4	0.5	0.7	0.6	0.5	0.8	1.0	0.0	0.0	0.0	0.0	0.0	1.6	0.5	0.4	0.5	0.0	0.0	0.0	24	1.6	0.0	, 0 0
21	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		0.0 0.0	
22		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		0.0 0.0	
23		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		0.0 0.0	
24		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		0.0 0.0	
25		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.1	0.0 0.4	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	24 24		0.0 0.0	
20		0.0	0.0	0.5	8.0	0.0	5.1	0.3	1.8	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		0.0 0.8	
25		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.4	1.7	1.9	1.4	1.0	1.1	0.8	0.7	0.5	0.3	0.0	0.0	0.0	24		0.0 0.5	
20		0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	1.0	0.5	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		0.0 0.1	
30		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		0.0 0.0	
31		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24		0.0 0.0	
Count	3	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	741			,
Maximum	0.).9	1.2	0.9	8.0	2.8	5.1	2.5	2.5	3.4	2.4	2.4	2.8	1.7	2.6	3.0	1.9	1.8	2.1	2.1	1.9	2.6	2.3	1.6	1.2	24			
Minimum	0.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21			
Average	0.).4	0.4	0.4	0.6	0.4	0.6	0.5	0.6	0.7	0.5	0.5	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4				1
																													Maximum
Percentiles	5		10		20		30		40		50		60		70		80		90		95		99		100			aximum Hourly Maximum Daily	
Data			0.0		0.0		0.0		0.3		0.4		0.5		0.7		0.8		1.1		1.4		2.6		8.0			onthly Average	
Notes		C - C	alibration /	Span Cycle	N.	A - No Data	Available	Т-	Test	A-	MOE Audit	M	l - Equipmer	nt Malfunct	ion / Down	R -	- Rate of Ch	ange											1

										No	SO ₂ - Cr ovember ob	ago Road	2016																
Н	our																												
Day	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 I	Minimum	Average	Hrs>250 Days>100
1	0.0	0.0	1.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.6	0.0	0.1	0 0
2	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.4	0.0	0.1	0 0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.0	0.1	0.0	0.3	0.2	1.1	1.3	1.2	1.4	0.0	0.0	0.0	24	1.4	0.0	0.3	0 0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	24	0.5	0.0	0.0	0 0
5	0.0	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24 24	0.4 0.5	0.0	0.0	0 0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.5	0.0	0.0	0 0
8	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4	0.5	0.6	1.0	1.3	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	24	1.3	0.0	0.2	0 0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	24	0.1	0.0	0.0	0 0
10	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	0.7	0.4	0.5	0.6	0.6	0.7	0.5	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0	0.0	24	0.7	0.0	0.2	0 0
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	С	С	С	0.8	0.6	0.7	0.4	0.6	0.4	0.5	21	0.8	0.0	0.2	0 0
12	0.8	0.7	0.4	0.4	0.5	0.4	0.4	0.5	0.7	1.0	0.5	0.8	0.8	0.9	0.7	0.7	0.6	0.5	0.6	1.0	0.7	1.0	0.9	0.8	24	1.0	0.4	0.7	0 0
13	0.9	0.9	1.0	0.6	0.6	0.6	0.8	0.8	0.9	0.9	0.9	0.9	1.1	1.0	0.9	1.0	0.9	0.6	0.7	1.3	1.0	0.6	0.9	1.1	24	1.3	0.6	0.9	0 0
14	0.9	0.9	0.6	0.5	0.6	0.7	0.7	1.2	1.0	1.3	1.3	2.1	2.3	2.5	2.0	2.5	1.2	0.5	0.6	0.6	0.7	0.9	1.0	1.1	24	2.5	0.5	1.2	0 0
15	0.6	0.5 0.4	0.6 0.5	0.5 0.6	0.6 0.3	0.8 0.5	0.8	0.9	0.8	0.6 1.1	0.7 1.7	0.7 1.6	0.8 1.8	0.9 0.6	0.9	0.9	0.6	0.7	0.6 0.3	0.4	0.7 0.3	0.9	0.5 0.3	0.6	24 24	0.9 1.8	0.4	0.7	0 0
15	0.5	0.4	0.5	0.6	0.3	0.5	0.6	1.1 0.4	0.9	0.3	0.6	0.7	0.8	0.8	0.4	0.4	0.3 0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.4	24	0.8	0.2	0.6	0 0
18	0.3	0.3	0.7	0.4	0.4	0.2	0.4	0.4	0.4	0.3	0.4	0.7	0.6	0.8	0.7	0.7	0.6	0.2	0.6	0.8	1.0	0.2	0.2	0.1	24	1.0	0.1	0.5	0 0
19	0.5	0.6	0.6	0.7	0.9	0.8	0.7	0.7	0.6	0.7	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.7	0.5	0.4	0.2	0.2	0.3	0.3	24	0.9	0.2	0.5	0 0
20	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.6	0.9	0.7	0.8	1.0	0.9	0.8	0.6	0.7	0.4	0.5	24	1.0	0.1	0.5	0 0
21	0.8	1.2	0.7	0.3	0.2	0.3	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	0.3	0.2	24	1.2	0.1	0.2	0 0
22	0.1	0.4	0.3	0.1	0.5	0.7	1.0	0.7	0.8	1.1	1.9	1.3	1.6	1.1	0.3	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.8	1.4	24	1.9	0.0	0.6	0 0
23	1.3	1.1	1.0	0.5	0.2	0.1	0.1	0.2	0.4	0.5	1.2	1.5	0.1	0.1	0.4	0.3	0.2	0.2	1.4	0.8	0.4	0.3	0.1	0.1	24	1.5	0.1	0.5	0 0
24	1.4	4.1	2.2	1.0	2.8	12.6	6.6	0.5	2.4	1.7	1.2	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	24	12.6	0.0	1.6	0 0
25	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.5	0.3	0.4	0.3	0.3	0.5	0.5	0.6	0.7	0.8	0.6	0.6	0.4	0.5	0.6	24 24	0.8	0.0	0.3	0 0
26	0.7 0.3	0.6 0.2	0.4	0.4	0.5 0.3	0.4 0.4	0.4	0.4	0.6	0.6 0.4	0.8	0.6 M	0.6 M	0.3 M	0.4 M	0.4 M	0.3 M	0.4	0.4	0.4	0.4	0.4	0.4	0.4	18	0.8	0.3	0.5	0 0
28	0.1	0.3	0.4	0.4	2.4	1.3	1.0	2.4	1.1	0.8	1.2	0.9	0.2	0.6	0.5	0.5	1.0	0.5	5.0	16.3	2.4	9.0	12.4	2.9	24	16.3	0.0	2.7	0 0
29	1.3	4.0	1.3	0.6	0.5	0.4	0.5	0.5	0.5	0.6	0.6	0.4	0.5	0.7	0.5	0.4	0.4	0.6	0.6	0.6	0.6	0.4	0.6	0.4	24	4.0	0.4	0.7	0 0
30	0.7	0.6	0.4	0.4	0.6	0.9	1.4	1.0	0.6	0.5	1.4	2.1	1.0	1.6	2.3	0.7	0.8	0.5	0.5	0.4	0.6	0.5	0.6	0.5	24	2.3	0.4	0.9	0 0
31																									0	0.0	0.0		0 0
Count	30	30	30	30	30	30	30	30	30	30	30	29	29	29	28	28	28	30	30	30	30	30	30	30	711				
Maximum	1.4	4.1	2.2	1.0	2.8	12.6	6.6	2.4	2.4	1.7	1.9	2.1	2.3	2.5	2.3	2.5	1.2	1.1	5.0	16.3	2.4	9.0	12.4	2.9	24				
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0				
Average	0.4	0.6	0.5	0.3	0.4	0.7	0.6	0.4	0.5	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.5	0.9	0.4	0.6	0.7	0.4					
																													Maximum
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100			Maximi	um Hourly	16.3
																											Maxir	num Daily	2.7
Data		0.0		0.0		0.1		0.2		0.3		0.4		0.6		0.7		1.0		1.4		3.9		16.3			Month	y Average	0.5
Notes	С	 Calibration 	ı / Span Cycl	e N.	A - No Data	Available	T-	Test/Startu	p period	A-	MOE Audit	M	- Equipmen	t Malfunctio	on / Down	R	- Rate of Cha	ange											

											ember	rago Road	2016																
Н	our																												
Day	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		Maximum		Average	Hrs>250 Days>
1	0.5	0.5	0.4	0.5	0.5	0.6	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.6	0.7	0.7	0.6	24	0.7	0.4	0.5	0
2	0.7	0.5	0.4	0.3	0.3	0.3	0.2	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	24	0.7	0.1	0.3	0
3	0.7	1.1 0.3	1.0 0.2	0.6	0.5	0.7	1.0	0.8	1.0	0.9 0.3	0.8	1.2 0.7	1.0 0.1	1.0	1.3	1.1 0.1	1.3	1.0	0.9 0.2	0.4	0.2	0.1	0.2	0.3 2.0	24	1.3 5.9	0.1	0.8	0
4	0.3	0.3	0.2	0.3	0.1	0.1	0.1	0.0	0.1		5.9		0.1	0.1	0.1	0.1	0.1	0.1		0.7	0.4		0.4		24 24		0.0	0.5	0
5	3.3 0.2	0.4	0.3	0.2	0.1	0.2	0.2	0.4	0.5	0.6 1.3	0.5 2.2	0.4 3.4	0.3	3.6	0.1	0.1	0.1 0.9	0.2	0.4	0.7	0.8	0.9	0.3	0.3	24	3.3 3.6	0.1 0.1	0.5 0.7	0
7	0.4	0.4	0.2	0.3	0.6	0.4	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.7	0.5	0.5	0.4	0.4	0.4	0.6	0.5	24	0.7	0.1	0.4	0
8	0.4	0.6	0.4	0.4	0.6	0.8	0.8	0.5	0.4	0.3	0.1	0.2	0.2	0.2	0.1	0.3	0.4	0.1	0.1	0.4	0.5	0.1	0.4	1.1	24	1.1	0.1	0.4	0
9	1.0	0.6	0.6	0.4	0.2	0.1	0.1	0.3	0.4	0.3	0.4	0.4	0.8	1.1	1.1	1.0	0.6	0.3	0.1	0.1	0.1	0.0	0.0	0.1	24	1.1	0.0	0.4	0
10	0.0	0.0	0.0	0.0	0.2	0.3	0.4	0.3	0.4	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	24	0.4	0.0	0.1	0
11	0.4	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	0.0	1.3	0.1	0.2	0.4	0.4	0.4	0.4	0.4	24	1.3	0.0	0.2	0
12	0.4	0.0	0.4	0.4	0.4	0.3	0.6	0.7	0.6	0.7	1.1	1.5	С	С	С	1.0	1.0	0.9	0.8	0.9	0.8	0.7	0.7	0.7	21	1.5	0.0	0.7	0
13	0.7	0.7	0.7	0.7	0.9	1.0	0.8	0.8	0.8	1.1	1.0	1.0	1.0	0.7	0.7	0.8	0.8	0.9	0.9	0.7	0.5	0.5	0.5	0.4	24	1.1	0.4	0.8	0
14	0.7	1.0	0.9	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.9	0.5	0.4	0.5	0.4	0.4	0.5	0.9	0.7	0.6	0.7	0.7	0.4	24	1.0	0.3	0.5	0
15	0.5	0.6	0.6	0.6	0.6	0.3	0.2	0.2	0.3	0.8	M	M	M	M	M	M	M	M	M	M	M	M	M	M	10	0.8	0.2		0
16	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0
17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0
18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0
19	M	M	М	М	M	М	М	М	М	М	М	М	M	M	M	M	М	M	М	M	М	М	М	М	0	0.0	0.0		0
20	M	M	M	М	M	M	M	M	М	M	M	M	M	M	M	M	M	M	M	M	M	M	M	М	0	0.0	0.0		0
21	M	M	М	M	M	M	М	M	М	M	M	M	M	M	M	0.7	0.8	0.9	0.8	0.9	1.0	1.3	1.3	1.0	9	1.3	0.7		0
22	0.7	1.0	0.5	1.0	1.5	1.6	2.2	2.2	2.0	1.7	1.3	1.0	0.9	0.6	0.6	0.6	0.4	0.4	0.7	0.7	1.1	0.9	0.4	0.3	24	2.2	0.3	1.0	0
23	0.4	0.6	0.7	0.6	0.5	0.7	0.8	1.0	1.2	1.4	2.2	1.2	0.7	0.9	0.7	0.7	0.9	1.2	1.1	0.7	0.6	0.6	0.5	0.4	24	2.2	0.4	0.8	0
24	0.4	0.3	0.3	0.5	0.6	0.5	0.5	0.7	0.5	0.5	0.6	0.4	0.4	0.4	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	24	0.7	0.1	0.3	0
25	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.2	0.0	0.0	0
26	0.0	0.0 0.5	0.0 0.4	0.6	0.5 0.4	7.4 0.2	4.1 0.1	11.3 0.1	2.7 0.1	0.5 0.2	0.4	0.4	0.4 0.1	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.5 0.2	0.4	0.4	24 24	11.3 0.6	0.0	1.3 0.2	0
27	0.6 0.1	0.3	0.4	0.3	0.4	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.4	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.0	24	0.6	0.0	0.2	0
20	0.1	0.3	0.1	0.1	0.2	0.4	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.4	0.4	0.1	0.4	0.4	0.3	0.3	0.4	0.3	24	0.4	0.1	0.4	0
30	0.4	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	24	0.8	0.3	0.4	0
31	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.3	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.3	0.4	0.4	0.4	0.2	0.2	24	0.5	0.2	0.3	0
Count	25	25	25	25	25	25	25	25	25	25	24	24	23	23	23	25	25	25	25	25	25	25	25	25	592				
Maximum	3.3	1.1	1.0	1.0	1.5	7.4	4.1	11.3	2.7	1.7	5.9	3.4	1.0	3.6	1.3	1.1	1.3	1.2	1.1	0.9	1.1	1.3	1.3	2.0	24				
Minimum	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0				
Average	0.5	0.4	0.4	0.4	0.4	0.7	0.6	0.9	0.6	0.5	0.8	0.6	0.4	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4					
																													Maxim
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100				um Hourly	1
																												mum Daily	
Data		0.1		0.1		0.2		0.3		0.4		0.4		0.5		0.7		1.0		1.2		3.3		11.3			Month	ly Average	
Notes	C.	- Calibration	/ Span Cycle	. N.	A - No Data	Available	T-	Test	А	- MOE Audit	М	- Equipme	nt Malfunctio	on / Down	R	- Rate of Ch	nange							- I					

Figure A-1 Time History Plots of Measured Hourly Average and 24-Hour Average SO₂ Concentrations– Crago Road Station





Appendix B NO2 Data Summaries and Time History Plots February 9, 2017

Appendix B NO₂ DATA SUMMARIES AND TIME HISTORY PLOTS

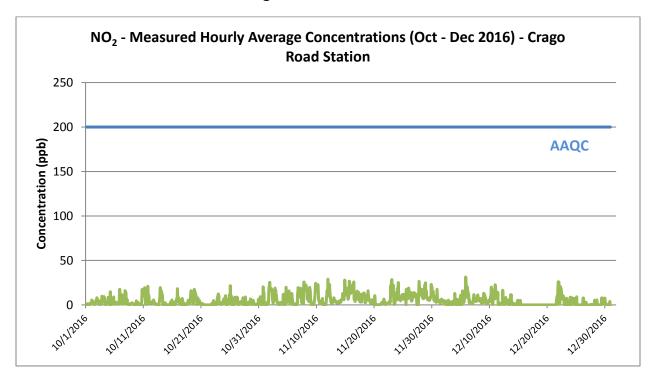


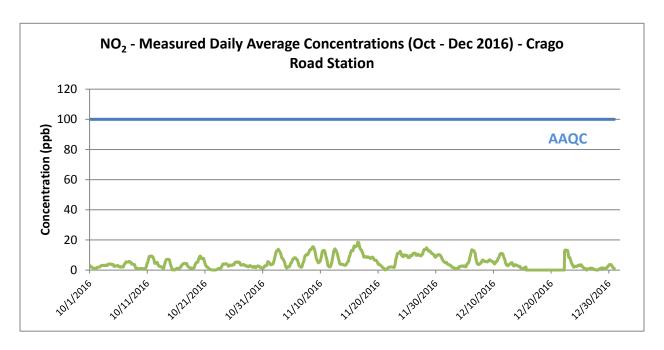
										0	ctober	rago Road	2016																
										pp	0																		
Ho Day	ur O	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count Ma	vimum Mi	nimum	Average	Hrs>200 Days>100
1	1.0	0.1	0.0	0.1	0.4	0.1	0.6	1.4	0.0	1.1	0.0	0.2	0.0	0.7	0.0	0.9	0.0	1.3	1.8	1.5	1.8	2.0	2.3	1.6	24	2.3	0.0	0.8	0 0
2	1.9	2.4	5.5	1.7	3.6	3.7	3.8	3.3	2.4	1.5	0.6	0.8	1.1	0.5	0.4	1.7	1.5	2.6	3.9	1.3	5.5	5.5	4.0	8.0	24	8.0	0.4	2.8	0 0
3	3.2	6.5	6.4	3.7	3.8	3.1	4.8	2.9	2.2	1.3	0.2	0.0	0.6	0.0	0.6	1.6	2.4	1.4	2.9	6.3	9.8	7.5	2.9	3.5	24	9.8	0.0	3.2	0 0
4	3.9	4.1	3.3	7.6	9.3	8.6	8.8	6.3	3.3	1.7	0.6	0.3	0.4	0.4	1.1	0.6	1.1	1.5	1.6	2.2	3.8	5.9	8.5	5.8	24	9.3	0.3	3.8	0 0
5	2.9	1.3	5.6	2.9	0.6	0.3	1.2	14.7	1.4	0.4	0.3	0.3	0.5	0.9	0.4	0.9	1.8	4.2	3.1	2.0	7.4	8.9	1.1	2.8	24	14.7	0.3	2.7	0 0
6	0.6	0.7	0.8	1.5	1.1	0.8	1.6	3.1	2.5	1.7	1.7	1.6	1.2	0.6	1.6	1.0	1.4	1.6	1.7	3.7	5.5	16.5	17.6	12.2	24	17.6	0.6	3.4	0 0
7	7.7	5.5	6.5	5.7	2.4	9.0	9.9	11.5	2.8	0.8	1.6	1.1	1.1	1.2	1.3	1.4	2.8	1.8	1.8	1.1	16.0	12.1	9.0	14.4	24	16.0	0.8	5.3	0 0
8	12.2	4.2	1.4	1.0	1.5	6.0	0.8	0.6	0.7	1.0	0.1	0.5	0.4	0.6	1.2	0.5	0.5	0.9	0.7	0.9	0.7	1.7	1.5	1.1	24	12.2	0.1	1.7	0 0
9	2.2	1.6	2.3	1.1	1.5	1.4	1.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.1	4.6	2.1	2.5	1.2	1.1	24	4.6	0.0	1.1	0 0
10	1.0	3.0	0.3	0.8	0.8	1.0	1.7	0.7	0.0	0.0	0.0	0.5	0.1	0.1	0.4	0.1	0.6	2.3	7.6	17.2	14.1	17.2	16.5	13.7	24	17.2	0.0	4.1	0 0
11	10.2	10.4	11.4	12.7	17.5	18.6	19.4	17.0	9.2	1.1	0.8	0.3	0.8	0.4	0.6	1.7	2.3	1.6	4.4	20.9	14.9	8.2	10.9	10.5	24	20.9	0.3	8.6	0 0
12	8.5	3.4	2.2	1.5	2.1	1.8	2.3	3.1	2.1	2.4	2.3	2.3	2.6	3.3	2.2	2.5	1.7	4.9	3.9	5.5	1.7	2.2	2.1	3.0	24	8.5	1.5	2.9	0 0
13	1.8	1.4	1.2	1.3	1.3	C	C	C	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.6	2.6	6.8	8.9	16.2	19.5	21	19.5	0.0	3.1	0 0
14	16.5	11.0	10.2	15.7	13.7	11.9	12.3	11.9	9.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	2.6	0.0	0.0	0.0	0.0	24	16.5	0.0	4.9	0 0
15	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.3	0.4	3.4	4.0	2.4	5.6	24	5.6	0.0	0.8	0 0
16	0.7 4.3	4.1 3.8	1.7 4.2	0.3 7.8	0.0 3.7	1.0 2.1	0.4 1.5	0.6 4.3	0.1 5.6	0.5 2.1	1.1 0.6	0.6 0.7	1.9 0.2	0.3 0.0	0.3	4.2 0.4	3.1	3.2 5.8	6.5 7.2	4.5 5.9	5.0 3.8	9.4 0.6	18.2 0.3	11.1 0.4	24 24	18.2 7.8	0.0	3.3 2.8	0 0
17	2.2	1.4	1.7	0.0	0.3	0.0	1.2	0.2	0.0	0.0	0.0	0.7	0.2	0.0	0.0	1.2	1.1 2.6	1.3	1.4	5.9	1.4	2.2	4.9	3.2	24	5.3	0.0	1.3	0 0
10	2.2	2.0	5.9	4.5	6.3	10.6	15.2	16.0	9.3	6.2	3.9	2.9	6.6	6.5	4.6	3.0	1.8	0.8	2.5	13.9	17.4	17.0	13.9	14.1	24	17.4	0.0	7.8	
20	14.4	11.7	12.1	10.6	9.9	7.4	5.0	4.5	0.9	0.2	2.5	7.8	2.7	5.7	3.1	3.1	2.9	4.0	4.8	3.3	1.9	1.8	1.7	1.6	24	14.4	0.8	5.1	0 0
21	1.3	0.3	0.0	0.1	0.6	1.7	1.5	1.1	0.8	0.1	0.0	0.3	0.3	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	1.7	0.0	0.4	0 0
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0	1.2	1.7	1.3	24	1.7	0.0	0.2	0 0
23	1.3	0.8	1.2	0.5	4.9	2.3	2.5	3.3	1.9	1.1	0.0	0.0	0.0	0.3	0.4	0.0	1.3	3.4	3.1	6.0	7.6	8.8	8.2	10.7	24	10.7	0.0	2.9	0 0
24	12.4	7.6	10.3	1.9	2.8	1.6	2.5	2.1	1.9	2.7	1.4	0.3	1.3	0.7	1.0	1.4	1.3	1.8	1.7	1.5	4.7	3.3	5.6	6.8	24	12.4	0.3	3.3	0 0
25	5.6	2.7	3.7	5.0	4.5	7.3	10.4	5.0	1.1	0.4	0.2	0.0	0.0	0.1	1.1	1.0	1.5	3.0	6.3	4.4	4.4	6.9	11.4	2.8	24	11.4	0.0	3.7	0 0
26	1.5	4.3	21.6	10.2	10.6	10.3	10.2	8.7	6.4	0.5	0.0	0.0	0.0	1.5	0.9	0.9	0.4	0.1	4.3	7.7	8.5	6.5	3.2	3.3	24	21.6	0.0	5.1	0 0
27	1.9	0.9	2.1	6.3	1.3	8.7	4.1	8.5	7.8	3.7	0.3	0.1	0.7	3.1	2.8	2.7	1.1	1.1	0.8	1.3	3.2	3.4	3.7	3.3	24	8.7	0.1	3.0	0 0
28	1.3	2.7	1.2	0.7	2.1	2.0	7.3	8.1	1.8	0.7	0.3	0.0	0.0	1.0	2.1	6.1	6.6	8.9	3.9	2.2	0.6	0.0	0.1	2.5	24	8.9	0.0	2.6	0 0
29	0.5	0.3	0.2	1.1	0.5	0.3	2.2	2.3	3.3	3.2	2.1	1.8	1.8	2.4	6.7	4.0	1.5	0.5	0.3	0.3	3.7	3.2	3.4	4.7	24	6.7	0.2	2.1	0 0
30	4.8	5.2	4.1	3.4	1.5	0.5	1.4	1.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.4	0.0	0.0	0.0	1.2	3.2	6.3	24	6.3	0.0	1.4	0 0
31	5.1	3.0	3.8	6.9	4.1	7.2	5.3	9.2	8.6	1.9	0.2	0.0	0.1	0.3	0.7	0.6	1.9	4.2	10.2	20.3	10.9	11.7	14.1	5.4	24	20.3	0.0	5.7	0 0
Count	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	741				
Maximum	16.5	11.7	21.6	15.7	17.5	18.6	19.4	17.0	9.8	6.2	3.9	7.8	6.6	6.5	6.7	6.1	6.6	8.9	10.2	20.9	17.4	17.2	18.2	19.5	24				
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21				
Average	4.3	3.4	4.2	3.8	3.6	4.3	4.6	5.1	2.8	1.2	0.7	0.7	0.8	1.0	1.1	1.4	1.4	2.2	2.9	4.8	5.4	5.8	6.1	5.8					
									1																				Maximum
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100			Maximum		21.6 8.6
Data		0.0		0.3		0.6		1.1		1.6		2.3		3.3		5.5		9.0		12.2		17.5		21.6			Monthly A		3.2
Notes	C-	- Calibration	/ Span Cycle	e	NA - No Data	Available	т.	- Test	Α-	MOE Audit	M	- Equipmer	nt Malfunct	ion / Down	R	- Rate of Ch	ange												

												vember	ago Road	2016																
	Hour																													
Day	o	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 I	Minimum	Average	Hrs>200 Days>100
1	0.1	1	0.0	0.7	2.5	0.0	0.0	0.6	0.0	0.2	0.1	0.1	1.5	1.7	1.8	2.5	4.3	1.7	4.0	16.2	19.1	21.2	23.7	25.4	20.6	24	25.4	0.0	6.2	0 C
2	17.3	3	16.7	16.4	15.7	17.1	18.3	17.1	16.4	13.7	5.8	8.8	3.0	1.4	2.7	5.9	7.4	16.8	5.3	9.5	11.7	19.0	16.3	16.3	16.3	24	19.0	1.4	12.3	0 0
3	8.0	0	11.5	7.7	6.3	2.9	2.8	1.9	3.4	3.0	1.7	1.1	0.0	0.1	0.4	0.2	0.4	1.0	1.4	2.1	2.8	1.7	0.7	1.2	2.2	24	11.5	0.0	2.7	0 0
4	2.0	0	1.0	0.6	1.1	1.8	2.8	11.3	12.1	3.3	0.5	0.5	0.0	0.0	0.2	0.7	2.7	7.5	4.9	19.9	13.8	10.7	6.9	6.8	2.8	24	19.9	0.0	4.7	0 0
5	5.3	3	12.2	13.6	12.4	8.3	13.4	15.7	15.1	6.4	6.1	6.0	0.8	1.6	3.1	1.7	2.2	2.6	5.5	12.8	8.6	7.9	3.9	0.7	1.7	24	15.7	0.7	7.0	0 0
6	2.2	2	1.5	0.0	0.0	0.0	0.0	0.4	1.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	2.6	1.7	12.6	13.8	19.4	16.6	14.6	15.8	24	19.4	0.0	4.3	0 0
7	15.2	2	9.2	9.0	10.1	11.9	16.6	18.5	18.7	15.4	8.6	2.9	2.5	3.7	3.4	3.0	4.4	2.6	4.0	1.2	16.3	25.6	25.8	22.9	21.1	24	25.8	1.2	11.4	0 0
8	21.4	4	20.9	17.2	19.9	21.2	22.4	21.2	17.7	15.6	11.1	6.4	6.6	9.9	11.2	10.9	11.8	7.6	3.6	4.2	10.4	19.7	18.9	15.2	15.8	24	22.4	3.6	14.2	0 0
9	6.4		3.1	4.0	0.5	0.0	0.1	0.6	0.6	0.8	0.1	0.2	0.5	0.6	0.4	1.7	2.6	4.5	6.8	9.6	13.2	20.2	24.3	21.3	20.4	24	24.3	0.0	5.9	0 0
10	17.4		15.5	18.5	16.2	18.5	22.6	22.8	22.4	14.6	5.9	5.1	4.2	3.9	2.2	1.7	1.1	2.8	2.9	3.1	2.7	2.5	2.8	4.4	5.6	24	22.8	1.1	9.1	0 0
11	4.6		7.2	0.6	0.8	0.9	2.3	0.5	1.4	1.1	0.3	0.3	1.5	0.0	0.3	С	С	1.5	3.5	8.9	8.3	16.2	15.9	13.9	10.3	22	16.2	0.0	4.6	0 0
12	28.9		23.0	23.9	18.5	21.3	18.9	21.9	22.8	16.0	12.4	7.4	8.6	4.1	3.3	2.1	1.8	1.5	2.3	2.2	2.0	3.1	4.5	5.4	3.6	24	28.9	1.5	10.8	0 0
13	5.6		8.0	5.5	4.3	5.8	4.9	4.5	4.8	3.9	2.9	3.2	3.3	2.6	2.6	2.1	2.5	3.0	2.8	2.1	3.3	3.8	2.3	2.6	3.0	24	8.0	2.1	3.7	0 0
14	3.6		4.7	3.1	2.6	4.0	3.4	3.2	5.0	4.7	5.6	6.2	7.5	8.0	8.8	12.9	8.9	8.0	7.5	8.4	5.9	8.6	12.3	27.9	23.4	24	27.9	2.6	8.1	0 0
15	16.8		11.9	14.4	12.4	14.6	19.2	17.9	18.3	16.5	12.0	10.5	8.6	6.3	8.1	7.9	10.0	11.1	26.7	26.4	23.0	20.1	22.4	17.4	16.9	24	26.7	6.3	15.4	0 0
16	13.1		17.1	15.3	17.1	15.2	19.3	20.0	21.2	20.7	20.1	24.0	24.7	25.9	6.8	6.1	8.8	6.8	3.8	4.7	8.2	8.3	8.1	7.8	8.6	24	25.9	3.8	13.8	0 0
17	10.3		11.4	15.5	12.9	9.9	6.2	9.9	14.3	10.9	8.4	9.6	9.9	5.4	3.6	3.4	7.3	12.1	8.2	4.8	5.6	3.1	10.9	10.8	10.5	24	15.5	3.1	9.0	0 0
18	8.8		9.4	8.6 5.9	10.1	13.0	9.0	12.0	13.3 5.7	12.7	7.2	2.5	3.5	2.6 2.3	4.7	3.4	7.6	5.0	5.9	10.3	9.6	8.5	9.4	12.2	15.9	24	15.9	2.5	8.6	0 0
19	9.5		10.3	5.9	5.0 10.4	5.8 5.9	5.5 3.0	5.2 0.0	0.0	0.0	2.5 0.0	4.3 0.0	0.0	0.0	2.9 0.0	3.0 0.0	4.8 0.0	5.8	4.9 0.0	3.5 0.3	4.9 0.0	1.8 0.1	0.2	1.9 0.0	0.0	24 24	10.3	1.8	4.4 1.4	0 0
21	0.0		0.0	0.0	0.0	0.2	0.9	1.5	2.3	2.8	2.9	2.1	1.8	1.8	2.0	1.9	2.8	5.1	6.5	4.8	2.5	3.3	0.2	0.0	0.5	24	6.5	0.0	2.0	0 0
21	0.5		0.5	0.5	1.4	1.5	2.1	1.3	1.9	1.7	1.4	1.5	1.5	1.1	1.6	1.8	3.4	3.5	3.5	4.8	2.4	4.3	21.3	14.5	12.9	24	21.3	0.5	3.8	0 0
23	23.6		26.9	28.4	17.3	12.3	12.0	18.8	16.5	22.3	11.0	4.2	2.7	0.4	0.8	1.0	2.5	7.5	5.4	11.8	13.6	12.8	9.9	8.4	5.6	24	28.4	0.4	11.5	0 0
24	9.3		18.4	12.5	8.3	15.3	25.1	13.3	6.3	8.9	10.6	9.0	7.1	6.8	5.3	4.6	5.1	6.3	7.7	8.8	8.1	9.0	8.1	11.7	9.8	24	25.1	4.6	9.8	0 0
25	8.8		7.9	11.3	6.4	9.2	9.6	12.0	9.6	10.4	10.2	8.2	7.2	7.7	C	17.2	17.6	9.4	8.2	9.6	7.0	7.1	7.0	10.9	18.1	23	18.1	6.4	10.0	0 0
26	19.0		17.2	12.1	10.0	9.5	12.0	10.8	10.3	14.2	10.2	6.0	5.2	4.4	4.4	4.9	5.9	9.1	11.2	11.5	9.7	13.1	14.0	10.9	9.2	24	19.0	4.4	10.2	0 0
27	12.6		13.3	12.9	11.7	12.3	12.1	10.4	10.0	9.7	5.4	0.0	M	M	М	M	M	M	9.8	16.1	26.5	23.3	20.2	19.2	18.8	18	26.5	0.0	13.6	0 0
28	13.9		12.5	12.3	12.3	16.2	10.8	10.5	17.4	10.0	8.7	8.5	7.3	7.1	8.8	6.9	8.5	10.9	9.0	16.4	22.2	9.8	22.6	24.9	11.5	24	24.9	6.9	12.5	0 0
29	8.6		15.9	8.9	8.9	9.6	7.5	6.1	7.5	7.2	7.2	6.4	5.3	6.2	5.8	5.0	5.5	6.8	6.8	8.8	8.5	8.3	9.3	23.0	12.9	24	23.0	5.0	8.6	0 0
30	19.7	7	20.0	12.3	10.2	9.2	12.8	15.2	9.3	7.8	5.3	6.4	8.0	4.1	7.6	9.6	5.0	5.4	3.7	4.2	2.8	4.6	5.3	17.5	9.6	24	20.0	2.8	9.0	0 0
31																										0	0.0	0.0		о с
Count	30	0	30	30	30	30	30	30	30	30	30	30	29	29	28	28	28	29	30	30	30	30	30	30	30	711				
Maximum	28.9	9	26.9	28.4	19.9	21.3	25.1	22.8	22.8	22.3	20.1	24.0	24.7	25.9	11.2	17.2	17.6	16.8	26.7	26.4	26.5	25.6	25.8	27.9	23.4	24				
Minimum	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1	0.2	0.0	0.0	0				
Average	10.5	5	11.1	9.9	8.8	9.1	9.8	10.2	10.2	8.6	6.1	5.0	4.7	4.1	3.7	4.4	5.2	5.8	5.9	8.6	9.5	10.6	11.5	12.3	10.9					
																														Maximum
Porcontilos			10		20		30		40		50		60		70		80		90		95		99		100			Mavim	um Hourly	Maximum 28.9
Percentiles			10		20		30		40		30		00		70		80		30		33		22		100				num Daily	15.4
Data			0.5		2.1		3.1		5.0		6.9		8.8		10.8		13.9		18.5		21.3		25.9		28.9				y Average	15.4
Data			0.5		2.1		3.1		3.0		0.5		0.0		10.0		13.3		10.3		41.3		23.3		20.3			WOULTH	y Average	8.3
Notes		C - Ca	libration ,	/ Span Cycle	e N	A - No Data	Available	Т	Test/Startu	p period	A-	MOE Audit	N	- Equipmen	t Malfunction	on / Down	R	- Rate of Ch	ange										1	

											cember	rago Road	2016																	
	Hour																													
Day	0		200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300		Maximum		Average	Hrs>200 Da	ys>100
3	6.4 5.0		4.6 1.3	4.2 1.0	3.5 1.9	4.4 0.9	5.4 1.6	4.5 4.5	4.8 4.5	3.0 4.5	2.6 1.4	1.9 0.4	3.2 0.4	2.9 1.2	3.5 0.8	3.9 0.9	5.4 0.1	6.6 0.0	5.8 0.0	4.6 0.0	3.9 0.0	3.9 5.3	4.2 4.1	4.4 3.5	24 24	6.6 5.3	1.9 0.0	4.3 1.9	0	0
2	0.0		0.0	0.0	0.4	1.5	1.7	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	4.2	3.1	2.8	1.5	4.0	4.4	3.8	24	4.4	0.0	1.3	0	0
4	12.9		3.5	1.3	0.4	1.4	0.5	3.2	2.2	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.4	4.2	5.8	4.0	3.2	8.8	24	12.9	0.0	2.8	0	0
9	10.6		0.0	0.6	0.4	0.0	1.4	11.5	15.8	14.7	9.6	4.5	4.8	3.4	2.8	6.2	8.4	12.0	7.5	9.9	17.1	31.4	25.6	23.7	24	31.4	0.0	9.2	o	0
6	20.1	18.9	15.0	11.6	20.2	13.4	15.8	10.3	7.4	12.5	8.5	5.3	2.6	5.6	1.5	1.4	2.8	1.5	2.6	1.6	1.5	1.6	1.1	1.1	24	20.2	1.1	7.7	0	0
7	2.0	1.3	1.6	1.7	4.7	7.9	7.4	11.5	10.8	4.8	5.6	4.8	4.8	6.0	7.3	3.8	5.0	5.2	5.3	4.9	5.7	4.6	9.0	11.2	24	11.5	1.3	5.7	0	0
8	10.0	8.1	6.6	5.1	5.2	4.4	4.4	4.6	5.8	7.3	4.5	4.7	4.6	3.6	2.3	4.0	4.9	4.0	5.1	5.5	6.7	8.2	2.5	7.6	24	10.0	2.3	5.4	0	0
9	13.0	12.3	8.8	10.1	12.0	8.9	7.9	8.2	7.7	3.8	1.7	1.7	0.6	1.0	1.6	1.8	4.2	2.1	3.5	2.4	4.2	4.4	4.6	5.6	24	13.0	0.6	5.5	0	0
10	4.3		4.9	3.4	4.5	9.7	7.9	14.6	20.0	7.1	7.3	7.1	5.7	2.2	0.3	6.1	8.8	16.8	15.5	12.6	12.7	6.7	6.8	8.1	24	20.0	0.3	8.3	0	0
11	22.6		17.4	11.3	7.5	14.4	10.8	13.3	12.5	9.6	10.4	14.0	1.4	1.2	0.0	0.0	0.0	1.7	1.7	2.0	1.4	1.4	1.2	0.7	24	22.6	0.0	7.4	0	0
12	0.6		0.9	1.3	2.5	1.2	3.7	16.5	14.6	6.0	3.6	4.8	C	C	1.7	2.6	4.3	3.7	4.1	7.4	8.3	4.4	2.2	1.7	22	16.5	0.6	4.4	0	0
13	3.0		2.4	1.6	5.6	5.5	1.3	4.1	0.0	0.0	0.0	0.0	0.0	1.1	0.7	2.8	11.3	10.8	8.6	11.4	2.9	2.5	2.4	0.4	24	11.4	0.0	3.3	0	0
14	0.9		0.9	1.3	1.9	0.0	0.0	0.5 1.7	0.0	0.0	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.8 M	2.4 M	3.2 M	1.7 M	4.3 M	5.2 M	2.4 M	24 10	5.2	0.0	1.1	0	0
15	1.3	0.0 M	0.0 M	2.1 M	2.6 M	0.0 M	0.0 M	1.7 M	5.1	4.5 M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	5.1 0.0	0.0		0	0
17	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0	0
18	М	M	М	М	М	М	М	M	М	M	M	M	М	М	М	М	M	М	М	М	М	М	М	м	0	0.0	0.0		0	0
19	М	M	M	M	M	M	M	M	м	M	M	M	M	M	M	м	M	М	M	М	M	M	M	м	0	0.0	0.0		0	0
20	M	M	M	М	М	М	М	М	M	М	М	М	M	М	М	M	М	М	М	М	М	М	M	M	0	0.0	0.0		0	0
21	М	M	M	M	M	M	M	M	М	M	M	M	M	M	M	5.9	6.6	9.5	8.9	7.0	11.5	17.7	25.9	25.7	9	25.9	5.9		0	0
22	25.0		6.5	0.7	1.4	1.1	8.8	20.7	18.5	16.7	18.7	16.8	14.6	7.4	8.2	11.2	6.5	8.5	9.3	8.7	9.7	7.7	4.4	0.0	24	25.8	0.0	10.7	0	0
23	0.0		0.0	0.0	1.3	2.9	5.5	4.3	7.3	7.5	4.6	1.4	0.7	0.1	0.2	2.2	4.3	0.0	0.0	0.3	0.5	0.0	2.6	2.4	24	7.5	0.0	2.0	0	0
24	8.6		1.9	0.0	0.2	1.7	1.7	8.1	6.7	5.3	6.5	5.3	0.8	1.6	4.2	5.9	7.3	1.7	3.2	0.1	0.8	0.0	0.0	0.9	24	8.6	0.0	3.1	0	0
25	2.6		8.3	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	9.1	0.0	1.0	0	0
26	0.0		0.0	0.0	0.0	7.5	5.4 0.0	7.7 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1 0.4	1.9	1.6	2.9	0.4	0.7	0.0	0.0	0.0	24 24	7.7	0.0	1.3	0	0
27	0.0		0.0	0.0	0.0 1.6	0.0 2.4	5.4	1.7	0.0 4.7	0.0 3.6	0.0 1.1	0.0	0.0	0.0 1.4	0.0 2.1	5.5	0.1 3.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	24 24	0.4 5.5	0.0	0.0	0	0
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	7.9	4.7	6.9	5.0	4.8	5.9	5.7	7.4	2.8	4.9	1.7	5.0	5.4	24	7.9	0.0	1.4 3.0	0	0
30	7.7		1.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.2	0.2	0.0	3.9	0.9	0.0	24	7.7	0.0	1.0	o	o
31	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	0.0	0.0	0.0	0	0
Count	25		25	25	25	25	25	25	25	25	24	24	23	23	24	25	25	25	25	25	25	25	25	25	593					
Maximum	25.0	25.8	17.4	11.6	20.2	14.4	15.8	20.7	20.0	16.7	18.7	16.8	14.6	7.4	8.2	11.2	11.3	16.8	15.5	12.6	17.1	31.4	25.9	25.7	24					
Minimum	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0					
Average	6.3	4.9	3.5	2.8	3.1	3.6	3.9	6.2	5.9	4.5	4.0	3.4	2.1	2.0	1.8	2.9	3.6	4.0	3.9	3.7	4.1	4.7	4.6	4.7						
																													Ma	ıximum
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100						31.4
																												mum Daily		10.7
Data		0.0		0.0		0.1		1.3		2.2		3.8		4.8		6.8		10.1		14.6		23.8		31.4			Month	ly Average		3.8
Notes		C - Calibrati	on / Span Cyc	ile N	IA - No Data	Available	Т	- Test	-	A- MOE Audit	M	- Equipme	nt Malfunction	on / Down	R	- Rate of Cl	hange													-

Figure B-1 Time History Plots of Measured Hourly Average and 24-Hour Average NO₂
Concentrations – Crago Road Station





Appendix C NOX Data Summaries and Time History Plots February 9, 2017

Appendix C NO_X DATA SUMMARIES AND TIME HISTORY PLOTS

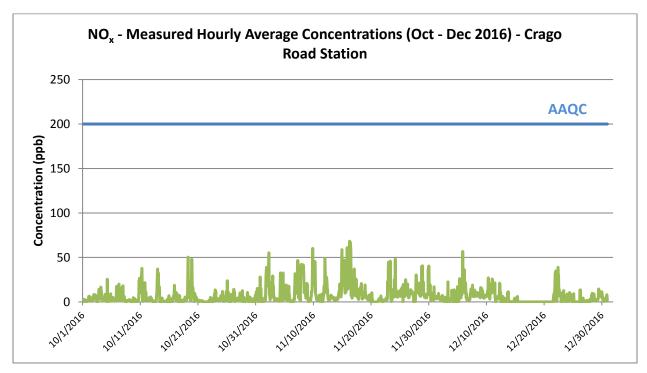


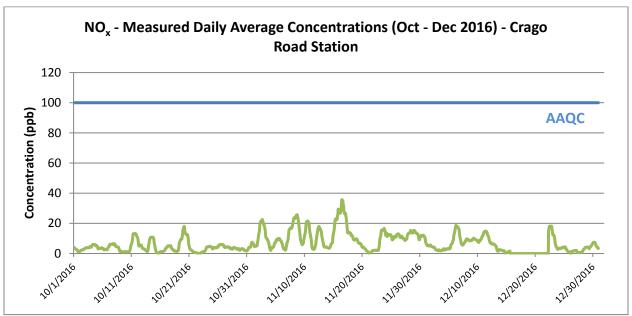
												NOx C	rago Road																	
												ctober		2016																
	Hour										рр	b																		
Day	Hour	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count Ma	ximum N	linimum	Average	Hrs>200 Days>100
:		2.1	0.2	0.0	0.1	0.9	0.1	1.0	2.9	0.0	2.1	0.0	0.5	0.1	1.1	0.3	1.5	0.0	1.4	1.8	1.6	1.9	2.0	2.5	1.7	24	2.9	0.0	1.1	0 0
		1.9	2.5	6.3	2.3	4.3	3.8	4.8	5.7	4.5	3.2	1.3	1.3	1.5	0.7	0.5	2.8	1.9	2.9	4.0	1.4	5.5	5.6	4.1	8.3	24	8.3	0.5	3.4	0 0
		3.4 4.3	7.8 4.4	7.9 3.5	4.0 13.6	4.5 16.7	4.3 13.2	7.5 12.5	4.1 9.1	3.5 6.2	2.7 3.4	1.1	0.6 0.7	2.4 1.0	0.0 1.0	1.8 2.2	2.9 1.2	4.7 1.5	1.9 1.7	3.3 1.7	8.6 2.3	14.1 3.8	8.3 6.1	3.4 8.6	3.9 5.9	24 24	14.1 16.7	0.0 0.7	4.4 5.2	0 0
		2.8	1.2	5.5	3.7	0.6	0.3	1.3	25.5	2.1	0.7	0.7	0.8	0.9	1.5	0.7	1.2	2.1	4.7	3.2	2.0	7.5	9.1	1.1	3.7	24	25.5	0.3	3.5	0 0
	6	0.7	0.8	0.9	1.9	1.5	1.0	2.2	5.1	3.6	2.6	2.8	2.4	1.8	0.7	2.3	1.4	1.7	1.6	1.8	3.7	5.8	16.9	17.6	12.5	24	17.6	0.7	3.9	0 0
		7.7	5.5	6.5	5.8	2.4	9.2	11.8	20.0	4.5	1.1	2.4	1.5	1.5	1.5	1.6	1.6	3.3	1.9	1.8	1.1	16.6	12.2	9.2	16.6	24	20.0	1.1	6.1	0 0
		.8.1 2.3	4.9 1.8	1.4 2.5	1.0	1.6 1.7	6.1 1.6	0.9 1.8	0.7 1.7	0.9	1.5 0.0	0.3	1.0 0.0	0.8	1.0 0.0	1.7 0.0	0.9	0.6 0.0	1.0 0.4	0.8 2.0	1.1 4.7	0.9 2.1	1.8 2.6	1.8 1.3	1.2	24 24	18.1 4.7	0.3	2.2 1.2	0 0
10		1.1	3.6	0.4	1.1	0.9	1.1	2.0	1.2	0.1	0.0	0.2	1.6	0.9	0.7	1.2	0.5	1.2	2.9	7.9	24.3	16.7	26.5	23.4	15.9	24	26.5	0.0	5.6	0 0
1:		1.2	10.6	12.5	14.3	24.9	29.3	33.4	37.6	15.8	1.9	1.4	0.7	1.4	0.8	0.9	2.1	2.7	1.7	4.7	21.6	15.3	8.2	11.1	10.8	24	37.6	0.7	11.5	0 0
12		9.2	3.5	2.6	1.5	2.7	1.9	3.7	4.3	3.0	3.6	3.8	3.5	3.9	4.4	2.6	3.0	1.7	5.1	4.0	5.6	1.8	2.2	2.6	4.0	24	9.2	1.5	3.5	0 0
1:		2.0 6.9	1.5 16.5	1.3 12.5	1.5 32.7	1.4 24.0	C 15.6	C 15.4	C 16.8	0.4 16.3	0.7 2.7	0.3	0.2 0.0	0.0	0.1	0.7 0.0	0.0	0.0	1.0 2.3	2.4 0.0	2.5 4.3	7.2 0.0	9.2 0.0	17.8 0.0	28.1 0.0	21 24	28.1 36.9	0.0	3.7 8.2	0 0
15		0.0	0.0	0.6	0.0	0.0	0.7	0.5	1.0	0.0	0.0	0.0	0.0	0.8	0.5	0.0	0.0	0.0	3.0	0.0	0.0	3.2	3.8	2.2	7.0	24	7.0	0.0	1.0	0 0
10		0.3	4.7	1.8	0.3	0.0	1.4	0.4	0.6	0.0	0.4	1.3	0.8	2.1	0.1	0.4	4.7	3.2	3.1	6.8	4.5	4.8	10.8	18.6	11.2	24	18.6	0.0	3.4	0 0
17		4.3	4.0	4.3	10.9	3.7	2.1	1.4	6.3	9.7	4.1	1.4	1.6	1.0	0.0	0.2	1.8	1.6	6.2	7.2	7.2	5.2	0.4	0.4	0.3	24	10.9	0.0	3.6	0 0
11		2.2	1.1 2.2	1.8 5.9	0.0 4.6	0.6 6.2	0.3 15.8	1.8 33.4	0.8 50.3	0.4 19.0	0.0 12.8	0.0 8.4	0.0 5.9	0.5 13.2	0.0 11.6	1.2 7.8	1.8 5.5	3.7 2.9	1.5 1.4	1.4 2.4	5.4 22.8	1.6 22.6	2.5 24.6	4.9 47.9	3.3 43.3	24 24	5.4 50.3	0.0 1.4	1.5 15.6	0 0
20		1.3	13.9	15.6	15.9	12.8	8.1	5.0	5.2	0.9	0.2	2.8	9.4	3.1	6.9	3.4	3.3	3.1	4.0	4.9	3.3	1.9	1.7	1.6	1.5	24	21.3	0.2	6.2	0 0
2:		1.3	0.2	0.0	0.0	0.6	1.9	1.4	1.5	1.4	0.8	0.6	1.1	1.0	1.1	1.0	1.1	1.5	0.6	0.1	0.1	1.0	0.0	0.0	0.0	24	1.9	0.0	0.8	0 0
23		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	1.2	1.7	1.4	24	1.7	0.0	0.2	0 0
2		1.3	0.8	1.4	0.5	5.0	2.2	2.5	4.0	2.9	2.7	0.0	0.0	0.4	0.7	0.8	0.0	1.5	3.4	3.3	6.2	7.7	8.9	8.6	11.2	24	11.2	0.0	3.2	0 0
24		.3.5 5.5	7.8 2.7	11.9 3.7	1.9 5.2	3.6 5.1	2.0 8.6	3.2 11.7	3.0 6.7	2.5 2.9	3.6 1.7	2.2 1.5	0.9 0.8	2.9 0.2	2.0 1.0	2.2	2.2 1.7	2.1 2.0	1.8 3.1	1.9 6.2	1.5 4.5	4.8 4.4	3.5 7.1	5.5 11.7	7.1 2.8	24 24	13.5 11.7	0.9 0.2	3.9 4.3	0 0
20		1.5	4.3	23.8	10.6	10.8	11.0	10.7	10.2	9.6	1.2	0.0	0.0	0.6	3.1	1.8	1.5	0.4	0.1	4.2	7.6	8.5	6.5	3.1	3.1	24	23.8	0.0	5.6	0 0
2	7	1.7	0.8	2.5	9.5	1.5	14.1	4.3	11.1	11.1	4.0	0.5	0.3	1.2	3.9	3.6	3.4	1.4	1.6	1.4	1.8	4.1	4.0	4.4	3.5	24	14.1	0.3	4.0	0 0
21		1.4	3.3	1.1	0.8	2.3	2.4	8.1	10.2	3.3	2.0	1.6	0.7	0.7	2.1	4.3	9.5	7.7	12.6	4.9	3.3	1.4	0.0	0.5	5.1	24	12.6	0.0	3.7	0 0
25		1.0 5.2	0.6 5.2	0.1 4.1	1.5 3.3	0.4 1.5	0.0 0.4	2.5 1.3	2.2	3.5 0.3	3.6 0.1	2.3 0.0	2.3 0.0	1.9 0.0	3.1 0.0	10.7 0.0	4.9 3.7	1.7 1.8	0.5 1.0	0.3	0.3	5.8 0.2	4.4 1.6	4.1 3.6	4.9 7.6	24 24	10.7 7.6	0.0	2.6 1.8	0 0
3:		5.6	3.1	4.0	11.3	4.9	8.7	6.6	15.3	14.4	3.4	1.3	0.2	1.3	1.1	1.6	1.2	2.8	4.7	16.2	28.0	11.0	11.9	14.9	6.1	24	28.0	0.0	7.5	0 0
Count		31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	741		-		
Maximum		6.9	16.5	23.8	32.7	24.9	29.3	33.4	50.3	19.0	12.8	8.4	9.4	13.2	11.6	10.7	9.5	7.7	12.6	16.2	28.0	22.6	26.5	47.9	43.3	24				
Minimum		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 7.5	21				
Average		5.6	3.9	4.7	5.2	4.7	5.6	6.4	8.8	4.6	2.2	1.3	1.3	1.5	1.6	1.9	2.1	1.9	2.5	3.2	5.9	6.1	6.6	7.7	7.5					
										1																				Maximum
Percentile	s		10		20		30		40		50		60		70		80		90		95		99		100	·		Maximur		50.3
D-1-			0.0		0.6		1.1		1.5		2.0		2.0		4.0				11.2		16.3		21.4		50.3				um Daily	15.6
Data			0.0		0.6		1.1		1.5		2.0		2.9		4.0		5.9		11.2		16.2		31.4		50.3			iviontniy	Average	4.3
Notes		C - (Calibration	/ Span Cycl	e N	A - No Data	Available	Т-	Test	A-	MOE Audit	M	- Equipme	nt Malfunct	ion / Down	R -	- Rate of Ch	ange												

											NOx Cr ovember	ago Road	2016																	
										pp	ob																			
- I	lour	400	200	300	400	500	600	700		900	4000	****	4200	1300	4400	4500	4500	4700	1800	1900	2000	24.00	2200	2200						400
Day 1	0.0	0.0	0.6	3.9	0.0	0.2	1.2	700 0.0	1.3	0.5	0.3	2.4	2.4	2.5	1400 3.7	1500 5.4	1.8	1700 4.0	18.9	30.0	2000 34.7	2100 38.9	38.2	2300 24.2	Count 24	Maximum 38.9	0.0	Average 9.0	Hrs>200 Day	001<8
2	29.8	38.8	21.6	17.7	20.0	31.0	44.8	55.1	23.9	8.1	12.2	5.5	2.4	4.2	8.7	8.0	19.3	5.5	9.8	14.0	22.0	19.5	24.2	29.2	24	55.1	2.4	19.8	0	0
3	9.6	18.1	11.3	8.1	3.6	3.1	2.0	3.7	4.5	3.5	2.8	1.1	1.2	1.4	1.1	0.8	2.2	1.7	2.7	3.7	2.5	1.0	1.7	2.8	24	18.1	0.8	3.9	o	0
4	2.1	1.0	0.6	1.5	2.4	3.2	18.8	32.6	6.8	2.3	2.0	0.9	0.6	1.0	1.8	3.7	9.6	5.2	32.5	16.1	10.7	6.9	6.8	2.9	24	32.6	0.6	7.2	o	0
5	5.4	12.1	13.8	13.4	8.2	13.7	16.7	19.1	9.3	12.3	10.3	1.2	2.4	5.6	2.5	3.1	3.0	7.5	17.7	8.9	8.1	3.8	0.5	1.7	24	19.1	0.5	8.3	0	0
6	2.1	1.5	0.0	0.0	0.0	0.0	0.4	1.1	0.9	0.0	0.0	1.3	0.4	0.0	0.8	1.6	4.6	2.5	13.2	18.8	31.7	28.6	21.6	22.1	24	31.7	0.0	6.4	0	0
7	20.1	9.7	9.7	11.3	17.1	26.9	36.8	46.6	41.3	15.9	5.0	4.4	6.0	5.4	4.4	5.9	2.6	4.0	1.3	22.8	38.7	39.4	42.2	33.3	24	46.6	1.3	18.8	0	0
8	39.6	38.5	31.0	35.5	32.9	33.6	41.6	35.2	33.8	21.6	10.4	11.2	15.7	17.2	13.8	13.3	8.0	4.2	4.6	10.6	20.2	20.8	16.0	19.4	24	41.6	4.2	22.0	0	0
9	6.4	3.2	4.5	0.9	0.1	0.7	1.2	0.8	1.3	0.8	1.3	1.5	2.3	1.7	4.6	5.5	9.1	11.9	10.9	13.8	28.2	60.2	38.1	34.5	24	60.2	0.1	10.1	0	0
10	25.6	19.3	27.3	20.1	22.9	38.3	41.3	45.3	26.7	9.6	8.4	6.9	6.3	3.6	2.4	1.7	3.4	3.3	3.4	2.8	2.7	3.0	4.7	5.7	24	45.3	1.7	14.0	0	0
11	4.8	7.7	0.5	1.1	1.4	2.9	0.9	2.2	2.1	1.1	1.1	8.8	0.0	0.4	С	С	1.8	3.9	9.1	7.9	16.5	18.4	13.7	10.3	22	18.4	0.0	5.3	0	0
12	49.0	37.1	27.2	20.5	28.2	20.5	23.8	27.5	23.6	20.6	10.9	14.0	6.5	4.9	2.9	2.6	1.5	2.6	2.5	1.7	2.8	4.8	5.3	3.7	24	49.0	1.5	14.4	0	0
13	5.5	7.6	5.3	4.0	6.7	4.9	4.5	4.6	4.9	4.1	5.0	5.3	3.6	3.7	2.3	2.7	3.5	2.8	1.7	3.1	4.5	2.4	2.5	2.8	24	7.6	1.7	4.1	0	0
14	3.7	4.5	2.9	2.4	3.9	3.3	3.0	5.5	5.6	8.9	9.7	12.2	12.6	12.7	20.3	10.7	9.6	7.4	9.8	5.6	8.4	12.7	45.2	58.8	24	58.8	2.4	11.6	0	0
15	24.0	18.2	27.5	21.2	24.7	42.2	37.9	43.4	47.1	20.1	17.9	13.9	9.8	11.9	10.7	12.1	11.3	40.9	31.7	28.9	47.6	61.0	25.6	29.0	24	61.0	9.8	27.4	0	0
16	14.5	20.3	19.6	34.7	19.6	35.6	34.5	68.2	51.2	61.2	66.9	62.2	58.4	8.6	6.8	10.0	7.2	4.2	5.0	9.4	8.9	8.8	9.8	11.0	24	68.2	4.2	26.5	0	0
17	14.0	14.3	37.0	17.5	12.6	7.2	12.9	26.2	20.8	17.6	24.8	25.0	10.3	6.1	5.7	9.4	14.5	8.5	4.3	5.5	2.8	10.8	10.8	10.4	24	37.0	2.8	13.7	0	0
18	8.5	9.7 10.1	9.1 5.6	11.2	16.4	8.8	12.6 4.7	15.9 5.6	20.6	11.0	3.3 4.7	5.0	3.4 2.6	6.4 3.5	3.8 2.8	8.7	4.9 7.7	5.6	10.0 3.9	9.3 5.5	8.1 1.7	9.1 2.3	12.9	19.0	24 24	20.6 10.1	3.3 1.7	9.7	0	0
20	9.3	5.0	5.6	4.7 10.3	5.4	5.2 2.8	0.0	0.0	0.0	3.0 0.0	0.0	2.5 0.0	0.0	0.0	0.0	5.4 0.0	0.0	6.5 0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	10.1	0.0	4.6 1.3	0	- 0
20	0.0	0.0	0.0	0.0	0.0	0.6	1.1	2.1	3.1	3.5	2.4	2.0	2.1	2.2	1.9	3.0	5.3	6.7	4.6	2.4	3.3	0.5	0.7	0.0	24	6.7	0.0	2.0	0	0
22	0.0	0.2	0.0	1.2	1.5	1.8	1.3	2.1	1.9	2.1	2.5	2.5	1.6	2.8	2.8	4.4	3.9	3.3	4.8	2.5	4.6	22.8	15.5	13.4	24	22.8	0.0	4.2	0	0
22	40.2	44.7	42.9	19.6	13.1	13.9	27.2	21.2	45.8	15.6	5.8	3.4	0.5	1.1	0.8	2.2	7.3	5.0	12.0	13.9	12.7	9.8	8.1	5.4	24	45.8	0.5	15.5	0	0
24	10.6	25.2	16.5	9.7	22.2	48.2	19.8	6.1	10.4	12.8	11.1	8.2	8.1	6.3	5.5	5.3	6.5	8.2	9.5	8.5	10.0	8.8	12.4	9.7	24	48.2	5.3	12.5	0	0
25	8.7	7.8	11.6	6.3	9.5	10.3	14.3	11.0	14.4	16.3	13.6	13.3	13.4	C	19.5	18.4	8.7	6.5	8.5	5.9	6.1	6.8	10.9	21.2	23	21.2	5.9	11.4	0	0
26	24.9	20.1	12.2	9.6	9.9	12.9	11.5	10.7	20.0	12.8	7.0	5.7	4.8	4.5	5.0	5.7	8.7	10.7	11.0	9.2	12.7	13.7	10.5	8.9	24	24.9	4.5	11.0	0	0
27	11.9	11.9	12.0	10.6	11.1	10.6	9.3	8.9	8.5	0.0	0.0	М	M	М	М	M	М	8.1	15.3	29.9	30.3	21.3	19.1	18.4	18	30.3	0.0	13.2	0	0
28	13.2	11.6	11.6	11.7	17.2	10.0	9.8	21.2	10.3	9.2	8.4	6.9	6.9	10.0	6.2	8.1	10.6	8.5	30.0	40.2	10.1	36.1	40.5	12.4	24	40.5	6.2	15.0	0	0
29	8.2	22.3	9.0	8.4	10.4	6.7	5.3	6.5	6.4	6.8	6.2	4.5	5.8	5.4	4.4	4.6	6.6	9.1	8.4	7.7	7.8	8.5	36.4	14.2	24	36.4	4.4	9.1	0	0
30	40.3	34.4	11.7	9.6	8.3	12.8	19.2	10.3	3.8	1.7	5.8	9.1	3.2	8.7	9.9	3.8	4.3	2.2	2.9	1.3	3.2	4.3	17.0	8.7	24	40.3	1.3	9.9	0	0
31																									0	0.0	0.0		0	0
Count	30	30	30	30	30	30	30	30	30	30	30	29	29	28	28	28	29	30	30	30	30	30	30	30	711					
Maximum	49.0	44.7	42.9	35.5	32.9	48.2	44.8	68.2	51.2	61.2	66.9	62.2	58.4	17.2	20.3	18.4	19.3	40.9	32.5	40.2	47.6	61.0	45.2	58.8	24					
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0					
Average	14.5	15.2	12.9	10.9	11.2	13.7	15.3	18.0	15.1	10.1	8.7	8.3	6.7	5.1	5.5	5.9	6.5	6.7	10.0	11.3	13.4	16.2	16.4	14.5						
																													Max	kimum
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100				um Hourly		68.2
																												num Daily		27.4
Data		1.1		2.4		3.7		5.4		8.0		9.7		12.2		18.8		29.0		38.8		58.1		68.2			Monthl	y Average		11.4
Notes	С	- Calibration	/ Span Cycl	e N	A - No Data	Available	T-	- Test/Startu	p period	A-	MOE Audit	N	1 - Equipmer	nt Malfuncti	on / Down	R	- Rate of Ch	ange												=

												rago Road																	
										De pr	cember		2016																
	lour									P	,,,																		
Day	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>200 Days>1
1	5.1	4.8	3.9	3.8	3.6	4.1	5.3	4.6	5.9	3.4	3.8	5.2	6.5	5.1	5.8	5.4	5.8	9.6	5.9	4.5	3.3	3.3	3.8	3.6	24	9.6	3.3	4.8	0
2	5.1	2.0	1.3	1.5	2.1	1.7	1.3	5.1	6.8	7.3	3.0	1.9	1.7	2.4	1.0	0.7	0.0	0.0	0.0	0.0	0.0	5.4	3.5	2.9	24	7.3	0.0	2.4	0
3	0.0	0.0	0.0	0.0	0.0	1.8	1.6	3.6	22.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	3.4	2.4	2.4	1.3	3.2	3.9	3.4	24	22.6	0.0	2.1	0
4	13.1	7.9	3.3	1.2	0.4	1.4	0.5	3.7	2.9	1.6	13.6	1.4	0.0	0.0	0.0	0.0	0.0	1.0	0.7	4.3	6.1	4.4	3.3	10.5	24	13.6	0.0	3.4	0
5	17.2	0.3	0.0	0.9	0.9	0.2	3.2	13.8	19.7	26.2	19.3	8.1	7.5	5.9	4.4	8.3	10.0	16.7	8.2	10.2 2.7	18.2	56.7	30.8	28.6	24	56.7	0.0	13.1	0
6	23.1	21.8	18.1	17.0	36.1	15.5	23.2	12.0	9.7	21.0	14.2	10.2	4.3	9.5	2.5	2.4	3.8	2.5	3.8		3.0 8.4	3.8	2.3	1.9	24	36.1	1.9	11.0	0
,	3.7 11.9	2.2 10.5	2.9 8.5	2.5 7.0	5.7 8.3	9.0 6.8	9.8 6.3	13.9 7.3	14.5 8.8	7.6 10.5	9.6 8.4	8.7 8.4	8.8 9.5	10.5 8.2	18.9 6.3	6.5 8.3	8.8 8.7	8.1 6.7	7.6 8.0	6.8 8.3	10.0	5.9 11.2	10.9 4.5	13.3 10.2	24 24	18.9 11.9	2.2 4.5	8.5 8.4	0
9	16.1	15.0	11.2	13.0	15.1	12.2	10.9	11.3	12.3	8.4	5.5	5.7	4.5	4.1	5.5	4.7	7.5	5.2	6.3	5.2	7.2	7.3	7.5	7.7	24	16.1	4.1	8.7	0
10	6.9	8.5	7.9	6.3	7.5	12.5	10.9	18.3	27.0	11.6	12.2	11.7	9.8	5.4	3.1	9.8	11.8	20.1	18.7	15.7	15.6	9.8	10.3	11.5	24	27.0	3.1	11.8	0
11	25.8	24.0	21.4	14.6	10.8	18.0	14.3	17.0	17.4	15.5	16.3	21.3	4.7	5.5	0.0	0.0	3.7	4.0	4.3	5.7	4.3	5.2	4.3	3.5	24	25.8	0.0	10.9	0
12	3.3	3.7	3.8	4.0	7.8	3.9	7.2	21.0	20.1	10.5	8.6	10.6	С	С	2.0	1.9	2.9	1.6	2.1	5.8	6.1	2.6	0.3	0.0	22	21.0	0.0	5.9	0
13	1.3	0.0	0.3	0.0	4.1	3.6	0.1	3.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.8	10.5	10.1	8.0	11.5	1.6	1.1	1.2	0.0	24	11.5	0.0	2.5	0
14	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.1	0.6	3.3	4.4	2.0	24	4.4	0.0	0.6	0
15	0.6	0.0	0.0	1.9	1.5	0.0	0.0	1.0	5.3	6.0	M	M	M	М	M	M	M	M	M	M	М	M	M	М	10	6.0	0.0		0
16	M	M	M	М	М	M	M	M	M	M	М	M	M	M	M	M	М	М	M	M	М	М	M	M	0	0.0	0.0		0
17	M M	M	M	M	M M	M	M	M M	M	M M	M M	M	M	M	M M	M	M M	M M	M	M	M M	M M	M M	M	0	0.0	0.0		0
18	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0
20	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		0
21	M	М	M	М	M	М	М	M	М	M	М	M	M	M	M	6.5	6.7	9.2	9.8	6.9	11.2	18.9	30.8	33.2	9	33.2	6.5		0
22	26.3	34.8	6.7	0.4	2.4	0.9	8.9	27.8	27.8	30.0	38.9	31.3	29.9	14.9	13.5	14.0	6.6	8.3	9.3	9.2	10.3	8.0	4.5	0.0	24	38.9	0.0	15.2	0
23	0.0	0.0	0.0	0.0	1.5	2.8	5.4	4.7	10.6	12.7	8.5	2.9	2.2	1.3	0.9	2.7	6.0	0.0	0.0	0.9	0.6	0.0	2.6	2.7	24	12.7	0.0	2.9	0
24	8.8	3.2	1.8	0.0	1.1	3.3	1.7	8.3	7.9	8.8	10.6	8.6	2.0	3.0	5.1	6.9	8.1	1.8	3.8	0.1	0.8	0.0	0.0	0.9	24	10.6	0.0	4.0	0
25	2.6	3.1	8.4	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24	9.2	0.0	1.0	0
26	0.0	0.0	0.0	0.0	0.0	13.1	8.8	13.5	0.0	0.0	0.3	0.0	0.0	0.0	0.0	3.2	1.7	1.5	4.3	0.8	0.8	0.0	0.0	0.0	24	13.5	0.0	2.0	0
27	0.0	0.0	0.7	0.0	0.4	0.1	0.0	1.2	0.0	0.5	0.4	1.4	0.0	0.9	0.8	1.8	1.3	1.8	1.1	1.3	0.0	1.0	1.4	0.0	24	1.8	0.0	0.7	0
28	1.9	3.4	1.4 2.4	2.2	4.2	5.1	8.0	4.3 2.8	9.6	9.6	6.3	2.0	2.4 10.1	5.1 12.3	5.7	9.0 9.1	8.1	3.6	1.1 11.3	1.7 6.5	3.0	2.7	2.2 8.9	0.6	24 24	9.6	0.6	4.3	U O
30	2.5 11.5	1.5 8.6	5.3	2.9 6.3	1.8 2.8	1.6 0.7	1.6 1.5	2.8	2.8 1.3	3.3 1.3	7.6 1.3	14.5 0.5	0.7	1.0	9.8 1.5	2.9	10.0 2.3	9.7 4.9	4.0	4.4	8.7 2.4	5.5 8.0	4.9	9.2 2.1	24	14.5 11.5	1.5 0.5	6.5 3.4	0
31	3.5	3.7	1.9	1.8	1.7	1.6	1.7	2.6	0.8	3.0	2.8	4.0	2.0	2.2	1.9	2.3	2.3	2.7	1.9	2.4	1.9	3.6	3.7	3.8	24	4.0	0.8	2.5	ő
Count	25	25	25	25	25	25	25	25	25	25	24	24	23	23	24	25	25	25	25	25	25	25	25	25	593				
Maximum	26.3	34.8	21.4	17.0	36.1	18.0	23.2	27.8	27.8	30.0	38.9	31.3	29.9	14.9	18.9	14.0	11.8	20.1	18.7	15.7	18.2	56.7	30.8	33.2	24				
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0				
Average	7.6	6.4	4.5	3.9	4.8	4.8	5.3	8.1	9.3	8.0	8.0	6.6	4.6	4.2	3.7	4.3	5.1	5.3	5.0	4.8	5.0	6.8	6.0	6.1					
									1																				Maximu
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100				um Hourly	56
																												mum Daily	15
Data		0.0		0.3		1.5		2.4		3.6		5.1		7.5		9.6		13.6		19.1		30.9		56.7			Month	ly Average	5
Notes	С	- Calibration	n / Span Cycle	e N	A - No Data	Available	T-	- Test	A	A- MOE Audit	M	- Equipme	nt Malfuncti	on / Down	R	- Rate of Ch	nange												

Figure C-1 Time History Plots of Measured Hourly Average and 24-Hour Average NO_X Concentrations – Crago Road Station





Appendix D PM2.5 Data Summaries and Time History Plots February 9, 2017

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

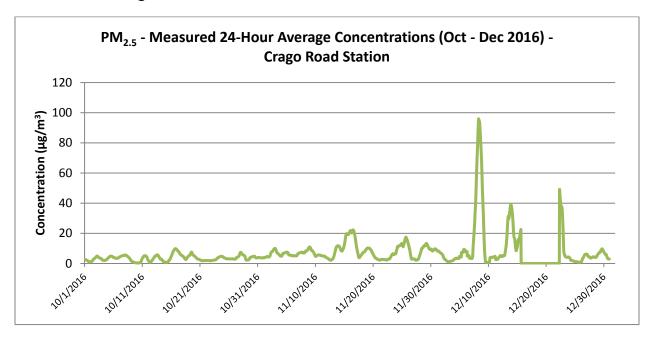


										F	PM _{2.5} - CI	rago Road																	
											ctober		2016																
	Hour									(µ	g/m³)																		
Day	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Count Ma	kimum Mi	nimum	Average	
1	1.4	1.0	1.3	1.0	1.8	1.7	1.8	2.0	0.5	0.5	0.5	0.8	0.1	0.2	0.3	0.1	0.5	1.0	1.6	1.8	1.8	1.6	1.5	1.1	24	2.0	0.1	1.1	
2	1.4	1.9	2.3	2.5	2.3	3.0	3.8	4.3	5.6	5.5	4.7	6.1	9.5	3.6	2.6	3.7	4.0	4.1	4.6	4.6	4.6	4.9	4.8	5.4	24	9.5	1.4	4.2	
3	6.7 1.3	6.7 1.3	6.3 1.2	5.1 1.5	3.6 1.6	2.1 1.6	2.0 1.7	1.9 1.8	1.8	1.7 1.3	1.7 1.1	1.9 1.2	2.1 1.8	2.0 2.4	2.1 3.9	2.4 3.9	2.5 3.8	1.9 4.5	2.1 5.1	4.1 6.4	5.9 6.9	2.5 7.1	1.8 7.3	1.4 6.5	24 24	6.7 7.3	1.4 1.1	3.0	
5	4.3	4.0	4.8	4.3	4.8	5.9	6.4	7.7	3.7	3.2	3.1	3.0	3.1	3.2	3.6	3.1	3.3	3.8	4.4	5.1	4.4	3.7	2.4	3.4	24	7.7	2.4	4.1	
6	3.0	3.2	3.6	3.9	3.5	3.9	3.7	3.7	3.2	2.0	2.4	2.6	3.0	3.3	4.4	4.6	4.3	3.9	4.4	4.4	4.7	7.9	7.3	8.0	24	8.0	2.0	4.1	
7	6.8	5.0	5.4	4.8	4.4	5.7	6.2	6.3	3.9	3.8	4.2	4.5	4.7	5.2	5.4	5.2	4.9	4.6	5.4	4.8	7.3	8.2	7.3	8.3	24	8.3	3.8	5.5	
8	9.0	4.1	3.0	3.3	3.4	9.1	1.7	1.2	1.9	1.6	1.5	1.4	1.5	1.8	1.8	1.7	1.9	1.6	1.6	1.0	0.7	0.8	1.0	0.8	24	9.1	0.7	2.4	
9	1.0	0.8	0.7	0.5	0.5	0.6	0.7	0.6	0.3	0.1	0.2	0.8	0.6	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.7	0.1	0.4	1.3	24	1.3	0.0	0.4	\longrightarrow
10	1.3 9.5	0.7 7.9	0.4 7.0	0.4 5.3	0.2	0.2 4.2	0.4 6.5	0.5 6.5	0.3	0.5	0.2	0.6	0.6 0.5	1.0	1.2 0.5	2.3	5.2	2.5	2.9 0.3	6.7	10.7	12.3	10.7	11.5	24 24	12.3	0.2	3.1	
11	1.1	1.1	1.0	0.8	4.6 1.0	1.0	1.4	1.7	2.5 1.9	0.7 1.8	0.6 1.9	0.6 2.2	2.7	0.5 4.3	4.8	0.3 5.1	0.3 4.6	0.2 5.4	5.3	1.2 7.3	1.0 6.6	0.9 6.6	1.1 6.6	1.1 6.5	24	9.5 7.3	0.2	2.7 3.4	
13	6.4	6.6	8.5	9.7	2.6	1.0 C	C C	1.7 C	1.6	2.1	4.2	6.0	5.8	5.6	7.0	5.7	4.2	3.4	0.8	0.6	1.1	0.7	1.1	1.4	21	9.7	0.6	4.0	
14	2.5	1.7	1.5	1.9	2.1	1.3	1.3	1.8	3.7	0.7	0.0	0.0	0.5	0.0	0.3	0.4	0.4	0.7	0.2	0.7	0.0	0.0	0.1	0.1	24	3.7	0.0	0.9	
15	0.4	0.7	1.2	1.4	1.8	2.7	2.6	2.3	2.5	2.6	3.1	3.7	4.1	4.7	5.3	6.3	5.9	4.9	5.3	5.8	6.7	7.2	8.0	11.5	24	11.5	0.4	4.2	
16	9.9	10.1	10.9	11.1	11.4	11.8	13.0	11.9	11.0	10.8	10.2	9.4	9.8	10.6	10.7	11.8	8.3	7.3	7.0	5.6	4.8	4.6	5.1	5.3	24	13.0	4.6	9.3	
17	5.8	4.8	5.7	6.8	7.0	8.0	9.0	9.0	7.9	5.5	3.4	2.7	3.6	3.8	4.4	5.4	7.4	4.6	2.9	3.4	2.7	2.0	1.5	1.7	24	9.0	1.5	5.0	
18	2.8 6.5	3.0 6.6	4.0 6.7	4.3 6.7	4.6 6.7	4.9 7.0	2.0 7.5	0.0 8.6	0.0 7.9	0.0 7.5	0.0 7.5	0.0 7.7	0.0 6.4	0.0 2.3	8.0 2.4	10.3	11.4 2.0	11.4 1.8	11.4 2.1	9.2 3.0	6.4 3.9	6.6 4.0	6.4 4.5	6.3 5.1	24 24	11.4 8.6	0.0 1.8	4.7 5.3	
20	3.2	2.0	2.2	3.4	4.3	4.6	5.3	3.6	2.5	2.3	2.0	2.1	2.0	1.7	1.7	1.6	1.7	1.7	1.8	1.7	1.6	1.6	1.6	1.6	24	5.3	1.6	2.4	-+-
21	1.7	1.8	2.0	1.9	2.0	1.9	1.8	1.9	2.0	2.0	2.0	2.2	2.1	2.1	2.6	2.1	2.0	2.0	1.8	1.8	1.8	1.8	1.8	2.0	24	2.6	1.7	2.0	
22	1.9	1.9	2.0	2.2	2.1	2.0	1.9	1.8	1.8	1.8	1.7	1.8	1.8	1.8	1.7	1.7	1.8	1.8	1.9	2.0	2.1	1.9	2.0	2.0	24	2.2	1.7	1.9	
23	2.4	3.1	3.3	3.0	3.1	2.7	2.4	2.2	2.1	2.0	2.0	2.1	2.5	2.6	3.1	2.8	2.7	3.7	4.4	4.6	4.8	5.4	5.8	6.1	24	6.1	2.0	3.3	
24	6.5	8.2	7.8	5.0	4.4	4.0	3.7	3.7	4.1	5.1	4.8	4.2	3.5	3.2	2.5	3.4	3.9	4.8	4.7	4.4	4.4	4.1	3.8	3.2	24	8.2	2.5	4.5	
25	3.0	3.1 2.6	3.2	3.5 3.4	3.3	3.2 3.3	3.1 3.3	2.8 2.7	2.0	1.9 2.0	2.1	2.3	1.9 1.9	2.0	2.1 3.0	2.2	3.2	4.4 3.4	5.4 3.4	4.5	3.9 3.7	3.7 3.4	3.9	3.1 2.9	24	5.4	1.9 1.8	3.1 2.9	
26	2.3 2.9	3.3	3.7 3.5	4.5	3.3 3.4	9.1	3.3 4.7	13.3	8.3	4.1	2.0 3.4	1.8 3.2	4.5	2.7 3.3	4.0	4.2	2.9 5.9	7.4	3.4 8.8	3.8 10.3	12.8	16.0	3.0 15.7	13.7	24 24	3.8 16.0	2.9	7.1	
28	9.3	5.1	2.0	1.7	1.7	1.6	1.8	2.2	1.7	1.7	1.8	2.0	2.0	1.9	2.1	2.5	2.4	3.4	3.8	3.1	2.7	2.4	1.8	1.7	24	9.3	1.6	2.6	
29	2.2	2.8	2.8	2.1	2.0	2.0	2.0	2.3	2.3	2.4	2.9	4.4	5.6	7.2	9.3	10.3	9.3	7.3	4.8	4.6	4.4	4.3	4.2	4.2	24	10.3	2.0	4.4	
30	3.6	3.1	3.0	3.0	3.0	3.0	3.1	3.4	4.0	3.7	3.5	3.3	2.9	2.9	2.9	3.4	4.2	5.0	5.0	4.8	5.0	4.8	5.2	4.5	24	5.2	2.9	3.8	
31	4.4	4.2	4.0	4.2	3.7	3.5	3.2	3.2	3.0	2.7	2.4	2.1	2.0	2.2	2.8	2.6	3.2	4.2	5.1	8.0	5.5	4.8	4.9	3.7	24	8.0	2.0	3.7	
Count	31	31	31	31	31	30	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	741				
Maximum Minimum	9.9 0.4	10.1 0.7	10.9 0.4	11.1 0.4	11.4 0.2	11.8 0.2	13.0 0.4	13.3 0.0	11.0	10.8 0.0	10.2 0.0	9.4 0.0	9.8 0.0	10.6 0.0	10.7 0.0	11.8 0.0	11.4 0.1	11.4 0.0	11.4 0.0	10.3 0.1	12.8 0.0	16.0 0.0	15.7 0.1	13.7 0.1	24 21				
Average	4.0	3.6	3.7	3.7	3.4	3.9	3.6	3.8	3.2	2.7	2.6	2.8	3.0	2.8	3.4	3.7	3.8	3.8	3.8	4.2	4.3	4.4	4.3	4.4	21				
																													Maximun
Percentiles		10		20		30		40		50		60		70		80		90		95		99		100			Maximun	- 1	16.0
Data		0.7		1.7		1.9		2.3		3.0		3.7		4.4		5.3		7.3		9.3		11.9		16.0			Maximu Monthly	- 1	9.i 3.i
2310		0.7		1.7		1.5		2.3		5.0		3.7		4.4		3.3		7.5		5.5		11.5		10.0			ontinly	erage	3.
Notes		C - Calibratio	n / Span Cyc	cle N	NA - No Data	Available	T.	- Test	A-	MOE Audit	M	l - Equipme	nt Malfunct	ion / Down	R-	- Rate of Ch	ange												

											No	PM _{2.5} - Cr vember g/m³)		2016																
	Hour																												/ //	
Day		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 I		Average	
1		3.9	5.2	5.9	5.3	4.6	4.6	4.4	3.8	3.7	4.1	4.2	5.1	5.0	4.8	3.7	3.3	3.8	2.5	2.8	4.1	4.9	5.5	3.9	4.4	24	5.9	2.5	4.3	
2	5.		8.4	10.2	12.8	15.5	16.3	16.4	16.9	11.9	8.4	8.6	6.8	6.5	7.4	9.4	8.5	9.3	9.9	8.3	9.2	9.4	9.1	9.2	8.3	24	16.9	5.7	10.1	
3		5.1	5.6	5.7	4.7	4.6	4.2	3.1	3.0	7.3	4.7	3.8	4.3	5.0	4.7	4.5	5.0	5.2	5.5	5.7	5.5	5.1	4.1	4.0	4.3	24	7.3	3.0	4.8	
4	5.		5.6	6.5	7.0	6.2	6.6	9.9	21.3	14.6	8.0	7.2	6.4	5.4	5.1	5.1	5.9	7.6	6.4	8.5	8.0	6.0	5.5	5.0	5.1	24	21.3	5.0	7.4	
	5.		6.1	7.0	6.5	5.5	5.2	4.6	4.4	3.9	4.2	4.8	3.6	4.5	6.6	5.2	5.7	3.9	4.7	6.5	6.6	6.6	6.3	5.3	5.1	24	7.0	3.6	5.3	
6		5.0	4.4	4.2	4.6	4.9	5.4	5.7	5.8	5.3	4.3	4.0	4.4	4.4	4.1	4.3	4.4	4.7	5.9	6.7	8.3	11.3	13.4	14.1	10.3	24	14.1	4.0	6.2	
1		3.5	8.1	8.0	7.8	7.1	7.1	6.9	7.0	6.2	5.2	4.2	5.3	5.6	5.8	5.6	6.6	5.1	6.1	6.4	7.5	8.8	8.1	10.1	9.0	24	10.1	4.2	6.9	
8	11.		10.5	8.0	8.2	8.4	10.8	14.7	18.0	9.8	6.9	4.7	5.1	6.7	8.1	9.3	11.2	10.3	11.0	11.7	15.7	16.3	16.8	15.9	14.3	24	18.0	4.7	11.0	
9	11.	5.3	7.6 4.5	5.5 4.9	3.1 5.5	2.9 6.0	3.1 6.7	3.2 6.7	3.3 7.1	4.0 6.6	6.3	4.5 6.2	4.3 5.7	4.4	4.6 4.1	4.3	4.4 3.9	4.9	5.6 5.1	5.3 5.4	5.6 5.0	6.0 4.3	6.7 4.2	6.4 4.0	6.8 4.1	24 24	11.0 7.1	2.9 3.9	5.1 5.2	
10		5.3	6.2	4.9 5.8	4.5	4.2	4.4	4.7	7.1 5.5	5.4	6.6	5.5	4.9	3.9	4.1	4.0 C	3.9	4.6 0.6	0.7	0.9	0.9	4.3 1.6	4.2 2.7	2.8	2.6	24	6.6	0.6	3.8	'
41		i.1	3.3	3.8	1.6	3.9	2.0	1.8	3.4	3.7	1.9	1.2	1.7	1.5	2.1	2.0	1.8	1.7	1.5	1.8	2.6	3.6	4.3	6.3	6.0	24	6.3	1.2	2.8	
12		3.6	9.9	9.4	10.4	11.6	14.1	16.5	17.7	17.6	17.8	18.8	18.7	17.6	15.5	14.5	12.5	8.9	6.0	5.3	6.6	5.9	6.3	6.7	6.7	24	18.8	5.3	11.8	
14		5.6	6.9	6.9	7.4	7.8	7.8	8.3	8.9	7.9	7.7	9.0	10.3	10.7	11.9	13.6	13.7	14.6	14.7	13.9	13.3	13.5	14.0	17.2	24.2	24	24.2	6.6	11.3	
10	24.		18.6	26.7	31.9	36.0	34.7	36.7	31.3	14.5	18.3	16.5	10.6	8.7	9.5	9.2	9.2	10.7	16.3	20.9	19.7	18.4	24.5	25.6	27.0	24	36.7	8.7	20.8	
16	30.		33.7	31.0	29.0	27.2	26.0	24.2	23.0	20.9	21.5	22.6	23.4	27.9	13.3	5.4	4.2	2.8	2.3	2.2	2.4	2.1	2.1	2.1	2.7	24	33.7	2.1	16.0	
17		1.8	4.1	4.4	4.0	3.6	4.7	5.6	5.1	3.9	3.5	6.1	6.9	5.3	3.9	3.7	4.4	6.2	8.4	8.9	7.5	7.9	7.5	7.2	6.7	24	8.9	3.5	5.5	
18		7.6	9.3	11.1	11.5	10.5	9.5	8.7	8.7	8.5	6.2	5.8	7.4	7.7	8.5	10.3	13.0	10.8	12.3	16.3	12.6	11.2	10.6	10.1	11.0	24	16.3	5.8	10.0	
19	10.	0.6	15.5	10.0	9.5	9.8	9.3	9.0	7.7	5.8	6.4	5.0	2.1	3.3	4.7	2.4	5.2	8.8	7.5	5.7	4.9	3.5	3.3	3.5	6.0	24	15.5	2.1	6.6	
20	3.	3.8	3.5	3.1	5.4	3.0	2.0	0.4	0.4	0.7	0.9	1.0	1.9	2.1	2.1	2.4	3.0	3.6	3.5	3.1	2.9	2.6	2.8	2.3	2.2	24	5.4	0.4	2.4	
21	2.	2.7	2.8	2.7	2.5	3.0	3.2	2.6	2.8	2.9	3.1	2.5	2.2	2.1	2.1	2.4	2.3	3.5	3.2	4.4	2.3	2.6	2.0	2.1	2.1	24	4.4	2.0	2.7	
22	1.	1.8	1.6	1.2	1.1	1.0	1.5	2.0	2.3	3.2	3.3	3.4	3.6	6.6	7.9	5.6	5.0	3.0	2.4	2.8	3.2	2.8	5.2	6.8	6.7	24	7.9	1.0	3.5	
23	8.	8.8	9.2	11.1	7.3	7.4	8.0	8.3	9.7	10.5	3.6	5.9	8.4	0.9	1.8	5.4	2.8	3.1	4.5	12.2	7.4	5.4	5.2	4.5	5.1	24	12.2	0.9	6.5	
24	24.	1.2	41.9	20.5	13.2	20.5	40.0	13.6	2.5	12.1	15.2	9.0	5.1	5.8	5.7	5.3	5.4	6.1	6.8	8.0	10.1	11.0	11.6	12.7	13.1	24	41.9	2.5	13.3	
25	16.		19.8	18.5	17.5	16.2	18.4	20.5	20.1	22.1	25.6	27.9	26.0	22.3	20.1	17.4	18.5	16.7	9.2	2.0	1.7	1.8	1.6	1.8	2.2	24	27.9	1.6	15.2	
26	3.		3.5	3.0	3.1	4.0	4.8	4.8	4.7	5.1	6.1	3.8	2.4	1.2	0.6	0.4	0.5	1.9	2.7	3.4	2.9	3.5	3.9	2.1	1.7	24	6.1	0.4	3.0	
27	2.		3.2	3.4	3.0	3.1	2.4	1.7	1.9	2.6	0.7	0.0	M	M	M	M	M	M	2.7	4.0	7.0	7.8	6.5	6.6	12.6	18	12.6	0.0	4.0	
28	13.		11.9	11.0	9.5	12.3	10.8	10.7	12.4	13.5	12.3	14.8	12.3	12.2	11.4	12.3	14.3	15.5	13.6	11.3	10.6	9.0	9.4	8.7	8.2	24	15.5	8.2	11.7	
29	10.		16.2	18.7	23.1	22.6	17.0	11.0	8.9	7.3	5.3	3.7	4.0	4.5	4.5	4.7	4.9	5.4	5.5	6.1	6.5	7.1	10.0	11.8	10.1	24	23.1	3.7	9.6	
30	11.	/	17.5	16.8	13.8	11.6	10.7	9.9	7.1	5.1	8.5	9.0	7.9	9.3	10.8	8.9	6.9	8.1	7.2	7.6	7.4	6.4	4.6	7.8	7.0	24	17.5	4.6	9.2	
Count	<u> </u>	30	30	30	30	30	30	30	30	30	30	30	29	29	29	28	28	29	30	30	30	30	30	30	30	712	0.0	0.0	\rightarrow	
Maximum	30.		41.9	31.0	31.9	36.0	40.0	36.7	31.3	22.1	25.6	27.9	26.0	27.9	20.1	17.4	18.5	16.7	16.3	20.9	19.7	18.4	24.5	25.6	27.0	24				
Minimum		8	1.6	1.2	1.1	1.0	1.5	0.4	0.4	0.7	0.7	0.0	1.7	0.9	0.6	0.4	0.5	0.6	0.7	0.9	0.9	1.6	1.6	1.8	1.7	0				
Average		3.9	10.2	9.5	9.2	9.5	10.0	9.2	9.2	8.2	7.7	7.5	7.3	7.1	6.8	6.5	6.7	6.6	6.5	6.9	6.9	6.9	7.3	7.6	7.9	U				
Average	0.		10.2	5.5	J.L	3.3	10.0	3.2	3.2	0.2	7.7	7.5	7.5	7.1	0.0	0.5	0.7	0.0	0.5	0.5	0.5	0.5	7.3	7.0	7.3					
																														Maximum
Percentiles	5		10		20		30		40		50		60		70		80		90		95		99		100			Maximu	um Hourly	41.9
																												Maxin	mum Daily	20.8
Data			2.4		3.5		4.4		5.1		6.0		7.1		8.8		11.0		16.3		20.7		31.3		41.9			Monthl	y Average	7.9
Natas			`alibratic -	/ Span Cort		No Data	Augilable	-	Tost/Start	n norind		MOE Audit		Fauing	t Malfun-ti-	n / Doue-		Data of CL-	ngo										\longrightarrow	
Notes		L - C	alibration ,	/ Span Cycle	. N	A - No Data	avanable	1-	Test/Startu	p perioa	A-	MOE Audit	M	- Equipmen	t Malfunction	ni / Down	K	 Rate of Cha 	inge											

											Dec	M _{2.5} - Cr cember (/m³)	ago Road	2016																
	Hour		400	200	200	***	500	500	700	000		4000	****	4200	4200	4400	4500	4500	4700	4000	4000	2000	2400	2200	2200					
Day		8.5	7.4	200 8.5	300 12.5	400 11.7	500 11.8	10.9	700 6.4	800 4.5	6.3	6.1	1100 4.6	1200 3.4	1300 4.9	6.6	1500 5.2	1600 4.5	1700 3.8	1800 3.3	1900 3.1	2000 4.8	2100 4.7	2200 3.9	2300 3.8	Count 24	Maximum N 12.5	Ainimum 3.1	Average 6.3	
		2.9	2.0	1.4	1.0	0.9	0.9	0.9	1.2	1.1	1.2	1.2	0.9	1.1	1.0	1.0	1.1	0.9	0.8	1.0	1.1	1.2	1.7	1.8	1.7	24	2.9	0.8	1.2	
		1.9	1.9	1.6	1.3	1.6	1.8	1.9	2.0	1.8	1.4	1.8	2.1	1.7	1.9	2.4	2.2	2.3	3.0	3.0	3.5	2.7	2.8	3.4	4.6	24	4.6	1.3	2.3	
4		5.6	5.8	4.7	4.6	5.3	4.9	4.7	3.3	1.8	1.2	8.4	1.2	1.1	1.0	1.2	1.6	1.9	2.0	2.0	5.0	4.5	3.7	4.5	20.6	24	20.6	1.0	4.2	
		9.3	1.9	2.8	3.1	3.0	3.3	2.8	5.0	73.5	4.2	3.5	2.8	2.6	2.1	1.7	2.1	36.7	12.0	2.2	2.5	3.3	4.0	4.0	3.9	24	73.5	1.7	8.4	
6	3	3.8	3.8	3.7	4.1	4.4	3.3	2.4	2.9	2.4	3.6	6.1	3.3	2.1	6.1	2.4	2.8	3.3	3.1	4.3	5.2	4.2	3.0	1.9	1.8	24	6.1	1.8	3.5	
7	1	1.9	1.0	2.4	4.1	7.5	14.8	17.6	46.0	106.6	59.3	57.7	61.7	60.7	70.1	63.0	79.8	96.2	77.6	75.4	89.0	121.8	119.8	135.3	134.6	24	135.3	1.0	62.7	
8	108	8.7	102.1	98.3	97.5	127.4	128.4	123.4	109.0	79.5	60.8	41.6	54.2	21.0	0.8	0.6	0.7	1.2	1.9	1.7	1.6	1.6	1.5	0.8	0.8	24	128.4	0.6	48.6	
9	1	1.0	1.0	0.8	0.8	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5	0.6	0.7	0.7	0.6	0.6	1.1	24	1.1	0.5	0.7	
10		0.9	1.0	0.9	0.7	6.5	20.8	34.1	20.5	1.7	1.1	0.9	0.7	0.6	0.5	0.4	0.7	0.9	1.6	1.5	1.5	1.9	1.8	2.0	2.2	24	34.1	0.4	4.4	
11		2.9	3.4	3.4	3.7	3.7	10.5	10.6	2.0	1.9	1.9	1.9	2.2	1.7	1.8	1.0	1.5	9.0	8.2	8.5	6.8	6.4	6.4	6.7	7.8	24	10.6	1.0	4.7	
12		8.3	9.1	3.4	4.2	4.7	3.4	1.2	2.1	2.5	2.6	2.6	3.0	С	С	6.7	6.9	6.5	6.5	6.7	7.5	13.5	26.5	28.4	29.3	22	29.3	1.2	8.4	
13		4.7	33.3	34.3	39.1	49.4	49.5	61.3	73.0	68.0	55.1	38.3	17.8	4.6	13.0	27.6	37.9	45.1	37.4	38.6	45.3	39.3	43.3	24.2	15.9	24	73.0	4.6	38.6	
14		9.4	12.6	0.4	0.3	0.4	0.5	0.5	0.5	0.3	0.4	0.3 M	0.5 M	0.6 M	0.5 M	0.5 M	0.6 M	0.7 M	2.9 M	11.7 M	27.6	39.5 M	58.7 M	44.8 M	30.0	24	58.7	0.3	10.6	
15	31	1.5	31.5 M	33.0 M	37.3 M	23.6	6.3 M	4.5 M	5.3 M	8.1 M	9.8 M	M	M	IVI	IVI	M	IVI NA	M	IVI	M	M	M	M	IVI	M	10 0	37.3	4.5		
10		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		
15		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		
10		M	M	M	м	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0.0	0.0		
20		M	M	M	M	M	M	М	M	M	M	M	M	M	M	M	M	М	M	М	M	M	M	M	M	0	0.0	0.0		
21		M	M	M	M	M	M	M	M	M	М	M	М	M	M	M	3.0	3.2	4.7	22.5	45.7	84.6	87.0	102.0	121.5	9	121.5	3.0		
22	124	4.7	132.3	47.4	22.4	20.1	19.5	17.4	16.9	9.8	4.1	4.7	4.8	4.8	3.9	3.4	2.6	1.4	1.4	1.4	0.7	0.6	3.3	4.6	3.8	24	132.3	0.6	19.0	
23	. 5	5.4	5.6	6.2	6.2	8.5	11.5	9.6	3.9	3.9	4.0	3.5	3.2	2.6	1.9	1.9	1.9	1.7	2.4	2.4	2.8	3.2	3.5	3.0	1.6	24	11.5	1.6	4.2	
24	2	2.0	1.5	1.4	0.5	0.7	0.8	1.1	1.6	1.7	1.7	2.0	2.2	1.8	1.6	1.5	1.9	1.6	1.0	0.8	0.6	0.5	0.5	0.6	0.8	24	2.2	0.5	1.3	
25	1	1.2	1.6	1.7	1.6	0.6	0.4	0.4	0.4	0.6	0.7	0.5	0.4	0.4	0.5	0.6	0.8	1.1	1.4	1.3	1.4	1.5	1.5	1.9	1.7	24	1.9	0.4	1.0	
26		2.1	2.1	2.3	4.4	2.9	19.0	11.9	15.9	4.2	5.2	6.1	6.3	7.5	8.5	8.4	9.9	9.3	7.1	4.9	3.2	2.2	1.7	1.4	1.7	24	19.0	1.4	6.2	
27		1.6	1.6	1.6	2.4	2.8	3.3	3.6	4.0	4.3	4.7	5.5	5.5	5.0	5.5	4.8	4.5	4.4	4.7	5.1	5.3	4.7	3.3	2.8	2.6	24	5.5	1.6	3.9	
28		4.8	5.4	5.4	4.5	3.3	2.9	2.6	2.1	4.4	4.3	3.1	2.1	3.8	6.0	6.2	7.3	5.2	4.6	10.5	13.1	12.3	12.1	10.7	7.3	24	13.1	2.1	6.0	
29		9.5	9.8	10.3	10.2	9.4	6.2	5.9	7.0	4.7	1.8	5.3	10.7	17.8	18.2	11.8	9.7	10.2	9.6	7.6	5.1	4.7	2.5	4.0	2.4	24	18.2	1.8	8.1	
30		3.1 2.3	2.8	2.1 1.9	1.4 3.8	0.9 6.1	1.6 7.2	1.8 5.3	2.3 7.1	3.4 6.2	4.1 5.2	4.1 4.0	3.6 2.8	3.5 2.4	3.3 2.5	3.3 2.6	4.0 3.0	2.8 5.1	3.3 6.3	3.0 7.9	3.3 7.6	3.0 6.5	4.5 11.8	3.2 12.4	2.3 10.2	24 24	4.5 12.4	0.9 1.9	2.9 5.5	
Count		25	2.0	25	25	25	25	25	25	25	25	24	2.8	2.4	2.5	2.6	25	25	25	25	25	25	25	25	25	593	12.4	1.7	3.5	
Maximum	124		132.3	98.3	97.5	127.4	128.4	123.4	109.0	106.6	60.8	57.7	61.7	60.7	70.1	63.0	79.8	96.2	77.6	75.4	89.0	121.8	119.8	135.3	134.6	24				
Minimum		0.9	1.0	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.5	0.4	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.6	0.8	0				
Average		6.3	15.3	11.2	10.9	12.2	13.3	13.5	13.6	15.9	9.8	8.7	8.2	6.6	6.8	6.7	7.7	10.2	8.3	9.1	11.6	14.8	16.4	16.3	16.6	-				
8-		-		=																										
																														Maximum
Percentiles	i		10		20		30		40		50		60		70		80		90		95		99		100			Maximu	ım Hourly	135.3
																													num Daily	62.7
Data			0.7		1.4		1.9		2.6		3.4		4.5		6.1		10.1		34.2		62.2		123.5		135.3			Monthl	y Average	10.9
Notes		C - I	Calibration	/ Span Cycle	N	IA - No Data	Available	T-	- Test	Α-	MOE Audit	М	- Equipmen	t Malfunction	on / Down	R -	- Rate of Ch	ange											-	

Figure D-1 Time History Plot of Measured 24-Hour Average PM_{2.5} Concentrations – Crago Road Station



Appendix E Continuous Parameter Edit Log February 9, 2017

Appendix E CONTINUOUS PARAMETER EDIT LOG



Project No.: 160950528

Project Name	Durham York Ener	gy Centre Ambient	Air Monitoring Program					
Contact	Greg Crooks / Con	nie Lim / Tim Hung	Phone:	905-944-7777	E-mail:			greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com
Station number:	N	I/A	Station Name:	Crago Road				
Station address:	Crago Road		Emitter Address:	The Region of Du	ırham, 605 Ros	sland Rd, Whitby,	ON	
Pollutant or parameter:	SO2	Instrument make	& model:	Teledyne Monito	or Labs Sulphur	Dioxide Analyzer	Serial Number:	1228
Data edit period	Start date:	1-Oct-16	End date:	31-Dec-16	i			Time Zone : EST
Edit #	Edit date	Editor's Name	Edit Action	Start	ing	End	ling	Reason
				Date	Hour (xx:xx)	Date	Hour (xx:xx)	
				(dd/mm/yyyy)		(dd/mm/yyyy)		
1	23-Nov-16	BB	Invalidate	13-Oct-16	04:00	13-Oct-16	06:00	Monthly calibration
2	20-Dec-16	BB	Invalidate	11-Nov-16	14:00	11-Nov-16	16:00	Monthly calibration
3	20-Dec-16	BB	Invalidate	27-Nov-16	11:00	27-Nov-16	16:00	Invalidate due to power outage
4	11-Jan-16	BB	Data Review	27-Oct-16	02:00	27-Oct-16	09:00	SO2 concentrations elevated during October 27 between 2:00 and 9:00. Concentrations were consistent with Courtice measurements and winds were from the east, for which potential SO2 emissions sources include Ontario Hydro and St. Mary's
								cement. Data deemed valid.
5	11-Jan-16	ВВ	Data Review	24-Nov-16	00:00	24-Nov-16	08:00	SO2 concentrations elevated during November 24. Concentrations were consistent with Courtice measurements and winds were
								from the east, for which potential SO2 emissions sources include St. Mary's cement. Data deemed valid.
6	11-Jan-16	BB	Data Review	26-Dec-16	05:00	26-Dec-16	08:00	SO2 concentrations elevated during December 26. Concentrations were consistent with Courtice measurements and winds were
								from the east, for which potential SO2 emissions sources include Ontario Hydro and St. Mary's cement. Data deemed valid.
7	11-Jan-16	BB	Invalidate	15-Dec-16	10:00	21-Dec-16	14:00	Data Logger malfunction - manufacturer was unable to retrieve data. Data invalidated.
8	11-Jan-16	BB	Invalidate	12-Dec-16	12:00	12-Dec-16	14:00	Monthly calibration

Examples of Acceptable Edit Actions:

Add offset of Delete hours

Zero Correction

Slope Correction

Manual data entry for missing, but collected data

Invalidating span & zero check data

Invalidating data due to equipment malfunctions and power failures.

Invalidating data when instrumentation off-line

Marking data as out-of-range

Project Name	Durham York Ener	gy Centre Ambient	Air Monitoring Program					
Contact	Greg Crooks / Con	nie Lim / Tim Hung	Phone:	905-944-7777	E-mail:			greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com
Station number:	N	I/A	Station Name:	Crago Road				
Station address:	Crago Road		Emitter Address:	The Region of Du	rham, 605 Ro	ssland Rd, Whitby,	, ON	
Pollutant or parameter:	NOx	Instrument make 8	k model:	API Model 200E (Chemilumines	cence Analyzer	Serial Number:	1424
Data edit period	Start date:	1-Oct-16	End date:	31-Dec-16				Time Zone : EST
Edit #	Edit date	Editor's Name	Edit Action	Starti	ng	End	ling	Reason
1	23-Nov-16	BB	Invalidate	13-Oct-16	04:00	13-Oct-16	06:00	Monthly calibration
2	20-Dec-16	BB	Invalidate	11-Nov-16	14:00	11-Nov-16	16:00	Monthly calibration
3	20-Dec-16	BB	Invalidate	27-Nov-16	11:00	27-Nov-16	16:00	Invalidate due to power outage
4	20-Dec-16	BB	Invalidate	25-Nov-16	13:00	25-Nov-16	13:00	Calibration for new Nox analyzer
5	20-Dec-16	BB	Zero Correction	25-Nov-16	14:00	3-Dec-16	08:00	Zero drift correction applied during stabilization period between November 25 at 14:00 and December 3 at 15:00 for a replacement NO ₂ analyzer while the regular unit was removed for routine overhaul. A NOX offset of 0 ppb on November 25 at 14:00 which varied linearly to 30.5 ppb on December 3 at 8:00 was applied. For NO, a polynomial zero correction was applied based on an analysis of the measured zero values. NO2 was calculated based on the difference between the zero adjusted values for NO and NOX.
6	11-Jan-16	ВВ	Data Review	19-Oct-16	06:00	19-Oct-16	23:00	NO2 and NO concentrations were elevated during October 19 between 6:00 and 23:00. Concentrations were consistent with Courtice and Rundle measurements and winds were from the north. Potential emissions sources include Highway 401 and the CN railway. Data deemed valid.
7	11-Jan-16	ВВ	Data Review	24-Nov-16	00:00	24-Nov-16	08:00	NOX concentrations were elevated during November 24. Concentrations were consistent with Courtice measurements and winds were from the east, for which potential emissions sources include St. Mary's cement. Data deemed valid.
8	11-Jan-16	BB	Data Review	9-Nov-16	21:00	10-Nov-16	08:00	NOX concentrations elevated during November 9-10. Concentrations were consistent with Courtice measurements and winds were from the north, for which potential emissions sources include Highway 401 and a CN railway. Data deemed valid.
9	11-Jan-16	BB	Data Review	5-Dec-16	20:00	6-Dec-16	05:00	NOX concentrations elevated during December 5-6. Concentrations were consistent with Courtice WPCP Station measurements and winds were from the west, indicating that the emissions source orginated to the west of the Courtice WPCP Station. Data deemed valid.
10	11-Jan-16	BB	Invalidate	15-Dec-16	10:00	21-Dec-16	14:00	Data Logger malfunction - manufacturer was unable to retrieve data. Data invalidated.
11	11-Jan-16	BB	Invalidate	12-Dec-16	12:00	12-Dec-16	13:00	Monthly calibration

Examples of Acceptable Edit Actions:

Add offset of

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 Delete hours

Zero Correction

Slope Correction

. Manual data entry for missing, but collected data

Project Name	Durham York Energ	gy 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 Du	urham, 605 Ros	sland Rd, Whitby,	ON	
Pollutant or parameter:	PM2.5	Instrument make	& model:	Thermo Sharp 50	030 Synchroniz	ed Hybrid	Serial Number:	CM 0269
				Ambient Real-tir				
Data edit period	Start date:	1-Oct-16	End date:	31-Dec-16	i			Time Zone: EST
Edit #	Edit date	Editor's Name	Edit Action	Start	ing	End		Reason
				Date	Hour (xx:xx)	Date	Hour (xx:xx)	
				(dd/mm/yyyy)		(dd/mm/yyyy)		
1	23-Nov-16	BB	Invalidate	13-Oct-16	04:00	13-Oct-16	06:00	Monthly calibration
2	20-Dec-16	BB	Invalidate	11-Nov-16	14:00	11-Nov-16	16:00	Monthly calibration
3	20-Dec-16	BB	Invalidate	27-Nov-16	11:00	27-Nov-16	16:00	Invalidate due to power outage
4	11-Jan-16	BB	Data Review	27-Oct-16	12:00	28-Oct-16	00:00	PM2.5 concentrations elevated during October 27 between 12:00 and midnight on October 28. Concentrations were consistent with Rundle measurements and winds were from the north, for which potential emissions sources could be Highway 401 or Hwy 418 construction. Data deemed valid.
5	11-Jan-16	ВВ	Data Review	24-Nov-16	00:00	24-Nov-16	08:00	PM2.5 concentrations elevated during November 24. Concentrations were consistent with Courtice measurements and winds were from the east, for which potential emissions sources include agricultural areas and St. Mary's cement. Data deemed valid.
6	11-Jan-16	BB	Data Review	7-Dec-16	08:00	8-Dec-16	12:00	PM2.5 concentrations elevated during December 7-8. Winds were moderate (~20 km/h) and from the west, in the direction of DYEC. NOx/NO2 measurements at both the Courtice WPCP and Crago Road Stations had very similar trends and magnitudes over this period, indicating that the source(s) of NOx/NO2 measured at the Crago Road Station originated upwind of the Courtice WPCP Station. Measured PM2.5 concentrations at the Courtice WPCP Station were much lower than those at the Crago Road Station, indicating that the elevated PM2.5 levels measured at the Crago Road Station originated from a non-combustion emissions source located between the two monitoring stations. Possible sources for the PM2.5 measurements could be wind erosion off roads and an agricultural field to the west of the Crago Road Station.
7	11-Jan-16	BB	Data Review	21-Dec-16	20:00	22-Dec-16	03:00	PM2.5 concentrations elevated during December 21-22. Winds were from the north, for which potential emissions sources could be Highway 401 or Hwy 418 construction. Hydro workers noted on December 21 towards the north. Data deemed valid.
8	11-Jan-16	BB	Invalidate	15-Dec-16	10:00	21-Dec-16	14:00	Data Logger malfunction - manufacturer was unable to retrieve data. Data invalidated.
9	11-Jan-16	BB	Invalidate	12-Dec-16	12:00	12-Dec-16	13:00	Monthly calibration
10	20-Jan-16	BB	Data Review	5-Dec-16	08:00	5-Dec-16	09:00	PM2.5 concentrations elevated during December 5 at 8 AM. Winds were from the west for which potential emissions sources could be Highway 401 or Hwy 418 construction or activity in agricultural field to the west. Review of minute data showed a gradutal increase and decrease in concentration. Data deemed valid.

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.

Marking data as out-of-range

EDIT EOG TADEE								
Project Name	Durham York Ener	gy Centre Ambient	Air Monitoring Program					
Contact	Greg Crooks /		Phone:	905-944-7777	E-mail:			greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com
	Connie Lim / Tim							
	Hung							
Station number:	N	I/A	Station Name:	Crago Road				
Station address:	Crago Road		Emitter Address:	The Region of Du	rham, 605 Ros	sland Rd, Whitby,	ON	
Pollutant or parameter:	Temperature	Instrument make	& model:	Campbell Scienti	fic Model HMF	260		
Data edit period	Start date:	1-Oct-16	End date:	31-Dec-16				Time Zone : EST
Edit #	Edit date	Editor's Name	Edit Action	Starti	ng	End	ing	Reason
				Date	Hour (xx:xx)	Date	Hour (xx:xx)	
				(dd/mm/yyyy)		(dd/mm/yyyy)		
1	20-Dec-16	BB	Invalidate	27-Nov-16	11:00	27-Nov-16	16:00	Invalidate due to power outage
2	11-Jan-16	BB	Invalidate	15-Dec-16	10:00	21-Dec-16	14:00	Data Logger malfunction - manufacturer was unable to retrieve data. Data invalidated.

EDIT LOG TABLE

EDIT LOG TABLE								
Project Name	Durham York Ener	gy Centre Ambient	Air Monitoring Program					
	Greg Crooks /		Phone:	905-944-7777	E-mail:			greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com
	Connie Lim / Tim							
	Hung							
Station number:	N	/A	Station Name:	Crago Road				
Station address:	Crago Road		Emitter Address:	The Region of Du	rham, 605 Ros	sland Rd, Whitby,	ON	
Pollutant or parameter:	Rainfall	Instrument make	& model:	Texas Electronic	TE525M			
Data edit period	Start date:	1-Oct-16	End date:	31-Dec-16				Time Zone: EST
Edit #	Edit date	Editor's Name	Edit Action	Starti	ng	End	ing	Reason
				Date	Hour (xx:xx)	Date	Hour (xx:xx)	
				(dd/mm/yyyy)		(dd/mm/yyyy)		
1	20-Dec-16	BB	Invalidate	27-Nov-16	11:00	27-Nov-16	16:00	Invalidate due to power outage
2	11-Jan-16	BB	Invalidate	15-Dec-16	10:00	21-Dec-16	14:00	Data Logger malfunction - manufacturer was unable to retrieve data. Data invalidated.

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

Project Name	Durham York Ener	gy Centre Ambient	Air Monitoring Program					
Contact	Greg Crooks /		Phone:	905-944-7777	E-mail:			greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com
	Connie Lim / Tim							
	Hung							
Station number:	N	/A	Station Name:	Crago Road				
Station address:	Crago Road		Emitter Address:	The Region of Du	urham, 605 Ros	sland Rd, Whitby,	ON	
Pollutant or parameter:	Relative Humidity	Instrument make	& model:	Campbell Scienti	ific Model HMF	60		
Data edit period	Start date:	1-Oct-16	End date:	31-Dec-16	i			Time Zone: EST
Edit #	Edit date	Editor's Name	Edit Action	Start	ing	End	ing	Reason
				Date	Hour (xx:xx)	Date	Hour (xx:xx)	
				(dd/mm/yyyy)		(dd/mm/yyyy)		
1	20-Dec-16	BB	Invalidate	27-Nov-16	11:00	27-Nov-16	16:00	Invalidate due to power outage
2	11-Jan-16	BB	Invalidate	15-Dec-16	10:00	21-Dec-16	14:00	Data Logger malfunction - manufacturer was unable to retrieve data. Data invalidated.
· · · · · · · · · · · · · · · · · · ·						· · · · · · · · · · · · · · · · · · ·		

EDIT LOG TABLE

EDIT LOG TABLE								
Project Name	Durham York Ener	rgy Centre Ambient	Air Monitoring Program					
Contact	Greg Crooks /		Phone:	905-944-7777	E-mail:			greg.crooks@stantec.com, connie.lim@stantec.com, tim.hung@stantec.com
	Connie Lim / Tim							
	Hung							
Station number:	N	I/A	Station Name:	Crago Road				
Station address:	Crago Road		Emitter Address:	The Region of Du	urham, 605 Ro	ssland Rd, Whitby,	ON	
Pollutant or parameter:	Wind	Instrument make	& model:	Met One Instrun	nents Inc. Mod	lel 034B		
	Speed/Wind							
	Direction							
Data edit period	Start date:	1-Oct-16	End date:	31-Dec-16	i			Time Zone : EST
Edit #	Edit date	Editor's Name	Edit Action	Start	ing	End	ing	Reason
				Date	Hour (xx:xx)	Date	Hour (xx:xx)	
				(dd/mm/yyyy)		(dd/mm/yyyy)		
1	20-Dec-16	BB	Invalidate	27-Nov-16	11:00	27-Nov-16	16:00	Invalidate due to power outage
2	11-Jan-16	BB	Invalidate	15-Dec-16	10:00	21-Dec-16	14:00	Data Logger malfunction - manufacturer was unable to retrieve data. Data invalidated.

Appendix F Metals Data Summary February 9, 2017

Appendix F METALS DATA SUMMARY



Project No.: 160950528

Column C	Metals and Total Particulates	Cra	ago Station																													
Martine Mart			.50 5.41.011		rago	Cr	rago		200	Cra	900	Crac	80	Crago	Crago	•	Crago	,	Cra	990	Cr	290	Cr	290	Cr	200		`rago	Crag		Crago	
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Marting Mart																		185												983		
The second			3					_																								
March Marc				_																												ומ
Marche																																
Interest																																
March Marc																																
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Second																																
Second Column	Boron (B)			<6.0																											<6.0 6.	.0
Campaign																																
Mary Configuration 1																																
Larger Mart																																
Internal Control Con																																
Marchanness				172																	110											
March																																
The part of the color of the																																
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Second Control																																
The content of the																																
Transfer	Thallium (TI)			<10	10	<10	10			<10	10	<10	10	<10 10	<10	10	<10	10	<10	10	<10	10	<10	10	<10	10		10	<10	10	<10 10	0
Variable																																
Second S	, ,										-																			-		
Table Tabl			μg												69.3	5.0						5.0										
Calculated Connectications	Zirconium (Zr)		ug	<5 O																												
Column Maximum Minimum Minim	Total Uranium (U)		па	<0.45	0.45	<0.45		<0.45	0.45			<5.0 <0.45	5.0 0.45	<5.0 5.0 <0.45 0.45	<5.0 <0.45	5.0 0.45	<5.0 <0.45	5.0 0.45	<0.45	5.0 0.45	<5.0 <0.45	5.0 0.45	<5.0 <0.45	5.0 0.45	<5.0 <0.45	5.0 0.45	<5.0 <0.45	5.0 0.45	<5.0 <0.45	0.45		
Particulation Marinamy Mari	Total Uranium (U)	Qua	μg	<0.45 Cr	0.45 rago	<0.45 Cr	0.45 rago	<0.45	0.45 rago	<0.45 Cra	0.45 ago	<0.45 Crag	0.45 go	<0.45 0.45 Crago	<0.45 Crago	0.45 o	<0.45 Crago	0.45	<0.45 Cra	0.45 ago	<0.45 Cr	0.45 ago	<0.45 Cra	0.45 rago	<0.45 Cra	0.45 ago	<0.45	0.45 Crago	<0.45 Crag	0.45	<0.45 0.4 Crago	
Formation 19/18/2016 19/18/		Qua	μg	<0.45 Cr	0.45 rago	<0.45 Cr	0.45 rago	<0.45	0.45 rago	<0.45 Cra	0.45 ago	<0.45 Crag	0.45 go	<0.45 0.45 Crago	<0.45 Crago	0.45 o	<0.45 Crago	0.45	<0.45 Cra	0.45 ago	<0.45 Cr	0.45 ago	<0.45 Cra	0.45 rago	<0.45 Cra	0.45 ago	<0.45	0.45 Crago	<0.45 Crag	0.45	<0.45 0.4 Crago	
Particulater			μg arter 4 2016	<0.45 Cr	0.45 rago	<0.45 Cr	0.45 rago	<0.45	0.45 rago	<0.45 Cra	0.45 ago	<0.45 Crag	0.45 go	<0.45 0.45 Crago	<0.45 Crago	0.45 o	<0.45 Crago	0.45	<0.45 Cra	0.45 ago	<0.45 Cr	0.45 ago	<0.45 Cra	0.45 rago	<0.45 Cra	0.45 ago	<0.45	0.45 Crago	<0.45 Crag	0.45	<0.45 0.4 Crago	
Numbers No. Numbers No. Numbers No. Numbers No.			μg arter 4 2016	<0.45 Cr	0.45 rago 41	<0.45 Cr.	0.45 rago 42	<0.45 Cr	0.45 rago 43	<0.45 Cra 4	0.45 ago 4	<0.45 Cra ₈ 45	0.45 go	<0.45 0.45 Crago 46	<0.45 Crago 47	0.45 o	<0.45 Crago 48	0.45	<0.45 Cra 4	0.45 ago 19	<0.45 Cr.	0.45 rago 50	<0.45 Cra	0.45 rago 51	<0.45 Cra	0.45 rago 52	<0.45 CI	0.45 Crago 53	<0.45 Crag 54	0.45 o	<0.45 0.4 Crago 55	45
Asterion (8b) ug/m3 3.56.01 3.66.01 3.26.01 3.	Calculated Concentrations	Units Ma	μg arter 4 2016 aximum Minimum	<0.45 Cr	0.45 rago 41	<0.45 Cr.	0.45 rago 42 0/2016	<0.45 Cı	0.45 rago 43 0/2016	<0.45 Cra 4	0.45 ago 44 0/2016	<0.45 Crag 45 27/10/	0.45 go 5	Crago 46 02/11/2016	<0.45 Crago 47 08/11/2	0.45 o	<0.45 Crago 48 14/11/2	0.45	<0.45 Cra 4 20/11	0.45 ago 19	<0.45 Cr. 5	0.45 ago 50 1/2016	<0.45 Cra	0.45 rago 51 2/2016	<0.45 Cra 5	0.45 rago 52 2/2016	<0.45 Cr	0.45 Grago 53	<0.45 Crag 54 20/12/2	0.45 o	<0.45 0.4 Crago 55 26/12/2016	45
Amenic (A) Mag/mil 2,16-03 1,86-03 2,006-03 2,006-03 2,006-03 3	Calculated Concentrations Particulate Total Mercury (Hg)	Units Ma μg/m3 4 μg/m3 1.	µg arter 4 2016 Dximum Minimum 49.26 10.51 .3E-05 6.0E-06	<0.45 Cr 03/10	0.45 rago 41 0/2016 9.38 12E-06	<0.45 Cr 6 09/10	0.45 rago 42 0/2016 0.51 5E-06	<0.45 Cr 15/1 1: 6.6	0.45 rago 43 0/2016 5.44 6E-06	<0.45 Cra 4 21/10 12. 6.03	0.45 ago 4 4 //2016 .60 E-06	<0.45 Crag 45 27/10/ 28.2 6.82E	0.45 go 5 72016 24 E-06	0.45 Crago 46 02/11/2016 41.66 1.32E-05	08/11/2 38.56 6.76E-0	0.45 0 2016 6	<0.45 Crago 48 14/11/2 49.26 1.33E-0	0.45	<0.45 Cra 4 20/11, 15. 6.58	0.45 ago .99 ./2016 .93 EE-06	<0.45 Cr : 26/11 14 6.91	0.45 rago 50 1/2016 4.23 1E-06	<0.45 Cr: 5 02/12 15 6.46	0.45 rago 51 2/2016 5.44 6E-06	<0.45 Cra 5 08/12 33 1.30	0.45 ago 52 2/2016 3.56 0E-05	<0.45 Cr 14/1 3: 7.0	0.45 Grago 53 12/2016 88.34 05E-06	<0.45 Crag 54 20/12/2 24.2 6.85E-	0.45 0 2016 5 06	Crago 55 26/12/2016 12.49 6.71E-06	45
Sarton Ba Sart	Calculated Concentrations Particulate Total Mercury (Hg) Aluminum (Al)	Units Ма µg/m3 µg/m3 1. µg/m3 2.	µg arter 4 2016 aximum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02	03/1 03/1 16 6.8:	0.45 rago 41 .0/2016 9.38 22E-06 00E-02	<0.45 Cr. 69/10 10 6.65 3.99	0.45 rago 42 0/2016 0.51 5E-06 9E-02	15/1 1: 6.6	0.45 rago 43 0/2016 5.44 6E-06 2E-02	<0.45 Cra 4 21/10 12. 6.03 4.70	0.45 ago 4 //2016 .60 E-06 E-02	<0.45 Craj 45 27/10/ 28.2 6.82E 1.75E	0.45 go 5 /2016 24 e-06 e-01	0.45 0.45 Crago 46 02/11/2016 41.66 1.32E-05 1.68E-01	<0.45 Crago 47 08/11/2 38.56 6.76E-0 1.62E-0	0.45 0 2016 6 06	<0.45 Cragc 48 14/11/2 49.26 1.33E- 2.70E-0	0.45 0.016 0.05 0.01	<0.45 Cra 4' 20/11 15. 6.58 1.28	0.45 ago .99 ./2016 .93 aE-06 EE-01	<0.45 Cr. : 26/11 14 6.91 6.56	0.45 rago 50 1/2016 4.23 1E-06 6E-02	<0.45 Cr. 5 02/12 15 6.46 7.82	0.45 rago 51 2/2016 5.44 6E-06 2E-02	0.45 Crass 08/12 33 1.30 9.71	0.45 ago 52 2/2016 3.56 0E-05 1E-02	<0.45 Ci 14/1 3: 7.0	0.45 Grago 53 12/2016 68.34 05E-06	<0.45 Crag 54 20/12/2 24.2 6.85E- 5.34E-	0.45 0 2016 5 006 02	26/12/2016 12.49 6.71E-06 6.65E-02	45
Seyfoun (Re) Hay 3 35-04 3 36-04 3 36-04 3 3 35-04 3 3 3 3 3 3 3 3 3	Calculated Concentrations Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb)	Units Ма µg/m3 µg/m3 µg/m3 1. µg/m3 2. µg/m3 3.	ив aximum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03	03/1 03/1 19 6.8: 8.6i 3.4:	0.45 rago 41 .0/2016 9.38 s2E-06 .00E-02 .1E-03	<0.45 Cr. 4 09/10 10 6.65 3.99 3.33	0.45 rago 42 0/2016 0.51 5E-06 9E-02 3E-03	15/1 1: 6.6 7.7	0.45 rago 43 0/2016 5.44 6E-06 2E-02 3E-03	21/10 12. 6.03 4.70	0.45 ago 4 7/2016 .60 E-06 E-02 E-03	27/10/ 28.2 6.826 3.416	0.45 go 5 /2016 24 e-06 e-01 e-03	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6	0.45 0 2016 6 06 01 03	48 14/11/2 49.26 1.33E-0 3.32E-0	0.45 0.016 0.05 0.01 0.03	<0.45 Cra 4' 20/11 15. 6.58 1.28 3.29	0.45 ago ./2016 .93 aE-06 EE-01 EE-03	<0.45 Cr. : 26/11 14 6.91 6.56 3.45	0.45 rago 50 1/2016 4.23 1E-06 6E-02 5E-03	<0.45 Cr. 5 02/12 15 6.46 7.82 3.23	0.45 rago 51 2/2016 5.44 6E-06 2E-02 3E-03	08/12 33 1.30 9.71	0.45 rago 52 2/2016 3.56 0E-05 1E-02 6E-03	<0.45 Ci 14/1 3: 7.0 1.2 3.5	0.45 12/2016 18.34 105E-06 122E-01 105E-03	20/12/2 24.2 6.85E- 5.34E- 3.42E-	0.45 0 0.016 5 0.06 0.02 0.03	Crago 55 26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03	45
	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As)	Units Ма µg/m3	wimum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03	03/1 03/1 6.8 8.6 3.4 2.0	0.45 rago 41 .0/2016 9.38 :2E-06 :0E-02 :1E-03 :5E-03	<0.45 Cr 09/10 10 6.65 3.99 3.33 2.00	0.45 rago 42 0/2016 0.51 5E-06 9E-02 3E-03 0E-03	15/1 15/1 1: 6.6 7.7 3.3 2.0	0.45 (ago 43 0/2016 5.44 6E-06 2E-02 3E-03 0E-03	21/10 12. 6.03 4.70 3.02 1.81	0.45 ago 4 ./2016 .60 E-06 E-02 E-03 E-03	27/10/ 28.2 6.82E 1.75E 3.41E 2.05E	0.45 go 5 /2016 24 E-06 E-01 E-03 E-03	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03	08/11/2 08/11/2 38.56 6.76E-1 1.62E-1 3.38E-1	0.45 0 2016 6 006 01 03 03	48 14/11/2 49.26 1.33E-6 2.70E-6 3.32E-6 1.99E-6	0.45 0.016 0.05 0.01 0.03 0.03	20/11 15. 6.58 1.28 3.29 1.98	0.45 ago .99 ./2016 .93 .E-06 .E-01 .E-03 .E-03	26/11 14 6.91 6.56 3.45 2.07	0.45 rago 50 1/2016 4.23 1E-06 6E-02 5E-03 7E-03	02/12 02/12 15 6.46 7.82 3.23	0.45 rago 51 2/2016 5.44 6E-06 2E-02 3E-03 4E-03	08/12 33 1.30 9.71 3.26	0.45 rago 52 2/2016 3.56 0E-05 1E-02 6E-03 5E-03	<0.45 Co 14/1 3: 7.0 1.2 3.5 2.1	0.45 12/2016 18.34 105E-06 122E-01 162E-03 11E-03	20/12/2 24.2 6.85E- 5.34E- 3.42E- 2.05E-	0.45 0 2016 5 06 02 03 03	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03	45
Cadmunic (Ca) Ug/m3 7.0E old 6.0E ol	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba)	Units Ма µg/m3 4 µg/m3 1. µg/m3 2. µg/m3 2. µg/m3 1.	PR arter 4 2016 ASXIMUM MINIMUM 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03	03/1 03/1 19 6.8: 8.6(3.4: 2.0) 8.2(0.45 rago 41 0/2016 9.38 :2E-06 :0E-02 :1E-03 :5E-03 :6E-03	<0.45 Cr 09/10 10 6.65 3.99 3.33 2.00 4.35	0.45 0/2016 0.51 5E-06 9E-02 3E-03 0E-03 9E-03	15/1 1: 6.6 7.7 3.3 2.0 4.7	0.45 (ago 43 0/2016 5.44 6E-06 2E-02 3E-03 0E-03 9E-03	<0.45 Cra 4 21/10 12. 6.03 4.70 3.02 1.81 2.83	0.45 1/2016 1.60	27/10/ 28.2 6.82E 1.75E 3.41E 2.05E 4.37E	0.45 80 5 72016 24 6-06 6-01 6-03 6-03 6-03	02/11/2016 46 02/11/2016 41.66 1.32F-05 1.68E-01 3.31F-03 1.99F-03	08/11/2 08/11/2 38.56 6.76E-1 1.62E-2.03E-1	0.45 0.016 6 00 01 03 03 02	<0.45 Crage 48 14/11/2 49.26 1.33E-6 2.70E-6 3.32E-6 1.99E-6 1.34E-6	0.45 0.016 0.05 0.01 0.03 0.03	20/11 15. 6.58 1.28 3.29 1.98 4.41	0.45 ago .99 ./2016 .93 .E-06 .E-01 .E-03 .E-03 .E-03	26/11 14 6.91 6.56 3.45 2.07	0.45 rago 50 1/2016 4.23 1E-06 6E-02 5E-03 7E-03	02/12 02/12 15 6.46 7.82 3.23 1.94 7.37	0.45 rago 51 2/2016 5.44 6E-06 2E-02 3E-03 4E-03 7E-03	08/12 08/12 33 1.30 9.71 3.26 1.95 6.39	0.45 ago 52 2/2016 3.56 0E-05 1E-02 6E-03 5E-03 9E-03	<0.45 Co 14/1 3: 7.0 1.2 3.5 2.1 6.0	0.45 12/2016 18.34 15E-06 12E-01 15E-03 11E-03 10E-03	20/12/2 24.2 6.85E- 5.34E- 3.42E- 2.05E- 5.07E-	0.45 0 2016 5 06 02 03 03	26/12/2016 26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 4.36E-03	45
Chromim(rc)	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi)	Units Ma µg/m3 2 µg/m3 2 µg/m3 3 µg/m3 2 µg/m3 2 µg/m3 3 µg/m3 3 µg/m3 2	#8 aximum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03	03/11 19 6.8: 8.6: 3.4: 2.0: 8.2: 3.4:	0.45 ago 41 0/2016 9.38 2E-06 0C-02 1E-03 6E-03 1E-04 5E-03	09/11/2006 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 09/11/2006 09/11/2006 06/60 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 09/11/2006 09/11/2006 06/60 09/11/2006 06/60 09/11/2006 09/11/2000 09/11/2	0.45 rag0 d/2016 0.51 55E-06 9E-02 3E-03 0E-03 9E-03 3E-04 0E-03	15/1 1: 6.6 7. 3.3 2.0 4.7 3.3 2.0	0.45 0/2016 5.44 66-06 2E-02 3E-03 0E-03 9E-03 3E-04 0E-03	21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02	0.45 1/2016 0.60	27/10/ 28.2 6.826 1.756 3.416 2.056 4.376 3.416 2.056	0.45 80 5 6 6 6 6 7 7 8 8 8 9 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 3.31E-04 1.99E-03	08/11/2 08/11/2 38.55 6.76E- 1.62E- 2.03E- 1.43E- 3.38E- 2.03E- 2.03E-	0.45 0.016 6 006 001 003 003 002 004 003	40.45 Crage 48 14/11/2 49.26 1.33E-6 2.70E-6 3.32E-6 1.99E-6 1.34E-6 1.99E-6	0.45 0.06 0.05 0.05 0.01 0.03 0.03 0.02 0.04 0.03	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98	0.45 ago 19 19 17 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	26/11 14 6.91 6.56 3.44 2.00 7.66 3.49	0.45 ago 50 1/2016 4.23 1E-06 6E-02 5E-03 7E-03 7E-03 5E-04 7E-03	<0.45 Cr 5 02/12 15 6.46 7.83 3.22 1.94 7.37 3.23 1.94	0.45 ago 51 2/2016 5.44 6E-06 2E-02 3E-03 7E-03 3E-04 4E-03	08/12 08/12 33 1.30 9.71 3.26 1.95 6.39 3.26 1.95	0.45 ago 52 2/2016 3.56 0.56-05 1E-02 66-03 5E-03 9E-03 6E-04 5E-03	14/1 3: 7.00 1.2 3.5; 2.1 6.0.0 3.5; 2.1	0.45 12/2016 88.34 05E-06 22E-01 52E-03 11E-03 06E-03 52E-04 11E-03	20/12/2 24.2 6.85E- 5.34E- 3.42E- 2.05E- 5.07E- 3.42E- 2.05E-	0.45 o o o o o o o o o o o o o o o o o o o	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 3.36E-04 2.01E-03	45
Cobalt (Co)	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B)	ид/m3 4 μg/m3 1. μg/m3 2. μg/m3 2. μg/m3 1. μg/m3 μg/m3 μg/m3 1. μg/m3 2.	Minimum Minimu	03/11 11 6.8: 8.6i 3.4: 2.0: 8.2: 3.4: 2.0:	0.45 ago 41 0/2016 9.38 2E-06 0E-02 1E-03 5E-03 1E-04 5E-03 5E-03	09/10 09/10 10 6.63 3.95 2.00 4.33 2.00 2.00 2.00	0.45 ago 42 0/2016 0.51 5E-06 9F-02 3E-03 0E-03 3E-04 0E-03 0E-03 0E-03	15/1 1: 6.6 7.77 3.3 2.0 4.7 3.3 2.0 2.0	0.45 ago 43 0/2016 5.44 6E-06 2E-02 3E-03 0E-03 3E-04 0E-03 0E-03	21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81	0.45 9go 4 //2016 6.60 E-06 E-02 E-03 E-03 E-03 E-04 E-03 E-03 E-03 E-03 E-04	27/10/ 28.3 6.82E 1.75E 3.41E 2.05E 4.37E 2.05E 2.05E	0.45 80 5 72016 24 2-06 :-01 :-03 :-03 :-03 :-03 :-03 :-04 :-03 :-03	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03	08/11/2 08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 2.03E-6 2.03E-6 2.03E-6	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	49.25 48 14/11/2 49.26 1.33E-6 2.70E-6 3.32E-6 1.99E-6 1.99E-6 1.99E-6 1.99E-6	0.45 0.016 0.05 0.05 0.01 0.03 0.03 0.03	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98	0.45 9g0 99 //2016 99 #E-06 #E-01 #E-03 #E-03 #E-04 #E-03 #E-03 #E-04	<0.45 26/11 144 6.91 6.56 3.45 2.07 7.67 3.45 2.07 2.07	0.45 ago 1/2016 1.23 1E-06 6E-02 5E-03 7E-03 5E-04 7E-03 7E-03	C1.45 C7.25 C7.25 C9.27	0.45 ago 2/2016 5.44 6E-06 2E-02 3E-03 4E-03 3E-03 4E-03 4E-03	0.45 Cri 08/12 33 1.30 9.71 3.26 1.95 6.339 1.95	0.45 ago 52 2/2016 3.56 0.6E-05 1E-02 6E-03 5E-03 6E-04 5E-03 5E-03	14/1 3: 7.0 1.2 3.5; 2.1 6.0 3.5; 2.1 2.1	0.45 53 12/2016 18:34 105E-06 22E-01 52E-03 11E-03 25E-04 11E-03	20/12/2 24.2 6.85e- 5.34E- 3.42E- 2.05E- 5.07E- 3.42E- 2.05E- 2.05E- 2.05E-	0.45 o c c c c c c c c c c c c c c c c c c	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 2.01E-03 2.01E-03	45
Roo (Fe) Lg/m3 7.6E-01 L1E-01 2.70E-01 1.52E-01 3.2E-01 3.2E	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd)	Units Ма µg/m3 4 µg/m3 1. µg/m3 2. µg/m3 2. µg/m3 3. µg/m3 1. µg/m3 3. µg/m3 2. µg/m3 2. µg/m3 7.	Asimum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03 .1E-03 1.8E-03	03/11 15 6.8: 8.6i 2.0i 8.22 3.44 2.0i 6.8:	0.45 13g0 41 0/2016 9.38 2E-06 00E-02 1E-03 5E-03 6E-03 1E-04 5E-03 5E-03 5E-03	0.45 Cr 09/11 10 6.65 3.95 2.00 4.33 2.00 6.65	0.45 ago 42 0/2016 0.51 5E-06 9E-02 3E-03 0E-03 3E-04 0C-03 0E-03 5E-04	15/1 1: 6.6 7.7 3.3 2.0 4.7 3.3 2.0 6.6	0.45 ago 43 0/2016 5.44 6E-06 2E-02 3E-03 0E-03 9E-03 0E-03 0E-03 6E-04	21/10 21/10 12. 6.03 4.77 3.02 1.81 2.83 3.02 1.81 6.03	0.45 9g0 4 //2016 6.60 E-0-6 E-0-3 E-0-03 E-0-03 E-0-04 E-0-04 E-0-03 E-0-04 E-0-03 E-0-04	27/10/ 28.4 27/10/ 28.6 2.05E 4.37E 3.41E 2.05E 2.05E 2.05E 6.82E	0.45 80 5 72016 24 2-06 01 03 03 03 03 03 04	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.90E-02 3.31E-04 1.99E-03 1.99E-03 6.62E-04	08/11/2 08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 2.03E-6 2.03E-6 6.76E-6	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	14/11/2 49.26 1.33E-4 1.99E-4 1.34E-1 1.99E-6 1.99E-6	0.45 0.06 5 5 0.05 0.01 0.03 0.03 0.04	20/11, 15. 6.58 1.28 3.29 1.98 4.41 3.299 1.98	0.45 980 99 /2016 93	40.45 26/11 14 6.91 6.56 3.44 2.00 7.65 3.45 2.00 2.00 6.91	0.45 ago 50 1/2016 4.23 1E-06 66-02 55-03 7E-03 7E-03 7E-03 7E-03 7E-03	02/12 155 6.46 7.82 1.94 7.37 3.22 1.94 6.46	0.45 ago 51 2/2016 5.44 6E-06 2E-02 3E-03 4E-03 3E-04 4E-03 6E-04	0.45 08/12 33 1.30 9.71 3.26 1.95 6.39 3.266 1.95 6.52	0.45 ago 2/2016 3.56 0E-05 1E-02 6E-03 5E-03 6E-04 5E-03 5E-03 2E-04	14/1 3: 7.0 1.2 3.5; 2.1 6.0 3.5; 2.1 2.1, 7.0	0.45 53 112/2016 18.34 05E-06 22E-01 52E-03 11E-03 16E-03 52E-04	20/12/2 24.2 6.85E- 5.34E- 3.42E- 2.05E- 2.05E- 2.05E- 6.85E- 6.85E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04	45
Read (Pb) Magnesium (Mg) Mg/m3 6.2E-0.3 9.0E-0.4 1.0E-0.3 9.9E-0.4 9.9E-0.4 9.9E-0.4 9.9E-0.4 1.0E-0.3 3.7E-0.3 3.7E-	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cf)	Units Ma μg/m3 / μg/m3 1. μg/m3 2. μg/m3 3. μg/m3 3. μg/m3 2. μg/m3 1. μg/m3 2. μg/m3 2. μg/m3 3. μg/m3 5.	#8 aximum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03 .0E-04 6.0E-04 .1E-03 1.8E-03	03/11 19 6.8: 8.6i 3.4.4 2.00 6.8: 1.7.	0.45 ago 41 0/2016 9.38 2E-06 0E-02 1E-03 1E-04 5E-03 1E-04 5E-03 2E-04 1E-03	09/11 10 6.65 3.95 2.00 4.33 2.00 2.00 6.65 1.66	0.45 ago 42 0/2016 0.51 5E-06 9E-02 3E-03 0E-03 3E-04 0E-03 5E-04 6E-03	15/1 1: 6.6.6 7.7 3.3.3 2.0.0 4.7 3.0 6.6.6 1.6.6	0.45 ago 43 0/2016 5.44 66-06 22-02 33-03 00-03 98-03 33-04 00-03 60-03 66-04 66-03	21/10 12: 6.03 3.02 1.81 2.88 3.02 1.81 1.81 6.03 1.51	0.45 186 4 1/2016 60 6-06 6-06 6-06 6-03 6-03 6-03 6-03	27/10/ 27/10/ 28.2 1.75E 3.41E 2.05E 4.37E 3.41E 2.05E 1.71E	0.45 80 5 72016 24060103030304030304	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 1.66E-03	08/11/2 08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 2.03E-6 6.76E-6 1.69E-6	0.45 0 2016 6 00 01 03 03 02 04 03 03 04 03	Crage 48 14/11/2 49.26 1.33E-C 2.70E-C 3.32E-C 1.99E-C	0.45 0.016 0.05 0.01 0.03 0.03 0.04 0.03 0.04 0.03	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98 6.588	0.45 ago 19 1/2016 9.93 1:E-06 1:E-03 1:E-03 1:E-03 1:E-04 1:E-03 1:E-04 1:E-03 1:E-04	26/11 14 6.91 6.56 3.44 2.00 7.65 3.45 2.00 2.01	0.45 ago 50 1/2016 1.23 1E-06 6E-02 5E-03 7E-03 7E-03 5E-04 7E-03 1E-04 3E-04	02/12 15 6.44 7.33 3.23 1.94 1.94 6.44 1.62	0.45 ago 51 2/2016 5.44 6.66-06 2E-02 3E-03 4E-03 3E-04 4E-03 4E-03 4E-03 4E-03 4E-03	0.45 Cri 5 08/12 33 1.30 9.71 3.26 6.39 3.26 1.95 6.55 3.32	0.45 ago 52 2/2016 3.56 0E-05 1E-02 6E-03 5E-03 9E-03 6E-04 5E-03 2E-04 2E-03	14/1 33 7.0.0 1.2 2.1.1 6.0 3.5,5 2.1.1 7.0.0 5.0	0.45 53 12/2016 18.34 155-06 22E-01 22E-03 11E-03 16E-03 52E-04 11E-03 11E-03 15E-04 07E-03	20/12/5 54 20/12/2 24.2 4.855- 5.346- 3.426- 2.056- 5.077- 3.426- 2.056- 6.855- 6.855- 1.716-	0.45 0 2016 5 06 02 03 03 04 03 03 04	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 2.01E-03 6.71E-04 1.68E-03	45
Marganese (Mn) μ_{g}/m^{3} 5.26-01 μ_{g}/m^{3} 2.26-02 μ_{g}/m^{3} 2.26-02 μ_{g}/m^{3} 2.96-02 μ_{g}/m^{3} 2.96-02 μ_{g}/m^{3} 2.96-02 μ_{g}/m^{3} 2.96-02 μ_{g}/m^{3} 2.96-02 μ_{g}/m^{3} 2.96-02 μ_{g}/m^{3} 2.96-03 μ_{g}/m^{3} 2.96-04 μ_{g}/m^{3} 2.96-03 2.96-03 2.96-02 2.93-02 2.000-	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (5b) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu)	Units Ma µg/m3 4 µg/m3 1. µg/m3 2. µg/m3 2. µg/m3 1. µg/m3 2. µg/m3 2. µg/m3 7.	Asimum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03 .1E-03 1.8E-03 .1E-03 1.8E-03 .1E-03 1.8E-03	03/11 11 15 6.8. 8.66 3.4 2.00 8.2 2.00 6.8. 1.7 6.8. 4.6	0.45 1980 44 1993 9.38 2E-06 0E-02 1E-03 55E-03 1E-04 55E-03 2E-04 1E-03 2E-04 7E-03 2E-04	0.45 0.9/11 10 6.65 3.99 3.33 2.00 4.35 2.00 6.65 1.66 6.65 2.66	0.45 ago 42 0/2016 0.51 55E-06 9F-02 3E-03 0E-03 9F-03 0E-03 0E-03 0E-03 0E-03 0E-03 0E-03 0E-03 0E-03	15/11 1: 6.6. 7.7.7 3.3 2.0.0 4.7 2.0.0 6.6.6 1.6.6.6	0.45 ago 43 0/2016 5.44 66E-06 2E-02 3E-03 0E-03 0E-03 0E-03 0E-03 0E-03 6E-04 6E-03 6E-04 6E-03 6E-04	21/10 21/20 12/26 6.03 4.70 3.02 1.81 2.83 3.02 1.81 6.03 1.51 6.03 2.41	0.45 1/2016 4 4 1/2016 6.60 E-0.03 E-0.03 E-0.03 E-0.03 E-0.04 E-0.04 E-0.03 E-0.04	27/10/ 28.0 28.0 28.0 29.0 20.5 2.0 2.0 2.0 6.82 2.0 6.82 2.0 6.82 2.0 6.82 2.0 6.82 2.0 6.82	0.45 80 5 6 72016 24 6-06 6-01 6-03 6-03 6-03 6-03 6-04 6-03 6-04 6-03 6-04 6-04 6-04	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-02 3.31E-04 1.99E-03 6.62E-04 4.08E-02	08/11/2 08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 2.03E-6 6.76E-6 1.69E-6 6.76E-6 3.94E-6	0.45 0 2016 6 00 01 03 03 02 04 03 03 04 00 04 00 00 00 00 00 00 00	48 14/11/2 49.26 1.33E-4 3.32E-4 1.99E-6 6.65E-4 1.66E-6 6.65E-6 6.65E-6	0.45 0.016 5 0.005 0.01 0.03 0.03 0.04 0.03 0.04 0.03	20/11, 15. 6.58 3.29 1.98 4.41 3.29 1.98 6.58 1.65 6.58	0.45 980 99 7/2016 93 16:E-06 16:E-01 16:E-03 16:E-03 16:E-03 16:E-04 16:E-03 16:E-04 16:E-03 16:E-04	26/11 14 6.91 6.55 3.45 2.00 7.66 2.00 6.91 1.73 6.91	0.45 ago 50 1/2016 1.23 1.E-06 6E-02 5E-03 7E-03 7E-03 7E-03 1E-04 3E-04 4E-04	C0.45 C7.85 02/17 156 6.46 7.82 3.22 1.94 7.33 3.23 1.94 6.44 1.62 6.44	0.45 ago 51 2/2016 6.44 66-06 2E-02 3E-03 3E-03 4E-03 3E-04 4E-03 6E-04 2E-03 6E-04 4E-03	08/12 08/12 33 1.30 9.717 3.26 1.99 6.39 3.26 1.99 6.52 3.32 6.52 1.57	0.45 ago 52 2/2016 3.56 00E-05 1E-02 6E-03 5E-03 5E-03 5E-03 5E-04 2E-04 2E-03 2E-04	40.45 3.3 7.0 1.2 2.1.1 6.0 3.5,5 2.1.1 7.0 5.0,0 7.0,0	0.45 12/2016 18.34 155-06 1622E-01 1626-03 160-03 1	20,45 Crag 54 20/12/2 24.2 6.85E- 5.34E- 5.07E- 3.42E- 2.05E- 2.05E- 6.85E- 1.71E- 6.85E- 1.50E-	0.45 0.05	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04	45
Maganese (Mn) $\mu g/m3$ $2.9E-02$ $3.9E-03$ $6.00E-03$ $3.0E-03$ $5.86E-03$ $4.28E-03$ $1.08E-02$ $2.0SE-02$ $1.89E-02$ $2.9SE-02$ $1.89E-02$ $2.9SE-03$ $4.97E-03$ $9.6SE-04$ $9.0SE-04$ $9.0SE-04$ $9.9SE-04$ $9.0SE-04$ $9.0SE-04$ $1.00E-03$ $9.9SE-04$ $9.9SE-04$ $9.0SE-04$ $9.9SE-04$ $9.0SE-04$ $1.00E-03$ $9.9SE-04$ $9.9SE-04$ $9.0SE-04$ $9.0SE-04$ $9.0SE-04$ $1.00E-03$ $9.9SE-04$ $9.9SE-04$ $9.0SE-04$	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe)	Units Ma µg/m3	#8 arter 4 2016 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 6.0E-04 .1E-03 1.5E-03	03/1 19 6.8: 8.6(3.4, 2.0) 8.2(3.4, 2.0, 6.8: 1.7, 6.8: 4.6(2.7)	0.45 0/2016 9.38 2.52-06 00E-02 16-03 16-04 55E-03 16-04 16-03 2.52-04 17-03 2.60 17-03 2.60 18-04	0.45 09/11 10 6.65 3.99 3.33 2.00 2.00 6.65 1.66 6.65 1.52	0.45 0/2016 0/2016 0.51 55-06 9E-02 3E-03 9E-03 3E-04 0E-03 55-04 6E-03 55-04 75-02 2E-01	15/1 1: 6.6. 7.7 3.3 2.0 4.7 3.3 2.0 6.6. 6.6 6.6 3.8 2.1	0.45 ago 43 0/2016 5.44 66-06 2E-02 3E-03 9E-03 9E-03 9E-03 6E-04 6E-03 6E-04 6E-03 6E-04 4E-01	21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81 6.03 2.1.81	0.45 080 4 4 1/2016 6.60 6-0.60 6-0.02 6-0.03 6-0.03 6-0.04 6-0.03 6-0.04 6-0.03 6-0.04 6-0.03 6-0.04 6-0.03 6-0.04 6-0.0	27/10/ 22/10/ 28.22 1.75E 3.41E 2.05E 2.05E 4.37E 3.41E 2.05E 6.82E 1.71E 6.82E 1.77E 3.38E	0.45 2016 2216 224	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 1.99E-04 4.66E-03 6.62E-04 4.08E-02 6.16E-01	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 2.03E-6 6.76E-6 6.76E-6 1.69E-6 5.09E-6	0.45 6 6 00 01 03 03 02 04 03 04 03 04 02 01	Crage 48 14/11/2 49.26 1.33E-6 1.99E-6 1.99E-6 6.65E-6 6.65E-6 1.33E-6 7.65E-6	0.45 0.016 0.016 0.005 0.01 0.03 0.03 0.02 0.04 0.03 0.03 0.04 0.03 0.03 0.04 0.05 0.04 0.05 0.05 0.05 0.05 0.05	20/11 15. 6.588 1.28 3.29 1.98 4.41 3.29 1.98 6.588 1.65 6.588	0.45 989 99 19 1/2016 1.93 1E-06 1E-03 1E-03 1E-03 1E-04 1E-03 1E-04 1E-03 1E-04 1E-04 1E-04 1E-04 1E-04 1E-04 1E-04	26/11 14 6.93 6.56 3.45 2.07 7.66 3.45 2.07 2.07 6.99 2.22 2.22	0.45 ago 50 1/2016 1.23 1.E-06 6E-02 5E-03 7F-03 7F-03 7F-03 7F-03 1E-04 4E-02	C0.45 C7.71 15.5 6.44 7.82 1.94 1.94 6.44 1.62 6.44 1.62 2.67	0.45 ago 51 2/2016 5.44 66E-06 2E-02 3E-03 3E-03 3E-04 4E-03 3E-04 4E-03 6E-04 2E-03 6E-04 7E-01	08/12/ 08/12/ 33 1.3(3) 9.71 3.26 1.95 6.33 3.26 6.52 3.33 6.55 3.36	0.45 ago 52 2/2016 3.56 00:05 11:-02 66:-03 55:-03 59:-03 66:-04 55:-03 55:-03 52:-04 22:-04 22:-03 22:-04	3.5.2.1.2.1.7.0.0.5.0.0.3.5.3.7.0.0.3.5.3.7.0.0.3.5.3.7.0.0.3.5.3.7.0.0.3.5.3.7.0.0.3.5.3.7.0.0.3.5.0.0.3.5.3.7.0.0.3.5.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	0.45 53 12/2016 18.8.34 155:-06 122E-01 12E-03 16E-03 16E-03 15E-04 11E-03 15E-04 17E-03 15E-04 17E-03 17E-04 17E-03	20/12/2 54 20/12/2 24.2 6.855- 5.34E- 2.05E- 5.07E- 2.05E- 2.05E- 1.71E- 6.85E- 1.50E- 2.17E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.09E-02 1.41E-01	45
Nickel (Ni)	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb)	Units Ma µg/m3 2 µg/m3 2 µg/m3 3 µg/m3 1 µg/m3 1 µg/m3 2 µg/m3 2 µg/m3 2 µg/m3 5 µg/m3 7 µg/m3 7 µg/m3 6	#8 aximum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03	0.45 03/11 19 6.8.8 8.64 2.00 2.00 2.00 6.8.8 1.77 6.8.4 4.66 2.77 1.00	0.45 0/2016 9.38 2.52-06 00E-02 1E-03 55E-03 1E-04 55E-03 1E-04 1E-03 1E-04	09/11 10 6.65 3.99 3.33 2.00 2.00 2.00 6.65 1.66 6.65 2.66 1.55 9.98	0.45 0/2016 0.51 55-06 9E-02 3E-03 0E-03 3E-04 0E-03 3E-04 0E-03 55-04 66-03 55-04 66-03 55-04 85-04 85-04	15/1 1: 6.6.6.7.7.7 3.3.3 2.00 4.7.7 3.3.3 2.00 6.6.6 6.6.6.6.6.9	0.45 ago 43 0/2016 5.44 66:03 38:04 00:03 38:04 00:03 66:04 66:03 66:04 66:04 86:04	21/10 12. 6.03 3.02 1.81 2.88 3.02 1.81 6.03 2.41 1.12 9.05	0.45 9go 4 4 60 60 60 6-06 6-06 6-06 6-03 6-03 6-03	27/10/ 28.2 27/10/ 28.3 4.1E 2.05E 3.41E 2.05E 4.37E 3.41E 2.05E 6.82E 1.71E 6.82E 1.77E 3.38E 6.82E 1.77E	0.45 2016 224 -0.03 -0.03 -0.03 -0.04 -0.03 -0.04 -0.03 -0.04 -0.03 -0.04 -0.03 -0.04 -0.03	02/11/2016 41.66 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 2.03E-6 6.76E-6 1.69E-6 6.76E-6 3.94E-6 5.09E-6	0.45 0 2016 6 06 001 03 03 002 04 03 003 004 003 004 005 006 001 007 009 009 009 009 009 009 009	Crage 48 14/11/2 49.26 1.33E-6 1.34E-6 1.99E-6 1.99E-6 6.65E-6 6.65E-6 7.65E-6 5.39E-6	0.45 016 05 005 001 003 003 002 004 003 004 003 004 005 005 001 005 005 005 005 005 005 005	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98 6.58 2.14 2.44	0.45 980 99 99 1-2016 93 1-2-06 1-2-07 1-2-0	26/11 14 6.99 6.56 3.44 2.00 7.66 3.45 2.07 2.02 2.02 1.77 6.99	0.45 ago 50 1/2016 1.23 1.23 1.6-06 6E-02 5E-03 7E-03 7E-03 7E-03 7E-03 1E-04 4E-01 4E-01 4E-02	C0.45 C7.25 02/11 15 6.44 7.82 3.22 1.94 7.33 3.22 1.94 6.46 6.46 1.66 6.44 2.66 9.65	0.45 ago 51 2/2016 2.44 6.44 6.60 2.60 2.60 3.60 3.60 4.60 3.60 4.60 3.60 4.60 3.60 4.60 3.60 4.60 4.60 4.60 4.60 4.60 4.60 4.60 4	08/12 08/12 33 1.33 1.37 9.71 3.26 1.95 6.33 3.26 1.95 6.52 1.57 6.52 1.57 3.32 6.52	0.45 ago 52 2/2016 3.56 00E-05 1E-02 6E-03 5E-03 5E-03 5E-03 5E-04 5E-03 2E-04 7E-02 6E-01 7E-03	40.45 Ci 3. 7.00 1.2 3.5,5 2.1 2.1 7.00 7.00 1.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3	0.45 53 112/2016 18:34 155:-06 22E-01 52E-03 111E-03 166E-03 52E-04 11E-03 155:-04 52E-02 79E-01 52E-03	20/12/2 24.2: 24.2: 5.34E- 3.42E- 2.05E- 5.07E- 3.42E- 2.05E- 1.71E- 6.85E- 1.71E- 6.85E- 2.17E- 2.17E- 2.17E- 2.17E- 2.12E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.08E-03 1.09E-02 1.41E-01	45
Phosphorus (P) μg/m3 6.5E-02 8.1E-03 6.48E-02 2.93E-02 2.00E-02 3.27E-02 3.97E-02 3.5E-02 4.12E-02 2.37E-02 8.63E-03 8.15E-03 8.15E-03 8.81E-03 8.56E-03 1.68E-02 Selenium (Se) μg/m3 3.5E-03 3.0E-03 3.31E-03 3.31E-03 3.31E-03 3.29E-03 3.29E-03 3.45E-03 3.25E-03 3.26E-03 1.76E-03 1.66E-03 3.26E-03 3.26E-03 3.26E-03 3.26E-03 3.26E-03 3	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg)	Units Ma µg/m3 4 µg/m3 1. µg/m3 2. µg/m3 3. µg/m3 1. µg/m3 2. µg/m3 2. µg/m3 2. µg/m3 2. µg/m3 7. µg/m3 7. µg/m3 4. µg/m3 6. µg/m3 6. µg/m3 5.	PR Anter 4 2016 Apple 10.51 APPLE 2016	03/11 6.8. 8.6i 3.4. 2.0: 6.8. 1.7. 6.8. 4.6 2.7.	0.45 0.72016 9.38 2E-06 00-02 1E-03 5E-03 5E-03 1E-04 1E-03 2E-04 1E-03 2E-04 7E-02 0E-01 7E-02 0E-01	0.45 Cr 0.9/11 0.665 3.99 3.33 2.00 4.35 2.00 6.65 1.66 6.65 2.67 9.98	0.45 0.65 0.72016 0.51 5E-06 9E-02 3E-03 3E-03 0E-03 0E-03 0E-03 5E-04 6E-03 5E-04 6E-03 5E-04 6E-03 5E-04 5E-04 6E-03 5E-04	15/1 1: 6.6 7.7, 3.3 2.0, 4.7 2.0 6.6 6.6.6 3.8 2.1	0.45 ago 43 0/2016 5.44 66-06 2E-02 3E-03 0E-03 9E-03 9E-03 0E-03 6E-04 6E-04 6E-04 4E-01 4E-01 4E-01	21/10 12. 6.03 3.02 1.81 2.83 3.02 2.81 1.81 6.03 2.41 1.12 9.05 6.69	0.45 1/2016	27/10/ 28. 45 27/10/ 28. 6.82E 1.75E 3.41E 2.05E 4.37E 3.41E 2.05E 6.82E 1.77E 5.82E 1.77E 1.77E 1.83E	0.45 30 5 6 72016 24 24 6-06 6-01 6-03 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03	02/11/2016 41.66 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01	08/11/2 38.56 6.76E-6 1.62E-6 2.03E-6 2.03E-6 1.43E-6 2.03E-6 6.76E-6 3.94E-6 5.09E-6 6.16E-6 3.07E-6	0.45 6 6 00 01 03 03 00 04 03 04 00 00 01 03 04 00 00 01 03 00 00 00 00 00 00 00 00 00	48 14/11/2 49.26 1.33E-4 2.70E-6 3.32E-6 1.99E-6 6.65E-6 6.65E-6 6.55E-6 5.33E-6 5.39E-6 5.39E-6 5.39E-6 5.39E-6	0.45 0.05 0.05 0.05 0.01 0.03 0.03 0.03 0.03 0.04 0.03 0.04 0.05	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98 6.58 2.14 2.44 9.88	0.45 389 -/2016 9.93	26/11 26/11 6.91 6.55 3.45 2.00 7.60 3.45 2.00 6.91 1.77 6.91 2.22 2.22	0.45 ago 50 1/2016 1.23 1.23 1.6-06 66-02 55-03 77-03 77-03 77-03 77-03 16-04 46-01 46-02 46-01 46-02	0.45 02/12 02/12 02/12 03/12 04/	0.45 ago 51 2/2016 5.44 6.6-06 2E-02 3E-03 3E-03 4E-03 7E-03 3E-04 4E-03 6E-04 4E-03 7E-03 6E-04 4E-03	0.45 08/12/ 333 1.30 9.71 3.26 1.95 6.39 3.26 1.95 6.52 3.33 6.52 1.57 3.36 5.26 6.52	0.45 ago 52 2/2016 3.56 0.60-05 LE-02 6E-03 5E-03 5E-03 5E-03 5E-03 5E-04 5E-03 5E-04 5E-03 5E-03 5E-04 5E-03 5E-03 5E-04 5E-03 5E-04 5E-03 5E-03 5E-04	14/11 3: 7.00 1.2.1 6.00 3.5; 2.11 7.00 5.00 7.00 1.5; 3.7; 3.5;	0.45 12/2016 18.34 05E-06 22E-01 52E-03 11E-03 10E-03 12E-04 11E-03 15E-04 07E-03 15E-04 07E-03 15E-04 07E-03 05E-04 07E-03	20/12/2 24.2.2 2.05-2 3.42-2 2.05-2 2.05-2 1.71E-6.855-1 1.50e-2 1.72-2 1.22-2 1.24-2	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.68E-03 1.01E-03 6.71E-04 1.01E-03 9.54E-02	45
Selenium (Se)	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo)	Units Ma µg/m3 4 µg/m3 1. µg/m3 2. µg/m3 3. µg/m3 1. µg/m3 2. µg/m3 2. µg/m3 7. µg/m3 4. µg/m3 4. µg/m3 6. µg/m3 2. µg/m3 2. µg/m3 1.	#8 arter 4 2016 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 5.0E-04 .1E-03 1.5E-03 .0E-04 5.0E-04 .1E-03 1.5E-03 .0E-04 5.0E-04 .1E-03 1.5E-03 .0E-04 5.0E-04 .1E-03 1.5E-03 .0E-04 5.9E-03 .1E-03 9.0E-04	03/1 19 6.8. 8.6i 3.4. 2.0i 2.0i 6.8. 1.7. 6.8. 4.6. 2.7. 1.0. 1.1. 6.0i	0.45 0/2016 9.38 2.2E-06 0E-02 1E-03 5E-03 6E-03 1E-04 5E-03 2.E-04 1E-03 2.E-04 7E-02 0E-01 2.E-03 7E-01 0.E-03	0.45 09/11 10 6.65 3.99 3.33 2.00 2.00 6.65 1.66 6.65 2.66 1.55 9.98 5.81 3.99 9.98	0.45 0/2016 0/2016 0.51 55-06 9E-02 3E-03 9E-03 3E-04 0E-03 55-04 6E-03 55-04 7F-02 2E-01 8E-04 55-02 2E-01 8E-04	15/1 1: 6.6.6 7.7 3.3 2.0 4.7 3.3 2.0 6.6.6 6.6.6 3.88 2.1 9.9 9.9	0.45 ago 43 0/2016 5.44 66:-06 2E-02 3E-03 9E-03 9E-03 9E-03 66:-04 66:-03 66:-04 2E-02 4E-01 8E-04 2E-02 8E-04 8E-04	21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81 1.12 9.05 6.69 4.28 9.05	0.45 9go 4 1/2016 6.60 6.E-06 6.E-02 6.E-03 6.E-03 6.E-03 6.E-03 6.E-03 6.E-04 6.E-03 6.E-04 6.E-03 6.E-04 6.E-03 6.E-04 6.E-02 6.E-01 6.E-02 6.E-02 6.E-03 6.E-04	27/10/ 28 6.82E 1.75E 3.41E 2.05E 4.37E 3.41E 2.05E 1.71E 6.82E 1.77E 3.38E 1.02E	0.45 2016 2216 224	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 1.43E-6 3.94E-6 5.09E-6 6.16E-6 3.07E-6 1.89E-6 1.01E-6	0.45 0.016 6 06 001 03 002 004 003 004 003 004 003 004 005 001 002 001 003 003 004 005 006 007 007 008 009 009 009 009 009 009 009	48 Crage 48 14/11/2 49.26 1.33E-4 3.32E-4 3.32E-4 1.99E-4 1.99E-6 6.65E-5 3.33E-6 5.33E-6 5.33	0.45 0.016 0.5 0.016 0.5 0.001 0.003 0.003 0.004 0.003 0.004 0.003 0.004 0.003 0.004 0.003 0.004 0.003 0.004 0.005 0.004 0.005	20/11 15.5 6.58 1.28 3.29 1.98 4.41 3.29 1.98 1.98 2.14 2.44 9.88 1.04 7.37 9.88	0.45 989 99 99 1-72016 99 1-72016 1-93 1-1-06 1-1-03 1-1-03 1-1-03 1-1-03 1-1-03 1-1-03 1-1-03 1-1-03 1-1-03 1-1-03 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-03 1-1-04 1-1-0	26/11 14 6.93 6.56 3.44 2.07 7.66 9.10 1.73 6.91 2.22 2.24 4.93 1.04	0.45 ago 50 1/2016 1.23 1.23 1.6-06 66-02 55-03 776-03 776-03 776-03 776-03 116-04 416-03 416-04 416-01 416-03 416-03 416-03 416-03	C0.45 C7.7 S 02/11 155 6.444 7.82 3.22 1.94 7.33 3.23 1.94 1.64 6.44 1.66 6.44 1.66 2.67 9.65 9.65	0.45 ago 51 2/2016 5.244 6.66-06 2E-02 3E-03 4E-03 3E-04 4E-03 4E-03 6E-04 4E-03 6E-04 1E-01 9E-04 1E-01 9S-04	08/12 08/12 33 1.33 9.71 3.26 1.95 6.33 3.26 1.95 6.52 6.52 6.52 6.52 1.55 9.77	0.45 ago 52 2/2016 3.56 0DE-05 1E-02 6E-03 5E-03 9E-03 9E-03 5E-04 2E-04 2E-03 2E-04 7E-02 6E-01 7E-03 3E-01 7E-03 3E-01 7E-03	 <0.45 Control 3. 7.00 1.2 3.5. 2.1 6.0. 3.5. 2.1. 7.0. 7.0. 1.5. 3.7. 3.5. 2.0. 2.6. 1.0. 	0.45 53 12/2016 18.8.4 155E-06 22E-01 25E-03 11E-03 56E-04 11E-03 15E-04 07E-03 15E-04 07E-03 15E-04 07E-03 15E-04 07E-03 15E-04 07E-03 15E-04 07E-03 15E-04	20/12/2 54 20/12/2 24.2 6.855- 5.34E- 2.05E- 5.07E- 3.42E- 2.05E- 1.71E- 6.85E- 1.50Pc- 2.17E- 2.12E- 1.24E- 7.33E- 1.33E- 1.03E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 9.54E-02 1.01E-03	45
Silver (Ag) $\mu_{\rm g/m3}$ 1.8E-03 1.5E-03 1.71E-03 1.66E-03 1.5E-03 1.71E-03 1.66E-03 1.51E-03 1.66E-03 1.69E-03 1.66E-03 1.66E-03 1.69E-03 1.66E-03 1.66E-03 1.69E-03 1.66E-03 1.69E-03 1.66E-03 1.66E-0	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni)	ир/m3 ид/m3 ид/m3 1. ид/m3 2. ид/m3 4. ид/m3 4. ид/m3 4. ид/m3 6. ид/m3 6. ид/m3 6. ид/m3 1. ид/m3 1. ид/m3 1. ид/m3 2.	#8 inter 4 2016 49.26 3.6-05 3.6-05 3.0-03 3.0-03 3.0-03 1.8-03 3.0-04	0.3/1 1: 6.8. 8.6: 3.4. 2.0: 2.0: 6.8. 4.6: 1.7. 6.8. 4.6: 1.7. 6.8. 1.7. 1.0: 1	0.45 0.90 41 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.9	09/10 09/10 10 6.65 3.99 3.33 2.00 2.00 6.65 1.66 6.65 2.66 1.55 9.98 3.92 9.98	0.45 0/2016 0/2016 0/2016 55-06 9E-02 33-03 0E-03 33-04 0E-03 35-04 0E-03 55-04 66-03 55-04 77-02 22-01 8E-04 8E-04 8E-04	15/1 1: 6.6.6 7.7 3.3 2.0 4.7 3.3 2.0 6.6 6.6 3.8 2.1 9.9 9.9 9.9 9.9	0.45 ago 43 0/2016 5.44 66-06 2E-02 3E-03 3E-04 0E-03 0E-03 6E-04 6E-04 2E-02 4E-01 8E-04 8E-04 8E-04	21/10 12. 6.03 3.02 1.81 2.83 3.02 1.81 1.81 6.03 2.41 1.12 9.05 6.69 4.28 9.05 9.05	0.45 980 4 4 7/2016 6.60 E-02 E-03 E-03 E-03 E-03 E-04 E-02 E-03 E-04 E-02 E-04 E-03 E-04	27/10/ 28.3 41E 2.05E 3.41E 2.05E 4.37E 2.05E 6.82E 1.71E 6.82E 1.71E 1.02E 1.83E 1.02E	0.45 2016 244 -606 -01 -03 -03 -04 -05 -06 -07 -07 -08 -08 -08 -09 -09 -09 -09 -09	02/11/2016 41.66 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 1.66E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 6.76E-6 1.69E-6 6.76E-6 3.94E-6 5.09E-6 6.16E-6 1.89E-6 1.89E-6 1.01E-6 1.01E-6	0.45 6 6 06 01 03 03 00 04 03 04 03 04 03 04 03 04 03 04 03 04 03 04 05 06 06 07 07 08 09 09 09 09 09 09 09 09 09 09	48 Crage 48 48 49.26 1.345-6.45 1.345-6.45 1.995-6.655-6.655-6.555-5.395-6.9975	0.45 016 05 05 011 03 03 002 004 003 004 003 001 002 001 003 004 005 005 006 007 007 007 007 007 007 007 007 007	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98 6.58 2.14 2.44 2.44 9.88 1.04 7.37 9.88	0.45 980 99 99 99 1-2016 99 98 98 98 98 98 98 98 98 98 98 98 98	26/11 14 6.93 6.56 3.44 2.00 7.66 3.45 2.01 2.02 2.02 4.07 6.91 1.77 6.91 1.04 7.66 7.66 7.66 7.66 7.66 7.66 7.66 7.6	0.45 ago 50 1/2016 1.23 1.23 1.6-06 6E-02 5E-03 7E-03 7E-03 7E-03 1E-04 4E-03 0E-02 7E-03 0E-02 7E-03 0E-02 7E-03	C0.45 C7.25 15 6.44 7.82 3.22 1.94 7.33 3.22 1.94 6.46 1.66 6.44 1.66 6.41 1.62 9.65 9.65	0.45 ago 51 2/2016 5.44 6.64 6.26-02 3E-03 3E-03 3E-03 4E-03 6E-04 4E-03 6E-04 4E-02 7F-01 9E-04 1E-01 39E-04	08/12 08/12 33 1.33 9.71 3.26 1.95 6.33 3.26 1.95 6.52 3.32 6.52 1.57 3.32 6.52 1.57 3.32 6.52 9.77 9.77	0.45 ago 52 2/2016 3.56 00E-05 1E-02 6E-03 5E-03 5E-03 5E-04 5E-03 2E-04 7E-02 6E-01 7E-03 3E-01 7E-03 3E-01 7E-03	 <0.45 C 3. 7.0.0 1.2.2 3.5.5 2.1.1 7.0 5.0.0 7.0 1.5 2.0 2.6 1.0 1.0 	0.45 12/2016 13:8.34 18:8.34 18:52-03 11:03 10:60:03 16:03 16:03 16:03 16:03 16:03 16:03 16:03 16:03 16:03 16:03 16:03 16:03 16:03 16:03	20/12/2 24.2: 24.2: 5.34E- 3.42E- 2.05E- 5.07E- 3.42E- 2.05E- 1.71E- 6.85E- 1.71E- 2.12F- 2.12F- 1.24E- 7.33E- 1.03E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 3.09E-02 1.41E-01 1.01E-03 9.54E-02 5.10E-03 1.01E-03	45
Strontium (Sr)	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P)		## Anter 4 2016 ## Application of the property of the propert	03/11 11: 6.8. 8.6i 3.4 2.0: 8.2: 3.4 2.0: 6.8. 1.7 6.8. 4.6 2.7 1.0. 1.11 6.0.0 1.0. 6.44	0.45 9.36 9.38 2E-06 00:-02 1E-03 5E-03 1E-04 5E-03 1E-04 1E-03 2E-04 1E-03 2E-03 2E-03	0.45 Cr 0.9/11 1.00 Cr 1.00	0.45 0.65 0.72016 0.51 55E-06 9F-02 3E-03 3E-03 0E-03 9E-03 3E-04 0E-03 55E-04 66-03 55E-04 66-03 55E-04 66-03 55E-04 86E-04 88E-04 88E-04	15/11 1: 6.6. 7.7. 3.3 2.0. 4.7. 3.3. 2.0. 6.6. 1.6. 6.6. 3.8 2.1. 9.9 9.9 9.9 9.9 2.0	0.45	21/10 21/10 12.2 6.03 4.70 3.02 1.81 2.83 3.02 1.81 6.03 2.41 1.12 9.05 6.699 4.28 9.05 3.50	0.45 080 4 1/2016 6.60 6.60 6.60 6.60 6.60 6.60 6.60 6	27/10/ 28.3 45 27/10/ 28.3 4.37E 3.41E 2.05E 2.05E 6.82E 1.71E 6.82E 1.77E 3.38E 1.02E 1.838 1.02E 1.02E 1.02E	0.45 2016 24	02/11/2016 41.66 1.32F-05 1.68E-01 3.31F-03 1.99F-03 1.99F-03 1.99F-03 6.62F-04 1.66E-03 6.62F-04 2.05F-02 9.94F-04 3.97F-02	08/11/2 08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 6.76E-6 1.69E-6 6.76E-6 3.94E-6 5.09E-6 6.16E-6 1.01E-6 1.01E-	0.45 0.016 6 6 006 01 03 03 03 04 03 04 02 01 03 04 02 01 03 04 03 04 05 06 07 07 08 09 09 09 09 09 09 09 09 09 09	48 14/11/2 49.26 1.33E-4 1.99E-6 1.99E-6 1.99E-6 1.53E-7 1.99E-6 1.55E-6 1.51E-7 1.99E-4	0.45 0.016 0.016 0.005 0.005 0.01 0.003 0.003 0.003 0.004 0.004 0.005 0.004 0.	20/11 15, 6.58 1.28 3.29 1.98 4.41 3.29 1.98 6.58 2.14 2.44 9.88 1.04 7.37 9.88	0.45 389 389 389 389 389 389 389 386 386 386 386 386 386 386 386 386 386	26/11 26/11 4 6.99 6.55 3.45 2.00 7.66 3.45 2.00 6.91 1.72 6.99 2.24 2.24 1.04 4.99 1.04 8.65	0.45 ago 50 1/2016 1.23 1.6-06 66-02 55-03 77-03 77-03 77-03 16-04 48-03 16-04 48-02 46-01 46-02 77-03 46-03 46-03 46-03 46-03	C0.45 C7.75 C7.75 C7.76 C7.87 C7	0.45 a go 51 2/2016 6.44 65-06 62E-02 33E-03 4E-03 34E-03 4E-03 66E-04 4E-02 7F-01 99E-04 4E-02 99E-04 8E-03	0.45 Cr. 5 S 08/12 3 3 3 3 .26 1.95 6.52 3.32 6.52 1.57 3.36 5.65 9.77 8.15 8.15 9.77 8.15 8.15 9.77 8.15 8.15 9.77 8.15 9.77 8.15 9.77 8.15 9.77 8.15 9.77 8.15 9.77 9.77 8.15 9.77 9.77 8.15 9.77 9.77 9.77 9.77 9.77 9.	0.45 ago 52 2/2016 3.56 05-05 16-02 66-03 55-03 55-03 55-03 55-03 22-04 22-04 22-03 22-04 22-03 22-04 27-02 66-01 77-03 33-01 88-02 77-04 77-04	14/11 3.3 7.0 1.2 2.1.1 6.0 3.5,5 2.1.1 7.0 5.0,0 1.5 3.7 3.5 2.0 1.5 3.7 7.0 1.5 3.7 7.0 1.5 3.7 7.0 1.5 3.7 7.0 1.5 3.7 7.0 1.5 3.7 7.0 7.0 8.0 7.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9	0.45 12/2016 18.34 0.5E-06 12E-01 52E-03 11E-03 10E-03 12E-04 11E-03 10E-04 17E-03 15E-04 17E-03 15E-04 17E-03 15E-04 17E-03 15E-04 17E-03 15E-04 17E-03 16E-03 16E-03 16E-03 16E-03 16E-03	20/12/2 24.2 24.2 24.2 24.2 25.3 3.42E 2.05E 2.05E 2.05E 2.17E 2.12E 1.12e	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 4.36E-03 4.36E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 6.71E-04 1.01E-03 1.01E-03 1.01E-03	45
Thallium (TI)	Calculated Concentrations Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molyddenum (Mo) Nickel (Ni) Phosphorus (P) Selenium (Se)	Units Ma µg/m3 4 µg/m3 1. µg/m3 2. µg/m3 3. µg/m3 2. µg/m3 2. µg/m3 2. µg/m3 7. µg/m3 5. µg/m3 4. µg/m3 7. µg/m3 4. µg/m3 5. µg/m3 2. µg/m3 2. µg/m3 6. µg/m3 6. µg/m3 3.	#8 aximum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03 .1E-03 1.8E-03 .1E-03 1.5E-04 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 6.0E-04 .7E-02 1.5E-02 .6E-01 1.1E-01 .2E-03 9.0E-04 .6E-03 9.0E-04 .6E-03 9.0E-04 .6E-03 9.0E-04 .6E-03 9.0E-04	03/11 19 6.8: 8.6(3.4: 2.0: 2.0: 6.8: 1.7. 6.8: 1.7. 6.0: 1.0: 1.0: 6.0: 6.4: 3.4: 3.4: 3.4: 3.4: 3.4: 3.4: 3.4: 3	0.45 0/2016 9.38 2E-06 0E-02 1E-03 5E-03 1E-04 5E-03 5E-03 2E-04 1E-03 2E-04 1E-03 2E-04 1E-03 2E-04 1E-03 2E-04 1E-03 2E-04	0.45 Cr	0.45 0/2016 0/2016 0.51 55-06 9E-02 3E-03 9E-03 3E-04 00-03 06-03 55-04 66-03 55-04 66-03 55-04 85-04 85-04 85-04 85-04 85-04 85-04 85-04 85-04	15/1 1: 6.6.6 7.7 3.3 2.0 4.7 3.3 2.0 6.6.6 6.6 6.6 6.6 9.9 9.9 9.9 9.9 9.9 9	0.45 ago 43 0/2016 5.44 66-06 2E-02 3E-03 3E-04 0E-03 66-04 66-03 66-04 66-03 66-04 68-04 88-04 2E-02 48-01 88-04 88-04 88-04 88-04	21/10 21/10 12. 6.03 4.70 3.02 1.81 1.81 6.03 3.02 1.51 6.03 2.41 1.12 9.05 6.699 4.28 9.05 3.500 3.02	0.45 080 4 1/2016 6.60 6.60 6.60 6.60 6.60 6.60 6.60 6	27/10/ 22/10/ 28.25 1.75E 3.41E 2.05E 2.05E 6.82E 1.71E 3.38E 1.02E 1.83E 1.02E 1.83E 1.02E	0.45 2016 224	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 1.66E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04 9.94E-04 3.97E-02 3.31E-03	08/11/2 38.56 6.76E-4 1.62E-6 3.38E-6 2.03E-6 2.03E-6 6.76E-6 1.69E-6 6.76E-6 1.69E-6 1.69E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6 1.01E-6	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Crage 48 14/11/2 49.26 1.33E-4 1.99E-6 1.99E-6 6.65E-1 1.96E-6 5.36E-7 5.16E-9 9.97E-4 9.97E-6 9.97E-6 4.12E-6 3.32E-6 5.33E-6 5.33E-6 5.34E-6 5.34	0.45 0.016 0.016 0.000 0	20/11 15.5 6.58 1.28 3.29 1.98 4.41 3.29 1.98 1.65 6.58 2.14 2.44 9.88 1.04 7.37 9.88 2.63 2.37	0.45 989 99 1/2016 993 1E-06 1E-01 1E-03 1E-03 1E-04 1E-03 1E-04 1E-03 1E-04 1E-03 1E-04 1E-04 1E-03 1E-04 1E-04 1E-04 1E-04 1E-05 1E-04 1E-04 1E-05 1E-04 1E-06	26/11 14 6.939 6.56 3.45 2.07 7.66 9.11 1.75 6.91 2.22 1.00 7.66 4.93 1.00 1.02	0.45 ago 50 1/2016 1.23 1.E-06 6E-02 5E-03 7F-03 7F-03 7F-03 7F-03 1E-04	C0.45 C7.17 S C7.17	0.45 ago 51 2/2016 5.44 66:-06 2E-02 3E-03 3E-04 4E-03 3E-04 4E-03 66:-04 4E-03 7E-01 9E-04 9E-04 9E-04 9E-04 9E-04 9E-04	0.45 Cr. 5 S	0.45 ago 52 2/2016 3.56 00:05 11:-02 65:-03 55:-03 59:-03 55:-03 52:-04 22:-04 22:-03 22:-04 23:-03 23:-01 23:-01 25:-03 26:-01 27:-03 38:-01 28:-02 27:-04 27:-04 27:-04 27:-04	40.45 3.3 7.00 1.2 3.5 2.1 6.0 3.5 2.1 7.0 5.0 7.0 1.5 3.7 3.5 2.0 1.0 1.0 8.8 8.8 3.5	0.45 12/2016 18:8.34 15:5-06 12:2-01 12:2-03 15:2-03 15:2-04 11:0-03 15:2-04 11:0-03 15:2-04 11:0-03 15:2-04 11:0-03 15:0-04 15:0-04 15:0-03 15:0-04 15:0-03 15:0-04 15:0-03 15:0-04 15:0-03 15:0-04 15:0-03 15:0-04 15:0-03 15:0-04 15:0-03 15:0-04 15:0-03 15:0-04 15:0-03 1	20,45 Crag 54 20/12/2 24.2 6.855-5.345-5.075- 3.425-2.055- 2.055-2.176-6.855- 1.506-2.177- 2.126-1.246-7.336- 1.036-8.566-3.426- 3.426-3.	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 1.01E-03 1.01E-03 1.01E-03 1.01E-03	45
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Selenium (Se) Silver (Ag)	Units Ma µg/m3 4 µg/m3 1. µg/m3 2. µg/m3 3. µg/m3 2. µg/m3 2. µg/m3 7. µg/m3 5. µg/m3 4. µg/m3 4. µg/m3 4. µg/m3 4. µg/m3 2. µg/m3 1. µg/m3 2. µg/m3 3. µg/m3 1. µg/m3 1. µg/m3 1.	#8 arter 4 2016 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-04 3.0E-04 .1E-03 1.8E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 6.0E-04 .1E-03 9.0E-04	03/1 19 6.8. 8.6i 3.4. 2.0i 2.0i 6.8. 1.7. 6.8. 1.7. 6.8. 1.7. 1.0i 1.oi 1.oi 1.oi 1.oi 1.oi 1.oi 1.oi 1.oi 1.oi 1.oi 1.	0.45 0/2016 9.38 22E-06 0E-02 1E-03 5E-03 6E-03 1E-04 5E-03 22E-04 1E-03 22E-04 7E-01 00E-03 22E-03 22E-03 22E-03 22E-03	09/11 10 6.66 3.99 3.33 2.00 2.00 6.66 6.65 1.55 9.99 9.99 9.99 9.99 3.33 1.66	0.45 0/2016 0/2016 0.51 55-06 9E-02 3E-03 9E-03 3E-04 0E-03 55-04 6E-03 55-04 7F-02 2E-01 8E-04 8E-04 8E-04 8E-04 8E-04 8E-04 8E-04	15/1 1: 6.6.6 7.7 3.3 2.0 4.7 3.3 2.0 2.0 6.6.6 6.6 3.8 8.2 2.1 9.9 9.9 9.9 9.9 9.9 9.9 1.0 3.3 3.3 1.6	0.45 ago 43 0/2016 5.44 66:-06 2E-02 3E-03 9E-03 9E-03 9E-03 66:-04 6E-03 66:-04 2E-02 4E-01 8E-04 2E-02 3E-03 8E-04 2E-02 3E-03 8E-04	21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81 1.81 6.03 2.41 1.12 9.05 6.69 4.28 9.05 9.05 3.50 3.02 1.51	0.45 080 4 1/2016 6.60 6.60 6.6-06 6.6-03 6.6-03 6.6-03 6.6-03 6.6-03 6.6-04 6.6-03 6.6-03 6.6-04 6.6-03 6.6-04 6.6-03 6.6-04 6.6-03 6.6-04 6.6-03 6.6-04 6.6-03 6.6-04 6.6-03 6.6-04 6.6-02 6.6-03 6.6-04 6.6-02 6.6-03 6.6-04 6.6-02 6.6-03 6.6-04 6.6-03 6.6-04 6.6-02 6.6-03 6.6-04 6.6-03 6.6-04 6.6-03 6.6-04 6.6-03 6.6-03 6.6-03	27/10/ 28 45 27/10/ 28 4.5 3.41E 2.05E 4.37E 3.41E 2.05E 1.71E 6.82E 1.71E 6.82E 1.77E 1.77E 1.77E 3.38E 1.02E 1.02E 3.27E 3.41E 1.02E 3.27E 3.41E	0.45 2016 2216 224	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-04 1.66E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04 9.94E-04 3.97E-02 3.31E-03 1.66E-03	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 2.03E-6 6.76E-6 1.69E-6 6.76E-6 1.69E-6 1.01E-6 3.07E-6 1.01E-6 3.52E-6	0.45 0.016 6 06 001 03 03 002 04 03 03 04 03 04 002 01 03 001 002 001 003 003 004 003 004 005 006 007 007 007 008 009 009 009 009 009 009 009	Crage 48 14/11/2 49.26 1.33E-6 1.34E-6 1.34E-6 1.34E-6 1.34E-6 1.35E-6 1.35	0.45 0.16 5 5 0.01 0.03 0.03 0.03 0.04 0.03 0.04 0.03 0.01 0.03 0.01 0.02 0.04 0.04 0.04 0.05 0.05 0.05 0.05 0.05	20/11 15.5 6.58 1.28 3.29 1.98 4.41 3.29 1.98 1.65 6.58 2.14 2.44 9.88 1.04 7.37 9.88 2.63 2.37	0.45 989 99 99 1-72016 99 1-72016 1-93 1-1-06 1-1-07 1-1-0	26/11 14 6.93 6.56 3.44 2.07 7.66 9.10 1.73 6.91 1.04 1.04 1.04 1.05 3.44 1.73	0.45 ago 50 1/2016 1.23 1.23 1.6-06 66-02 55-03 776-03 776-03 776-03 776-03 116-04 416-03 416-04 416-01 416-03	C0.45 C7.71 155 6.444 7.82 1.94 1.94 6.444 1.662 6.49 9.66 1.21 9.65 9.65 9.65 9.65 9.65 9.65	0.45 ago 51 2/2016 5.2 44 66E-06 2E-02 3E-03 4E-03 3E-04 4E-03 4E-03 6E-04 4E-03 6E-04 1E-01 9E-04 1E-01 9E-04 1E-01 9E-04 9E-04 9E-04 9E-04	08/12 08/12 33 1.33 9.71 3.26 1.95 6.33 3.26 1.95 6.52 6.52 6.52 6.52 1.95 6.52 6.52 1.95 6.52 6.52 6.52 1.95 6.52 6.52 6.52 6.52 6.52 6.52 6.52 6.52 6.52 6.53 6.52 6.52 6.52 6.52 6.52 6.52 6.52 6.52 6.52 6.52 6.53 6.52 6.53	0.45 ago 52 2/2016 3.56 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0	 <0.45 Control 3. 7.00 1.2 3.5. 2.1 6.0. 3.5. 2.1. 7.0. 5.0. 7.0. 1.5. 3.5. 2.0. 1.0. 1.0. 8.8 8.8 3.5. 1.7 	0.45 frago 53 12/2016 18.8.34 155E-06 122E-01 125E-03 15E-04 11E-03 15E-04 10F-03 105E-04 105E-03 105E-04 105E-03 105E-04	20/12/2 24.2 24.2 24.2 6.855- 5.34E- 2.05E- 5.07E- 3.42E- 2.05E- 1.71E- 6.85E- 1.71E- 2.12E- 1.24E- 1.24E- 1.33E- 1.03E- 3.42E- 3.42E- 1.73E- 3.42E- 1.73E- 3.42E- 1.73E- 3.42E- 1.73E- 3.42E- 1.73E- 3.42E- 1.71E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 9.54E-02 5.10E-03 1.01E-03 1.01E-03	45
Vanadium (V)	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Selenium (Se) Silver (Ag) Strontium (Sr)	ид/m3	#8 arter 4 2016 Minimum Minimum	6.8. 4.6 6.8. 1.7. 6.8. 1.0. 6.8. 1.7. 6.8. 4.6 4.6 4.6 4.6 4.4 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2	0.45 0/2016 9.38 2.52-06 00E-02 1E-03 55E-03 1E-04 55E-03 1E-04 1E-03	0.45 Cr 0.9/11 10.66:63 3.99:3.33 2.00:4.33 2.00:6.65 1.66:6.65 1.52:9.98 9.98:9.99 9.98:9.99 9.98:1.66:6.65 1.66:6.65:6.65 1.66:6.65:6.65 1.66:6.65:6.65 1.66:6.65:6.65 1.66:6.65:6.65 1.66:6.65	0.45 0.90 42 0/2016 0.51 55:-06 96:-02 38:-03 06:-03 38:-04 06:-03 55:-04 66:-03 55:-04 66:-03 55:-04 55:-04 55:-04 55:-04 55:-04 55:-04 55:-03 56:-03 56:-03 56:-03 56:-03 56:-03 56:-03 56:-03 56:-03 56:-03	15/11 1: 1: 6.6. 7.7.7 3.3 2.0.0 4.7 4.7 3.3.3 2.0 6.6. 1.6.6.5 8.8 2.1.1 9.9 9.9 9.9 9.9 2.0 3.3.3 1.6 2.6.6 3.8	0.45 ago 43 0/2016 5.44 66-06 2E-02 3E-03 3E-03 00E-03 00E-03 00E-03 00E-03 00E-03 66-04 66-03 66-04 66-03 8E-04 06-03 66-03 8E-04 06-03 8E-04 06-03 8E-04 06-03 8E-04	21/10 21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81 6.03 2.41 1.12 9.05 6.69 4.28 9.05 3.50 3.02 1.51 1.31 3.32	0.45 080 4 //2016 6.60 6.60 6.60 6.60 6.60 6.60 6.60 6	27/10/2 28.3 416 2.05E 3.41E 2.05E 4.37E 3.41E 2.05E 1.71E 6.82E 1.71E 1.02E	0.45 2016 244 -606 -011 -03 -03 -03 -04 -03 -04 -03 -04 -03 -04 -03 -01 -01 -02 -01 -02 -03 -03 -01 -02 -03 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -03 -04 -05 -06 -07 -07 -08 -08 -08 -08 -08 -08	02/11/2016 41.66 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04 9.94E-04 3.97E-02 3.31E-03 1.66E-03 7.35E-03	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 1.43E-6 3.38E-6 6.76E-6 3.09E-6 6.16E-6 3.07E-6 1.01E-6 1.01E-6 3.52E-6 3.32E-6 1.01E-6	0.45 0.016 6 6 00 01 03 03 00 04 03 03 04 03 04 03 04 00 01 02 01 03 03 04 00 03 03 04 00 03 03 04 05 06 06 06 07 07 08 08 09 09 09 09 09 09 09 09 09 09	Crage 48 14/11/2 49.26 1.33E-6 1.34E-6 1.34E-6 1.34E-6 1.35E-6 1.35	0.45 016 05 05 010 03 03 02 04 03 04 02 011 020 04 04 02 03 03 03 01 02 04 04 04 05 05 06 07 07 08 08 08 08 08 08 08 08 08 08 08 08 08	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98 6.58 2.14 2.44 9.88 1.04 7.37 9.88 2.63 2.37 3.29	0.45 980 99 99 1	26/11 144 6.93 6.55 3.44 2.00 7.66 3.45 2.01 6.91 1.72 6.91 1.04 8.63 3.45 3.45 3.45 3.45 3.45 3.45 3.45 3.4	0.45 ago 50 1/2016 1.23 1.6-06 66-02 55-03 77-03 55-04 77-03 77-03 16-04 46-03 16-04 46-02 46-01 46-03 56-03 77-03 86-03 86-03 86-03 86-03 86-03	C0.45 C7.25 C7.27 C7	0.45 ago 51 2/2016 5.44 6.64 6.60 6.26-02 38-03 38-04 48-03 38-04 48-03 68-04 48-03 68-04 48-03 98-04 88-03 38-03 88-03 88-03	08/12 33 1.33 1.37 9.71 3.26 1.95 6.33 3.26 1.95 6.52 1.57 3.32 6.52 1.57 9.77 9.77 9.77 8.15 3.26 4.56 4.56	0.45 ago 52 2/2016 3.56 0.56 0.50 1E-02 6E-03 5E-03 5E-03 5E-04 5E-03 5E-03 2E-04 7E-02 6E-01 7F-03 3E-01 7F-02 6E-01 7F-03 3E-01 8E-02 7F-04 6E-03 6E-03 6E-03 6E-03	14/1 3: 7.00 1.2: 3.5: 2.1: 7.00 5.00 7.00 1.5: 3.7. 3.5: 2.00 1.00 8.8.8. 3.5: 1.7. 6.66	0.45 12/2016 138.34 155E-06 122E-01 152E-03 166E-03 155E-04 17E-03 155E-04 17E-03 155E-04 17E-03 15E-04 15E-03 15E-03 15E-03	20/12/2 24.2 24.2 24.2 3.42E 2.05E 5.07E 2.05E 1.71E 6.85E 1.71E 2.12E 1.03E	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 9.54E-02 1.01E-03 1.01E-03 1.01E-03 1.01E-03	45
	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Selenium (Se) Silver (Ag) Strontium (Sr) Thallium (TI) Tin (Sn)	Units Ма µg/m3	#8 aximum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 6.0E-04 .1E-03 9.0E-04	03/1 19 6.8: 8.6: 3.4. 2.0: 2.0: 2.0: 6.8: 1.7. 6.8: 1.7. 6.8: 1.7. 6.8. 4.6: 2.7/ 1.0. 1.1. 4.0. 4.1. 4.	0.45 0/2016 9.38 22E-06 0E-02 1E-03 5E-03 1E-04 5E-03 22E-04 1E-03 22E-04 7F-02 0E-01 22E-03 22E-03 22E-03 22E-03 22E-03 22E-03 22E-03 22E-03 22E-03	09/11 10 6.66 3.95 3.33 2.00 2.00 2.00 6.66 6.65 1.66 5.88 3.99 9.98 9.99 9.91 1.66 1.44 3.33	0.45 0/2016 0/2016 0.51 55-06 9E-02 3E-03 3E-04 00-03 3E-04 6E-03 55-04 6E-03 55-04 6E-03 55-04 6E-03 6E-03 6E-03 8E-04 8E-04 8E-04 8E-04 8E-04 8E-04 8E-03 8E-04	15/1 1: 6.6.6 7.7.7 3.3.3 2.0.0 4.7.7 3.3.3 2.0.9 9.9.9 9.9.9 9.9.9 9.9.9 9.9.9 2.0.0 3.3.3 1.6.0 2.6.0 3.8.8 3.8.3 3.3.3 3.3.3	0.45 ago 43 0/2016 5.44 66-06 2E-02 3E-03 3E-04 0E-03 66-04 66-03 66-04 66-03 66-04 2E-02 4E-01 8E-04 2E-02 66-03 8E-04 2E-02 66-03 8E-04 3E-04 3E-04 3E-04 3E-03 8E-04 3E-03 3E-03 3E-03 3E-03	21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81 1.81 6.03 2.41 1.12 9.05 6.69 9.05 3.02 1.51 1.39 3.02 3.02 3.02	0.45 080 4 1/2016 60 6-06 6-06 6-02 6-03 6-03 6-03 6-04 6-03 6-04 6-03 6-04 6-02 6-04 6-02 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-04 6-03 6-03 6-04	27/10/ 22.7/10/ 28.2.7 45 6.822 1.75E 3.41E 2.05E 4.37E 3.41E 2.05E 6.82E 1.71E 6.82E 1.77E 3.38E 1.02E 1.77E 3.34E 1.02E 1.02E 3.27E 3.41E 3.41E 3.41E	0.45 2016 224	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 1.66E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04 9.94E-04 3.97E-02 3.31E-03 1.66E-03 7.35E-03 3.31E-03	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 1.69E-6 6.76E-6 3.07E-6 1.01E-6 3.07E-6 1.01E-6 3.02E-6 1.01E-6 3.02E-6 1.01E-6 3.02E-6 1.03E-6 1.03E-6 3.02E-6 1.03E-6 3.02E-6	0.45 0.016 6 06 001 03 03 002 04 03 003 004 003 004 002 001 002 003 003 004 005 005 006 007 007 007 008 009 009 009 009 009 009 009	C7-95 48 14/11/2 49.26 1.33E-4 1.99E-4 1.99E-6 6.65E-1 3.32E-6 5.39E-6 5.39E-6 5.39E-6 5.49E-7 5.41E-6 5.49E-7 5.49E-7 5.49E-7 5.49E-7 5.49E-7 5.49E-7 5.41E-7 5.49E-7 5.4	0.45 0.16 0.5 0.016 0.5 0.005 0.01 0.003 0.003 0.003 0.003 0.004 0.004 0.002 0.004 0	20/11 15.5 6.58 1.28 3.29 1.98 4.41 3.29 1.98 1.65 6.58 2.14 2.44 9.88 1.04 7.377 9.88 2.63 2.329 1.65 2.24 3.29 3.29 3.29	0.45 989 99 1/2016 993 1E-06 1E-01 1E-03 1E-04 1E-03 1E-03 1E-03 1E-03 1E-03 1E-03	26/11 14 6.99 6.56 3.44 2.07 7.66 6.99 1.77 6.99 1.00 1.00 8.63 3.45 1.77 2.66 3.44 3.44 3.44	0.45 ago 50 1/2016 1.23 1.1-06 66-02 55-03 77-03 57-03 57-03 57-03 11-04 11-0	C0.45 C7.17 S C7.17	0.45 ago 51 2/2016 5.44 66:-06 2E-02 3E-03 3E-03 3E-04 4E-03 3E-04 4E-03 9E-04 1E-01 1S-01 1S-01 1S-03 1S-04 1S-03 1S-03 1S-04 1S-03 1S-03 1S-03 1S-03	0.45 Cr. 5 S 08/12/3 33 1.33 (1.33 (1.34 (1.	0.45 ago 52 2/2016 3.56 00:05 11:-02 66:-03 59:-03 59:-03 59:-03 59:-03 22:-04 22:-03 22:-04 22:-03 22:-04 72:-04 75:-03 38:-01 38:-01 76:-04 77:-04 56:-03 56:-03 56:-03 56:-03 56:-03	3.5. 2.1. 6.0. 3.5. 2.1. 2.1. 7.0. 5.0. 7.0. 1.5. 3.5. 2.1. 2.1. 7.0. 6.6. 8.8. 3.5. 2.0. 1.0. 1.0. 1.0. 1.0. 1.0. 1.0. 1.0	0.45 12/2016 18:8.34 15:5-06 122E-01 12:6-03 16:6-03 1	20/12/2 24.2 24.2 24.2 3.42E- 2.05E- 5.07E- 3.42E- 2.05E- 1.71E- 6.85E- 1.50E- 2.17E- 2.12E- 1.24E- 1.34E- 1.03E- 3.42E- 1.03E- 3.42E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 1.01E-03 1.01E-03 1.01E-03 1.01E-03 1.01E-03 1.01E-03 1.01E-03	45
Zirconium (Zr) µg/m3 1.8E-03 1.5E-03 1.71E-03 1.6E-03 1.5E-03 1.71E-03 1.6E-03	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Selenium (Se) Silver (Ag) Strontium (Sr) Thalilium (Ti) Tin (Sn) Titanium (Ti)	Units Ma µg/m3	#8 arter 4 2016	03/1 19 6.8.8 8.6i 3.4.4 2.0i 2.0i 6.8.8 1.7.7 6.8.8 4.6i 2.77 1.0.0 1.1.1 6.0.0 1.0.1 4.2.1 3.4.4 3.4 3	0.45 0/2016 938 2E-06 0E-02 1E-03 5E-03 6E-03 1E-04 1E-03 2E-04 1E-03 2E-04 7F-01 00E-03 2E-03 3E-03 3E-03 1E-03 3E-03 1E-03 1E-03	09/11 10 6.66 3.99 3.33 2.00 4.33 3.33 2.00 6.65 6.65 1.66 6.65 2.67 1.55 9.98 2.93 3.99 9.94 1.44 3.33 3.33 3.33	0.45 0/2016	15/1 1: 6.6.6 7.7 3.3 2.0 4.7 3.3 2.0 2.0 6.6.6 6.6.6 9.9 9.9 9.9 9.9 9.9 9.9 9.9	0.45 ago 43 0/2016 5.44 66E-06 2E-02 3E-03 9E-03 9E-03 9E-03 0E-03 0E-03 0E-03 0E-03 0E-04 2E-02 4E-01 8E-04 2E-02 6E-04 2E-02 6E-03 6E-04 8E-04	21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81 1.12 9.05 6.69 9.05 9.05 3.02 2.41 1.12 9.05 3.02 3.02 3.02 3.02	0.45 9go 4 1/2016 6.60 606 602 603 603 603 603 604 603 604 602 603 604 603 604 603 604 603 604 603 604 603 604 603 604 603 604 603 604 602 603 604 603 603 604 603	27/10/ 28 45 27/10/ 28 6.82E 1.75E 3.41E 2.05E 4.37E 3.41E 2.05E 1.71E 6.82E 1.77E 1.77E 1.77E 1.77E 1.77E 1.77E 1.77E 1.72E 1.02E	0.45 2016 2214	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04 9.94E-04 3.97E-02 3.31E-03 1.66E-03 7.35E-03 3.31E-03 3.31E-03	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 1.69E-6 5.09E-6 6.76E-6 3.07E-6 1.01E-6 3.38E-6	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Crage 48 14/11/2 49.26 4.33-6 1.33E-6 1.99E-6 1.99E-6 1.66E-6 5.53E-6 5.36E-6 5.16E-6 5.16E-	0.45 016 5 5 5 5 5 5 5 5 6 6 7 7 7 8 7 8 8 8 8 8 8 8 8	20/11 15.5 6.58 1.28 3.29 1.98 4.41 3.29 1.98 1.65 6.58 2.14 2.44 9.88 1.04 7.37 7.37 9.88 2.24 2.43 2.44 2.44 2.44 2.44 2.44 2.44	0.45 989 99 1/2016 93 16:-06 16:-03 16:-03 16:-03 16:-03 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03 16:-04 16:-03	26/11 14 6.939 6.56 3.44 2.07 7.66 3.45 2.07 1.04 1.04 1.04 1.05 3.44 1.73 2.66 3.44 3.44 3.44	0.45 ago 50 1/2016 1.23 1.23 1.15-06 66-02 55-03 77-03 77-03 77-03 77-03 18-04 18-04 18-02 18-04 18-03 18-04 18-03 18-04 18-03 18-04 18-03 18-03 18-04 18-03 18-03 18-04 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03 18-03	C0.45 C7.45 C7.45 C8.45 C9.41 C9.45 C9	0.45 ago 51 2/2016 5.44 6.66-06 2E-02 3E-03 4E-03 3E-04 4E-03 4E-03 4E-03 9E-04 4E-01 9E-04 4E-02 9E-04 9E-04 8E-03 9E-04 9E-04 8E-03 9E-04 9E-03 9E-04 9E-04 9E-03 9E-04	08/12 08/12 33 1.33 9.71 3.26 1.95 6.33 3.26 1.95 6.52 1.57 9.77 9.77 9.77 8.15 3.26 3.26 3.26 3.32 6.52 6.53	0.45 ago 52 2/2016 3.56 0.56 0.56 0.56 0.56 0.3 56-0.3	14/1 3: 7:00 1.2 3.5; 2.1: 6:0.0 3.5; 2.1: 2.1: 7:00 1.5; 0.0 1.0 8.8.8 8.5; 1.7 6.6 3.5; 3.5; 3.5; 3.5; 3.5; 3.5; 3.5; 3.5;	0.45 rago 53 112/2016 18.8.4 18.8.4 155E-06 122E-01 125E-03 15E-04 11E-03 15E-04 10F-03 10F-04 10F-03 10F-0	20/12/2 24.2: 24.2: 5.34E- 3.42E- 2.05E- 5.07E- 3.42E- 2.05E- 1.71E- 6.85E- 1.50E- 1.12E- 1.03E- 1.03E- 1.03E- 1.03E- 3.42E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 9.54E-02 5.10E-03 1.01E-03 1.01E-03 1.01E-03 1.01E-03 1.01E-03 3.36E-03 3.36E-03	45
Total Uranium (U) µg/m3 1.6E-04 1.4E-04 1.5E-04 1.5E-0	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Selenium (Se) Silver (Ag) Strontium (Tr) Tin (Sn) Titanium (Ti) Vanadium (V)	Units Ma µg/m3 4 µg/m3 1. µg/m3 2. µg/m3 3. µg/m3 2. µg/m3 2. µg/m3 2. µg/m3 2. µg/m3 4. µg/m3 4. µg/m3 4. µg/m3 5. µg/m3 1. µg/m3 2. µg/m3 2. µg/m3 3. µg/m3 3. µg/m3 3. µg/m3 3. µg/m3 3. µg/m3 1. µg/m3 1. µg/m3 1. µg/m3 1.	#8 anter 4 2016 #8 aximum Minimum #9,26 10,51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .1E-03 1.9E-02 .1E-03 9.0E-04 .1E-03 9.0E-04 .7E-02 1.5E-02 .6E-01 1.1E-01 .2E-03 9.0E-04 .2E-01 5.9E-02 .9E-02 3.9E-03 .1E-03 9.0E-04 .5E-02 8.1E-03 .5E-03 3.0E-03	03/11 11.6.8.8.6.6.8.2.0.0.6.8.1.7.6.8.8.4.6.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0	0.45 1980 44 9.38 2E-06 00-02 1E-03 55-03 1E-04 55-03 2E-04 1E-03 2E-04 1E-03 2E-04 1E-03 2E-04 1E-03 2E-04 1E-03 2E-04 1E-03 1E-03 1E-03	0.45 Cr 09/11 10 10 6.65 3.99 3.33 2.00 6.65 1.66 6.65 2.67 9.98 3.99 9.98 2.93 3.33 1.66	0.45 0.65 0.72016 0.51 55E-06 9F-02 35E-03 0F-03	15/11 1:1 6.6 7.7.7 3.3 2.0 4.7 4.7 3.3.3 2.0 6.6 6.6 3.8 2.1 9.9 9.9 9.9 2.0 3.3 1.6 2.6 3.3 3.3 3.3 3.3 3.3	0.45 190 143 0/2016 5.44 66-06 26-02 36-03 06-03 06-03 06-03 66-04 46-01 28-02 48-01 28-04 06-03 66-03 66-03 66-03 66-03 66-03 66-03 66-03 66-03 66-03	21/10 21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81 6.03 2.41 1.12 9.05 6.69 4.28 9.05 3.50 3.02 1.51 1.39 3.02 1.51 1.39 3.02 1.51	0.45 080 4 4 7/2016 6.60 6-06 6-02 6-03 6-03 6-03 6-03 6-04 6-02 6-01 6-02 6-01 6-02 6-04 6-02 6-03 6-04 6-02 6-03 6-03 6-03 6-03 6-03 6-03 6-03 6-03	27/10/ 28.4 4.37E 3.41E 2.05E 2.05E 6.82E 1.71E 6.82E 1.77E 3.38E 1.02E 1.02E 1.02E 3.27E 3.41E 1.02E 3.27E 3.41E 1.02E 3.41E 1.02E 3.41E 1.71E	0.45 2016 224	02/11/2016 41.66 1.32F-05 1.68E-01 3.31F-03 1.99E-03 1.99E-03 1.99E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04 3.97E-02 3.31E-03 1.66E-03 1.66E-03 1.66E-03 1.66E-03 1.66E-03	08/11/2 08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 6.76E-6 1.69E-6 6.76E-6 1.69E-6 1.01E-6 3.07E-1 1.01E-6 3.38E-6 1.01E-6 1.01E-6 3.38E-6 1.01E-6 1.01E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	48 14/11/2 49.26 1.33E-4 2.70E-6 3.32E-6 1.99E-6 6.65E-6 1.99E-6 5.36E-7 5.39E-6 4.12E-6 3.32E-6 3.32E-6 3.32E-7 4.12E-6 3.32E-6 3.32E-6 4.12E-6 3.32E-6 3.32E-6 4.12E-6 3.32E-6	0.45 0.16 5 5 0.05 0.1 0.03 0.03 0.03 0.03 0.04 0.04 0.02 0.01 0.02 0.04 0.04 0.04 0.02 0.03 0.03 0.03 0.03 0.03 0.03 0.03	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98 6.58 2.14 2.44 9.88 1.05 2.37 3.29 1.65 2.37 3.29 1.65 2.37 3.29	0.45 389 //2016 9.93 iE-06 iE-01 iE-03 iE-03 iE-03 iE-03 iE-04 iE-03 iE-04 iE-01 iE-04 iE-03 iE-04 iE-04 iE-03 iE-04 iE-03 iE-04 iE-03 iE-04 iE-03 iE-04 iE-03 iE-03 iE-04 iE-01 iE-03	26/11 26/11 449 6.99 6.56 3.44 2.00 6.91 1.77 6.99 2.22 2.24 1.04 8.63 3.45 1.73 2.66 3.44 1.73	0.45 ago 1/2016 4.23 1E-06 6E-02 5E-03 7E-03 7E-03 7E-03 1E-04 4E-02 4E-01 4E-02 4E-01 4E-03 4E-03 3E-03	0.45 02/12 5 6.46 7.83 3.23 1.94 1.62 6.46 1.62 9.65 9.65 9.65 9.65 9.65 8.08 3.22 1.62 3.23 3.	0.45 a go 51 2/2016 6.44 66-06 2E-02 3E-03 4E-03 4E-03 4E-03 66-04 4E-03 66-04 4E-02 7E-01 98-04 98-03 98-04 88-03 38-03 98-04 98-03 98-04 98-03 98-04 98-03 98-04	0.45 Crac 5 S S S S S S S S S S S S S S S S S S	0.45 ago 52 2/2016 3.56 00E-05 1E-02 66E-03 55E-03 55E-03 55E-03 52E-04 7E-02 66E-01 77E-02 66E-01 77E-02 66E-01 77E-03 66E-03	*** **********************************	0.45 1730 1730 18.34 05E-06 05E-06 05E-06 05E-03 11E-03 11E-03 11E-03 11E-03 11E-03 15E-04 17E-03 15E-03	20/12/2 24.2.2 6.85E 5.34E 3.42E 2.05E 5.07E 3.42E 2.05E 6.85E 1.71E 6.85E 1.50E 2.17E 2.12E 1.03E 1.03E 3.42E 1.74E 4.03E 3.42E 3.42E 3.42E 3.42E 1.71E	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 4.36E-03 4.36E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 6.71E-04 1.01E-03	45
	Particulate Total Mercury (Hg) Aluminum (Al) Antimony (Sb) Arsenic (As) Barium (Ba) Beryllium (Be) Bismuth (Bi) Boron (B) Cadmium (Cr) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Selenium (Se) Silver (Ag) Strontium (Sr) Thallium (Ti) Tin (Sn) Titanium (Ti) Vanadium (V) Zinc (Zn) Zirconium (Zr)		#8 arter 4 2016 aximum Minimum 49.26 10.51 .3E-05 6.0E-06 .7E-01 4.0E-02 .5E-03 3.0E-03 .1E-03 1.8E-03 .9E-02 2.8E-03 .5E-04 3.0E-04 .1E-03 1.8E-03 .0E-04 6.0E-04 .1E-03 1.5E-03 .0E-04 1.1E-03 1.5E-03 .0E-04 6.0E-04 .1E-03 9.0E-04 .1E-03 9.0E-03 .1E-03 1.5E-03 .1E-03 1.5E-03 .1E-03 1.5E-03	03/1 19 6.8. 8.6i 3.4. 2.0i 2.0i 6.8. 1.7. 6.8. 4.6i 2.7i 1.0i 1.0i 1.0i 6.4i 3.4. 4.7. 4.2. 4.4. 4.4. 4.4. 4.5. 4.6. 4.6. 4.6. 4.6. 4.7. 4.	0.45 0/2016 9.38 22E-06 0E-02 1E-03 5E-03 6E-03 1E-04 5E-03 22E-04 1E-03 22E-04 7E-02 0E-01 12E-03 22E-03 22E-03 22E-03 21E-03	09/11 10 6.66 3.99 3.33 2.00 4.33 3.33 2.00 6.66 6.65 2.66 1.55 9.98 9.98 9.98 1.66 1.44 3.33 3.33 1.66 8.45	0.45 0/2016	15/1 1: 6.6.6 7.7 3.3 2.0 4.7 3.3 2.0 6.6.6 6.6.6 3.8 3.8 2.1 9.9 9.9 9.9 9.9 2.0 2.0 3.3 1.6 6.6 3.8 3.8 3.8 3.8 3.8 3.8 3.8 3.8	0.45 ago 43 0/2016 5.44 66:-06 2E-02 3E-03 9E-03 9E-03 9E-03 6E-04 6E-03 6E-04 6E-03 6E-04 2E-02 8E-04 2E-02 6E-03 8E-04 3E-04 3E-04 3E-04 3E-04 3E-04 3E-04 3E-04 6E-03 6E-04	21/10 12. 6.03 4.70 3.02 1.81 2.83 3.02 1.81 1.81 6.03 2.41 1.12 9.05 6.69 4.28 9.05 3.00 3.00 3.00 3.00 3.00 3.00 3.00 3	0.45 980 4 1/2016 6.60 6.00 6.00 6.00 6.00 6.00 6.00 6	27/10/ 28 45 27/10/ 28 4.5 3.41E 2.05E 4.377E 3.41E 2.05E 1.71E 6.82E 1.77E 3.38E 1.02E 1.77E 3.38E 1.02E 1.77E 3.41E 2.05E 1.77E 3.41E	0.45 2016 22016 2204	02/11/2016 41.66 1.32E-05 1.68E-01 3.31E-03 1.99E-03 1.99E-03 1.99E-03 1.99E-04 1.66E-03 6.62E-04 4.08E-02 6.16E-01 3.71E-03 2.84E-01 2.05E-02 9.94E-04 9.94E-04 3.97E-02 3.31E-03 1.31E-03 1.31E-03 1.31E-03 4.50E-02 1.66E-03	08/11/2 38.56 6.76E-6 1.62E-6 3.38E-6 2.03E-6 2.03E-6 6.76E-6 1.69E-6 1.69E-6 1.01E-6 3.07E-6 1.01E-6 3.38E-6 1.01E-6 3.38E-6 1.01E-6 3.38E-6 1.01E-6 3.38E-6 1.01E-6 4.69E-6 4.69E-6 1.69E-6 1.69E-6 1.69E-6 1.69E-6 1.69E-6	0.45 0.016 6 06 001 03 002 004 003 004 003 004 003 004 002 001 002 003 003 004 003 004 005 005 006 007 007 008 009 009 009 009 009 009 009	Crage 48 14/11/2 49.26 1.33E-6 1.34E-6 1.34E-6 1.34E-6 1.34E-6 1.35E-6	0.45 0.16 0.5 0.01 0.03 0.03 0.03 0.04 0.03 0.04 0.03 0.04 0.05 0.01 0.02 0.04 0.04 0.04 0.05 0.05 0.05 0.05 0.05	20/11 15. 6.58 1.28 3.29 1.98 4.41 3.29 1.98 1.65 6.58 2.14 2.44 9.88 2.14 7.37 9.88 2.63 2.37 3.29 1.65 2.24 1.65 1.65 1.63	0.45 989 99 1/2016 1.93 1.61 1.62 1.63 1.62 1.63 1.62 1.63 1.63 1.63 1.63 1.63 1.63 1.63 1.63	26/11 14 6.93 6.56 3.44 2.07 7.66 3.45 2.07 1.73 6.91 1.04 1.00 8.63 3.44 1.73 2.65 3.44 3.44 1.73	0.45 ago 50 1/2016 1.23 1.23 1.6-06 66-02 55-03 77-03 77-03 77-03 77-03 18-04 18-04 18-02 18-03	C.45 Cr. S OZ/11 155 6.444 7.82 3.22 1.94 7.33 3.23 1.94 1.62 6.44 1.66 2.67 9.65 9.65 9.65 9.65 9.65 9.65 3.22 3.23 1.62 3.88 3.23 3.23 1.62	0.45 ago 51 2/2016 5.44 6.66-06 2E-02 3E-03 4E-03 3E-04 4E-03 4E-0	08/12 08/12 33 1.33 1.33 9.71 3.26 1.95 6.52 6.52 6.52 1.95 6.52 6.52 6.52 6.52 1.57 9.77 9.77 8.15 3.26 3.26 6.32 6.52 1.63 3.26 6.52 1.63	0.45 ago 52 2/2016 3.56 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0	**C.45****C.****C.***C.***C.***C.***C.**	0.45 frago 53 12/2016 18.8.4 155E-06 122E-01 125E-03 15E-04 15E-03 15E-04 15E-04 15E-03 15E-03 16E-03 16E-	20/12/2 24.2 24.2 24.2 25.34E- 3.42E- 2.05E- 5.07E- 3.42E- 2.05E- 1.71E- 6.85E- 1.50e- 1.50e- 1.50e- 1.42E- 1.24E-	0.45 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	26/12/2016 12.49 6.71E-06 6.65E-02 3.36E-03 2.01E-03 4.36E-03 3.36E-04 2.01E-03 6.71E-04 1.68E-03 6.71E-04 1.01E-03 9.54E-02 5.10E-03 1.01E-03	45

Appendix G PAHs Data Summary February 9, 2017

Appendix G PAHS DATA SUMMARY



Project No.: 160950528

Polycyclic Aromatic Hydrocarbons		Crago Road Sta	tion																
Location				Cr	rago	Cra	ago	Cra	ago	Cra	ago	Cra	ago	Cra	ago	Cra	ago	Cra	ago
Date		dd/mm/yyy	у		0/2016		/2016		/2016	08/11			/2016	02/12			/2016		2/2016
Start Time		hh:mm		0	:00	0:	00	0:	00	0:	00	0:	00	0:0	00	0:	00	0:0	.00
Sample Duration		Hours		24	4.06	23	.62	23	.25	23	.68	23.96		23.67		23	.96	23.	.53
Technician					TH		Н		'H	KM		TH		TH			Ή		'H
Filter Number					330-01		12-01		55-01	DAR744-01		DGG898-01		DGH086-01		DGH054-01 DQP480			108-01
Maxaam ID					R865	DGC			341		738		N706	DOT				DRM	
Analytical Report #		. 3, .			<u>.4670</u>		4139		5707		4945		4176		5560		5540	B6S0	
Total Volumetric Flow		Am³/sample	<u> </u>		0.15	Value	5.97		3.65	361 Value		377 Value	7.98	Value	6.69 RDL	374 Value		370	0.14 RDL
Analytical Results		Units		Value 0.0176	0.030	0.0086	RDL 0.030	Value 0.0108	RDL 0.030	Value 0.025	RDL 0.030	<0.0038	RDL 0.030	0.00348	0.020	0.0093	RDL 0.030	Value 0.0173	0.020
Benzo(a)pyrene 1-Methylnaphthalene		μg μg		1.17	0.030	1.03	0.030	1.16	0.030	3.61	0.030	0.50	0.030	1.00	0.020	0.0093	0.030	1.24	0.020
2-Methylnaphthalene		де де		1.89	0.15	1.61	0.15	1.59	0.15	5.30	0.15	0.76	0.15	1.55	0.10	1.40	0.15	1.73	0.10
Acenaphthene		μg		0.942	0.075	1.02	0.075	0.261	0.075	0.651	0.075	0.210	0.075	0.234	0.050	0.102	0.075	0.272	0.050
Acenaphthylene		μg		<0.075	0.075	< 0.075	0.075	< 0.075	0.075	0.147	0.075	<0.075	0.075	0.074	0.050	<0.075	0.075	<0.050	0.050
Anthracene		μg		0.330	0.075	<0.075	0.075	<0.075	0.075	<0.075	0.075	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050
Benzo(a)anthracene		μg		<0.075	0.075	<0.075	0.075	<0.075	0.075	0.087	0.075	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050
Benzo(a)fluorene		μg		<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10
Benzo(b)fluoranthene		μg		<0.075	0.075	<0.075	0.075	<0.075	0.075	0.213	0.075	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050
Benzo(b)fluorene		μg		<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10
Benzo(e)pyrene		μg		<0.15 <0.075	0.15 0.075	<0.15 <0.075	0.15 0.075	<0.15 <0.075	0.15 0.075	<0.15 <0.075	0.15 0.075	<0.15 <0.075	0.15 0.075	<0.10 <0.050	0.10 0.050	<0.15 <0.075	0.15 0.075	<0.10 <0.050	0.10 0.050
Benzo(g,h,i)perylene Benzo(k)fluoranthene		μд		<0.075	0.075	<0.075 <0.075	0.075	<0.075 <0.075	0.075	<0.075 <0.075	0.075	<0.075 <0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050
Biphenyl		μg μg		0.62	0.073	0.58	0.073	0.55	0.073	1.82	0.073	0.27	0.073	0.43	0.030	0.61	0.073	0.70	0.030
Chrysene		де де		<0.075	0.075	<0.075	0.15	<0.075	0.075	0.165	0.15	<0.075	0.13	<0.050	0.050	<0.01	0.15	<0.050	0.050
Dibenz(a,h)anthracene		μg		<0.075	0.075	<0.075	0.075	< 0.075	0.075	<0.075	0.075	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050
Dibenzo(a,c) anthracene + Picene		μg		<0.10	0.10	<0.15	0.15	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.15	0.15
Fluoranthene		μg		0.477	0.075	0.300	0.075	0.123	0.075	0.636	0.075	<0.075	0.075	0.114	0.050	0.123	0.075	0.230	0.050
Indeno(1,2,3-cd)pyrene		μg		<0.075	0.075	<0.075	0.075	<0.075	0.075	<0.075	0.075	<0.075	0.075	<0.050	0.050	<0.075	0.075	<0.050	0.050
Naphthalene		μg		4.87	0.11	5.33	0.11	5.27	0.11	24.3	0.11	2.64	0.11	4.88	0.072	6.33	0.11	7.26	0.072
o-Terphenyl		μg		<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10
Perylene		μg		<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.15	0.15	<0.10	0.10	<0.15	0.15	<0.10	0.10
Phenanthrene Pyrene		μg		2.77 0.258	0.075 0.075	1.52 0.123	0.075 0.075	0.510 <0.075	0.075 0.075	2.10 0.417	0.075 0.075	0.276 <0.075	0.075 0.075	0.516 0.078	0.050 0.050	0.399 <0.075	0.075 0.075	0.762 0.122	0.050 0.050
Tetralin		μg ug		0.238	0.073	0.123	0.073	0.52	0.073	1.79	0.075	0.45	0.073	0.66	0.030	0.77	0.073	0.122	0.030
		Quarter 4 201	16		rago		ago				ago	Cra						0.00	ago
					agu	Uri	agu	Cra	ago	UI 6	150		agu	Cra	ago	Cra	ago	Cra	
					24		.5		ago 26	2			18 18	Cra 2			ago 80		31
Calculated Concentrations	Halle																		
Calculated Concentrations	Units	Maximum	Minimum	;		2		2			7	2			9	3			31
Calculated Concentrations Benzo(a)pyrene		Maximum 6.91E-02		03/10	24	2	/2016	27/10	26	08/11	7	20/11	18	2	2/2016	3	/2016	26/12	31
	ng/m³		Minimum	03/10	24 0/2016	15/10 2.34	/2016	27/10 2.82	0/2016	08/11 6.91	7 /2016	20/11 3.97	./2016	02/12 1.03	2/2016	14/12	/2016 E-02	26/12 4.67	2/2016
Benzo(a)pyrene	ng/m³	6.91E-02	Minimum 1.03E-02	03/10 4.75 3.16	0/2016 5E-02	15/10 2.34 2.81	/2016 E-02	27/10 2.82 3.02	2.6 0/2016 2E-02	08/11 6.91	/2016 E-02 E+00	20/11 3.97 1.32	./2016 /E-02	02/12 1.03 2.97	2/ 2016 E-02	14/12 2.49	2/2016 E-02 E+00	26/12 4.67 3.35	2/2016 7E-02
Benzo(a)pyrene 1-Methylnaphthalene	ng/m ³ ng/m ³ ng/m ³ ng/m ³	6.91E-02 9.98E+00	Minimum 1.03E-02 1.32E+00	03/10 4.75 3.16 5.11	0/2016 5E-02 5E+00	15/10 2.34 2.81 4.39	/2016 E-02 E+00	27/10 2.82 3.02 4.14	2/2016 2E-02 E+00	08/11 6.91 9.98 1.47	/2016 E-02 E+00	20/11 3.97 1.32 2.01	./2016 /E-02 E+00	02/12 1.03 2.97	2/2016 EE-02 E+00 E+00	14/12 2.49 2.65	2/2016 E-02 E+00 E+00	26/12 4.67 3.35	2/2016 7E-02 E+00
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene	ng/m³	6.91E-02 9.98E+00 1.47E+01	Minimum 1.03E-02 1.32E+00 2.01E+00	03/10 4.79 3.16 5.11 2.54	0/2016 5E-02 6E+00 1E+00	15/10 2.34 2.81 4.39	5 //2016 E-02 E+00 E+00	27/10 2.82 3.02 4.14 6.80	2/2016 2/E-02 E+00 E+00	08/11 6.91 9.98 1.47	/2016 E-02 E+00 E+01 E+00	20/11 3.97 1.32 2.01 5.56	./2016 /E-02 E+00 E+00	02/12 1.03 2.97 4.60	2/2016 E-02 E+00 E+00 E-01	14/12 2.49 2.65 3.74	./2016 E-02 E+00 E+00 E-01	26/12 4.67 3.35 4.67 7.35	2/2016 7E-02 E+00
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene	ng/m ³ ng/m ³ ng/m ³ ng/m ³ ng/m ³ ng/m ³	6.91E-02 9.98E+00 1.47E+01 2.78E+00	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01	03/10 4.75 3.16 5.11 2.54 1.03	0/2016 5E-02 6E+00 1E+00 4E+00	15/10 2.34 2.81 4.39 2.78	/2016 E-02 E+00 E+00 E+00 E-01	27/10 2.82 3.02 4.14 6.80 9.77	0/2016 EE-02 E+00 E+00 DE-01	08/11 6.91 9.98 1.47 1.80	/2016 E-02 E+00 E+01 E+00 E-01	20/11 3.97 1.32 2.01 5.56 9.92	./2016 /E-02 E+00 E+00 E-01	02/12 1.03 2.97/ 4.60/ 6.95	2/2016 E-02 E+00 E+00 E-01	14/12 2.49 2.65 3.74 2.73 1.00	./2016 E-02 E+00 E+00 E-01	26/12 4.67 3.35 4.67 7.35 6.75	2/2016 PE-02 E+00 E+00 E-01
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene	ng/m ³ ng/m ³ ng/m ³ ng/m ³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.92	0/2016 5E-02 5E+00 1E+00 4E+00 1E-01	15/10 2.34 2.81 4.39 2.78 1.02	/2016 E-02 E+00 E+00 E+00 E-01 E-01	27/10 2.82 3.02 4.14 6.80 9.77 9.77	0/2016 EE-02 E+00 E+00 0E-01	08/11 6.91 9.98 1.47 1.80 4.07	/2016 E-02 E+00 E+01 E+00 E-01 E-01	20/11 3.97 1.32 2.01 5.56 9.92 9.92	2./2016 2.E-02 E+00 E+00 E=01 EE-01	02/12 1.03 2.97 4.600 6.95 2.20	2/2016 EE-02 E+00 E+00 E-01 EE-01 EE-01	14/12 2.49 2.65 3.74 2.73 1.00	./2016 E-02 E+00 E+00 E-01 E-01	26/12 4.67 3.35 4.67 7.35 6.75	2/2016 2/E-02 E+00 E+00 E-01 EE-02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene	ng/m ³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02	03/10 4.79 3.16 5.11 2.54 1.00 8.90 1.00	0/2016 5E-02 5E+00 1E+00 4E+00 1E-01 2E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02	/2016 E-02 E+00 E+00 E+00 E-01 E-01	27/10 2.82 3.02 4.14 6.80 9.77 9.77	266 2E-02 E+00 E+00 0E-01 2E-02 2E-02	08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41	/2016 E-02 E+00 E+01 E+00 E-01 E-01	20/11 3.97 1.32 2.01 5.56 9.92 9.92	2./2016 2.E-02 E+00 E+00 E=01 E-02 EE-02	02/12 1.03 2.97 4.600 6.95 2.20 7.43	2/2016 EE-02 E+00 E+00 E-01 EE-01 EE-02 EE-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00	/2016 E-02 E+00 E+00 E-01 E-01 E-01	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 6.75	2/2016 2E-02 E+00 E+00 EE-01 EE-02 EE-02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene	ng/m³ ng/m³ ng/m³ ng/m³ ng/m³ ng/m³ ng/m³ ng/m³ ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 6.75E-02	03/10 4.75 3.16 5.11 2.54 1.02 8.92 1.02 2.03	0/2016 5E-02 5E+00 1E+00 4E+00 1E-01 2E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02	/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01	27/10 2.82 3.02 4.14 6.80 9.77 9.77 9.77	266 0/2016 EE-02 E+00 E+00 DE-01 7E-02 7E-02	08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41	/2016 E-02 E+00 E+01 E+01 E-01 E-01 E-01 E-01 E-01	20/11 3.97 1.32 2.01 5.56 9.92 9.92 9.92	./2016 FE-02 E+00 E+00 E+00 EE-01 EE-02 EE-02	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43	2/2016 EE-02 E+00 E+00 E-01 EE-01 EE-02 EE-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01	/2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 6.75	2/2016 2E-02 E+00 E+00 EE-01 EE-02 EE-02 EE-02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene	ng/m ³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 1.00	0/2016 5E-02 5E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01	27/10 2.82 3.02 4.14 6.80 9.77 9.77 9.77 1.95	266 2/2016 E-02 E+00 E+00 E-01 2E-02 2E-02 2E-02 2E-02 3E-01	08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07	/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92	288 2/2016 E-02 E+00 E+00 E-01 E-02 E-02 E-02 E-02 E-02	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43	2/2016 E-02 E+00 E+00 E-01 E-01 E-02 E-02 E-02 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01	7/2016 EE-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 6.75 1.35 6.75	2/2016 2/2016 2/2-02 E+00 E+00 5E-01 5E-02 5E-02 5E-02 5E-02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 5.89E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 1.00 2.00	0/2016 55E-02 56E+00 1EE+00 4EE+00 1E-01 2E-01 1E-01 3E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02	5 /2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01	27/10 2.82 3.02 4.14 6.80 9.77 9.77 9.77 1.95	0/2016 EE-02 E+00 E+00 0E-01 EE-02 EE-02 EE-02 EE-01 EE-02	08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89	7/2016 E-02 E+00 E+01 E+01 E-01 E-01 E-01 E-01 E-01 E-01 E-01	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92	2016 FE-02 E+00 E+00 6E-01 EE-02 EE-02 EE-02 EE-02	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43	/2016 E-02 E+00 E+00 E-01 E-01 E-02 E-02 E-02 E-02 E-02 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01	/2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 6.75 1.35 6.75	2/2016 2/2016 2/E-02 E+00 E+00 6E-01 6E-02 6E-02 6E-02 6E-02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene	ng/m ³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 5.89E-01 2.07E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 2.00 2.00	0/2016 55E-02 56E+00 1EE+00 4EE+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 2.04	5 /2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01	27/10 2.82 3.02 4.14 6.80 9.77 9.77 9.77 1.95 9.77	266 272016 28E-02 E+00 28E-01 28E-02 27E-02 27E-02 27E-02 27E-02 27E-02 27E-02 27E-02 27E-02 27E-02	08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07	7/2016 E-02 E+00 E+01 E+01 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98	2.68 2.72016 2.7201	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43 1.49	/2016 E-02 E+00 E+00 E-01 E-01 E-02 E-02 E-02 E-02 E-02 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 2.01	/2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35i 4.67i 7.35 6.75 6.75 6.75 1.35 6.75 1.35	2/2016 FE-02 E+00 E=01 E=02 E=02 E=02 E=02 E=02 E=02 E=02 E=02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(b)fluorene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 5.89E-01 2.07E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 1.35E-01	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 2.00 2.00 1.00	0/2016 55E-02 56E+00 1EE+00 4EE+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 3E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 2.04	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77	266 272016 286-02 286-00 286-01 286-02 286-01 286-01 286-01 286-01	2 08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 2.07	7/2016 E-02 E+00 E+01 E+01 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98 9.92	2.68 2.72016 2.66-02 2.66-01 2.66-01 2.66-02 2.66-02 2.66-02 2.66-01 2.66-01 2.66-01 2.66-01 2.66-01	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43 1.49 7.43	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-02 E-01 E-02 E-01 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 2.01 1.00	/2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75	2/2016 FE-02 EE+00 EE+00 EE-01 EE-02 EE-02 EE-02 EE-02 EE-01 EE-02 EE-01 EE-02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(c)pyrene Benzo(g,h,i)perylene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 5.89E-01 2.07E-01 1.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 2.00 1.00 1.00 1.00	0/2016 55E-02 56E+00 1EE+00 4EE+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 2.04 1.02	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 9.77	266 272016 286-02 286-00 286-01 286-02 286-01 286-01 286-01 286-01 286-01 286-01 286-01	2 08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 2.07 1.04 1.04	7/2016 E-02 E+00 E+01 E+01 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98 9.92	2/2016 2/2016 2/2016 2/2016 2/2010	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43 1.49 7.43 7.43	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 2.01 1.00	0 /2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35i 4.67i 7.35 6.75 6.75 1.35 6.75 1.35 6.75 6.75	2/2016 7/2016
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(g,h,i)perylene Benzo(k)fluoranthene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 5.89E-01 2.07E-01 1.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 1.35E-01 6.75E-02 6.75E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.90 1.00 2.00 2.00 2.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1EE+00 4EE+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 2.04 1.02	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 9.77	266 272016 286-02 286-00 286-01 286-02 286-01 286-01 286-01 286-01 286-01 286-01 286-01 286-01 286-01 286-01 286-01	2 08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 2.07 1.04 1.04	7/2016 E-02 E+00 E+01 E+01 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98 9.92 9.92 7.14	2/2016 2/	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43 1.49 7.43 7.43	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.00 1.00	0 /2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35	2/2016 2/2016 2/E-02 E-00 E-00 E-02 E-02 E-02 E-02 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-02 E-02 E-00 E-02 E-00
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(k)fluoranthene Benzo(k)fluoranthene Benzo(k)fluoranthene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 5.03E+00	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 7.14E-01	03/10 4.75 3.16 5.11 2.54 1.00 8.90 1.00 2.00 2.00 2.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01 3E-01 1E-01 3E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 2.04 1.02 1.02	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 9.77 1.43	266 272016 286-02 286-00 286-01 286-02 286-01 2	2 08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 2.07 1.04 5.03	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98 9.92 9.92 7.14	2/2016 2/	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43 1.49 7.43 7.43 7.43 1.28 7.43	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-02 E-00 E-01 E-02 E-02 E-02 E-02 E-02 E-03 E-04 E-05 E-04 E-05 E-05 E-06 E-07 E-07 E-07 E-07 E-08 E-09 E-09 E-09 E-09 E-09 E-09 E-09 E-09	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.00 1.63 1.00	0 /2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 1.35	2/2016 2/2016 2/E-02 E-00 E-00 E-02 E-02 E-02 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-02 E-02 E-02 E-00 E-02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 2.07E-01 1.04E-01 5.03E+00 4.56E-01 1.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 7.14E-01 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.90 1.00 2.00 2.00 2.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01 1E-01 1E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 2.04 1.02 1.58 1.02	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 9.77 1.43 9.77	266 272016 286-02 286-00 286-01 286-02 286-01 2	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 2.07 1.04 5.03 4.56 1.04	7/2016 E-02 E+00 E+01 E+01 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98 9.92 7.14 9.92 9.92	2.68 2.72016 2.66-02 2.66-01 2.66-01 2.66-02 2.66-02 2.66-02 2.66-01 2.66-0	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43 7.43 7.43 7.43 7.43	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-02 E-01 E-02 E-02 E-02 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-02 E-01 E-02 E-02 E-01 E-02 E-02 E-03 E-04 E-04 E-05 E-05 E-06 E-07 E-07 E-08 E-09 E-09 E-09 E-09 E-09 E-09 E-09 E-09	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.00 1.63 1.00	0 /2016 E-02 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 6.75 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 6.75 6.75	2/2016 2/2016 2/E-02 E-00 E-00 E-02 E-02 E-02 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-01 E-02
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(k)fluoranthene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenzo(a,c) anthracene + Picene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 5.03E+00 4.56E-01 1.04E-01 2.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 7.14E-01 6.75E-02 6.75E-02 7.14E-01 6.75E-02 1.35E-01	03/10 4.75 3.16 5.11 2.54 1.00 8.90 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01 1E-01 1E-01 1E-01 1E-01 5E-00	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 1.02 2.04	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 9.77 1.43 9.77 9.77	266 272016 286-02 286-01 286-02 286-02 286-01 286-01 286-01 286-01 286-01 286-02 286-01 286-02 286-01 286-02 2	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 2.07 1.04 5.03 4.56 1.04	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98 9.92 7.14 9.92 9.92	288 2/2016 2E-02 E+00 EE-01 EE-02 EE-02 EE-01 EE-02	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 7.43 1.49 7.43 7.43 7.43 7.43 7.43 1.28 7.43 7.43	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-01 E-02 E-02 E-02 E-02 E-02 E-02 E-02 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.63 1.00 1.00 2.01	0 /2016 E-02 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 6.75 2.03	2/2016 2/
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(b)fluorene Benzo(e)pyrene Benzo(g,h,i)perylene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenzo(a,c) anthracene + Picene Fluoranthene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 5.03E+00 4.56E-01 1.04E-01 2.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 6.75E-02 1.35E-01 9.92E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.90 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01 1E-01 1E-01 1E-01 1E-01 1E-01 1E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 1.02 2.04 8.18	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 9.77 1.43 9.77 9.77 1.95 3.21	266 272016 286-02 286-01 286-02 286-02 286-01 286-01 286-01 286-01 286-01 286-01 286-02 286-01 286-02 286-01 286-02 286-02 286-01 286-02 286-02 286-02 286-01 286-02 286-02 286-02 286-01 286-02 2	2 08/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 2.07 1.04 5.03 4.56 1.04 1.38 1.76	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98 9.92 7.14 9.92 9.92	2.68 2.72016 2.602 2.600 2.601 2.602 2.602 2.602 2.602 2.602 2.602 2.601 2.602 2.601 2.602 2.601 2.602 2.601 2.602 2.601 2.602 2.601 2.602 2.601 2.602 2.601 2.602 2.602 2.601 2.602 2	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 1.49 7.43 1.49 7.43 7.43 1.28 7.43 7.43 1.49 3.39	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-02 E-02 E-02 E-02 E-02 E-02 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.63 1.00 1.00 2.01 3.29	0 /2016 E-02 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 6.75 2.03 6.21	2/2016 2/
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluorene Benzo(c)pyrene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenzo(a,c) anthracene + Picene Fluoranthene Indeno(1,2,3-cd)pyrene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.76E+00 1.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 6.75E-02 6.75E-02 7.14E-01 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.90 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01 1E-01 1E-01 1E-01 1E-01 1E-01 1E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 2.04 8.18 1.02	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 1.43 9.77 9.77 1.95 3.21	266 272016 286-02 286-01 286-02 286-01	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 1.04 5.03 4.56 1.04 1.38 1.76 1.04	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 7.14 9.92 9.92 1.98 9.92 9.92	2.68 2.72016 2.66-02 2.66-01 2.66-01 2.66-02 2.66-02 2.66-02 2.66-01 2.66-01 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-01 2.66-02 2.66-02 2.66-02 2.66-02 2.66-03 2.66-0	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 1.49 7.43 1.49 7.43 7.43 1.28 7.43 7.43 1.49 3.39 7.43	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-02 E-02 E-02 E-02 E-02 E-02 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.63 1.00 2.01 3.29 1.00	0 /2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 2.03 6.75 6.75	2/2016 2/
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(b)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(c)pyrene Benzo(c)pyrene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenz(a,c) anthracene + Picene Fluoranthene Indeno(1,2,3-cd)pyrene Naphthalene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.76E+00 1.04E-01 1.76E+00	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 2.04 8.18 1.02 1.45	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 1.43 9.77 9.77 1.95 3.21 9.77	266 27/2016 28-02 28-02 28-02 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 1.04 5.03 4.56 1.04 1.38 1.76 1.04 6.72	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 1.98 9.92 7.14 9.92 9.92 9.92 1.98	288 2/2016 2E-02 E+00 EE-01 EE-02 EE-02 EE-02 EE-01 EE-02 EE-01 EE-02 EE-01 EE-02 EE-01 EE-02 EE-01 EE-02 EE-01 EE-02 EE-02 EE-01 EE-02	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 1.49 7.43 1.49 7.43 7.43 1.28 7.43 7.43 1.49 3.39 7.43	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-02 E-02 E-02 E-02 E-02 E-02 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.63 1.00 2.01 3.29 1.00 1.69	0 /2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 2.03 6.75 1.89; 6.75 2.03 6.21	2/2016 2/
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(a,h,i)perylene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenz(a,c) anthracene Fluoranthene Indeno(1,2,3-cd)pyrene Naphthalene o-Terphenyl	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 2.07E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 1.35E-01	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 2.04 8.18 1.02 1.45 2.04	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 1.95 9.77 1.43 9.77 1.95 3.21 9.77 1.37	266 27/2016 28-02 28-02 28-02 28-02 28-01	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 1.04 5.03 4.56 1.04 1.38 1.76 1.04 6.72 2.07	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 7.14 9.92 9.92 1.98 9.92 9.92 1.98	288 2/2016 2E-02 2E-00 2E-01 2E-02 2E-02 2E-01 2E-02 2E-01 2E-02 2E-01 2E-02 2E-01 2E-02 2E-01 2E-02 2E-02 2E-02 2E-02 2E-02 2E-02 2E-02 2E-02 2E-02 2E-03 2E-03 2E-03 2E-04 2E-05 2E-05 2E-05 2E-05 2E-05 2E-06 2E-06 2E-07 2E-08 2E-09 2E-	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 1.49 7.43 1.49 7.43 1.28 7.43 1.49 3.39 7.43 1.49	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-02 E-01 E-02 E-01 E-02 E-02 E-02 E-02 E-02 E-02 E-02 E-02	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.63 1.00 2.01 3.29 1.00 1.69 2.01	0 /2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 2.03 6.75 1.96; 1.96; 1.35	2/2016 2/
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(c)pyrene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenz(a,c) anthracene Fluoranthene Indeno(1,2,3-cd)pyrene Naphthalene o-Terphenyl Perylene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.76E+00 1.76E+00 1.04E-01 2.07E-01 2.07E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 1.35E-01 1.35E-01 1.35E-01 9.92E-02 6.75E-02 1.35E-01 1.35E-01 1.35E-01	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 2.04 8.18 1.02 1.45 2.04	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 1.43 9.77 1.95 3.21 9.77 1.37 1.95	266 272016 286-02 286-02 286-01 386-01 386-01	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 1.04 5.03 4.56 1.04 1.38 1.76 1.04 6.72 2.07 2.07	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 7.14 9.92 9.92 1.98 9.92 9.92 1.98	2. 2016 2. 201	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 1.49 7.43 1.49 7.43 1.28 7.43 1.49 3.39 7.43 1.49 1.49	9	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.00 1.00	0 /2016 E-02 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.89; 6.75 2.03 6.21 6.75 1.96; 1.35	2/2016 2/
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)alnthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(c)pyrene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenzo(a,c) anthracene + Picene Fluoranthene Indeno(1,2,3-cd)pyrene Naphthalene o-Terphenyl Perylene Phenanthrene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 1.35E-01 1.35E-01 1.35E-01 9.92E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 1.35E-01 9.92E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 2.04 8.18 1.02 1.45 2.04 4.14	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 1.95 9.77 1.43 9.77 1.95 3.21 9.77 1.37 1.95 1.95	266 27/2016 28-02 28-00 28-01 28-02 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 1.04 5.03 4.56 1.04 1.38 1.76 6.72 2.07 5.81	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 7.14 9.92 9.92 1.98 9.92 1.98 9.92 1.98	2/2016 2/	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 1.49 7.43 1.49 7.43 1.28 7.43 1.49 3.39 7.43 1.49 1.49 1.49	/2016 E-02 E+00 E-01 E-01 E-02 E-02 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-01	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.63 1.00 2.01 3.29 1.00 1.69 2.01 2.01 1.07	0 /2016 E-02 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.89; 6.75 2.03 6.21 6.75 1.96; 1.35	2/2016 2/
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(c)pyrene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenzo(a,c) anthracene + Picene Fluoranthene Indeno(1,2,3-cd)pyrene Naphthalene o-Terphenyl Perylene Phenanthrene Pyrene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.76E+00 1.04E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 6.98E+00 1.35E-01 7.30E-01 9.77E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 2.04 8.18 1.02 1.45 2.04 4.14 3.35	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 1.95 9.77 1.43 9.77 1.95 3.21 9.77 1.37 1.95 1.95 3.21 9.77 1.37 1.95	266 272016 286-02 286-02 286-02 286-01	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 1.04 5.03 4.56 1.04 1.38 1.76 1.04 6.72 2.07 5.81 1.15	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 7.14 9.92 9.92 1.98 9.92 1.98 9.92 1.98 9.92 9.92 1.98	2.68 2.72016 2.600	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 1.49 7.43 1.49 7.43 1.28 7.43 1.49 3.39 7.43 1.49 1.49 1.49 1.49	9	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.63 1.00 2.01 3.29 1.00 1.69 2.01 1.07 1.00	0 /2016 E-02 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 1.89; 6.75 2.03 6.21 6.75 1.96; 1.35 1.35	2/2016 2/
Benzo(a)pyrene 1-Methylnaphthalene 2-Methylnaphthalene Acenaphthene Acenaphthylene Anthracene Benzo(a)alnthracene Benzo(a)fluorene Benzo(b)fluoranthene Benzo(b)fluorene Benzo(b)fluorene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(c)pyrene Benzo(k)fluoranthene Biphenyl Chrysene Dibenz(a,h)anthracene Dibenzo(a,c) anthracene + Picene Fluoranthene Indeno(1,2,3-cd)pyrene Naphthalene o-Terphenyl Perylene Phenanthrene	ng/m³	6.91E-02 9.98E+00 1.47E+01 2.78E+00 4.07E-01 8.92E-01 2.41E-01 2.07E-01 2.07E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01 1.76E+00 1.04E-01	Minimum 1.03E-02 1.32E+00 2.01E+00 2.73E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 1.35E-01 6.75E-02 6.75E-02 1.35E-01 6.75E-02 6.75E-02 6.75E-02 6.75E-02 6.75E-02 1.35E-01 1.35E-01 1.35E-01 9.92E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 1.35E-01 9.92E-02 6.75E-02 1.35E-01 9.92E-02	03/10 4.75 3.16 5.11 2.54 1.00 8.92 1.00 2.00 2.00 1.00 1.00 1.00 1.00 1.0	0/2016 55E-02 56E+00 1E+00 4E+00 1E-01 2E-01 1E-01 3E-01 1E-01 3E-01 1E-01	15/10 2.34 2.81 4.39 2.78 1.02 1.02 2.04 1.02 2.04 1.02 1.58 1.02 2.04 8.18 1.02 1.45 2.04 4.14 3.35 7.90	5/2016 E-02 E+00 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	27/10 2.82 3.02 4.14 6.80 9.77 9.77 1.95 9.77 1.95 9.77 1.95 9.77 1.43 9.77 1.95 3.21 9.77 1.37 1.95 1.33 9.77 1.36	266 27/2016 28-02 28-00 28-01 28-02 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01 28-02 28-01	208/11 6.91 9.98 1.47 1.80 4.07 1.04 2.41 2.07 5.89 2.07 1.04 5.03 4.56 1.04 1.38 1.76 1.04 6.72 2.07 5.81 1.15 4.95	7/2016 E-02 E+00 E+01 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	20/11 3.97 1.32 2.01 5.56 9.92 9.92 1.98 9.92 7.14 9.92 9.92 1.98 9.92 1.98 9.92 1.98	2. 2016 2. 201	2 02/12 1.03 2.97 4.60 6.95 2.20 7.43 1.49 7.43 1.49 7.43 1.28 7.43 1.49 3.39 7.43 1.49 1.49 1.49	9	14/12 2.49 2.65 3.74 2.73 1.00 1.00 2.01 1.00 2.01 1.00 1.63 1.00 2.01 3.29 1.00 1.69 2.01 2.01 1.07	0 /2016 E-02 E+00 E+00 E-01 E-01 E-01 E-01 E-01 E-01 E-01 E-	26/12 4.67 3.35; 4.67; 7.35 6.75 6.75 1.35 6.75 1.35 6.75 1.35 6.75 1.89; 6.75 2.03 6.21 6.75 1.96; 1.35 1.35	2/2016 2/

Note:

RDL = Reportable Detection Limit

Appendix H Dioxins and Furans Data Summary February 9, 2017

Appendix H DIOXINS AND FURANS DATA SUMMARY



Dioxins and Furans	Crago Road Station																		
Location			Crag	0		Crag	n		Crag	,		Crag	0		Crag	0		Crag	
Date	dd/mm/yyyy		03/10/2			15/10/2			27/10/2			08/11/2			20/11/2			14/12/2	
Start Time	hh:mm		0:00			0:00			0:00			0:00			0:00			0:00)
Sample Duration	Hours		24.0			23.6			23.2			23.6			23.9			23.9	
Technician			TH			TH			TH			KM			TH			TH	
Filter Number			CXB830)-O1		DAQ81	2-01		CAR655	-01		DAR744	1-01		DGG898	R-01		DGH054	4-01
Maxaam ID			DER8			DG08			DIZ34			DKT7			DMN7			DQP4	
Maxxam Job #			B6L46			B6M41			B6N57			B6O49	945		B6P41			B6R55	
Total Volumetric Flow	Am³/sample		370.1	15		366.9	17		383.6	5		361.5	57		377.9	18		374.0)2
		Value	EDL	WHO ₂₀₀₅ TEF	Value	EDL	WHO ₂₀₀₅ TEF												
Analytical Results	Units			2005			2005			2005			2005			2005			2005
2,3,7,8-Tetra CDD *	pg	<2.8	2.8	1	<2.7	2.7	1	<3.5	3.5	1	<3.1	3.1	1	<3.6	3.6	1	<2.5	2.5	1
1,2,3,7,8-Penta CDD *	pg	<3.6	3.6	1	<3.7	3.7	1	<3.3	3.3	1	<3.5	3.5	1	<3.5	3.5	1	<2.9	2.9	1
1,2,3,4,7,8-Hexa CDD *	pg	<4.5	4.5	0.1	<4.0	4.0	0.1	<3.6	3.6	0.1	<3.0	3.0	0.1	<3.6	3.6	0.1	<3.2	3.2	0.1
1,2,3,6,7,8-Hexa CDD *	pg	<4.6	4.6	0.1	<4.0	4.0	0.1	<3.7	3.7	0.1	<3.0	3.0	0.1	<3.6	3.6	0.1	<3.4	3.4	0.1
1,2,3,7,8,9-Hexa CDD *	pg	<4.2	4.2	0.1	<3.7	3.7	0.1	<3.4	3.4	0.1	<6.6 (1)	6.6	0.1	<3.3	3.3	0.1	<3.0	3.0	0.1
1,2,3,4,6,7,8-Hepta CDD *	pg	9.8	3.3	0.01	14.4	2.6	0.01	11.8	3.2	0.01	43.7	3.2	0.01	<8.5 (1)	8.5	0.01	7.3	3.4	0.01
Octa CDD *	pg	57.0	3.7	0.0003	92.9	3.9	0.0003	52.1	3.2	0.0003	167	3.2	0.0003	34.3	3.5	0.0003	17.9	2.2	0.0003
Total Tetra CDD *	pg	<7.1 (1)	7.1		<7.0 (1)	7.0		<12 (1)	12		<3.1	3.1		<4.6 (1)	4.6		<2.5	2.5	
Total Penta CDD *	pg	<10 (1)	10		<5.3 (1)	5.3		<6.1 (1)	6.1		<6.3 (2)	6.3		<3.5	3.5		<2.9	2.9	
Total Hexa CDD *	pg	<9.3 (1)	9.3		6.0	3.9		<16 (1)	16		25.0	2.9		<12 (1)	12		5.9	3.2	
Total Hepta CDD *	pg	17.7	3.3		31.9	2.6		11.8	3.2		103	3.2		9.0	3.5		13.6	3.4	
2,3,7,8-Tetra CDF **	pg	<3.9	3.9	0.1	<3.4	3.4	0.1	<3.3	3.3	0.1	<5.5 (3)	5.5	0.1	<3.4	3.4	0.1	<3.1	3.1	0.1
1,2,3,7,8-Penta CDF **	pg	<2.7	2.7	0.03	<4.0	4.0	0.03	<3.7	3.7	0.03	<3.2	3.2	0.03	<3.3	3.3	0.03	<2.7	2.7	0.03
2,3,4,7,8-Penta CDF **	pg	<2.7	2.7	0.3	<4.0	4.0	0.3	<3.7	3.7	0.3	<3.2	3.2	0.3	<3.3	3.3	0.3	<2.8	2.8	0.3
1,2,3,4,7,8-Hexa CDF **	pg	<3.3	3.3	0.1	<2.4	2.4	0.1	3.6	3.3	0.1	5.4	3.3	0.1	<3.2	3.2	0.1	4.8	2.9	0.1
1,2,3,6,7,8-Hexa CDF **	pg	<3.1	3.1	0.1	<2.3	2.3	0.1	<3.2	3.2	0.1	<3.2	3.2	0.1	<3.1	3.1	0.1	3.3	2.9	0.1
2,3,4,6,7,8-Hexa CDF **	pg	<3.5	3.5	0.1	<2.5	2.5	0.1	<3.5	3.5	0.1	<3.5	3.5	0.1	<3.4	3.4	0.1	<3.1	3.1	0.1
1,2,3,7,8,9-Hexa CDF **	pg	<3.6	3.6	0.1	<2.6	2.6	0.1	<3.7	3.7	0.1	<3.6	3.6	0.1	<3.5	3.5	0.1	<3.3	3.3	0.1
1,2,3,4,6,7,8-Hepta CDF **	pg	<3.3 (1)	3.3	0.01	<4.0	4.0	0.01	<3.3 (1)	3.3	0.01	9.6	2.9	0.01	<3.0	3.0	0.01	15.1	2.0	0.01
1,2,3,4,7,8,9-Hepta CDF **	pg	<3.4	3.4	0.01	<4.7	4.7	0.01	<3.8	3.8	0.01	<3.4	3.4	0.01	<3.5	3.5	0.01	<2.6	2.6	0.01
Octa CDF **	pg	4.3	3.8	0.0003	5.2	3.4	0.0003	4.5	3.1	0.0003	<8.0 (3)	8.0	0.0003	<3.2	3.2	0.0003	3.5	3.0	0.0003
Total Tetra CDF **	pg	<3.9	3.9		<3.4	3.4		<3.3	3.3		<5.5 (3)	5.5		<3.4	3.4		<3.1	3.1	1
Total Penta CDF **	pg	<2.7 (1)	2.7		<4.0	4.0		<3.7	3.7		<3.4 (3)	3.4		<3.3	3.3		6.3	2.8	1
Total Hexa CDF **	pg	<3.4	3.4		<2.4	2.4		3.6	3.4		12.2	3.4		<3.3	3.3		14.9	3.0	1
Total Hepta CDF **	pg	<3.3 (1)	3.3		<4.3	4.3		<3.6 (1)	3.6		13.7	3.1		<3.2	3.2		15.1	2.3	1
TOTAL TOXIC EQUIVALENCY	pg																		1

Calculated Concentrations	Crago 20 14/12/2016 0.003 0.004 0.004 0.005 0.004 0.020 0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.009 0.004 0.009 0.004 0.009 0.004 0.009 0.004 0.009 0.004 0.003 0.009 0.004 0.007 0.009
Calculated Concentrations	14/12/2016 0.003 0.004 0.004 0.005 0.004 0.020 0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.009 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004
Volts Maximum Minimum A Valid State Stat	0.003 0.004 0.004 0.005 0.004 0.020 0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.004 0.004 0.009 0.004 0.009 0.004
2,3,7,8-Tetra CDD*	0.003 0.004 0.004 0.005 0.004 0.020 0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.004 0.004 0.009 0.004 0.009 0.004
1.2,3,7,8 Penta CDD	0.003 0.004 0.004 0.005 0.004 0.020 0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.004 0.004 0.009 0.004 0.009 0.004
1.2.3.7.8-Penta CDD	0.004 0.004 0.005 0.004 0.020 0.048 0.003 0.004 0.016 0.036 0.004
1,2,3,4,7,8-Hexa CDD	0.004 0.005 0.004 0.020 0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.009 0.004 0.004 0.009 0.004 0.004 0.004 0.004 0.004 0.004 0.004
1,2,3,6,7,8-Hexa CDD	0.005 0.004 0.020 0.048 0.003 0.004 0.016 0.004 0.004 0.004 0.004 0.003 0.009 0.004 0.004 0.004
1.2.37.8.9-Hexa CDD	0.004 0.020 0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.003 0.009 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004
1,2,3,4,6,7,8-Hepta CDD pg/m3	0.020 0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.009 0.004 0.004 0.004 0.003 0.003 0.009
Octa CDD pg/m3 4.62E-01 4.79E-02 0.154 0.253 0.136 0.462 0.091 Total Tetra CDD pg/m3 1.56E-02 3.34E-03 0.010 0.010 0.016 0.004 0.006 Total Hetra CDD pg/m3 6.91E-02 1.26E-02 0.013 0.016 0.021 0.069 0.016 Total Hetra CDD pg/m3 6.91E-02 1.26E-02 0.013 0.016 0.021 0.069 0.016 2,3.7,8-Fetra CDF pg/m3 7.61E-03 4.14E-03 0.005 0.008 0.004 0.088 0.0024 2,3.7,8-Penta CDF pg/m3 7.61E-03 4.14E-03 0.005 0.005 0.004 0.008 0.004 2,3.4,7,8-Penta CDF pg/m3 5.45E-03 3.65E-03 0.004 0.005 0.005 0.005 0.004 0.004 1,2.3,6,7,8-Hetra CDF pg/m3 1.49E-02 3.27E-03 0.004 0.003 0.009 0.015 0.004 1,2,3,6,7,8-Hetra CDF pg/m3	0.048 0.003 0.004 0.016 0.036 0.004 0.004 0.004 0.003 0.009 0.004 0.004 0.004 0.004 0.004 0.004 0.004 0.004
Total Tetra CDD	0.003 0.004 0.016 0.036 0.004 0.004 0.003 0.009 0.004 0.004 0.004 0.003 0.009 0.009
Total Penta CDD	0.004 0.016 0.036 0.004 0.004 0.004 0.013 0.009 0.004 0.004 0.040 0.003 0.009 0.009
Total Heya CDD	0.016 0.036 0.004 0.004 0.003 0.009 0.004 0.004 0.004 0.003 0.009 0.004 0.004
Total Hepta CDD	0.036 0.004 0.004 0.004 0.013 0.009 0.004 0.004 0.004 0.003 0.009 0.009
2,3,7,8-Perta CDF ** pg/m3	0.004 0.004 0.004 0.013 0.009 0.004 0.004 0.040 0.003 0.009 0.004
1,2,3,7,8-Penta CDF	0.004 0.003 0.003 0.009 0.004 0.004 0.003 0.003 0.009 0.004
2,3,4,7,8-Penta CDF pg/m3 5.45E-03 3.65E-03 0.004 0.005 0.005 0.004 0.004 1,2,3,47,8-Hexa CDF pg/m3 1.49E-02 3.27E-03 0.004 0.003 0.009 0.015 0.004 2,3,46,7,8-Hexa CDF pg/m3 4.84E-03 3.41E-03 0.005 0.003 0.005 0.005 0.004 1,2,3,4,6,7,8-Hexa CDF pg/m3 4.98E-03 3.54E-03 0.005 0.003 0.005 0.005 0.004 1,2,3,4,6,7,8-Hexa CDF pg/m3 4.98E-03 3.54E-03 0.005 0.004 0.005 0	0.004 0.013 0.009 0.004 0.004 0.040 0.003 0.009 0.004
1,2,3,4,7,8-Hexa CDF pg/m3 1,49E-02 3,27E-03 0,004 0,003 0,009 0,015 0,004 0,004 0,2,3,6,7,8-Hexa CDF pg/m3 4,84E-03 3,13E-03 0,005 0,0005 0	0.009 0.004 0.004 0.040 0.003 0.009 0.004 0.017
1,2,3,6,7,8-Hexa CDF pg/m3 8,82E-03 3,15E-03 0,004 0,003 0,004 0,004 0,004 2,3,4,6,7,8-Hexa CDF pg/m3 4,84E-03 3,41E-03 0,005 0,003 0,005 0,005 0,004 1,2,3,7,8,9-Hexa CDF pg/m3 4,98E-03 3,5E-03 0,005 0,004 0,005 0,005 0,005 1,2,3,4,6,7,8-Hepta CDF pg/m3 4,04E-02 3,97E-03 0,004 0,005 0,004 0,007 0,004 1,2,3,4,6,7,8-Hepta CDF pg/m3 6,40E-03 3,97E-03 0,004 0,005 0,004 0,005 0,005 0,005 0,004 0,005 0,001 0,004 0,004 0,004 0,004 0,004 0,004 0,004 0,004 0,005 0,004 0,006 0,005 0,004 0,005 0,004 0,005 0,	0.004 0.004 0.040 0.003 0.009 0.004 0.017
1,2,3,7,8,9-Heva CDF	0.004 0.040 0.003 0.009 0.004 0.017
1,2,3,4,6,7,8-Hepta CDF pg/m3 4,04E-02 3,97E-03 0.004 0.005 0.004 0.027 0.004 1,2,3,4,7,8,9-Hepta CDF pg/m3 6,40E-03 3,48E-03 0.005 0.006 0.005 0.005 0.005 Octa CDF pg/m3 1,42E-02 4,23E-03 0.012 0.014 0.012 0.011 0.004 Total Tetra CDF pg/m3 7,61E-03 4,14E-03 0.005 0.005 0.004 0.008 0.004 Total Penta CDF pg/m3 1,68E-02 3,65E-03 0.004 0.005 0.005 0.005 0.004 Total Hexa CDF pg/m3 3,98E-02 3,27E-03 0.005 0.003 0.009 0.034 0.004 Total Hepta CDF pg/m3 4,04E-02 4,23E-03 0.004 0.006 0.005 0.038 0.004 Toxic Equivalency pg/m3 0.018 0.014 0.015 0.015 0.015 0.018 0.015	0.040 0.003 0.009 0.004 0.017
1.2,3,47,8,9-Hepta CDF	0.003 0.009 0.004 0.017
Octa CDF pg/m3 1.42E-02 4.23E-03 0.012 0.014 0.012 0.011 0.004 Total Tetra CDF pg/m3 1.61E-03 4.14E-03 0.005 0.005 0.004 0.008 0.004 Total Penta CDF pg/m3 1.68E-02 3.65E-03 0.004 0.005 0.005 0.005 0.005 0.004 Total Hexa CDF pg/m3 3.98E-02 3.27E-03 0.005 0.003 0.009 0.034 0.004 Total Hepta CDF pg/m3 4.04E-02 4.23E-03 0.004 0.006 0.005 0.038 0.004 Toxic Equivalency pg/m3 0.018 0.014 0.015 0.015 0.018 0.015	0.009 0.004 0.017
Total Tetra CDF pg/m3 7.61E-03 4.14E-03 0.005 0.005 0.004 0.008 0.004 Total Penta CDF pg/m3 1.68E-02 3.65E-03 0.004 0.005 0.005 0.005 0.005 Total Hexa CDF pg/m3 3.98E-02 3.27E-03 0.005 0.003 0.009 0.034 0.004 Total Heya CDF pg/m3 4.04E-02 4.23E-03 0.004 0.006 0.005 0.005 Toxic Equivalency pg/m3 0.018 0.014 0.014 0.015 0.015 0.015 0.015	0.004 0.017
Total Penta CDF pg/m3 1.68E-02 3.65E-03 0.004 0.005 0.005 0.005 0.004 Total Hexa CDF pg/m3 3.98E-02 3.27E-03 0.005 0.003 0.009 0.034 0.004 Total Hepta CDF pg/m3 4.04E-02 4.23E-03 0.004 0.006 0.005 0.005 0.008 0.004 Toxic Equivalency pg/m3 0.018 0.014 0.015 0.015 0.015 0.018 0.015	0.017
Total Hexa CDF pg/m3 3.98E-02 3.27E-03 0.005 0.003 0.009 0.034 0.004 0.004 0.005 0.003 0.009 0.034 0.004 0.006 0.005 0.008 0.005 0.038 0.004 0.006 0.005 0.008 0.005 0.008 0.004 0.006 0.005 0.008 0.005 0.008 0.004 0.006 0.005 0.008 0.008 0.005 0.008 0.0	
Total Hepta CDF	0.040
Toxic Equivalency pg/m3	0.040
TOTAL TOXIC EQUIVALENCY pg TEQ/m ³ 0.018 0.014 0.014 0.015 0.015 0.018 0.015 0.015	0.040
Cram Cram Cram Cram Cram	
	0.014 Crago
Calculated TEQ Concentrations Units Grago Crago Crago Crago Grago	14/12/2016
2,3,7,8-Tetra CDD * pg TEQ/m³ 0.004 0.005 0.004 0.005	0.003
1,2,3,7,8-Penta CDD pg TEO/m ³ 0.005 0.005 0.004 0.005 0.005	0.004
1,2,3,4,7,8-Hexa CDD pg TEQ/m ³ 0.0006 0.0005 0.0005 0.0004 0.0005	0.0004
1,2,3,67,8-Hexa CDD pg TEQ/m³ 0.0006 0.0005 0.0005 0.0004 0.0005	0.0005
1,2,3,78,9-Hexa CDD	0.0004
	0.0004
OCTA CDD pg TEO/m ³ 0.00005 0.00008 0.00004 0.00014 0.00003	0.00001
Total Tetra CDD pg TEQ/m ³	
Total Penta CDD pg TEQ/m³	
Total Hexa CDD pg TEQ/m³	
Total Hepta CDD pg TEQ/m³	
2,3,7,8-Tetra CDF ** pg TEQ/m³ 0.0005 0.0005 0.0004 0.0008 0.0004	0.0004
1,2,3,7,8-Penta CDF pg TEQ/m³ 0.0001 0.0002 0.0001 0.0001 0.0001	0.0001
2,3,4,7,8-Penta CDF pg TEO/m³ 0.001 0.002 0.001 0.001	0.001
1,2,3,4,7,8-Hexa CDF pg TEQ/m ³ 0.0004 0.0003 0.0009 0.0015 0.0004	0.0013
1,2,3,67,8-Hexa CDF pg TEQ/m ³ 0.0004 0.0003 0.0004 0.0004 0.0004	0.0009
2.3,4,6,7,8-Hexa CDF pg TEQ/m ³ 0.0005 0.0003 0.0005 0.0005	0.0004
μ _β (15Q/m ³) 0.0005 0.0005 0.0005 0.0005 0.0005	0.0004
1,2,3,4,6,7,8-Hepta CDF pg TEQ/m ³ 0.00004 0.00005 0.00004 0.00027 0.00004	0.00040
1,2,3,4,7,8,9-Hepta CDF pg TEQ/m ³ 0.00005 0.00005 0.00005 0.00005	0.00003
Octa CDF pg TEQ/m ³ 0.000003 0.000004 0.000003 0.000001	0.000003
Total Tetra CDF pg TEQ/m ³	
Total Penta CDF pg TEQ/m ³	
Total Hexa CDF pg TEQ/m ³	
Total Hepta CDF pg TEQ/m ³	

Notes:

RDL = Reportable Detection Limit

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

TEF = Toxic Equivalency Factor, TEQ = Toxic Equivalency Quotient

WHO(2005): The 2005 World Health Organization, Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds