REPORT

DURHAM YORK ENERGY CENTRE

COURTICE, ONTARIO

2023 Q3 AMBIENT AIR QUALITY MONITORING REPORT

RWDI #2400035

November 8, 2023

SUBMITTED TO

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1 INTRODUCTION

RWDI AIR Inc. (RWDI) was retained by Durham Region and York Region (the Regions) to conduct discrete and continuous air quality ambient monitoring at the Durham York Energy Centre (DYEC) monitoring stations. The facility address is 1835 Energy Drive, Clarington, Ontario. The DYEC is a facility that manages post diversion municipal solid waste from Durham Region and York Region to create energy from waste combustion. Commercial operation of the DYEC commenced on February 1, 2016. The site location is shown below in Figure 1.

Condition 11 of the Environmental Assessment Notice of Approval and Condition 7(4) of the Environmental Compliance Approval (ECA) requires ambient air monitoring to be undertaken by the DYEC. An Ambient Air Monitoring and Reporting Plan was prepared and approved by the Ministry of Environment, Conservation and Parks (MECP) to satisfy these conditions. Two (2) monitoring stations were established to monitor ambient air quality around the DYEC and quantify the background ambient air quality levels and DYEC contributed emissions to ambient air quality levels.

This monitoring plan was developed based on the Regional Council mandate to provide ambient monitoring in the area of the DYEC. The purposes of the ambient monitoring program are to:

- Quantify any measurable 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 (2009a);
- Monitor concentration levels of EFW-related air contaminants in nearby residential areas; and,
- Quantify background ambient levels of air contaminants in the area.

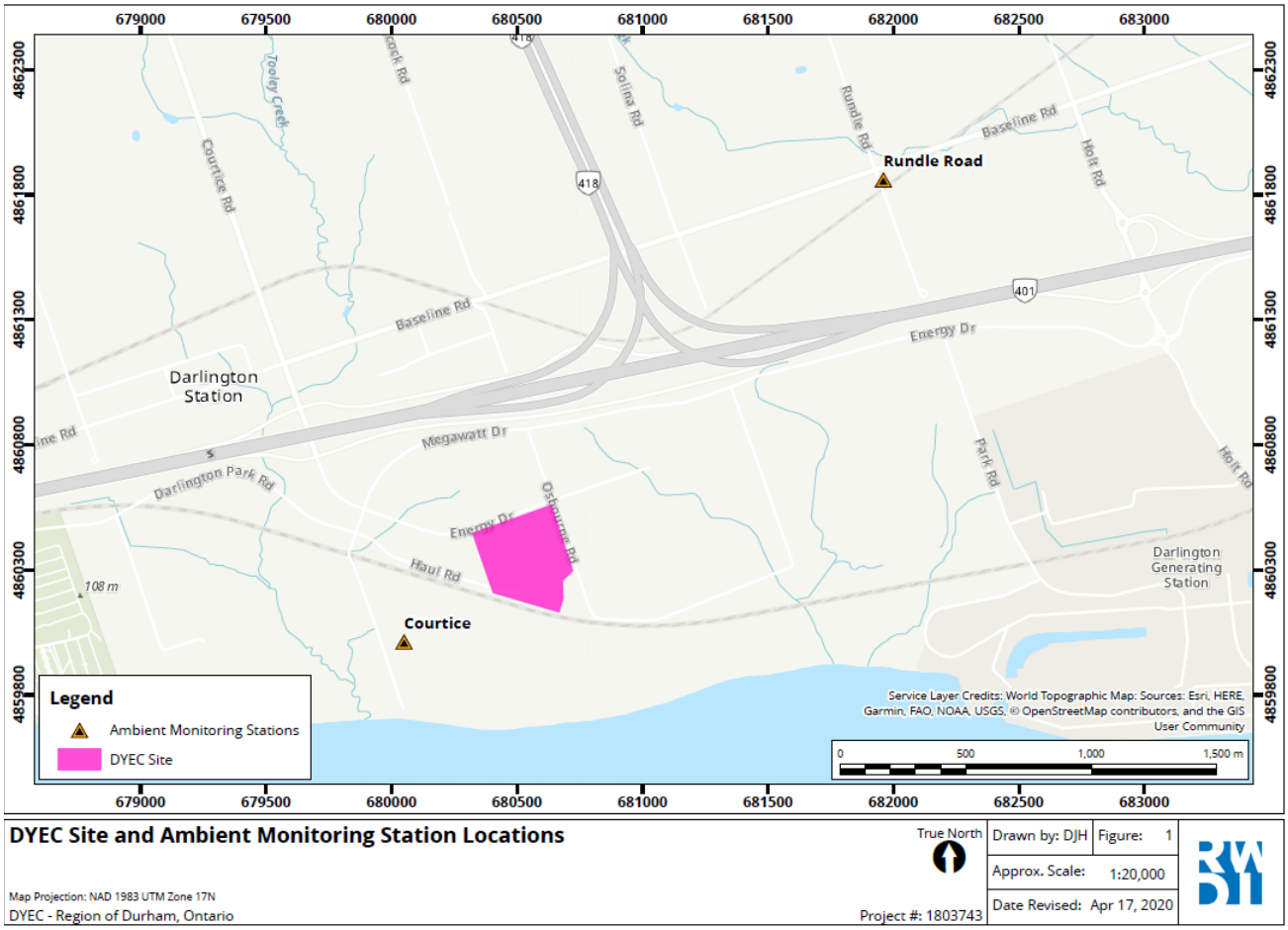
The facility has two (2) monitoring stations which collect continuous and discrete ambient measurements, known as the Courtice station and Rundle Road station. The station locations are shown in Figure 1. The Courtice and Rundle Road stations were operational in May of 2013 and have been operated on behalf of the Region of Durham by Stantec Consulting Ltd. since that time up until July 31, 2018. RWDI has overseen the operation of the stations on behalf of the Region of Durham since August 1, 2018.

The Courtice and Rundle Road stations continuously monitor the following air quality parameters: Particulate Matter less than 2.5 microns ($PM_{2.5}$), Nitrogen Oxides (NO_X) and Sulfur Dioxide (SO_2). In addition, both discretely monitor the following air quality parameters: Total Suspended Particulate (TSP), Metals, Dioxins and Furans (D&F) and Polycyclic Aromatic Hydrocarbons (PAHs).

Continuous meteorological data is collected at the Courtice and Rundle Road stations. The Rundle Road station collects the following meteorological parameters: wind speed, wind direction, ambient temperature, precipitation and relative humidity. The Courtice station collects the following meteorological parameters: wind speed, wind direction, ambient temperature, ambient pressure, precipitation and relative humidity. The meteorological towers at both stations are approximately 10 meters tall.

Throughout this monitoring period there were one-hundred and eighty-three (183) exceedance events of the rolling 10-minute SO_2 AAQC and sixty-three (63) exceedance events of the rolling 1-hour SO_2 AAQC at the Courtice station. There was one (1) exceedance of the Benzo(a) Pyrene AAQC at the Courtice station and one (1) exceedance of the Benzo(a) Pyrene AAQC at the Rundle Road station. The exceedance occurred at the Courtice station on August 28, 2023, and the exceedance at the Rundle Road station occurred on July 11, 2023. Data recovery rates were acceptable and valid for all measured Q3 continuous and discrete parameters, except for the TSP, Metals and Rain at the Courtice station.

Figure 1: DYEC Site and Ambient Monitoring Station Locations



1.1 Sampling Locations

The station sites were selected in consultation with a working group that included representatives from the MECP, the Region of Durham, York Region, and the Energy from Waste Advisory Committee (EFWAC), as required by Condition 11.3 of the Environmental Assessment Notice of Approval. The Courtice station is predominantly upwind of the DYEC and is located on the Courtice WPCP property just southwest of the DYEC. The Rundle Road station is predominantly downwind of the DYEC and is located just southeast of the intersection of Baseline Road and Rundle Road just northeast of the DYEC. Pictures of the two (2) stations are presented as **Figure 2** and **3**.

Figure 2: Rundle Road Station

Figure 3: Courtice Station

2 SAMPLING METHODOLOGY

The Rundle Road and Courtice stations are both equipped with the following continuous monitors: Thermo Scientific Model 5030 SHARP (Synchronized Hybrid Ambient Real-time Particulate) monitor ($PM_{2.5}$ analyzer), Teledyne Nitrogen Oxides Analyzer Model T200 (NO_X analyzer), and a Teledyne Sulfur Dioxide Analyzer Model T100 (SO_2 analyzer). Both stations also have the following periodic monitors: High Volume (Hi-Vol) Air Sampler outfitted with a TSP inlet head as approved by the United States Environmental Protection Agency (U.S. EPA), and a Hi-Vol Air Sampler outfitted with a polyurethane foam plug and circular quartz filter for measuring PAH's and D&F's as approved by U.S. EPA.

2.1 Nitrogen Oxide Analyzers

The Teledyne T200 Nitrogen Oxide (NO_X) analyzers use chemiluminescence detection, coupled with microprocessor technology to provide sensitivity and stability for ambient air quality applications. The instrument determines real-time concentration of nitric oxide (NO), total nitrogen oxides (NO_X) (the sum of NO and NO_2), and nitrogen dioxide (NO_2). The amount of NO is measured by detecting the chemiluminescence reaction that occurs in the reaction cell when NO molecules are exposed to ozone (O_3). The NO and O_3 molecules collide in the reaction cell and enter a higher energy state.

When these excited molecules return to a stable energy state, they emit a photon of light which is proportional to the amount of NO in the sample stream of gas entering the analyzer.

To determine the total NO_X ($NO+NO_2$) measurement, sample gas is periodically bypassed through a heated molybdenum converter cartridge that converts any NO_2 molecules in the sample stream into NO (any existing NO molecules in the stream remain as is). The instrument will switch the sample stream through the converter periodically and then through the reaction cell where the same chemiluminescence reaction occurs with ozone.

The resultant response produced is now the sum of NO and converted NO_2 producing a NO_X measurement. The resultant NO_2 determination is the NO_X measurement subtracted from the NO measurement.

The NO_X analyzers were zero and span checked daily using the internal zero and span (IZS) system and calibrated once a month using either EPA protocol span gases and a dilution system or an ESA permeation tube calibrator. Automatic IZS checks were performed on a daily basis commencing at approximately 01:45 and ending at 02:15. The checks consisted of a 10-minute zero check, a 10-minute span check and a 10-minute purge. These checks provide a way to monitor daily performance of the analyzer using an external charcoal and purafil zeroing cartridge for the zero, and an internal permeation oven with a permeation tube for the span. These IZS checks are not for calibration purposes but are merely a diagnostic tool to identify instrument drift.

The instrument collects data using its own data acquisition system (DAS) on a 5-minute interval. Data is collected from the instrument directly to an EnviDAS logger at 1-min, 5-min and 60-min intervals. The logger can be accessed remotely, and all instrument parameters can be examined as well as the measurement data. This allows the tracking of instrument performance. Data was also collected at 1-minute intervals by an external datalogger using analog output connections as a back-up. The measurement data was averaged using Envista processing software over a 1-hour and 24-hour period to compare to the applicable ambient air quality criteria.

2.2 Sulphur Dioxide Analyzers

The Teledyne T100 Sulphur Dioxide (SO_2) Analyzer is a microprocessor-controlled analyzer that determines the concentration of SO_2 in a sample gas drawn through the instrument. In the sample chamber, sample gas is excited by ultraviolet light causing the SO_2 to absorb energy from the light and move to an active state (SO_2*). These active SO_2* molecules must decay into a stable state back to SO_2, and when this happens a photon of light is released which is recognized by the instrument as fluorescence. The instrument measures the amount of florescence to determine the amount of SO_2 present in the sample gas.

The SO_2 analyzers were zero and span checked daily using the IZS system and calibrated once a month using either EPA protocol span gases and a dilution system or an ESA permeation tube calibrator. Automatic IZS checks were performed on a daily basis commencing at approximately 01:45 and ending at 02:15. The checks consisted of a 10-minute zero check, a 10-minute span check and a 10-minute purge. These checks provide a way to monitor daily performance of the analyzer using an external charcoal and purafil zeroing cartridge for the zero, and an internal permeation oven with a permeation tube for the span. These IZS checks are not for calibration purposes but are merely a diagnostic tool to identify instrument drift.

The instrument collects data using its own data acquisition system (DAS) on a 5-minute interval. Data is collected from the instrument directly to an EnviDAS logger at 1-min, 5-min and 60-min intervals. The logger can be accessed remotely, and all instrument parameters can be examined as well as the measurement data. This allows the tracking of instrument performance. Data was also collected at 1-minute intervals by an external datalogger using analog output connections as a back-up. The measurement data was averaged using Envista processing software over a 1-hour and 24-hour period to compare to the applicable ambient air quality criteria.

2.3 SHARP 5030 $PM_{2.5}$ Analyzers

The SHARP 5030 is a hybrid nephelometric/radiometric particulate mass monitor capable of providing precise, real-time measurements with a superior detection limit. The SHARP incorporates a high sensitivity light scattering photometer whose output signal is continuously referenced to the time-averaged measurement of an integral beta attenuating mass sensor. The SHARP also incorporates a dynamic inlet heating system designed to maintain the relative humidity of the air passing through the filter tape constant.

The SHARP is calibrated once a month to ensure accuracy and validity of its data. The $PM_{2.5}$ inlet head and sharp cut cyclone is cleaned monthly as well to ensure proper performance. The monthly calibration process consists of the following: zeroing the nephelometer if necessary, calibration of ambient temperature, calibration of barometric pressure, and calibration of the flow.

The instrument collects data using its own data acquisition system (DAS) on a 5-minute interval. Data is collected from the instrument directly to an EnviDAS logger at 1-min, 5-min and 60-min intervals. The logger can be accessed remotely, and all instrument parameters can be examined as well as the measurement data. This allows the tracking of instrument performance. Data was also collected at 1-minute intervals by an external datalogger using analog output connections as a back-up. The measurement data was averaged using Envista processing software over a 1-hour and 24-hour period to compare to the applicable ambient air quality criteria.

2.4 TSP High Volume Air Samplers

The Tisch TE-5170 Total Suspended Particulate (TSP) high volume (Hi-Vol) air samplers were outfitted with a TSP gabled inlet capable of collecting particulate of all aerodynamic diameters. Each Hi-Vol is equipped with a mass flow controller, which ensures a flow rate of 40 cubic feet per minute (CFM), a chart recorder for measuring cfm flow throughout the run time, an elapsed timer and a wheel timer for starting and stopping each sample. In the latter part of 2019, the pin-based wheel timer was modified with an automated relay system controlled by a data logger to toggle the sampler on and off, and the chart recorder system was replaced by a digital pressure transducer to record the blower output pressure. Teflon coated glass fibre filters are outfitted at the top of the hi-vol samplers where air is drawn through the filter, thereby collecting TSP. Each Hi-Vol is calibrated quarterly (every three months) to ensure accuracy and validity of the volume of air drawn through the sampler.

The Teflon coated glass fibre filter media was pre and post weighed by ALS Laboratories in Burlington, Ontario. The filters are then analyzed for total particulate weight, metals analysis and mercury.

2.5 Polyurethane Foam Samplers

The D&F, and PAH samples were collected using Tisch TE-1000 samplers, which are listed as reference devices for U.S. EPA Methods TO-9 and TO-13. The samplers use a collection filter that is 'backed-up' by a polyurethane foam (PUF) plug. The airborne compounds present in the particulate phase are collected on the Teflon coated glass fibre filter and any compounds present in the vapour phase are absorbed in the PUF plug. Each PUF sampler is equipped with a mass flow controller, which can sustain 8 CFM of flow over the sampling period, an elapsed timer and a wheel timer for starting and stopping each sample.

In the latter part of 2019, the pin-based wheel timer was modified with an automated relay system controlled by a data logger to toggle the sampler on and off, and the chart recorder system was replaced by a digital pressure transducer to record the blower output pressure. Each PUF sampler is calibrated quarterly (every three months) to ensure accuracy and validity of the volume of air drawn through the sampler.

The filter and PUF media/glassware is proofed and analyzed by ALS Laboratories in Burlington, Ontario. The filters and PUF/XAD plugs are then analyzed for PAH's and D&F's.

2.6 Meteorological Towers

Meteorological data was collected from the Rundle Road and Courtice stations. This is done so that a vector could be associated with the applicable contaminant concentrations. The Rundle Road and Courtice stations are outfitted with a Campbell Scientific HMP60 Temperature / Relative Humidity probe, and a Texas Instruments TE525M rain gauge. Meteorological data was collected at 1-minute intervals and was averaged using Envista processing software over a 1-hour period.

3 AIR QUALITY CRITERIA AND STANDARDS

The monitored contaminant concentrations were compared to air quality criteria and standards set by the MECP and by Environment Canada. The MECP developed Ambient Air Quality Criteria (AAQCs) which are the maximum desirable concentrations in the outdoor air, based on effects to the environment and health (MECP, 2012). Not all contaminants have an applicable regulatory limit; therefore, other criteria were used for comparison. These included human health risk assessment (HHRA) criteria.

Environment Canada has established a Canadian Ambient Air Quality Standard (CAAQS) which are health-based air quality objectives for the outdoor air (Environment Canada, 2013). The current CAAQS' for $PM_{2.5}$ are 27 µg/m^3 for the 3-year average of annual 98th percentile 24-hour concentration, and 8.8 µg/m^3 for the 3-year average of annual average concentrations (in effect as of 2020). The CAAQS' are listed in **Table 1**. No direct comparison to the 2020 CAAQS' is appropriate for this report, as the standards are only applicable to 3-year averaged data which is provided in the annual reports.

Table 1: $PM_{2.5}$, SO_2 and NO_2 CAAQS' by Implementation Year

Parameter	Averaging Time	Year Applied		Statistical Form
		2020	2025	
Fine Particulate Matter ($PM_{2.5}$)	24-hour	27 µg/m^3		The 3-year average of the annual 98th percentile of the daily 24-hour average concentrations
	Annual	8.8 µg/m^3		The 3-year average of the annual average of all 1-hour concentrations
Sulphur Dioxide (SO_2)	1-hour	70 ppb	65 ppb	The 3-year average of the annual 99th percentile of the SO_2 daily maximum 1-hour average concentrations
	Annual	5 ppb	4 ppb	The average over a single calendar year of all 1-hour average SO_2 concentrations
Nitrogen Dioxide (NO_2)	1-hour	60 Ppb	42 ppb	The 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations
	Annual	17 Ppb	12 Ppb	The average over a single calendar year of all 1-hour average concentrations

(CCME,2019)

All applicable criteria and standards are shown in the 'Summary of Ambient Measurements' section of this report.

4 MECP AUDITS

There was an MECP audit conducted on September 26, 2023. All instruments met their respective audit criteria. It was suggested by the MECP that a monitoring system for the sample air intake fans should be installed at both stations.

5 SUMMARY OF AMBIENT MEASUREMENTS

Ambient air quality monitoring results for all contaminants sampled at the Courtice and Rundle Road stations are discussed herein. Summary statistics from July to September 2023 are presented in a summary format below and in a more detailed matrix format in **Appendix A** for continuous measurements and **Appendix B** for discrete measurements.

5.1 Meteorological Station Results

5.1.1 Courtice Station Results

The Courtice station collected the following meteorological parameters: wind speed, wind direction, relative humidity, ambient temperature, ambient pressure and precipitation. The meteorological tower at the station is at a height of approximately 10 meters tall. The Courtice station maintained a minimum average of 68% of data collection for all of the parameters measured during Q3. Hourly statistics from the meteorological station are presented in **Table 2**. A wind rose showing trends in wind speed and wind direction during Q3 is provided in **Figure 4**. The Courtice rain instrument malfunctioned on September 7, 2023 at 09:00 and no rain data was recorded until repairs were completed on October 9, 2023.

Figure 4: Wind Roses of Hourly Wind Speed and Wind Direction – July to September 2023

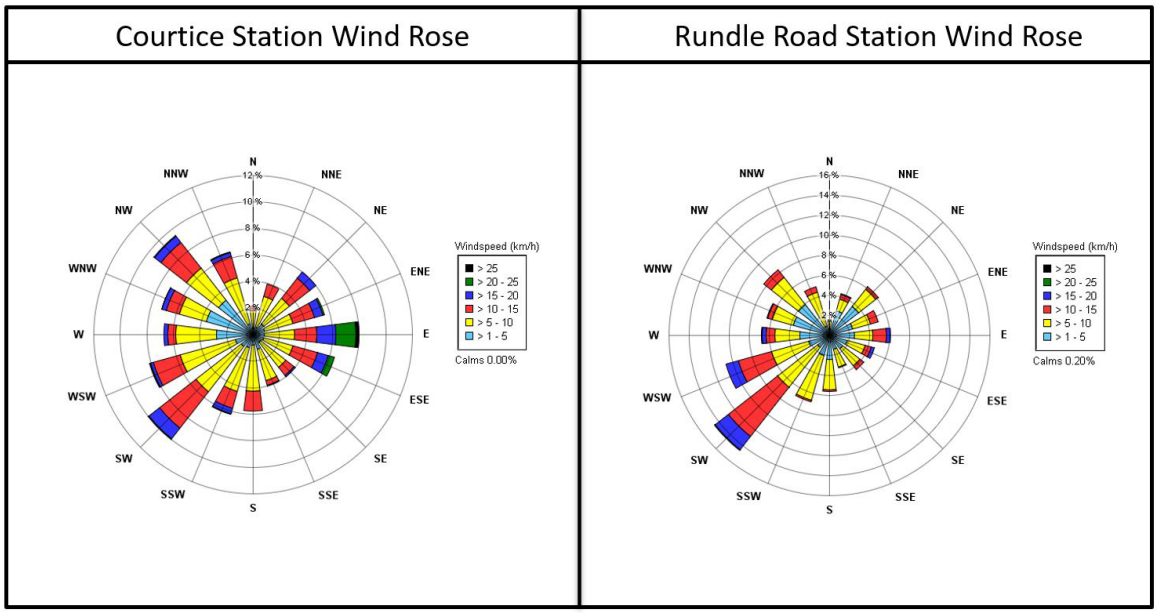


Table 2: Hourly Statistics from the Courtice Meteorological Station

Courtice Station MET Statistics	Maximum 1 hr. Mean					Minimum 1 hr. Mean					Monthly Mean					Total	% Valid hours					
Parameter	WS	Temp	RH	Pres	Rain	WS	Temp	RH	Pres	Rain	WS	Temp	RH	Pres	Rain	Rain	WS	WD	Temp	RH	Pres	Rain
Units	(km/hr.)	(°C)	(%)	"Hg	mm	(km/hr.)	(°C)	(%)	"Hg	mm	(km/hr.)	(°C)	(%)	"Hg	mm	mm	(%)					
July	27.5	28.0	100.0	29.8	7.8	0.2	13.1	34.2	29.3	0.0	7.3	20.9	77.1	29.6	0.1	69.2	100.0	92.3	100.0	100.0	100.0	100.0
August	23.3	25.6	100.0	30.0	10.7	0.6	10.5	40.9	29.3	0.0	8.6	19.3	75.0	29.6	0.1	51.7	100.0	96.9	100.0	100.0	100.0	100.0
September	26.4	24.5	100.0	30.1	0.0	0.0	6.9	33.2	29.4	0.0	9.7	16.7	70.1	29.8	N/A[1]	N/A[1]	79.9	77.9	79.9	79.9	79.9	1.3
Q3 Arithmetic Mean											8.5	19.2	74.3	29.7	N/A[1]	N/A[1]	93.4	89.1	93.4	93.4	93.4	68.5

Notes:
[1] – Rain total, monthly and quarterly means not presented due to not meeting data validity criteria of >75%

5.1.2 Rundle Road Station Results

The Rundle Road station collected the following meteorological parameters: wind speed, wind direction, relative humidity, ambient temperature and precipitation. The meteorological tower at the station is at a height of approximately 10 meters tall. The Rundle Road station maintained a minimum average of 89% data collection for all of the meteorological parameters measured during Q3. Hourly statistics from the meteorological station is presented in **Table 3**. A wind rose showing trends in wind speed and wind direction during Q3 is provided in **Figure 4**.

Table 3: Hourly Statistics from the Rundle Road Meteorological Station

Rundle Road Station MET Statistics	Maximum 1 hr. Mean				Minimum 1 hr. Mean				Monthly Mean				Total	% Valid Hours				
Parameter	WS	Temp	RH	Rain	WS	Temp	RH	Rain	WS	Temp	RH	Rain	Rain	WS	WD	Temp	RH	Rain
Units	(km/hr.)	(°C)	(%)	mm	(km/hr.)	(°C)	(%)	mm	(km/hr.)	(°C)	(%)	mm	mm	(%)				
July	18.5	29.2	100.0	10.0	0.2	12.0	37.9	0.0	6.2	20.9	80.2	0.1	76.1	100.0	90.7	100.0	100.0	100.0
August	21.1	26.0	100.0	11.7	0.3	8.9	42.1	0.0	7.1	19.2	79.4	0.1	57.6	100.0	93.7	100.0	100.0	100.0
September	22.6	29.6	100.0	17.8	0.2	5.6	34.2	0.0	6.7	17.2	79.9	0.0	32.5	99.9	83.9	100.0	100.0	100.0
Q3 Arithmetic Mean									6.7	19.1	79.7	0.1	166.2	100.0	89.6	100.0	100.0	100.0

5.2 NO_X, SO_2 and $PM_{2.5}$ Summary Table Results

Table 4 provides a summary of Maximum 1-hour Rolling Means, Maximum 24-hour Rolling Means, Monthly Means, Quarterly Means and Percent valid data for the Courtice station. **Table 5** provides a summary of Maximum 1-hour Means, Maximum 24-hour Means, Monthly Means, Quarterly Means and Percent valid data for the Rundle Road station. **Table 6** provides a summary of exceedance statistics for both Courtice and Rundle Road stations. At the Courtice station, there were one-hundred and eighty three (183) exceedance events of the rolling 10-minute SO_2 AAQC and sixty-three (63) exceedance events of the 1-hour SO_2 AAQC in Q3. At the Rundle Road station, there were no exceedances events of the rolling 10-minute SO_2 AAQC or the 1-hour SO_2 AAQC in Q3.

Table 4: Summary of Courtice Station Continuous Data Statistics

Courtice Monitoring Station Data Statistics	Maximum Rolling 10 min Mean	Maximum Rolling 1 hr Mean					Maximum 24 hr Rolling Mean					Monthly Mean					% Valid Hours				
Compound	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2
Units	ppb	($\mu g/m^3$)	ppb				($\mu g/m^3$)	ppb				($\mu g/m^3$)	ppb				(%)				
AAQC/CAAQS	67				200	40	27[A]			100											
July	274.3	83.2	43.8	13.9	32.5	115.9	64.7	9.5	2.4	7.4	20.7	9.5	4.4	0.8	3.7	3.3	99.9	99.6	99.6	99.6	99.3
August	229.9	31.9	34.7	16.5	24.3	143.3	18.5	15.2	4.1	11.2	24.0	6.7	4.1	0.9	3.3	4.8	99.7	99.7	99.7	99.7	99.7
September	244.1	18.3	41.0	13.9	31.0	106.3	13.1	11.5	2.3	9.3	31.1	5.5	5.4	0.9	4.5	5.2	79.4	79.0	79.0	79.0	79.3
Q3 Arithmetic Mean												7.2	4.7	0.9	3.8	4.5	93.0	92.9	92.9	92.9	92.9

[A] The 24-hour $PM_{2.5}$ CAAQS applies to the 98th percentile over 3 consecutive years.

Table 5: Summary of Rundle Road Station Continuous Data Statistics

Rundle Road Monitoring Station Data Statistics	Maximum Rolling 10 min Mean	Maximum Rolling 1 hr Mean					Maximum 24 hr Rolling Mean					Monthly Mean					% Valid Hours				
Compound	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2
Units	ppb	($\mu g/m^3$)	ppb				($\mu g/m^3$)	ppb				($\mu g/m^3$)	ppb				(%)				
AAQC/CAAQS	67				200	40	27[A]			100											
July	2.1	36.0	30.3	10.3	20.4	1.4	23.5	9.3	2.4	7.3	0.6	7.6	3.9	0.9	3.0	0.4	93.1	99.7	99.7	99.7	99.3
August	2.0	26.6	47.7	32.8	17.4	1.4	16.8	9.6	2.7	7.1	0.7	6.4	3.5	0.9	2.6	0.5	99.9	99.7	99.7	99.7	99.7
September	5.0	16.7	56.8	37.1	19.8	2.5	13.3	8.6	3.4	6.4	0.9	5.9	3.6	0.9	2.7	0.5	99.9	99.3	99.3	99.3	99.6
Q3 Arithmetic Mean												6.6	3.7	0.9	2.8	0.5	97.6	99.6	99.6	99.6	99.5

[A] The 24-hour $PM_{2.5}$ CAAQS applies to the 98th percentile over 3 consecutive years.

Table 6: Summary of Exceedance Statistics

Event Statistics	Rolling Mean > 10 min AAQC for Courtice	Rolling Mean > 10 min AAQC for Rundle Road	Mean > 1 hr AAQC for Courtice Monitoring Station			Mean > 1 hr AAQC for Rundle Road Monitoring Station			Rolling Mean > 24 hr AAQC for Courtice Monitoring Station			Rolling Mean > 24 hr AAQC for Rundle Road Monitoring Station		
Compound	SO_2	SO_2	$PM_{2.5}$	NO_2	SO_2	$PM_{2.5}$	NO_2	SO_2	$PM_{2.5}$	NO_2	SO_2	$PM_{2.5}$	NO_2	SO_2
Units	No.	No.	No.			No.			No.			No.		
July	33	0		0	12		0	0	N/A	0		N/A	0	
August	84	0		0	29		0	0	N/A	0		N/A	0	
September	66	0		0	22		0	0	N/A	0		N/A	0	
Q3 Total	183	0		0	63		0	0	N/A	0		N/A	0	

5.3 Oxides of Nitrogen Results

5.3.1 Courtice Station Results

Data recovery levels were high for oxides of nitrogen (92.9% valid data). Monitoring results were compared to the AAQC for NO_2 only, as it is the only parameter that has AAQC values for 1-hour and 24-hour averaging periods (there are no AAQC's for NO or NO_X). There were no exceedances above the AAQC values for the entirety of the sampling period for rolling 1-hour and 24-hour averaged data. The highest NO_2 value seen among the 1-hour rolling averages was 32.5 ppb, which is 16.3% of the AAQC. The highest NO_2 value seen among the rolling 24-hour averages was 11.2 ppb, which is 11.2% of the AAQC. The measurements are summarized in **Table 4** above. A pollution rose is presented in **Figure 5** for the Courtice station during Q3 composed of hourly average NO_2 concentrations. A pollution rose indicates the percentage of time that the wind originates from a given direction coupled with the pollutant measurement for that time in either ppb or micrograms per meter cubed. In order to show where possible major sources of pollutants are coming from, levels below 5 ppb were omitted from the graphic wind rose representation.

The Courtice station pollution rose in **Figure 5** shows the majority of the NO_2 impacts were largely from the northeast to east-northeast and west-northwest to northwest. The station is downwind of the DYEC when winds are from the northeast and east-northeast directions, which happened frequently during the monitoring period, therefore it is likely that the DYEC contributed to the observed concentrations. There are additional impacts from the west, north-northwest, north-northeast and east which indicates reception from surrounding industry or the highway and railway corridors.

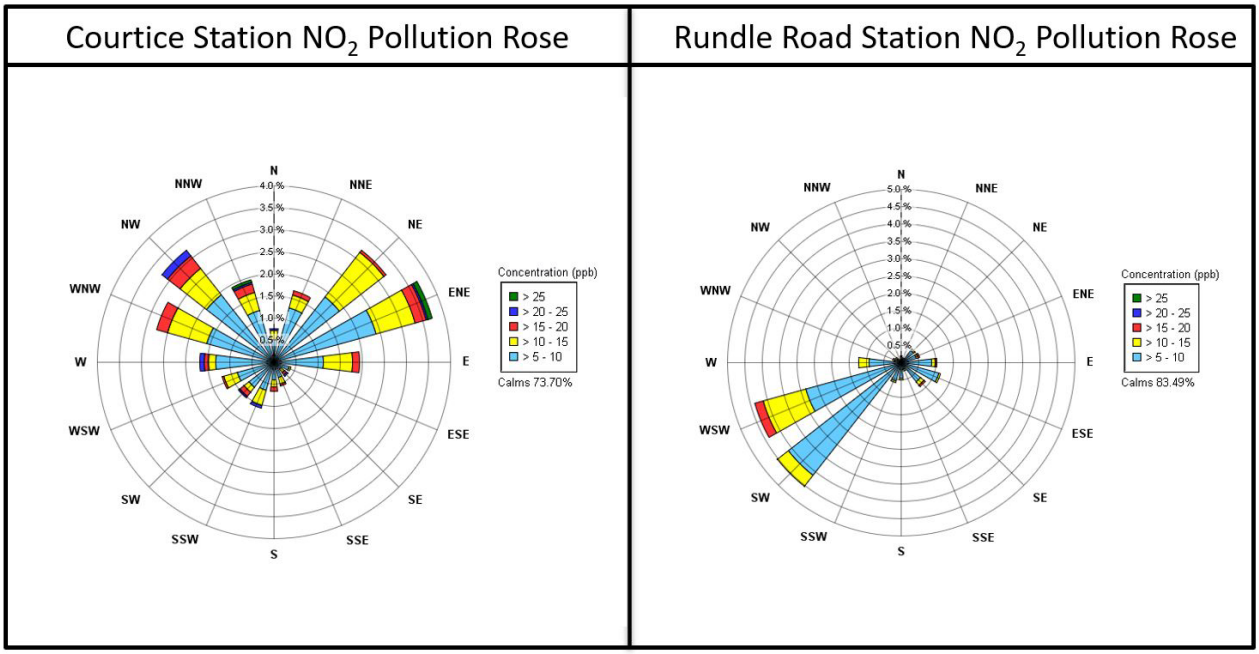
5.3.2 Rundle Road Station Results

Data recovery levels were high for oxides of nitrogen (99.6% valid data). There were no exceedances above the AAQC values for the entirety of the sampling period for rolling 1-hour and 24-hour averaged data. The highest NO_2 value seen among the 1-hour rolling averages was 20.4 ppb, which is 10.2% of the AAQC. The highest NO_2 value seen among the rolling 24-hour averages was 7.3 ppb, which is 7.3% of the AAQC. The measurements are summarized in **Table 5** above.

A pollution rose is presented in **Figure 5** for the Rundle Road station during Q3 composed of hourly average NO_2 concentrations. In order to show where possible major sources of pollutants are coming from, levels below 5 ppb were omitted from the graphic wind rose representation.

The Rundle Road station pollution rose in **Figure 5** shows that the majority of elevated NO_2 events at the Rundle Road station occurred when winds were from the southwest to west-southwest. The station is downwind of the DYEC when winds are from the south-southwest and southwest directions. Elevated concentrations occurred occasionally from the southwest during the monitoring period, therefore it is likely that the DYEC partially contributed to the observed concentrations. There are additional impacts from the west-southwest to west and the east to east-southeast which indicates reception from surrounding industry or the highway and railway corridors.

Figure 5: Pollution Roses of Hourly Average NO_2 Concentrations – July to September 2023



5.4 Sulphur Dioxide Results

5.4.1 Courtice Station Results

Data recovery levels were high for sulphur dioxide (92.9% valid data). Monitoring results were compared to the AAQC for 10-minute and 1-hour rolling average periods. In 2023, there have been more frequent SO_2 concentrations elevated above the AAQC's than in previous years due to the new limits imposed at the start of 2020. The highest SO_2 value seen among the 10-min rolling averages was 274.3 ppb, which is 409.4% of the AAQC. The highest SO_2 value seen among the 1-hour rolling averages was 143.3 ppb, which is 358.3% of the AAQC. There were one-hundred and eighty-three (183) exceedance events above the rolling 10-minute AAQC and sixty-three (63) exceedance events above the rolling 1-hour AAQC. A table outlining the interpretation of the exceedance period can be found in **Appendix E**.

The SO_2 statistical results are summarized in **Table 4** above. A pollution rose is presented in **Figure 6** for the Courtice station during Q3 composed of hourly average SO_2 concentrations. In order to show where possible major sources of pollutants are coming from, levels below 5 ppb were omitted from the graphic wind rose representation. A pollution rose is presented in **Figure 7** for the Courtice station during Q3 composed of 5-minute average SO_2 concentrations with levels below 67 ppb omitted to illustrate directionality of exceedance concentrations.

The Courtice station pollution rose in **Figure 6** shows that the majority of elevated SO_2 events at Courtice occurred from the north-northeast to northeast directions. The events were likely a result of emissions from surrounding industrial sources with contributions from the DYEC in the northeast direction.

The Courtice station pollution rose in **Figure 7** shows that <1.23% of the 5-min SO_2 events are elevated >67 ppb and the majority occurred from the north-northwest to north-northeast directions. The pollution rose indicates that the DYEC was not a contributor to SO_2 levels at the station and that the levels may be related to other industrial activity nearby.

A Technical Memorandum summarizing the DYEC SO_2 continuous emissions monitoring system (CEMS) data during the exceedance events recorded at the Courtice and Rundle Road Ambient Monitoring stations for Q3, is included in **Appendix G**. The Memorandum indicates that based on the in-stack concentration levels measured by the CEMS, that there were no unusual levels of SO_2 emissions during the ambient station exceedance events and that the facility's impact on ambient air quality would be expected to be quite low.

5.4.2 Rundle Road Station Results

Data recovery levels were high for sulphur dioxide (99.5% valid data). Monitoring results were compared to the AAQC for 10-minute and 1-hour rolling average periods. The highest SO_2 value seen among the 10-min rolling averages was 5.0 ppb, which is 7.5% of the AAQC. The highest SO_2 value seen among the 1-hour rolling averages was 2.5 ppb, which is 6.3% of the AAQC.

The SO_2 statistical results are summarized in **Table 5** above. A pollution rose is presented in **Figure 6** for the Rundle Road station during Q3 composed of hourly average SO_2 concentrations. In order to show where possible major sources of pollutants are coming from, levels below 5 ppb were omitted from the graphic wind rose representation. A pollution rose is presented in **Figure 7** for the Rundle Road station during Q3 composed of 5-minute average SO_2 concentrations with levels below 67 ppb omitted to illustrate directionality of exceedance concentrations.

The Rundle Road station pollution rose in **Figure 6** shows that there were no events of elevated SO_2 at the Rundle Road during Q3 of 2023.

The Rundle Road station pollution rose in **Figure 7** shows that there were no 5-min SO_2 events that are elevated >67 ppb.

Figure 6: Pollution Roses of Hourly Average SO_2 Concentrations – July to September 2023

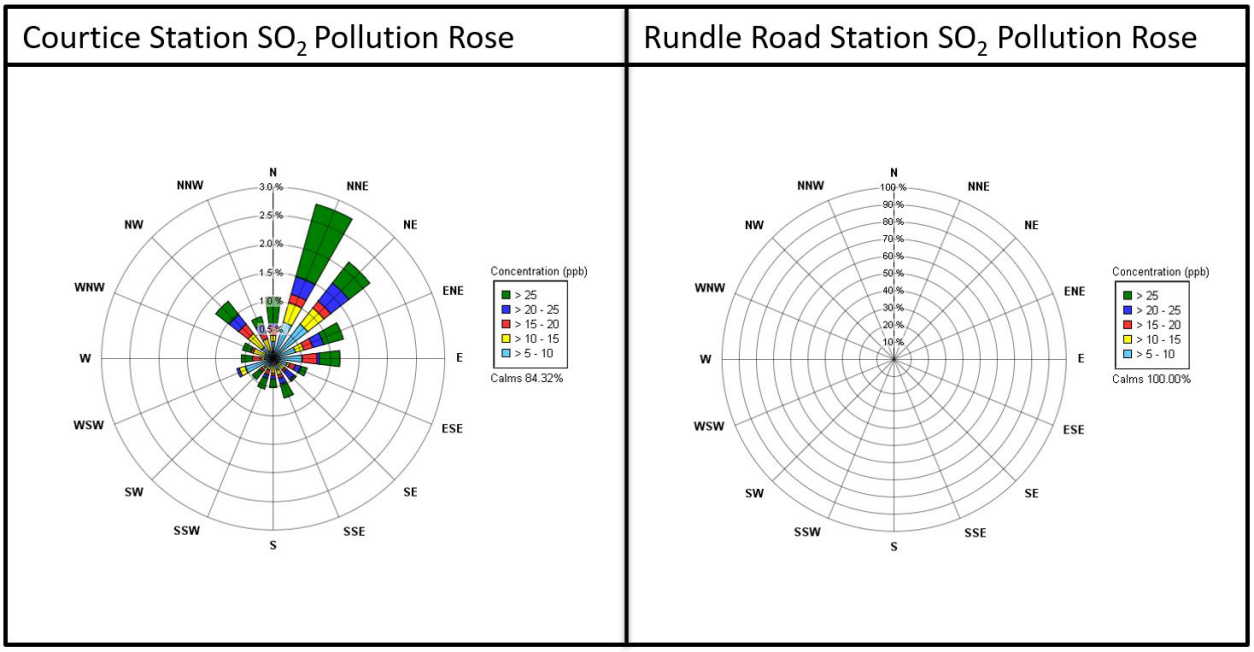
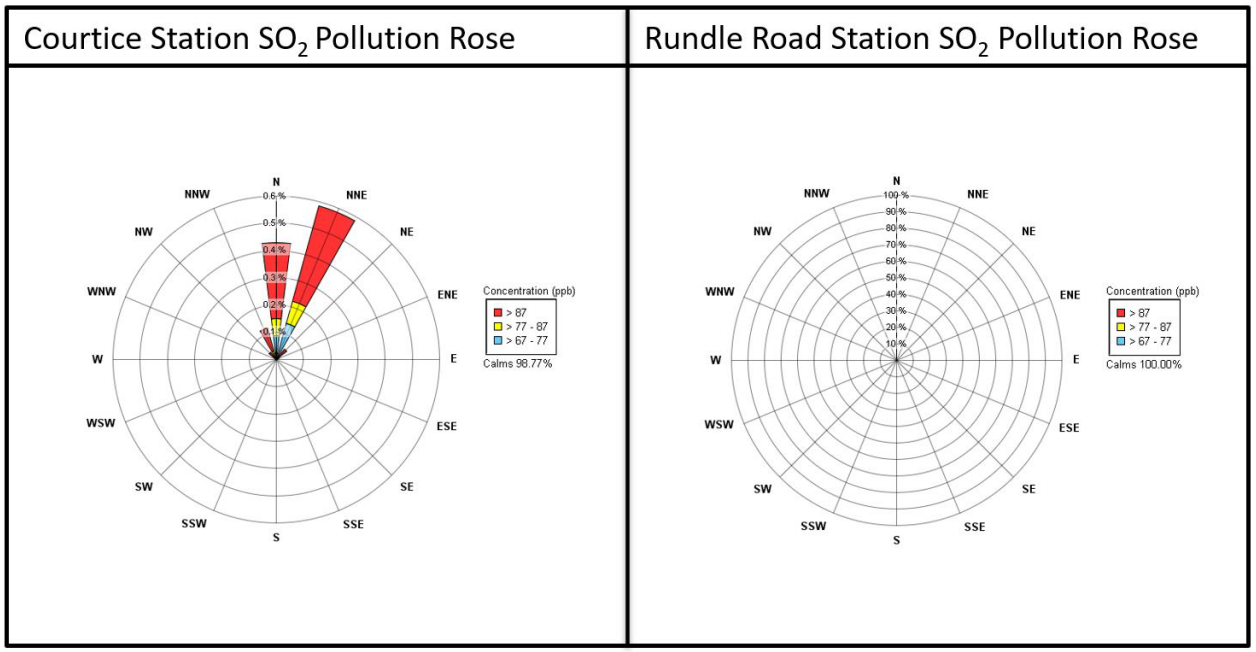


Figure 7: Pollution Roses of 5-minute Average SO_2 Concentrations >67 ppb – July to September 2023



5.5 Fine Particulate Matter ($PM_{2.5}$) Results

5.5.1 Courtice Station Results

Data recovery levels were high for particulate matter less than 2.5 microns (93.0% valid data). There is no 1-hour AAQC or standard for $PM_{2.5}$, but there is a 24-hour CAAQS of 27 µg/m^3 for the 3-year average of the annual 98th percentile 24-hour concentrations, and 8.8 µg/m^3 for the 3-year average of the annual average concentrations (in effect as of 2020). Note that since the reported data is only quarterly and the CAAQS is applicable to the 3-year average, the CAAQS' for $PM_{2.5}$ was not applicable to the data. The highest $PM_{2.5}$ value seen among the 1-hour rolling averages was 83.2 µg/m^3 and the highest value seen among the 24-hour rolling averages was 64.7 µg/m^3. The results are summarized in **Table 4** above. A pollution rose is presented in **Figure 8** for the Courtice station during Q3 composed of hourly average $PM_{2.5}$ concentrations. In order to show where possible major sources of pollutants are coming from, levels below 5 µg/m^3 were omitted from the graphic wind rose representation.

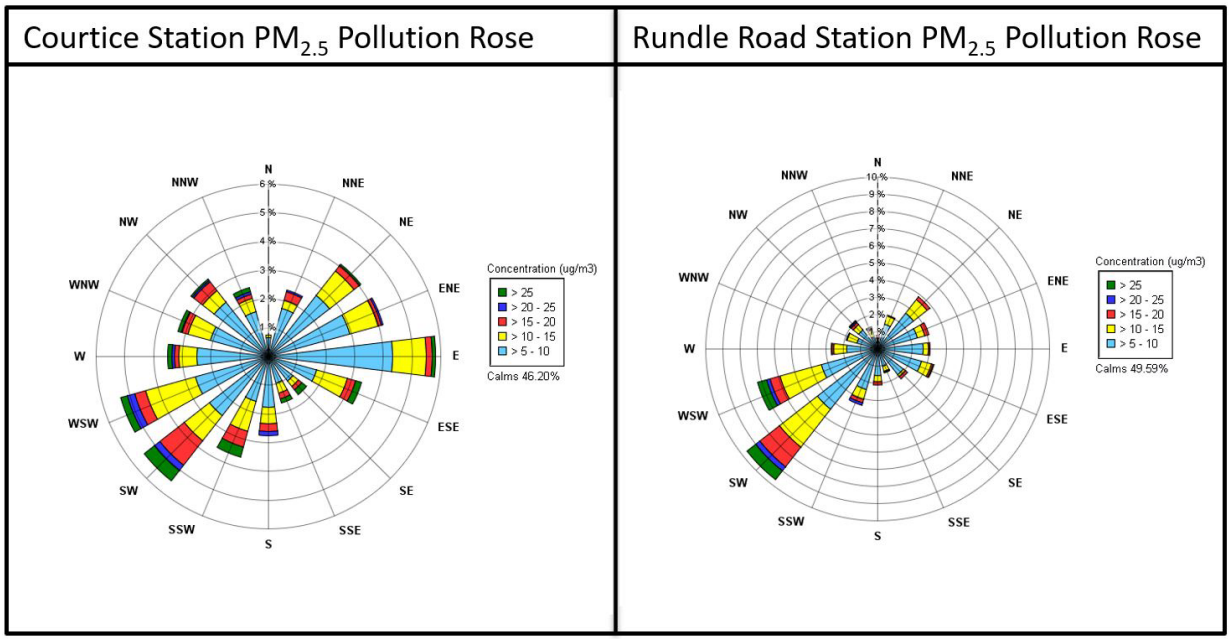
The Courtice station pollution rose in **Figure 8** shows that the majority of elevated $PM_{2.5}$ events at Courtice occurred when winds were from the north-northeast to east-southeast and south to north-northwest, which places the station downwind of the DYEC occasionally. Other contributions are in line with nearby industrial activity.

5.5.2 Rundle Road Station Results

Data recovery levels were high for particulate matter less than 2.5 microns (97.6% valid data). The highest $PM_{2.5}$ value seen among the 1-hour rolling averages was 36.0 µg/m^3 and the highest value seen among the 24-hour rolling averages was 23.5 µg/m^3. The results are summarized in **Table 5** above. A pollution rose is presented in **Figure 8** for the Rundle Road station during Q3 composed of hourly average $PM_{2.5}$ concentrations. In order to show where possible major sources of pollutants are coming from, levels below 5 µg/m^3 were omitted from the graphic wind rose representation.

The Rundle Road pollution rose in **Figure 8** shows that the majority of elevated $PM_{2.5}$ events at the Rundle Road station occurred when winds were from the southwest to west-southwest. Elevated concentrations were frequent from the southwest during the monitoring period, therefore it is likely that the DYEC partially contributed to the observed concentrations. Other possible contributions include surrounding industry, nearby high traffic areas and urban background.

Figure 8: Pollution Roses of Hourly Average $PM_{2.5}$ Concentrations – July to September 2023



5.6 TSP and Metals Hi-Vol Results

All of the TSP Hi-Vols operated on a discrete schedule every 6 days according to the NAPS schedule during Q3 with the sample days being: July 5, 11, 17, 23, 29, August 4, 10, 16, 22, 28, September 3, 9, 15, 21 and 27, 2023.

5.6.1 Courtice Station Results

Data recovery levels were low for the TSP sampler at the Courtice station (73% valid data). There were no exceedances of any of the AAQC's or HHRA Criteria for TSP, mercury or metals during Q3. **Table 7** is a summary of the statistics for this station.

Table 7: Summary of TSP Sampler Courtice Station

Contaminant	Units	MECP Criteria	HHRA Health Based Criteria	No. > Criteria	Geometric Mean	Arithmetic Mean	Q3 Minimum Concentration	Q3 Maximum Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
Particulate (TSP)	µg/m³	*120*	*120*	0	N/A[1]	N/A[1]	10.38	42.40	42.40	38.47	31.92	11	73
Total Mercury (Hg)	µg/m³	*2*	*2*	0	N/A[1]	N/A[1]	2.95E-06	1.86E-05	1.86E-05	1.15E-05	1.69E-05	11	73
Aluminum (Al)	µg/m³	*4.8*	-	0	N/A[1]	N/A[1]	5.90E-02	2.68E-01	2.10E-01	2.68E-01	2.45E-01	11	73
Antimony (Sb)	µg/m³	*25*	*25*	0	N/A[1]	N/A[1]	2.65E-04	1.50E-03	7.63E-04	1.50E-03	1.13E-03	11	73
Arsenic (As)	µg/m³	*0.3*	*0.3*	0	N/A[1]	N/A[1]	8.60E-04	9.65E-04	9.65E-04	9.32E-04	8.94E-04	11	73
Barium (Ba)	µg/m³	*10*	*10*	0	N/A[1]	N/A[1]	2.60E-03	1.35E-02	8.24E-03	1.35E-02	1.10E-02	11	73
Beryllium (Be)	µg/m³	*0.01*	*0.01*	0	N/A[1]	N/A[1]	1.43E-05	4.79E-05	1.61E-05	4.79E-05	1.49E-05	11	73
Bismuth (Bi)	µg/m³	-	-	-	N/A[1]	N/A[1]	5.16E-04	5.79E-04	5.79E-04	5.59E-04	5.36E-04	11	73
Boron (B)	µg/m³	*120*	-	0	N/A[1]	N/A[1]	4.30E-03	9.76E-03	9.76E-03	4.66E-03	4.47E-03	11	73
Cadmium (Cd)	µg/m³	*0.025*	*0.025*	0	N/A[1]	N/A[1]	2.95E-05	1.86E-04	1.86E-04	1.70E-04	1.60E-04	11	73
Chromium (Cr)	µg/m³	*0.5*	-	0	N/A[1]	N/A[1]	1.00E-03	4.50E-03	3.79E-03	4.50E-03	2.38E-03	11	73
Cobalt (Co)	µg/m³	*0.1*	*0.1*	0	N/A[1]	N/A[1]	5.07E-05	2.89E-04	1.21E-04	2.89E-04	1.72E-04	11	73
Copper (Cu)	µg/m³	*50*	-	0	N/A[1]	N/A[1]	8.99E-03	4.66E-02	1.73E-02	4.66E-02	2.98E-02	11	73
Iron (Fe)	µg/m³	*4*	-	0	N/A[1]	N/A[1]	1.66E-01	1.17E+00	3.76E-01	1.17E+00	5.23E-01	11	73
Lead (Pb)	µg/m³	*0.5*	*0.5*	0	N/A[1]	N/A[1]	6.43E-04	2.88E-03	2.61E-03	2.55E-03	2.88E-03	11	73
Magnesium (Mg)	µg/m³	-	-	-	N/A[1]	N/A[1]	6.61E-02	3.18E-01	3.12E-01	3.18E-01	2.47E-01	11	73
Manganese (Mn)	µg/m³	*0.4*	-	0	N/A[1]	N/A[1]	3.13E-03	1.80E-02	1.56E-02	1.80E-02	1.17E-02	11	73
Molybdenum (Mo)	µg/m³	*120*	-	0	N/A[1]	N/A[1]	6.26E-04	2.61E-03	1.07E-03	2.61E-03	1.57E-03	11	73
Nickel (Ni)	µg/m³	*0.2*	-	0	N/A[1]	N/A[1]	3.72E-04	2.07E-03	9.70E-04	2.07E-03	1.18E-03	11	73
Phosphorus (P)	µg/m³	-	-	-	N/A[1]	N/A[1]	2.15E-01	2.41E-01	2.41E-01	2.33E-01	2.23E-01	11	73
Selenium (Se)	µg/m³	*10*	*10*	0	N/A[1]	N/A[1]	3.78E-04	1.34E-03	1.34E-03	8.60E-04	3.87E-04	11	73
Silver (Ag)	µg/m³	*1*	*1*	0	N/A[1]	N/A[1]	2.58E-05	1.21E-04	2.89E-05	1.21E-04	2.68E-05	11	73
Strontium (Sr)	µg/m³	*120*	-	0	N/A[1]	N/A[1]	8.85E-04	1.38E-02	6.28E-03	1.38E-02	8.55E-03	11	73
Thallium (Tl)	µg/m³	-	-	-	N/A[1]	N/A[1]	2.58E-05	2.89E-05	2.89E-05	2.80E-05	2.68E-05	11	73
Tin (Sn)	µg/m³	*10*	*10*	0	N/A[1]	N/A[1]	1.77E-04	1.55E-03	1.33E-03	1.55E-03	9.82E-04	11	73
Titanium (Ti)	µg/m³	*120*	-	0	N/A[1]	N/A[1]	3.24E-03	1.34E-02	9.76E-03	1.18E-02	1.34E-02	11	73
Uranium (Ur)	µg/m³	*1.5*	-	0	N/A[1]	N/A[1]	9.58E-06	5.47E-05	1.90E-05	5.47E-05	5.34E-05	11	73
Vanadium (V)	µg/m³	*2*	*1*	0	N/A[1]	N/A[1]	1.43E-03	1.61E-03	1.61E-03	1.55E-03	1.49E-03	11	73
Zinc (Zn)	µg/m³	*120*	-	0	N/A[1]	N/A[1]	1.24E-02	5.03E-02	4.67E-02	5.03E-02	3.41E-02	11	73
Zirconium (Zr)	µg/m³	*20*	-	0	N/A[1]	N/A[1]	5.73E-04	6.43E-04	6.43E-04	6.22E-04	5.96E-04	11	73

Note: All non-detectable results were reported as 1/2 of the detection limit

1 - Quarterly averages not presented due to not meeting data validity criteria of >75%

5.6.1 Rundle Road Station Results

Data recovery levels were high for the TSP sampler at the Rundle Road station (100% valid data). There were no exceedances of any of the AAQC's or HHRA Criteria for TSP, mercury or metals during Q3. **Table 8** is a summary of the station statistics.

Table 8: Summary of TSP Sampler Rundle Road Station

Contaminant	Units	MECP Criteria	HHRA Health Based Criteria	No. > Criteria	Geometric Mean	Arithmetic Mean	Q3 Minimum Concentration	Q3 Maximum Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
Particulate (TSP)	µg/m³	*120*	*120*	0	28.8	31.1	12.16	64.24	64.24	38.17	34.90	15	100
Total Mercury (Hg)	µg/m³	*2*	*2*	0	8.85E-06	1.13E-05	2.98E-06	4.24E-05	4.24E-05	1.17E-05	1.42E-05	15	100
Aluminum (Al)	µg/m³	*4.8*	-	0	1.89E-01	2.06E-01	8.34E-02	4.45E-01	4.45E-01	2.36E-01	3.00E-01	15	100
Antimony (Sb)	µg/m³	*25*	*25*	0	6.42E-04	7.02E-04	2.68E-04	1.52E-03	1.19E-03	8.50E-04	1.52E-03	15	100
Arsenic (As)	µg/m³	*0.3*	*0.3*	0	9.49E-04	9.71E-04	8.88E-04	1.93E-03	9.09E-04	9.24E-04	1.93E-03	15	100
Barium (Ba)	µg/m³	*10*	*10*	0	7.34E-03	7.92E-03	3.09E-03	1.41E-02	1.41E-02	1.04E-02	1.07E-02	15	100
Beryllium (Be)	µg/m³	*0.01*	*0.01*	0	1.51E-05	1.51E-05	1.48E-05	1.55E-05	1.52E-05	1.54E-05	1.55E-05	15	100
Bismuth (Bi)	µg/m³	-	-	-	5.43E-04	5.43E-04	5.33E-04	5.59E-04	5.45E-04	5.54E-04	5.59E-04	15	100
Boron (B)	µg/m³	*120*	-	0	4.78E-03	4.91E-03	4.44E-03	1.03E-02	1.03E-02	4.62E-03	4.66E-03	15	100
Cadmium (Cd)	µg/m³	*0.025*	*0.025*	0	1.09E-04	1.70E-04	4.33E-05	1.18E-03	1.18E-03	1.05E-04	1.57E-04	15	100
Chromium (Cr)	µg/m³	*0.5*	-	0	1.46E-03	1.63E-03	1.01E-03	3.17E-03	2.71E-03	3.17E-03	2.11E-03	15	100
Cobalt (Co)	µg/m³	*0.1*	*0.1*	0	1.40E-04	1.48E-04	8.30E-05	2.47E-04	2.47E-04	1.87E-04	1.88E-04	15	100
Copper (Cu)	µg/m³	*50*	-	0	8.51E-02	9.02E-02	3.44E-02	1.48E-01	1.48E-01	1.20E-01	1.06E-01	15	100
Iron (Fe)	µg/m³	*4*	-	0	3.79E-01	4.03E-01	2.57E-01	7.36E-01	7.36E-01	4.77E-01	5.20E-01	15	100
Lead (Pb)	µg/m³	*0.5*	*0.5*	0	2.16E-03	2.30E-03	1.28E-03	4.56E-03	3.67E-03	2.43E-03	4.56E-03	15	100
Magnesium (Mg)	µg/m³	-	-	-	2.47E-01	2.73E-01	1.22E-01	6.24E-01	6.24E-01	3.71E-01	3.41E-01	15	100
Manganese (Mn)	µg/m³	*0.4*	-	0	1.04E-02	1.14E-02	5.95E-03	2.50E-02	2.50E-02	1.42E-02	1.35E-02	15	100
Molybdenum (Mo)	µg/m³	*120*	-	0	4.56E-03	4.73E-03	2.57E-03	6.85E-03	6.85E-03	6.02E-03	5.98E-03	15	100
Nickel (Ni)	µg/m³	*0.2*	-	0	9.15E-04	9.38E-04	5.86E-04	1.33E-03	1.33E-03	1.03E-03	1.19E-03	15	100
Phosphorus (P)	µg/m³	-	-	-	2.26E-01	2.26E-01	2.22E-01	2.33E-01	2.27E-01	2.31E-01	2.33E-01	15	100
Selenium (Se)	µg/m³	*10*	*10*	0	5.25E-04	6.85E-04	3.85E-04	2.98E-03	1.39E-03	4.00E-04	2.98E-03	15	100
Silver (Ag)	µg/m³	*1*	*1*	0	4.25E-05	4.64E-05	2.67E-05	7.33E-05	7.33E-05	6.32E-05	6.09E-05	15	100
Strontium (Sr)	µg/m³	*120*	-	0	6.04E-03	6.56E-03	2.50E-03	1.31E-02	1.31E-02	8.04E-03	8.01E-03	15	100
Thallium (Tl)	µg/m³	-	-	-	2.71E-05	2.71E-05	2.66E-05	2.80E-05	2.73E-05	2.77E-05	2.80E-05	15	100
Tin (Sn)	µg/m³	*10*	*10*	0	8.97E-04	9.62E-04	3.87E-04	1.52E-03	1.52E-03	1.22E-03	1.45E-03	15	100
Titanium (Ti)	µg/m³	*120*	-	0	6.97E-03	8.31E-03	3.25E-03	2.36E-02	2.36E-02	9.85E-03	1.25E-02	15	100
Uranium (Ur)	µg/m³	*1.5*	-	0	1.58E-05	1.78E-05	8.52E-06	4.00E-05	2.62E-05	2.18E-05	4.00E-05	15	100
Vanadium (V)	µg/m³	*2*	*1*	0	1.51E-03	1.51E-03	1.48E-03	1.55E-03	1.52E-03	1.54E-03	1.55E-03	15	100
Zinc (Zn)	µg/m³	*120*	-	0	3.62E-02	4.05E-02	1.57E-02	7.37E-02	6.45E-02	7.37E-02	5.06E-02	15	100
Zirconium (Zr)	µg/m³	*20*	-	0	6.03E-04	6.03E-04	5.92E-04	6.21E-04	6.06E-04	6.16E-04	6.21E-04	15	100

Note: All non-detectable results were reported as 1/2 of the detection limit

5.7 PAH Results

All of the PUF Hi-Vols operated on a discrete schedule every 12 days for PAH's according to the NAPS schedule during Q3 with the sample days being: July 11, 23, August 4, 16, 28, September 9 and 21, 2023.

5.7.1 Courtice Station Results

Data recovery levels were high for the PAH results at the Courtice station (100% valid data). There was one (1) exceedance of the Benzo(a) Pyrene AAQC during Q3 of 2023. There were no other exceedances of any of the AAQC's or HHRA Criteria.

The BaP exceedance occurred on August 28, 2023. Since the winds were predominantly coming from the SE to S and the N, the Courtice station was crosswind of the DYEC during the sampling period. It is unlikely that the measured BaP exceedance is attributable to the Energy Centre operations.

The exceedance documentation is attached in **Appendix F**. **Table 9** outlines the statistics summary for this station.

Table 9: Statistics Summary of PAH Results for Courtice Station

Contaminant	Units	MECP Criteria (µg/m³)	No. > Criteria	Arithmetic Mean	Minimum Q3 Concentration	Maximum Q3 Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
1-Methylnaphthalene	ng/m³	12000	0	1.11E+01	2.63E+00	4.97E+01	9.20E+00	4.97E+01	4.75E+00	7	100
2-Methylnaphthalene	ng/m³	10000	0	2.21E+01	5.69E+00	9.84E+01	1.92E+01	9.84E+01	8.78E+00	7	100
Acenaphthene	ng/m³	-	-	2.14E+01	2.87E+00	1.12E+02	1.38E+01	1.12E+02	8.92E+00	7	100
Acenaphthylene	ng/m³	3500	0	6.78E-01	1.15E-01	3.26E+00	3.80E-01	3.26E+00	3.10E-01	7	100
Anthracene	ng/m³	200	0	3.18E+00	7.85E-02	2.01E+01	3.77E-01	2.01E+01	8.43E-01	7	100
Benzo(a)Anthracene	ng/m³	-	-	2.91E-01	1.10E-02	1.94E+00	2.55E-02	1.94E+00	1.36E-02	7	100
Benzo(a)fluorene	ng/m³	-	-	4.86E-01	4.84E-02	3.02E+00	7.74E-02	3.02E+00	5.51E-02	7	100
Benzo(a)Pyrene (Historically High)	ng/m³	0.05	1	9.30E-02	1.63E-03	5.59E-01	3.99E-02	5.59E-01	9.23E-03	7	100
Benzo(b)Fluoranthene	ng/m³	-	-	1.47E-01	1.63E-03	8.57E-01	7.09E-02	8.57E-01	2.56E-02	7	100
Benzo(b)fluorene	ng/m³	-	-	1.17E-01	5.16E-03	7.58E-01	1.14E-02	7.58E-01	1.30E-02	7	100
Benzo(e)Pyrene	ng/m³	-	-	9.87E-02	7.83E-03	5.56E-01	4.34E-02	5.56E-01	2.24E-02	7	100
Benzo(g,h,i)Perylene	ng/m³	-	-	4.48E-02	7.53E-03	1.97E-01	4.34E-02	1.97E-01	2.01E-02	7	100
Benzo(k)Fluoranthene	ng/m³	-	-	1.33E-01	1.48E-03	8.45E-01	4.11E-02	8.45E-01	8.28E-03	7	100
Biphenyl	ng/m³	-	-	1.34E+01	2.40E+00	7.17E+01	6.41E+00	7.17E+01	3.52E+00	7	100
Chrysene	ng/m³	-	-	4.41E-01	3.50E-02	2.72E+00	1.09E-01	2.72E+00	5.60E-02	7	100
Dibenzo(a,h)Anthracene	ng/m³	-	-	1.18E-02	1.48E-03	6.65E-02	6.90E-03	6.65E-02	1.51E-03	7	100
Fluoranthene	ng/m³	-	-	5.38E+00	8.64E-01	2.87E+01	1.97E+00	2.87E+01	2.07E+00	7	100
Fluorene	ng/m³	-	-	1.22E+01	2.79E+00	5.59E+01	8.66E+00	5.59E+01	7.62E+00	7	100
Indeno(1,2,3-cd)Pyrene	ng/m³	-	-	5.10E-02	5.87E-03	2.35E-01	4.87E-02	2.35E-01	1.45E-02	7	100
Naphthalene	ng/m³	22500	0	1.97E+01	7.81E+00	7.05E+01	2.47E+01	7.05E+01	9.52E+00	7	100
o-Terphenyl	ng/m³	-	-	1.78E-02	1.02E-02	3.35E-02	3.35E-02	2.08E-02	1.28E-02	7	100
Perylene	ng/m³	-	-	2.33E-02	1.48E-03	1.52E-01	4.02E-03	1.52E-01	1.51E-03	7	100
Phenanthrene	ng/m³	-	-	1.80E+01	4.27E+00	7.52E+01	1.34E+01	7.52E+01	1.49E+01	7	100
Pyrene	ng/m³	-	-	2.86E+00	3.77E-01	1.62E+01	7.86E-01	1.62E+01	8.67E-01	7	100
Tetralin	ng/m³	-	-	9.21E-01	1.48E-03	2.55E+00	9.02E-01	2.55E+00	8.52E-01	7	100
Total PAH	ng/m³	-	-	132.89	33.31	616.60	1.00E+02	6.17E+02	62.62	7	100

Notes: All non-detectable results were reported as 1/2 of the detection limit

5.7.2 Rundle Road Station Results

Data recovery levels were high for the PAH results at the Rundle Road station (86% valid data). There was one (1) exceedance of the Benzo(a) Pyrene AAQC during Q3 of 2023. There were no other exceedances of any of the AAQC's or HHRA Criteria.

The BaP exceedance occurred on July 11, 2023. Since the winds were predominantly coming from the SW to WSW and the NW, the Rundle Road station was partially downwind of the DYEC during the sampling period. It is likely that the measured BaP exceedance is attributable to the Energy Centre operations, with contributions from offsite sources.

The exceedance documentation is attached in **Appendix F**. **Table 10** outlines the statistics summary for this station.

Table 10: Statistics Summary of PAH Results for Rundle Road Station

Contaminant	Units	MECP Criteria (µg/m³)	No. > Criteria	Arithmetic Mean	Minimum Q3 Concentration	Maximum Q3 Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
1-Methylnaphthalene	ng/m³	12000	0	5.03E+00	3.15E+00	6.62E+00	6.62E+00	6.13E+00	4.14E+00	6	86
2-Methylnaphthalene	ng/m³	10000	0	9.45E+00	6.07E+00	1.32E+01	1.32E+01	9.69E+00	7.28E+00	6	86
Acenaphthene	ng/m³	-	-	7.21E+00	3.02E+00	1.12E+01	1.12E+01	9.33E+00	3.18E+00	6	86
Acenaphthylene	ng/m³	3500	0	2.90E-01	2.11E-01	4.67E-01	2.97E-01	3.09E-01	4.67E-01	6	86
Anthracene	ng/m³	200	0	7.71E-01	3.07E-01	1.27E+00	1.09E+00	1.27E+00	3.36E-01	6	86
Benzo(a)Anthracene	ng/m³	-	-	2.31E-02	1.27E-02	4.30E-02	4.30E-02	2.18E-02	2.96E-02	6	86
Benzo(a)fluorene	ng/m³	-	-	1.14E-01	3.77E-02	1.99E-01	1.99E-01	1.75E-01	6.45E-02	6	86
Benzo(a)Pyrene (Historically High)	ng/m³	0.05	1	2.41E-02	8.26E-03	5.60E-02	5.60E-02	2.77E-02	1.86E-02	6	86
Benzo(b)Fluoranthene	ng/m³	-	-	4.27E-02	1.81E-02	9.58E-02	9.58E-02	3.41E-02	3.73E-02	6	86
Benzo(b)fluorene	ng/m³	-	-	1.50E-02	8.80E-03	2.39E-02	2.39E-02	1.61E-02	1.32E-02	6	86
Benzo(e)Pyrene	ng/m³	-	-	3.18E-02	1.36E-02	7.38E-02	7.38E-02	2.56E-02	2.60E-02	6	86
Benzo(g,h,i)Perylene	ng/m³	-	-	3.21E-02	1.31E-02	7.48E-02	7.48E-02	2.66E-02	2.39E-02	6	86
Benzo(k)Fluoranthene	ng/m³	-	-	2.56E-02	1.54E-03	5.50E-02	5.50E-02	2.75E-02	1.71E-02	6	86
Biphenyl	ng/m³	-	-	4.01E+00	2.10E+00	5.53E+00	5.53E+00	4.36E+00	2.80E+00	6	86
Chrysene	ng/m³	-	-	1.15E-01	5.11E-02	2.40E-01	2.40E-01	1.43E-01	5.65E-02	6	86
Dibenzo(a,h)Anthracene	ng/m³	-	-	4.58E-03	1.54E-03	1.05E-02	1.05E-02	4.25E-03	1.56E-03	6	86
Fluoranthene	ng/m³	-	-	3.45E+00	8.85E-01	5.86E+00	5.86E+00	5.86E+00	1.23E+00	6	86
Fluorene	ng/m³	-	-	6.62E+00	2.54E+00	1.02E+01	1.02E+01	8.98E+00	2.67E+00	6	86
Indeno(1,2,3-cd)Pyrene	ng/m³	-	-	3.04E-02	1.28E-02	6.54E-02	6.54E-02	2.45E-02	2.07E-02	6	86
Naphthalene	ng/m³	22500	0	9.24E+00	6.33E+00	1.43E+01	1.43E+01	8.11E+00	6.60E+00	6	86
o-Terphenyl	ng/m³	-	-	1.82E-02	9.10E-03	2.89E-02	2.89E-02	1.94E-02	1.59E-02	6	86
Perylene	ng/m³	-	-	3.65E-03	1.56E-03	7.41E-03	7.41E-03	3.14E-03	6.57E-03	6	86
Phenanthrene	ng/m³	-	-	1.20E+01	4.61E+00	2.36E+01	2.36E+01	1.08E+01	4.78E+00	6	86
Pyrene	ng/m³	-	-	1.47E+00	4.67E-01	2.47E+00	2.44E+00	2.47E+00	5.74E-01	6	86
Tetralin	ng/m³	-	-	7.61E-01	1.54E-03	1.10E+00	9.55E-01	8.69E-01	1.10E+00	6	86
Total PAH	ng/m³	-	-	60.85	32.46	90.72	9.07E+01	6.37E+01	32.95	6	86

Note: All non-detectable results were reported as 1/2 of the detection limit

5.8 Dioxin and Furan Results

All of the PUF Hi-Vols operated on a discrete schedule every 24 days for D&F's according to the NAPS schedule during Q3 with the sample days being: July 11, August 4, 28 and September 21, 2023.

5.8.1 Courtice Station Results

Data recovery levels were high for the D&F results at the Courtice station (100% valid data). There were no exceedances of any of the AAQC's or HHRA Criteria for any of the D&F's during Q3. **Table 11** is a summary of the statistics for this station.

Table 11: Courtice Station Q3 Monitoring Results for Dioxins and Furans

Contaminant	Units	MECP Criteria	HHRA Health Based Criteria	No. > Criteria	Arithmetic Mean	Q3 Minimum Concentration	Q3 Maximum Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
2,3,7,8-TCDD	pg/m^3	-	-	-	1.08E-03	3.86E-04	1.74E-03	1.74E-03	1.62E-03	3.86E-04	4	100
1,2,3,7,8-PeCDD	pg/m^3	-	-	-	1.21E-03	5.19E-04	2.06E-03	2.06E-03	1.34E-03	5.19E-04	4	100
1,2,3,4,7,8-HxCDD	pg/m^3	-	-	-	1.56E-04	1.19E-04	1.96E-04	1.19E-04	1.71E-04	1.96E-04	4	100
1,2,3,6,7,8-HxCDD	pg/m^3	-	-	-	2.31E-04	1.09E-04	4.04E-04	1.09E-04	4.04E-04	2.81E-04	4	100
1,2,3,7,8,9-HxCDD	pg/m^3	-	-	-	2.73E-04	1.12E-04	7.30E-04	1.12E-04	7.30E-04	1.17E-04	4	100
1,2,3,4,6,7,8-HpCDD	pg/m^3	-	-	-	1.57E-03	2.23E-04	5.28E-03	2.23E-04	5.28E-03	4.75E-04	4	100
OCDD	pg/m^3	-	-	-	5.24E-04	2.33E-05	1.98E-03	4.59E-05	1.98E-03	4.43E-05	4	100
2,3,7,8-TCDF	pg/m^3	-	-	-	1.38E-04	3.56E-05	2.85E-04	2.85E-04	1.63E-04	3.56E-05	4	100
1,2,3,7,8-PeCDF	pg/m^3	-	-	-	7.44E-05	1.42E-05	2.05E-04	4.75E-05	2.05E-04	1.42E-05	4	100
2,3,4,7,8-PeCDF	pg/m^3	-	-	-	2.72E-04	1.78E-04	4.41E-04	4.41E-04	2.79E-04	1.78E-04	4	100
1,2,3,4,7,8-HxCDF	pg/m^3	-	-	-	1.21E-04	3.56E-05	2.07E-04	1.11E-04	2.07E-04	3.56E-05	4	100
1,2,3,6,7,8-HxCDF	pg/m^3	-	-	-	1.10E-04	9.15E-05	1.20E-04	1.16E-04	1.20E-04	1.12E-04	4	100
2,3,4,6,7,8-HxCDF	pg/m^3	-	-	-	7.69E-05	5.12E-05	1.08E-04	1.08E-04	8.33E-05	6.53E-05	4	100
1,2,3,7,8,9-HxCDF	pg/m^3	-	-	-	1.30E-04	2.67E-05	2.66E-04	1.28E-04	2.66E-04	2.67E-05	4	100
1,2,3,4,6,7,8-HpCDF	pg/m^3	-	-	-	2.73E-04	2.71E-05	9.16E-04	1.16E-04	9.16E-04	3.12E-05	4	100
1,2,3,4,7,8,9-HpCDF	pg/m^3	-	-	-	2.02E-05	9.34E-06	3.73E-05	9.34E-06	3.73E-05	2.36E-05	4	100
OCDF	pg/m^3	-	-	-	6.93E-05	6.86E-07	2.73E-04	2.18E-06	2.73E-04	1.20E-06	4	100
Total Toxic Equivalency	pg TEQ/m^3	0.1 1[1]	-	0	6.32E-03	2.54E-03	1.23E-02	5.77E-03	1.23E-02	2.54E-03	4	100

Notes: All non-detectable results were reported as 1/2 of the detection limit
[1] O. Reg. 419/05 Schedule Upper Risk Thresholds

5.8.2 Rundle Road Station Results

Data recovery levels were acceptable for the D&F results at the Rundle Road station (75% valid data). There were no exceedances of any of the AAQC's or HHRA Criteria for any of the D&F's during Q3. **Table 12** is a summary of the statistics for this station.

Table 12: Rundle Road Station Q3 Monitoring Results for Dioxins and Furans

Contaminant	Units	*MECP Criteria*	*HHRA Health Based Criteria*	No. > Criteria	Arithmetic Mean	Q3 Minimum Concentration	Q3 Maximum Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
2,3,7,8-TCDD	pg/m^3	-	-	-	1.12E-03	3.55E-04	1.94E-03	1.94E-03	1.07E-03	3.55E-04	3	75
1,2,3,7,8-PeCDD	pg/m^3	-	-	-	1.47E-03	7.39E-04	2.75E-03	2.75E-03	7.39E-04	9.26E-04	3	75
1,2,3,4,7,8-HxCDD	pg/m^3	-	-	-	1.78E-04	1.21E-04	2.38E-04	1.21E-04	2.38E-04	1.74E-04	3	75
1,2,3,6,7,8-HxCDD	pg/m^3	-	-	-	1.66E-04	8.49E-05	3.00E-04	1.12E-04	8.49E-05	3.00E-04	3	75
1,2,3,7,8,9-HxCDD	pg/m^3	-	-	-	2.48E-04	1.34E-04	3.49E-04	1.34E-04	3.49E-04	2.59E-04	3	75
1,2,3,4,6,7,8-HpCDD	pg/m^3	-	-	-	2.54E-04	6.13E-05	5.50E-04	5.50E-04	6.13E-05	1.50E-04	3	75
OCDD	pg/m^3	-	-	-	1.15E-04	8.96E-06	3.05E-04	3.05E-04	8.96E-06	3.11E-05	3	75
2,3,7,8-TCDF	pg/m^3	-	-	-	1.46E-04	7.39E-05	2.43E-04	2.43E-04	7.39E-05	1.20E-04	3	75
1,2,3,7,8-PeCDF	pg/m^3	-	-	-	3.79E-05	2.41E-05	5.09E-05	3.88E-05	2.41E-05	5.09E-05	3	75
2,3,4,7,8-PeCDF	pg/m^3	-	-	-	4.17E-04	2.26E-04	6.46E-04	3.79E-04	2.26E-04	6.46E-04	3	75
1,2,3,4,7,8-HxCDF	pg/m^3	-	-	-	9.49E-05	5.56E-05	1.49E-04	1.49E-04	8.02E-05	5.56E-05	3	75
1,2,3,6,7,8-HxCDF	pg/m^3	-	-	-	8.73E-05	5.50E-05	1.38E-04	1.38E-04	5.50E-05	6.94E-05	3	75
2,3,4,6,7,8-HxCDF	pg/m^3	-	-	-	1.05E-04	7.56E-05	1.46E-04	1.46E-04	9.43E-05	7.56E-05	3	75
1,2,3,7,8,9-HxCDF	pg/m^3	-	-	-	9.58E-05	3.55E-05	1.78E-04	1.78E-04	7.39E-05	3.55E-05	3	75
1,2,3,4,6,7,8-HpCDF	pg/m^3	-	-	-	8.44E-05	4.01E-05	1.50E-04	6.31E-05	1.50E-04	4.01E-05	3	75
1,2,3,4,7,8,9-HpCDF	pg/m^3	-	-	-	1.30E-05	1.00E-05	1.89E-05	1.02E-05	1.89E-05	1.00E-05	3	75
OCDF	pg/m^3	-	-	-	7.31E-06	3.35E-06	1.38E-05	1.38E-05	3.35E-06	4.81E-06	3	75
Total Toxic Equivalency	pg TEQ/m^3	*0.1* *1*[1]	-	0	4.64E-03	3.30E-03	7.27E-03	7.27E-03	3.35E-03	3.30E-03	3	75

Notes: All non-detectable results were reported as 1/2 of the detection limit

[1] O. Reg. 419/05 Schedule Upper Risk Thresholds

6 DATA REQUESTS

The following sections outline any instrumentation issues encountered that have caused data loss at any of the monitors at each of the stations.

Appendix C contains monthly IZS zero trends for the NO_X and SO_2 analyzers at the Courtice and Rundle Road stations.

Edit logs identifying missing data, maintenance times, calibrations and any other missing data have been included in **Appendix D**.

6.1 Continuous Monitoring

On July 1, 2023, the Rundle Road station's $PM_{2.5}$ analyzer suffered from a malfunction which cause the loss of data until July 3 at 01:00.

On September 1, 2023, the Courtice station's computer malfunctioned which caused the loss of station data beginning at 09:00 and lasting until it was repaired on September 7, 2023 at 10:00.

On September 7, 2023, the Courtice rain instrument malfunctioned beginning at 09:00 and lasted until September 30 at 23:00.

The wind direction instrument at the Rundle Road station malfunctioned periodically beginning on September 21, 2023 at 21:00 until it was repaired on September 27 at 12:00. A total of 67 hours of data was lost due to this issue.

6.2 Discrete Monitoring

The July 5, July 23, August 4 and September 3, 2023, Courtice TSP samples were invalidated due to equipment malfunctions.

The August 4, 2023, Rundle Road PAH sample was invalid due to an equipment malfunction.

7 CONCLUSIONS

This Q3 report provides a summary of the ambient air quality data collected at the Courtice and Rundle Road stations. There were one-hundred and eighty-three (183) exceedance events above the rolling 10-minute SO_2 AAQC and sixty-three (63) exceedance events above the 1-hour SO_2 AAQC at the Courtice station. There was one (1) exceedance of the Benzo(a) Pyrene AAQC at the Courtice station on August 28, 2023. There was one (1) exceedance of the Benzo(a) Pyrene AAQC at the Rundle Road station on July 11, 2023. Data recovery rates were acceptable and valid for all measured Q3 continuous and discrete parameters, except for the TSP, Metals and Rain at the Courtice station.

8 REFERENCES

1. Canadian Council of Ministers of the Environment (CCME), 2012. Guidance Document on Achievement Determination Canadian Ambient Air Quality Standards for Fine Particulate Matter and Ozone. PN 1483 978-1-896997-91-9 PDF
2. Canadian Council of Ministers of the Environment (CCME), 2019. Guidance Document on Air Zone Management. PN 1593978-1-77202-050-2 PDF
3. Ontario Ministry of the Environment and Climate Change, 2018. [Technical Assessment and Standards Development Branch] Ontario Air Standards for Sulphur Dioxide (SO2). [Online]
4. Human Toxicology and Air Standards Section, Technical Assessment and Standards Development Branch, Ontario Ministry of the Environment, Conservation and Parks (MECP). 2020. Ontario's Ambient Air Quality Criteria. MECP, Toronto, ON, Canada.

9 GENERAL STATEMENT OF LIMITATIONS

This report entitled "2023 Q3 Ambient Air Quality Monitoring Report", dated November 8, 2023, was prepared by RWDI AIR Inc. ("RWDI") for The Regional Municipality of Durham ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Project"). This report was prepared using scientific principles, published methodologies and professional judgment in assessing available information and data. The findings presented within this document are based on available data within the limits of the existing information, budgeted scope of work, and schedule. The conclusions contained in this report are based on the information available to RWDI when this report was prepared; subsequent changes made by the Client after the date of this report have not been reflected in the conclusions.

This report was prepared for the exclusive use of The Regional Municipality of Durham and the MECP. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties. RWDI accepts no responsibility for damages, if any, suffered by any third party as result of decisions made or actions based on this report.

APPENDIX A

Table A1: 2023 Summary Statistics for Q3

Courtice Monitoring Station Data Statistics	Maximum 10 min Rolling Mean	Maximum 1 hr Rolling Mean					Maximum 24 hr Rolling Mean					Monthly Mean					Valid Data				
Compound	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2
Units	ppb	($\mu g/m^3$)	ppb				($\mu g/m^3$)	ppb				($\mu g/m^3$)	ppb				(%)				
AAQC/CAAQS	67				200	40	27[A]			100											
July	274.3	83.2	43.8	13.9	32.5	115.9	64.7	9.5	2.4	7.4	20.7	9.5	4.4	0.8	3.7	3.3	99.9	99.6	99.6	99.6	99.3
August	229.9	31.9	34.7	16.5	24.3	143.3	18.5	15.2	4.1	11.2	24.0	6.7	4.1	0.9	3.3	4.8	99.7	99.7	99.7	99.7	99.7
September	244.1	18.3	41.0	13.9	31.0	106.3	13.1	11.5	2.3	9.3	31.1	5.5	5.4	0.9	4.5	5.2	79.4	79.0	79.0	79.0	79.3
Q3 Arithmetic Mean												7.2	4.7	0.9	3.8	4.5	93.0	92.9	92.9	92.9	92.9

Rundle Monitoring Station Data Statistics	Maximum 10 min Rolling Mean	Maximum 1 hr Rolling Mean					Maximum 24 hr Rolling Mean					Monthly Mean					Valid Data				
Compound	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2	$PM_{2.5}$	NO_x	NO	NO_2	SO_2
Units	ppb	($\mu g/m^3$)	ppb				($\mu g/m^3$)	ppb				($\mu g/m^3$)	ppb				(%)				
AAQC/CAAQS	67				200	40	27[A]			100											
July	2.1	36.0	30.3	10.3	20.4	1.4	23.5	9.3	2.4	7.3	0.6	7.6	3.9	0.9	3.0	0.4	93.1	99.7	99.7	99.7	99.3
August	2.0	26.6	47.7	32.8	17.4	1.4	16.8	9.6	2.7	7.1	0.7	6.4	3.5	0.9	2.6	0.5	99.9	99.7	99.7	99.7	99.7
September	5.0	16.7	56.8	37.1	19.8	2.5	13.3	8.6	3.4	6.4	0.9	5.9	3.6	0.9	2.7	0.5	99.9	99.3	99.3	99.3	99.6
Q3 Arithmetic Mean												6.6	3.7	0.9	2.8	0.5	97.6	99.6	99.6	99.6	99.5

Event Statistics	Rolling Mean > 10 min AAQC for Courtice	Rolling Mean > 10 min AAQC for Rundle	Rolling Mean > 1 hr AAQC for Courtice			Rolling Mean > 1 hr AAQC for Rundle			Rolling Mean > 24 hr AAQC for Courtice Monitoring Station			Rolling Mean > 24 hr AAQC for Rundle Monitoring Station		
Compound	SO_2	SO_2	$PM_{2.5}$	NO_2	SO_2	$PM_{2.5}$	NO_2	SO_2	$PM_{2.5}$	NO_2	SO_2	$PM_{2.5}$	NO_2	SO_2
Units	No.	No.		No.			No.			No.			No.	
July	33	0		0	12		0	0	N/A	0		N/A	0	
August	84	0		0	29		0	0	N/A	0		N/A	0	
September	66	0		0	22		0	0	N/A	0		N/A	0	
Q3 Total	183	0		0	63		0	0	N/A	0		N/A	0	

Courtice Station MET Statistics	Maximum 1 hr Mean					Minimum 1 hr Mean					Monthly Mean					Total	Valid Data					
Parameter	WS	Temp	RH	Pres	Rain	WS	Temp	RH	Pres	Rain	WS	Temp	RH	Pres	Rain	Rain	WS	WD	Temp	RH	Pres	Rain
Units	(km/hr)	(°C)	(%)	"Hg	mm	(km/hr)	(°C)	(%)	"Hg	mm	(km/hr)	(°C)	(%)	"Hg	mm	mm	(%)					
July	27.5	28.0	100.0	29.8	7.8	0.2	13.1	34.2	29.3	0.0	7.3	20.9	77.1	29.6	0.1	69.2	100.0	92.3	100.0	100.0	100.0	100.0
August	23.3	25.6	100.0	30.0	10.7	0.6	10.5	40.9	29.3	0.0	8.6	19.3	75.0	29.6	0.1	51.7	100.0	96.9	100.0	100.0	100.0	100.0
September	26.4	24.5	100.0	30.1	0.0	0.0	6.9	33.2	29.4	0.0	9.7	16.7	70.1	29.8	N/A[1]	N/A[1]	79.9	77.9	79.9	79.9	79.9	1.3
Q3 Arithmetic Mean											8.5	19.2	74.3	29.7	N/A[1]	N/A[1]	93.4	89.1	93.4	93.4	93.4	68.5

Rundle Station MET Statistics	Maximum 1 hr Mean				Minimum 1 hr Mean				Monthly Mean				Total	Valid Data				
Parameter	WS	Temp	RH	Rain	WS	Temp	RH	Rain	WS	Temp	RH	Rain	Rain	WS	WD	Temp	RH	Rain
Units	(km/hr)	(°C)	(%)	mm	(km/hr)	(°C)	(%)	mm	(km/hr)	(°C)	(%)	mm	mm	(%)				
July	18.5	29.2	100.0	10.0	0.2	12.0	37.9	0.0	6.2	20.9	80.2	0.1	76.1	100.0	90.7	100.0	100.0	100.0
August	21.1	26.0	100.0	11.7	0.3	8.9	42.1	0.0	7.1	19.2	79.4	0.1	57.6	100.0	93.7	100.0	100.0	100.0
September	22.6	29.6	100.0	17.8	0.2	5.6	34.2	0.0	6.7	17.2	79.9	0.0	32.5	99.9	83.9	100.0	100.0	100.0
Q3 Arithmetic Mean									6.7	19.1	79.7	0.1	166.2	100.0	89.6	100.0	100.0	100.0

1 - No averages and totals presented due to not meeting monthly data validity criteria of >75%

Table A2: 2023 Q3 Station Courtice Monitoring Results for PM2.5

Data Statistics	Rolling Mean > 24 hr AAQC	Arithmetic Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$
	No.	(ug/m^3)	(ug/m^3)	(ug/m^3)	No.	%
July	N/A	9.5	83.2	64.7	743	99.9
August	N/A	6.7	31.9	18.5	742	99.7
September	N/A	5.5	18.3	13.1	572	79.4

Table A3: 2023 Q3 Station Rundle Monitoring Results for PM2.5

Data Statistics	Rolling Mean > 24 hr AAQC	Arithmetic Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$	$PM_{2.5}$
	No.	(ug/m^3)	(ug/m^3)	(ug/m^3)	No.	%
July	N/A	7.6	36.0	23.5	693	93.1
August	N/A	6.4	26.6	16.8	743	99.9
September	N/A	5.9	16.7	13.3	719	99.9

Table A4: 2023 Q3 Station Courtice Monitoring Results for NOx

Data Statistics	Events > 1 hr AAQC	Events > 24 hr AAQC	Arithmetic Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	NO_x	NO_x	NO_x	NO_x	NO_x	NO_x	NO_x
	No.	No.	(ppb)	(ppb)	(ppb)	No.	%
July	N/A	N/A	4.4	43.8	9.5	741	99.6
August	N/A	N/A	4.1	34.7	15.2	742	99.7
September	N/A	N/A	5.4	41.0	11.5	569	79.0

Table A5: 2023 Q3 Station Rundle Monitoring Results for NOx

Data Statistics	Events > 1 hr AAQC	Events > 24 hr AAQC	Arithmetic Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	NO_x	NO_x	NO_x	NO_x	NO_x	NO_x	NO_x
	No.	No.	(ppb)	(ppb)	(ppb)	No.	%
July	N/A	N/A	3.9	30.3	9.3	742	99.7
August	N/A	N/A	3.5	47.7	9.6	742	99.7
September	N/A	N/A	3.6	56.8	8.6	715	99.3

Table A6: 2023 Q3 Station Courtice Monitoring Results for NO

Data Statistics	Events > 1 hr AAQC	Events > 24 hr AAQC	Arithmetic Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	NO	NO	NO	NO	NO	NO	NO
	No.	No.	(ppb)	(ppb)	(ppb)	No.	%
July	N/A	N/A	0.8	13.9	2.4	741	99.6
August	N/A	N/A	0.9	16.5	4.1	742	99.7
September	N/A	N/A	0.9	13.9	2.3	569	79.0

Table A7: 2023 Q3 Station Rundle Monitoring Results for NO

Data Statistics	Events > 1 hr AAQC	Events > 24 hr AAQC	Arithmetic Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	NO	NO	NO	NO	NO	NO	NO
	No.	No.	(ppb)	(ppb)	(ppb)	No.	%
July	N/A	N/A	0.9	10.3	2.4	742	99.7
August	N/A	N/A	0.9	32.8	2.7	742	99.7
September	N/A	N/A	0.9	37.1	3.4	715	99.3

Table A8: 2023 Q3 Station Courtice Monitoring Results for NO2

Data Statistics	Events > 1 hr AAQC	Events > 24 hr AAQC	Arithmetic Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	NO_2	NO_2	NO_2	NO_2	NO_2	NO_2	NO_2
	No.	No.	(ppb)	(ppb)	(ppb)	No.	%
July	0	0	3.7	32.5	7.4	741	99.6
August	0	0	3.3	24.3	11.2	742	99.7
September	0	0	4.5	31.0	9.3	569	79.0

Table A9: 2023 Q3 Station Rundle Monitoring Results for NO2

Data Statistics	Events > 1 hr AAQC	Events > 24 hr AAQC	Arithmetic Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	NO_2	NO_2	NO_2	NO_2	NO_2	NO_2	NO_2
	No.	No.	(ppb)	(ppb)	(ppb)	No.	%
July	0	0	3.0	20.4	7.3	742	99.7
August	0	0	2.6	17.4	7.1	742	99.7
September	0	0	2.7	19.8	6.4	715	99.3

Table A10: 2023 Q3 Station Courtice Monitoring Results for SO2

Data Statistics	Events > 10 min AAQC	Events > 1 hr AAQC	Arithmetic Mean	Maximum 10 min Rolling Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	SO_2	SO_2	SO_2	SO_2	SO_2	SO_2	SO_2	SO_2
	No.	No.	(ppb)	(ppb)	(ppb)	(ppb)	No.	%
July	33	12	3.3	274.3	115.9	20.7	739	99.3
August	84	29	4.8	229.9	143.3	24.0	742	99.7
September	66	22	5.2	244.1	106.3	31.1	571	79.3

Table A11: 2023 Q3 Station Rundle Monitoring Results for SO2

Data Statistics	Events > 10 min AAQC	Events > 1 hr AAQC	Arithmetic Mean	Maximum 10 min Rolling Mean	Maximum 1 hr Rolling Mean	Maximum 24 hr Rolling Mean	Number of Valid Hours	Valid Data
Month	SO_2	SO_2	SO_2	SO_2	SO_2	SO_2	SO_2	SO_2
	No.	No.	(ppb)	(ppb)	(ppb)	(ppb)	No.	%
July	0	0	0.4	2.1	1.4	0.6	739	99.3
August	0	0	0.5	2.0	1.4	0.7	742	99.7
September	0	0	0.5	5.0	2.5	0.9	717	99.6

Table A12: 2023 Q3 Courtice Meterological Station Windspeed Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Valid Data
Month	Wind Speed	Wind Speed	Wind Speed	Wind Speed
	(km/hr)	(km/hr)	(km/hr)	(%)
July	27.5	0.2	7.3	100.0
August	23.3	0.6	8.6	100.0
September	26.4	0.0	9.7	79.9

Table A13: 2023 Q3 Rundle Meterological Station Windspeed Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Valid Hours
Month	Wind Speed	Wind Speed	Wind Speed	Wind Speed
	(km/hr)	(km/hr)	(km/hr)	(%)
July	18.5	0.2	6.2	100.0
August	21.1	0.3	7.1	100.0
September	22.6	0.2	6.7	99.9

Table A14: 2023 Q3 Courtice Meterological Station Wind Direction Data Summary

MET Statistics	Valid Data
Month	Wind Direction
	(%)
July	92.3
August	96.9
September	77.9

Table A15: 2023 Q3 Rundle Meterological Station Wind Direction Data Summary

MET Statistics	Valid Data
Month	Wind Direction
	(%)
July	90.7
August	93.7
September	83.9

Table A16: 2023 Q3 Courtice Meterological Station Temperature Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Valid Data
Month	Temperature	Temperature	Temperature	Temperature
	(°C)	(°C)	(°C)	(%)
July	28.0	13.1	20.9	100.0
August	25.6	10.5	19.3	100.0
September	24.5	6.9	16.7	79.9

Table A17: 2023 Q3 Rundle Meterological Station Temperature Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Valid Data
Month	Temperature	Temperature	Temperature	Temperature
	(°C)	(°C)	(°C)	(%)
July	29.2	12.0	20.9	100.0
August	26.0	8.9	19.2	100.0
September	29.6	5.6	17.2	100.0

Table A18: 2023 Q3 Courtice Meterological Station Relative Humidity Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Valid Data
Month	Relative Humidity	Relative Humidity	Relative Humidity	Relative Humidity
	(%)	(%)	(%)	(%)
July	100.0	34.2	77.1	100.0
August	100.0	40.9	75.0	100.0
September	100.0	33.2	70.1	79.9

Table A19: 2023 Q3 Rundle Meterological Station Relative Humidity Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Valid Data
Month	Relative Humidity	Relative Humidity	Relative Humidity	Relative Humidity
	(%)	(%)	(%)	(%)
July	100.0	37.9	80.2	100.0
August	100.0	42.1	79.4	100.0
September	100.0	34.2	79.9	100.0

Table A20: 2023 Q3 Courtice Meterological Station Precipitation Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Total	Valid Data
Month	Precipitation	Precipitation	Precipitation	Precipitation	Precipitation
	(mm)	(mm)	(mm)	(mm)	%
July	7.8	0.0	0.1	69.2	100.0
August	10.7	0.0	0.1	51.7	100.0
September	0.0	0.0	0.0	0.0	1.3

Table A21: 2023 Q3 Rundle Meterological Station Precipitation Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Total	Valid Data
Month	Precipitation	Precipitation	Precipitation	Precipitation	Precipitation
	(mm)	(mm)	(mm)	(mm)	%
July	10.0	0.0	0.1	76.1	100.0
August	11.7	0.0	0.1	57.6	100.0
September	17.8	0.0	0.0	32.5	100.0

Table A22: 2023 Q3 Courtice Meterological Station Pressure Data Summary

MET Statistics	Maximum 1 hr Mean	Minimum 1 hr	Monthly Mean	Valid Data
Month	Pressure	Pressure	Pressure	Pressure
	("Hg)	("Hg)	("Hg)	(%)
July	29.8	29.3	29.6	100.0
August	30.0	29.3	29.6	100.0
September	30.1	29.4	29.8	79.9

APPENDIX B

Table B1: Summary of Sample Flow Rate and Sample Duration for Dioxins & Furans

Sample Date	Courtice			Rundle		
	Filter ID	Sample Duration	Sample Volume	Filter ID	Sample Duration	Sample Volume
	No.	(min)	(m^3)	No.	(min)	(m^3)
July 11, 2023	L2751783-2	1440	316	L2751783-1	1440	309
August 4, 2023	L2752132-1	1440	306	Invalid		
August 28, 2023	L2752480-2	1440	322	L2752480-1	1440	318
September 21, 2023	L2752809-2	1440	337	L2752809-1	1440	324

Table B2: 2023 Courtice Station Q3 Monitoring Results for Dioxins & Furans

Contaminant	Units	*MECP Criteria*	*HHRA Health Based Criteria*	11 Jul 23	4 Aug 23	28 Aug 23	21 Sep 23	MECP Criteria (µg/m^3)	No. > Criteria	Arithmetic Mean	Q3 Minimum Concentration	Q3 Maximum Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
2,3,7,8-TCDD	pg TEQ/m^3	-	-	1.74E-03	1.62E-03	5.59E-04	3.86E-04	-	-	1.08E-03	3.86E-04	1.74E-03	1.74E-03	1.62E-03	3.86E-04	4	100
1,2,3,7,8-PeCDD	pg TEQ/m^3	-	-	2.06E-03	1.34E-03	9.16E-04	5.19E-04	-	-	1.21E-03	5.19E-04	2.06E-03	2.06E-03	1.34E-03	5.19E-04	4	100
1,2,3,4,7,8-HxCDD	pg TEQ/m^3	-	-	1.19E-04	1.39E-04	1.71E-04	1.96E-04	-	-	1.56E-04	1.19E-04	1.96E-04	1.19E-04	1.71E-04	1.96E-04	4	100
1,2,3,6,7,8-HxCDD	pg TEQ/m^3	-	-	1.09E-04	1.29E-04	4.04E-04	2.81E-04	-	-	2.31E-04	1.09E-04	4.04E-04	1.09E-04	4.04E-04	2.81E-04	4	100
1,2,3,7,8,9-HxCDD	pg TEQ/m^3	-	-	1.12E-04	1.31E-04	7.30E-04	1.17E-04	-	-	2.73E-04	1.12E-04	7.30E-04	1.12E-04	7.30E-04	1.17E-04	4	100
1,2,3,4,6,7,8-HpCDD	pg TEQ/m^3	-	-	2.23E-04	2.97E-04	5.28E-03	4.75E-04	-	-	1.57E-03	2.23E-04	5.28E-03	2.23E-04	5.28E-03	4.75E-04	4	100
OCDD	pg TEQ/m^3	-	-	4.59E-05	2.33E-05	1.98E-03	4.43E-05	-	-	5.24E-04	2.33E-05	1.98E-03	4.59E-05	1.98E-03	4.43E-05	4	100
2,3,7,8-TCDF	pg TEQ/m^3	-	-	2.85E-04	1.63E-04	6.68E-05	3.56E-05	-	-	1.38E-04	3.56E-05	2.85E-04	2.85E-04	1.63E-04	3.56E-05	4	100
1,2,3,7,8-PeCDF	pg TEQ/m^3	-	-	4.75E-05	3.09E-05	2.05E-04	1.42E-05	-	-	7.44E-05	1.42E-05	2.05E-04	4.75E-05	2.05E-04	1.42E-05	4	100
2,3,4,7,8-PeCDF	pg TEQ/m^3	-	-	4.41E-04	2.79E-04	1.91E-04	1.78E-04	-	-	2.72E-04	1.78E-04	4.41E-04	4.41E-04	2.79E-04	1.78E-04	4	100
1,2,3,4,7,8-HxCDF	pg TEQ/m^3	-	-	1.11E-04	2.07E-04	1.32E-04	3.56E-05	-	-	1.21E-04	3.56E-05	2.07E-04	1.11E-04	2.07E-04	3.56E-05	4	100
1,2,3,6,7,8-HxCDF	pg TEQ/m^3	-	-	1.16E-04	9.15E-05	1.20E-04	1.12E-04	-	-	1.10E-04	9.15E-05	1.20E-04	1.16E-04	1.20E-04	1.12E-04	4	100
2,3,4,6,7,8-HxCDF	pg TEQ/m^3	-	-	1.08E-04	8.33E-05	5.12E-05	6.53E-05	-	-	7.69E-05	5.12E-05	1.08E-04	1.08E-04	8.33E-05	6.53E-05	4	100
1,2,3,7,8,9-HxCDF	pg TEQ/m^3	-	-	1.28E-04	9.80E-05	2.66E-04	2.67E-05	-	-	1.30E-04	2.67E-05	2.66E-04	1.28E-04	2.66E-04	2.67E-05	4	100
1,2,3,4,6,7,8-HpCDF	pg TEQ/m^3	-	-	1.16E-04	2.71E-05	9.16E-04	3.12E-05	-	-	2.73E-04	2.71E-05	9.16E-04	1.16E-04	9.16E-04	3.12E-05	4	100
1,2,3,4,7,8,9-HpCDF	pg TEQ/m^3	-	-	9.34E-06	1.06E-05	3.73E-05	2.36E-05	-	-	2.02E-05	9.34E-06	3.73E-05	9.34E-06	3.73E-05	2.36E-05	4	100
OCDF	pg TEQ/m^3	-	-	2.18E-06	6.86E-07	2.73E-04	1.20E-06	-	-	6.93E-05	6.86E-07	2.73E-04	2.18E-06	2.73E-04	1.20E-06	4	100
Total Toxic Equivalency	pg TEQ/m^3	*0.1 1* [1]	-	5.77E-03	4.67E-03	1.23E-02	2.54E-03	0.1	0	6.32E-03	2.54E-03	1.23E-02	5.77E-03	1.23E-02	2.54E-03	4	100

NOTE: All non-detectable results were reported as 1/2 of the detection limit

[1] O. Reg. 419/05 Schedule Upper Risk Thresholds

Table B3: 2023 Rundle Road Station Q3 Monitoring Results for Dioxins & Furans

Contaminant	Units	*MECP Criteria*	*HHRA Health Based Criteria*	11 Jul 23	4 Aug 23	28 Aug 23	21 Sep 23	MECP Criteria (µg/m^3)	No. > Criteria	Arithmetic Mean	Q3 Minimum Concentration	Q3 Maximum Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
2,3,7,8-TCDD	pg TEQ/m^3	-	-	1.94E-03		1.07E-03	3.55E-04	-	-	1.12E-03	3.55E-04	1.94E-03	1.94E-03	1.07E-03	3.55E-04	3	75
1,2,3,7,8-PeCDD	pg TEQ/m^3	-	-	2.75E-03		7.39E-04	9.26E-04	-	-	1.47E-03	7.39E-04	2.75E-03	2.75E-03	7.39E-04	9.26E-04	3	75
1,2,3,4,7,8-HxCDD	pg TEQ/m^3	-	-	1.21E-04		2.38E-04	1.74E-04	-	-	1.78E-04	1.21E-04	2.38E-04	1.21E-04	2.38E-04	1.74E-04	3	75
1,2,3,6,7,8-HxCDD	pg TEQ/m^3	-	-	1.12E-04		8.49E-05	3.00E-04	-	-	1.66E-04	8.49E-05	3.00E-04	1.12E-04	8.49E-05	3.00E-04	3	75
1,2,3,7,8,9-HxCDD	pg TEQ/m^3	-	-	1.34E-04		3.49E-04	2.59E-04	-	-	2.48E-04	1.34E-04	3.49E-04	1.34E-04	3.49E-04	2.59E-04	3	75
1,2,3,4,6,7,8-HpCDD	pg TEQ/m^3	-	-	5.50E-04		6.13E-05	1.50E-04	-	-	2.54E-04	6.13E-05	5.50E-04	5.50E-04	6.13E-05	1.50E-04	3	75
OCDD	pg TEQ/m^3	-	-	3.05E-04		8.96E-06	3.11E-05	-	-	1.15E-04	8.96E-06	3.05E-04	3.05E-04	8.96E-06	3.11E-05	3	75
2,3,7,8-TCDF	pg TEQ/m^3	-	-	2.43E-04		7.39E-05	1.20E-04	-	-	1.46E-04	7.39E-05	2.43E-04	2.43E-04	7.39E-05	1.20E-04	3	75
1,2,3,7,8-PeCDF	pg TEQ/m^3	-	-	3.88E-05		2.41E-05	5.09E-05	-	-	3.79E-05	2.41E-05	5.09E-05	3.88E-05	2.41E-05	5.09E-05	3	75
2,3,4,7,8-PeCDF	pg TEQ/m^3	-	-	3.79E-04	Invalid	2.26E-04	6.46E-04	-	-	4.17E-04	2.26E-04	6.46E-04	3.79E-04	2.26E-04	6.46E-04	3	75
1,2,3,4,7,8-HxCDF	pg TEQ/m^3	-	-	1.49E-04		8.02E-05	5.56E-05	-	-	9.49E-05	5.56E-05	1.49E-04	1.49E-04	8.02E-05	5.56E-05	3	75
1,2,3,6,7,8-HxCDF	pg TEQ/m^3	-	-	1.38E-04		5.50E-05	6.94E-05	-	-	8.73E-05	5.50E-05	1.38E-04	1.38E-04	5.50E-05	6.94E-05	3	75
2,3,4,6,7,8-HxCDF	pg TEQ/m^3	-	-	1.46E-04		9.43E-05	7.56E-05	-	-	1.05E-04	7.56E-05	1.46E-04	1.46E-04	9.43E-05	7.56E-05	3	75
1,2,3,7,8,9-HxCDF	pg TEQ/m^3	-	-	1.78E-04		7.39E-05	3.55E-05	-	-	9.58E-05	3.55E-05	1.78E-04	1.78E-04	7.39E-05	3.55E-05	3	75
1,2,3,4,6,7,8-HpCDF	pg TEQ/m^3	-	-	6.31E-05		1.50E-04	4.01E-05	-	-	8.44E-05	4.01E-05	1.50E-04	6.31E-05	1.50E-04	4.01E-05	3	75
1,2,3,4,7,8,9-HpCDF	pg TEQ/m^3	-	-	1.02E-05		1.89E-05	1.00E-05	-	-	1.30E-05	1.00E-05	1.89E-05	1.02E-05	1.89E-05	1.00E-05	3	75
OCDF	pg TEQ/m^3	-	-	1.38E-05		3.35E-06	4.81E-06	-	-	7.31E-06	3.35E-06	1.38E-05	1.38E-05	3.35E-06	4.81E-06	3	75
Total Toxic Equivalency	pg TEQ/m^3	*0.1 1* [1]	-	7.27E-03		3.35E-03	3.30E-03	0.1	0	4.64E-03	3.30E-03	7.27E-03	7.27E-03	3.35E-03	3.30E-03	3	75

NOTE: All non-detectable results were reported as 1/2 of the detection limit

[1] O. Reg. 419/05 Schedule Upper Risk Thresholds

Table B4: Summary of Sample Flow Rate and Sample Duration for PAHs

Sample Date	Courtice			Rundle		
	Filter ID	Sample Duration	Sample Volume	Filter ID	Sample Duration	Sample Volume
	No.	(min)	(m^3)	No.	(min)	(m^3)
July 11, 2023	L2751783-2	1440	316	L2751783-1	1440	309
July 23, 2023	L2751935-2	1440	337	L2751935-1	1440	311
August 4, 2023	L2752132-1	1440	306	Invalid		
August 16, 2023	L2752320-2	1440	320	L2752320-1	1440	314
August 28, 2023	L2752480-2	1440	322	L2752480-1	1440	318
September 9, 2023	L2752674-2	1440	332	L2752674-1	1440	321
September 21, 2023	L2752518-3	1440	337	L2752518-2	1440	324

Table B5: 2023 Courtice Station Q3 Monitoring Results for PAHs

Contaminant	Units	*MECP Criteria*	*HHRA Health Based Criteria*	11 Jul 23	23 Jul 23	4 Aug 23	16 Aug 23	28 Aug 23	9 Sep 23	21 Sep 23	No. > Criteria	Arithmetic Mean	Minimum Q3 Concentration	Maximum Q3 Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
1-Methylnaphthalene	ng/m^3	*12000*	-	3.08E+00	9.20E+00	3.95E+00	2.63E+00	4.97E+01	4.34E+00	4.75E+00	0	1.11E+01	2.63E+00	4.97E+01	9.20E+00	4.97E+01	4.75E+00	7	100
2-Methylnaphthalene	ng/m^3	*10000*	-	5.92E+00	1.92E+01	7.71E+00	5.69E+00	9.84E+01	8.67E+00	8.78E+00	0	2.21E+01	5.69E+00	9.84E+01	1.92E+01	9.84E+01	8.78E+00	7	100
Acenaphthene	ng/m^3	-	-	2.87E+00	1.38E+01	3.89E+00	3.50E+00	1.12E+02	8.92E+00	4.69E+00	-	2.14E+01	2.87E+00	1.12E+02	1.38E+01	1.12E+02	8.92E+00	7	100
Acenaphthylene	ng/m^3	*3500*	-	1.15E-01	3.80E-01	1.73E-01	1.95E-01	3.26E+00	3.10E-01	3.09E-01	0	6.78E-01	1.15E-01	3.26E+00	3.80E-01	3.26E+00	3.10E-01	7	100
Anthracene	ng/m^3	*200*	-	7.85E-02	3.77E-01	1.98E-01	3.12E-01	2.01E+01	8.43E-01	3.74E-01	0	3.18E+00	7.85E-02	2.01E+01	3.77E-01	2.01E+01	8.43E-01	7	100
Benzo(a)Anthracene	ng/m^3	-	-	2.55E-02	1.85E-02	1.10E-02	1.12E-02	1.94E+00	1.13E-02	1.36E-02	-	2.91E-01	1.10E-02	1.94E+00	2.55E-02	1.94E+00	1.36E-02	7	100
Benzo(a)fluorene	ng/m^3	-	-	7.31E-02	7.74E-02	7.58E-02	4.84E-02	3.02E+00	5.51E-02	5.04E-02	-	4.86E-01	4.84E-02	3.02E+00	7.74E-02	3.02E+00	5.51E-02	7	100
Benzo(a)Pyrene (Historically High)	ng/m^3	*0.05*[1] *5*[2] *1.1*[3]	*1*	3.99E-02	1.80E-02	1.63E-03	1.59E-02	5.59E-01	7.53E-03	9.23E-03	1	9.30E-02	1.63E-03	5.59E-01	3.99E-02	5.59E-01	9.23E-03	7	100
Benzo(b)Fluoranthene	ng/m^3	-	-	7.09E-02	3.68E-02	1.63E-03	1.74E-02	8.57E-01	2.05E-02	2.56E-02	-	1.47E-01	1.63E-03	8.57E-01	7.09E-02	8.57E-01	2.56E-02	7	100
Benzo(b)fluorene	ng/m^3	-	-	1.02E-02	1.14E-02	1.46E-02	5.16E-03	7.58E-01	1.30E-02	9.97E-03	-	1.17E-01	5.16E-03	7.58E-01	1.14E-02	7.58E-01	1.30E-02	7	100
Benzo(e)Pyrene	ng/m^3	-	-	4.34E-02	2.60E-02	9.22E-03	2.61E-02	5.56E-01	7.83E-03	2.24E-02	-	9.87E-02	7.83E-03	5.56E-01	4.34E-02	5.56E-01	2.24E-02	7	100
Benzo(g,h,i)Perylene	ng/m^3	-	-	4.34E-02	2.14E-02	1.16E-02	1.30E-02	1.97E-01	7.53E-03	2.01E-02	-	4.48E-02	7.53E-03	1.97E-01	4.34E-02	1.97E-01	2.01E-02	7	100
Benzo(k)Fluoranthene	ng/m^3	-	-	4.11E-02	2.34E-02	1.63E-03	1.28E-02	8.45E-01	8.28E-03	1.48E-03	-	1.33E-01	1.48E-03	8.45E-01	4.11E-02	8.45E-01	8.28E-03	7	100
Biphenyl	ng/m^3	-	-	2.58E+00	6.41E+00	4.12E+00	2.88E+00	7.17E+01	3.52E+00	2.40E+00	-	1.34E+01	2.40E+00	7.17E+01	6.41E+00	7.17E+01	3.52E+00	7	100
Chrysene	ng/m^3	-	-	1.09E-01	6.97E-02	4.05E-02	3.50E-02	2.72E+00	5.60E-02	5.25E-02	-	4.41E-01	3.50E-02	2.72E+00	1.09E-01	2.72E+00	5.60E-02	7	100
Dibenzo(a,h)Anthracene	ng/m^3	-	-	6.90E-03	3.09E-03	1.63E-03	1.56E-03	6.65E-02	1.51E-03	1.48E-03	-	1.18E-02	1.48E-03	6.65E-02	6.90E-03	6.65E-02	1.51E-03	7	100
Fluoranthene	ng/m^3	-	-	8.64E-01	1.97E+00	1.49E+00	1.36E+00	2.87E+01	2.07E+00	1.20E+00	-	5.38E+00	8.64E-01	2.87E+01	1.97E+00	2.87E+01	2.07E+00	7	100
Fluorene	ng/m^3	-	-	3.08E+00	8.66E+00	3.43E+00	2.79E+00	5.59E+01	7.62E+00	3.71E+00	-	1.22E+01	2.79E+00	5.59E+01	8.66E+00	5.59E+01	7.62E+00	7	100
Indeno(1,2,3-cd)Pyrene	ng/m^3	-	-	4.87E-02	2.52E-02	1.27E-02	1.46E-02	2.35E-01	5.87E-03	1.45E-02	-	5.10E-02	5.87E-03	2.35E-01	4.87E-02	2.35E-01	1.45E-02	7	100
Naphthalene	ng/m^3	*22500*	*22500*	8.70E+00	2.47E+01	8.79E+00	7.81E+00	7.05E+01	9.52E+00	8.01E+00	0	1.97E+01	7.81E+00	7.05E+01	2.47E+01	7.05E+01	9.52E+00	7	100
o-Terphenyl	ng/m^3	-	-	3.35E-02	1.61E-02	1.76E-02	1.34E-02	2.08E-02	1.28E-02	1.02E-02	-	1.78E-02	1.02E-02	3.35E-02	3.35E-02	2.08E-02	1.28E-02	7	100
Perylene	ng/m^3	-	-	4.02E-03	1.48E-03	1.63E-03	1.56E-03	1.52E-01	1.51E-03	1.48E-03	-	2.33E-02	1.48E-03	1.52E-01	4.02E-03	1.52E-01	1.51E-03	7	100
Phenanthrene	ng/m^3	-	-	4.27E+00	1.34E+01	6.21E+00	5.47E+00	7.52E+01	1.49E+01	6.85E+00	-	1.80E+01	4.27E+00	7.52E+01	1.34E+01	7.52E+01	1.49E+01	7	100
Pyrene	ng/m^3	-	-	3.77E-01	7.86E-01	6.76E-01	5.63E-01	1.62E+01	8.67E-01	5.58E-01	-	2.86E+00	3.77E-01	1.62E+01	7.86E-01	1.62E+01	8.67E-01	7	100
Tetralin	ng/m^3	-	-	8.20E-01	9.02E-01	5.52E-01	7.69E-01	2.55E+00	8.52E-01	1.48E-03	-	9.21E-01	1.48E-03	2.55E+00	9.02E-01	2.55E+00	8.52E-01	7	100
Total PAH[4]	ng/m^3	-	-	33.31	100.26	41.40	34.18	616.60	62.62	41.88	-	132.89	33.31	616.60	1.00E+02	6.17E+02	62.62	7	100

NOTE: All non-detectable results were reported as 1/2 of the detection limit

[1] AAQC
[2] O. Reg. 419/05 Schedule Upper Risk Thresholds
[3] O. Reg. 419/05 24 Hour Guideline
[4] Total PAH sums all PAH contaminants

Table B6: 2023 Rundle Road Station Q3 Monitoring Results for PAHs

Contaminant	Units	*MECP Criteria*	*HHRA Health Based Criteria*	11 Jul 23	23 Jul 23	4 Aug 23	16 Aug 23	28 Aug 23	9 Sep 23	21 Sep 23	No. > Criteria	Arithmetic Mean	Minimum Q3 Concentration	Maximum Q3 Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
1-Methylnaphthalene	ng/m^3	*12000*	-	6.21E+00	6.62E+00		3.95E+00	6.13E+00	3.15E+00	4.14E+00	0	5.03E+00	3.15E+00	6.62E+00	6.62E+00	6.13E+00	4.14E+00	6	86
2-Methylnaphthalene	ng/m^3	*10000*	-	1.21E+01	1.32E+01		8.38E+00	9.69E+00	6.07E+00	7.28E+00	0	9.45E+00	6.07E+00	1.32E+01	1.32E+01	9.69E+00	7.28E+00	6	86
Acenaphthene	ng/m^3	-	-	9.61E+00	1.12E+01		9.33E+00	6.95E+00	3.18E+00	3.02E+00	-	7.21E+00	3.02E+00	1.12E+01	1.12E+01	9.33E+00	3.18E+00	6	86
Acenaphthylene	ng/m^3	*3500*	-	2.11E-01	2.97E-01		2.30E-01	3.09E-01	4.67E-01	2.29E-01	0	2.90E-01	2.11E-01	4.67E-01	2.97E-01	3.09E-01	4.67E-01	6	86
Anthracene	ng/m^3	*200*	-	1.09E+00	8.36E-01		1.27E+00	7.89E-01	3.36E-01	3.07E-01	0	7.71E-01	3.07E-01	1.27E+00	1.09E+00	1.27E+00	3.36E-01	6	86
Benzo(a)Anthracene	ng/m^3	-	-	4.30E-02	1.80E-02		2.18E-02	1.27E-02	1.36E-02	2.96E-02	-	2.31E-02	1.27E-02	4.30E-02	4.30E-02	2.18E-02	2.96E-02	6	86
Benzo(a)fluorene	ng/m^3	-	-	1.99E-01	1.37E-01		1.75E-01	7.33E-02	6.45E-02	3.77E-02	-	1.14E-01	3.77E-02	1.99E-01	1.99E-01	1.75E-01	6.45E-02	6	86
Benzo(a)Pyrene (Historically High)	ng/m^3	*0.05*[1] *5*[2] *1.1*[3]	*1*	5.60E-02	2.48E-02		2.77E-02	9.12E-03	8.26E-03	1.86E-02	1	2.41E-02	8.26E-03	5.60E-02	5.60E-02	2.77E-02	1.86E-02	6	86
Benzo(b)Fluoranthene	ng/m^3	-	-	9.58E-02	4.86E-02		3.41E-02	1.81E-02	2.26E-02	3.73E-02	-	4.27E-02	1.81E-02	9.58E-02	9.58E-02	3.41E-02	3.73E-02	6	86
Benzo(b)fluorene	ng/m^3	-	-	2.39E-02	1.70E-02		1.61E-02	1.08E-02	1.32E-02	8.80E-03	-	1.50E-02	8.80E-03	2.39E-02	2.39E-02	1.61E-02	1.32E-02	6	86
Benzo(e)Pyrene	ng/m^3	-	-	7.38E-02	3.47E-02		2.56E-02	1.75E-02	1.36E-02	2.60E-02	-	3.18E-02	1.36E-02	7.38E-02	7.38E-02	2.56E-02	2.60E-02	6	86
Benzo(g,h,i)Perylene	ng/m^3	-	-	7.48E-02	3.08E-02		2.37E-02	2.66E-02	1.31E-02	2.39E-02	-	3.21E-02	1.31E-02	7.48E-02	7.48E-02	2.66E-02	2.39E-02	6	86
Benzo(k)Fluoranthene	ng/m^3	-	-	5.50E-02	3.47E-02	Invalid	2.75E-02	1.79E-02	1.71E-02	1.54E-03	-	2.56E-02	1.54E-03	5.50E-02	5.50E-02	2.75E-02	1.71E-02	6	86
Biphenyl	ng/m^3	-	-	5.31E+00	5.53E+00		4.36E+00	3.96E+00	2.80E+00	2.10E+00	-	4.01E+00	2.10E+00	5.53E+00	5.53E+00	4.36E+00	2.80E+00	6	86
Chrysene	ng/m^3	-	-	2.40E-01	1.20E-01		1.43E-01	8.02E-02	5.11E-02	5.65E-02	-	1.15E-01	5.11E-02	2.40E-01	2.40E-01	1.43E-01	5.65E-02	6	86
Dibenzo(a,h)Anthracene	ng/m^3	-	-	1.05E-02	5.72E-03		3.92E-03	4.25E-03	1.56E-03	1.54E-03	-	4.58E-03	1.54E-03	1.05E-02	1.05E-02	4.25E-03	1.56E-03	6	86
Fluoranthene	ng/m^3	-	-	5.86E+00	4.34E+00		5.86E+00	2.51E+00	8.85E-01	1.23E+00	-	3.45E+00	8.85E-01	5.86E+00	5.86E+00	5.86E+00	1.23E+00	6	86
Fluorene	ng/m^3	-	-	1.02E+01	9.74E+00		8.98E+00	5.60E+00	2.54E+00	2.67E+00	-	6.62E+00	2.54E+00	1.02E+01	1.02E+01	8.98E+00	2.67E+00	6	86
Indeno(1,2,3-cd)Pyrene	ng/m^3	-	-	6.54E-02	3.54E-02		2.39E-02	2.45E-02	1.28E-02	2.07E-02	-	3.04E-02	1.28E-02	6.54E-02	6.54E-02	2.45E-02	2.07E-02	6	86
Naphthalene	ng/m^3	*22500*	*22500*	1.23E+01	1.43E+01		7.83E+00	8.11E+00	6.60E+00	6.33E+00	0	9.24E+00	6.33E+00	1.43E+01	1.43E+01	8.11E+00	6.60E+00	6	86
o-Terphenyl	ng/m^3	-	-	2.89E-02	2.41E-02		1.94E-02	1.21E-02	1.59E-02	9.10E-03	-	1.82E-02	9.10E-03	2.89E-02	2.89E-02	1.94E-02	1.59E-02	6	86
Perylene	ng/m^3	-	-	7.41E-03	1.61E-03		1.59E-03	3.14E-03	1.56E-03	6.57E-03	-	3.65E-03	1.56E-03	7.41E-03	7.41E-03	3.14E-03	6.57E-03	6	86
Phenanthrene	ng/m^3	-	-	2.36E+01	1.89E+01		9.62E+00	1.08E+01	4.61E+00	4.78E+00	-	1.20E+01	4.61E+00	2.36E+01	2.36E+01	1.08E+01	4.78E+00	6	86
Pyrene	ng/m^3	-	-	2.44E+00	1.76E+00		2.47E+00	1.12E+00	4.67E-01	5.74E-01	-	1.47E+00	4.67E-01	2.47E+00	2.44E+00	2.47E+00	5.74E-01	6	86
Tetralin	ng/m^3	-	-	8.03E-01	9.55E-01		8.69E-01	8.36E-01	1.10E+00	1.54E-03	-	7.61E-01	1.54E-03	1.10E+00	9.55E-01	8.69E-01	1.10E+00	6	86
Total PAH[4]	ng/m^3	-	-	90.72	88.11		63.69	57.14	32.46	32.95	-	60.85	32.46	90.72	9.07E+01	6.37E+01	32.95	6	86

NOTE: All non-detectable results were reported as 1/2 of the detection limit

[1] AAQC

[2] O. Reg. 419/05 Schedule Upper Risk Thresholds

[3] O. Reg. 419/05 24 Hour Guideline

[4] Total PAH sums all PAH contaminants

Table B7: Summary of Sample Flow Rate and Sample Duration for TSP

Sample Date	Courtice			Rundle		
	Filter ID	Sample Duration	Sample Volume	Filter ID	Sample Duration	Sample Volume
	No.	(min)	(m^3)	No.	(min)	(m^3)
July 5, 2023	Invalid			L2751785-2	1440	1658
July 11, 2023	L2751785-3	1440	1671	L2751785-1	1440	1649
July 17, 2023	L2751936-4	1440	1639	L2751936-2	1440	1650
July 23, 2023	Invalid			L2751936-1	1440	1650
July 29, 2023	L2752133-4	1440	1555	L2752133-2	1440	1672
August 4, 2023	Invalid			L2752133-1	1440	1641
August 10, 2023	L2752321-4	1440	1744	L2752321-4	1440	1624
August 16, 2023	L2752321-4	1440	1609	L2752321-4	1440	1653
August 22, 2023	L2752481-4	1440	1700	L2752481-2	1440	1662
August 28, 2023	L2752481-3	1440	1711	L2752481-1	1440	1677
September 3, 2023	Invalid			L2752675-2	1440	1610
September 9, 2023	L2752675-3	1440	1695	L2752675-1	1440	1678
September 15, 2023	L2752810-3	1440	1690	L2752810-1	1440	1690
September 21, 2023	L2752810-4	1440	1720	L2752810-2	1440	1686
September 27, 2023	L2752978-4	1440	1678	L2752978-2	1425	1679

Table B8: 2023 Courtice Station Q3 Monitoring Results for TSP and Metals

Contaminant	Units	*MECP Criteria*	*HHRA Health Based Criteria*	5 Jul 23	11 Jul 23	17 Jul 23	23 Jul 23	29 Jul 23	4 Aug 23	10 Aug 23	16 Aug 23	22 Aug 23	28 Aug 23	3 Sep 23	9 Sep 23	15 Sep 23	21 Sep 23	27 Sep 23	MECP Criteria ($\mu g/m^3$)	No. > Criteria	Geometric Mean	Arithmetic Mean	Q3 Minimum Concentration	Q3 Maximum Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
Particulate (TSP)	$\mu g/m^3$	*120*	*120*		24.36	42.40		20.45		29.70	37.23	38.47	19.23		10.38	27.46	31.92	29.80	*120*	0	N/A[1]	N/A[1]	10.38	42.40	42.40	38.47	31.92	11	73
Mercury (Hg)	$\mu g/m^3$	*2*	*2*		1.86E-05	1.53E-05		3.22E-06		1.15E-05	8.08E-06	8.82E-06	1.05E-05		2.95E-06	9.47E-06	1.69E-05	1.07E-05	*2*	0	N/A[1]	N/A[1]	2.95E-06	1.86E-05	1.86E-05	1.15E-05	1.69E-05	11	73
Aluminum (Al)	$\mu g/m^3$	*4.8*	-		2.10E-01	2.00E-01		1.29E-01		1.93E-01	1.78E-01	2.68E-01	1.35E-01		5.90E-02	1.91E-01	2.45E-01	2.06E-01	*4.8*	0	N/A[1]	N/A[1]	5.90E-02	2.68E-01	2.10E-01	2.68E-01	2.45E-01	11	73
Antimony (Sb)	$\mu g/m^3$	*25*	*25*		6.58E-04	7.63E-04		6.75E-04		1.50E-03	5.90E-04	8.35E-04	1.13E-03		2.65E-04	1.09E-03	1.13E-03	9.06E-04	*25*	0	N/A[1]	N/A[1]	2.65E-04	1.50E-03	7.63E-04	1.50E-03	1.13E-03	11	73
Arsenic (As)	$\mu g/m^3$	*0.3*	*0.3*		8.98E-04	9.15E-04		9.65E-04		8.60E-04	9.32E-04	8.82E-04	8.77E-04		8.85E-04	8.88E-04	8.72E-04	8.94E-04	*0.3*	0	N/A[1]	N/A[1]	8.60E-04	9.65E-04	9.65E-04	9.32E-04	8.94E-04	11	73
Barium (Ba)	$\mu g/m^3$	*10*	*10*		7.78E-03	8.24E-03		5.61E-03		1.35E-02	8.39E-03	1.15E-02	1.20E-02		2.60E-03	9.59E-03	1.10E-02	6.26E-03	*10*	0	N/A[1]	N/A[1]	2.60E-03	1.35E-02	8.24E-03	1.35E-02	1.10E-02	11	73
Beryllium (Be)	$\mu g/m^3$	*0.01*	*0.01*		1.50E-05	1.53E-05		1.61E-05		1.43E-05	1.55E-05	1.47E-05	4.79E-05		1.47E-05	1.48E-05	1.45E-05	1.49E-05	*0.01*	0	N/A[1]	N/A[1]	1.43E-05	4.79E-05	1.61E-05	4.79E-05	1.49E-05	11	73
Bismuth (Bi)	$\mu g/m^3$	-	-		5.39E-04	5.49E-04		5.79E-04		5.16E-04	5.59E-04	5.29E-04	5.26E-04		5.31E-04	5.33E-04	5.23E-04	5.36E-04	-	-	N/A[1]	N/A[1]	5.16E-04	5.79E-04	5.79E-04	5.59E-04	5.36E-04	11	73
Boron (B)	$\mu g/m^3$	*120*	-		4.49E-03	9.76E-03		4.82E-03		4.30E-03	4.66E-03	4.41E-03	4.38E-03		4.42E-03	4.44E-03	4.36E-03	4.47E-03	*120*	0	N/A[1]	N/A[1]	4.30E-03	9.76E-03	9.76E-03	4.66E-03	4.47E-03	11	73
Cadmium (Cd)	$\mu g/m^3$	*0.025*	*0.025*		1.02E-04	1.86E-04		8.68E-05		1.28E-04	1.70E-04	9.00E-05	1.15E-04		2.95E-05	6.09E-05	1.28E-04	1.60E-04	*0.025*	0	N/A[1]	N/A[1]	2.95E-05	1.86E-04	1.86E-04	1.70E-04	1.60E-04	11	73
Chromium (Cr)	$\mu g/m^3$	*0.5*	-		1.02E-03	1.04E-03		3.79E-03		2.75E-03	1.06E-03	2.65E-03	4.50E-03		1.00E-03	2.13E-03	2.38E-03	1.01E-03	*0.5*	0	N/A[1]	N/A[1]	1.00E-03	4.50E-03	3.79E-03	4.50E-03	2.38E-03	11	73
Cobalt (Co)	$\mu g/m^3$	*0.1*	*0.1*		1.21E-04	1.13E-04		9.71E-05		1.61E-04	2.68E-04	1.94E-04	2.89E-04		5.07E-05	1.34E-04	1.59E-04	1.72E-04	*0.1*	0	N/A[1]	N/A[1]	5.07E-05	2.89E-04	1.21E-04	2.89E-04	1.72E-04	11	73
Copper (Cu)	$\mu g/m^3$	*50*	-		9.10E-03	1.73E-02		1.16E-02		1.89E-02	2.94E-02	1.22E-02	4.66E-02		2.01E-02	8.99E-03	2.98E-02	1.16E-02	*50*	0	N/A[1]	N/A[1]	8.99E-03	4.66E-02	1.73E-02	4.66E-02	2.98E-02	11	73
Iron (Fe)	$\mu g/m^3$	*4*	-		3.75E-01	3.76E-01		2.35E-01		5.71E-01	3.39E-01	5.88E-01	1.17E+00		1.66E-01	5.01E-01	5.23E-01	4.59E-01	*4*	0	N/A[1]	N/A[1]	1.66E-01	1.17E+00	3.76E-01	1.17E+00	5.23E-01	11	73
Lead (Pb)	$\mu g/m^3$	*0.5*	*0.5*	Invalid	2.30E-03	2.61E-03	Invalid	1.70E-03	Invalid	2.55E-03	2.45E-03	2.49E-03	1.82E-03	Invalid	6.43E-04	1.43E-03	2.88E-03	2.37E-03	*2*	0	N/A[1]	N/A[1]	6.43E-04	2.88E-03	2.61E-03	2.55E-03	2.88E-03	11	73
Magnesium (Mg)	$\mu g/m^3$	-	-		3.12E-01	2.70E-01		1.34E-01		2.68E-01	2.13E-01	3.18E-01	1.40E-01		6.61E-02	1.94E-01	2.47E-01	2.43E-01	-	-	N/A[1]	N/A[1]	6.61E-02	3.18E-01	3.12E-01	3.18E-01	2.47E-01	11	73
Manganese (Mn)	$\mu g/m^3$	*0.4*	-		1.38E-02	1.56E-02		6.08E-03		1.39E-02	9.82E-03	1.80E-02	1.34E-02		3.13E-03	1.12E-02	1.12E-02	1.17E-02	*0.4*	0	N/A[1]	N/A[1]	3.13E-03	1.80E-02	1.56E-02	1.80E-02	1.17E-02	11	73
Molybdenum (Mo)	$\mu g/m^3$	*120*	-		7.90E-04	1.07E-03		8.75E-04		1.37E-03	1.68E-03	7.71E-04	2.61E-03		1.12E-03	6.39E-04	1.57E-03	6.26E-04	*120*	0	N/A[1]	N/A[1]	6.26E-04	2.61E-03	1.07E-03	2.61E-03	1.57E-03	11	73
Nickel (Ni)	$\mu g/m^3$	*0.2*	-		8.08E-04	9.70E-04		8.49E-04		1.11E-03	8.83E-04	1.14E-03	2.07E-03		3.72E-04	8.58E-04	1.18E-03	1.03E-03	*0.2*	0	N/A[1]	N/A[1]	3.72E-04	2.07E-03	9.70E-04	2.07E-03	1.18E-03	11	73
Phosphorus (P)	$\mu g/m^3$	-	-		2.24E-01	2.29E-01		2.41E-01		2.15E-01	2.33E-01	2.21E-01	2.19E-01		2.21E-01	2.22E-01	2.18E-01	2.23E-01	-	-	N/A[1]	N/A[1]	2.15E-01	2.41E-01	2.41E-01	2.33E-01	2.23E-01	11	73
Selenium (Se)	$\mu g/m^3$	*10*	*10*		1.08E-03	1.34E-03		4.18E-04		8.60E-04	4.04E-04	3.82E-04	3.80E-04		3.83E-04	3.85E-04	3.78E-04	3.87E-04	*10*	0	N/A[1]	N/A[1]	3.78E-04	1.34E-03	1.34E-03	8.60E-04	3.87E-04	11	73
Silver (Ag)	$\mu g/m^3$	*1*	*1*		2.69E-05	2.75E-05		2.89E-05		2.58E-05	2.80E-05	2.65E-05	1.21E-04		2.65E-05	2.66E-05	2.62E-05	2.68E-05	*1*	0	N/A[1]	N/A[1]	2.58E-05	1.21E-04	2.89E-05	1.21E-04	2.68E-05	11	73
Strontium (Sr)	$\mu g/m^3$	*120*	-		6.28E-03	4.94E-03		5.72E-03		6.48E-03	7.27E-03	1.38E-02	3.57E-03		8.85E-04	5.86E-03	8.55E-03	7.03E-03	*120*	0	N/A[1]	N/A[1]	8.85E-04	1.38E-02	6.28E-03	1.38E-02	8.55E-03	11	73
Thallium (Tl)	$\mu g/m^3$	-	-		2.69E-05	2.75E-05		2.89E-05		2.58E-05	2.80E-05	2.65E-05	2.63E-05		2.65E-05	2.66E-05	2.62E-05	2.68E-05	-	-	N/A[1]	N/A[1]	2.58E-05	2.89E-05	2.89E-05	2.80E-05	2.68E-05	11	73
Tin (Sn)	$\mu g/m^3$	*10*	*10*		8.20E-04	1.33E-03		6.88E-04		1.27E-03	7.40E-04	1.18E-03	1.55E-03		1.77E-04	9.82E-04	9.30E-04	8.05E-04	*10*	0	N/A[1]	N/A[1]	1.77E-04	1.55E-03	1.33E-03	1.55E-03	9.82E-04	11	73
Titanium (Ti)	$\mu g/m^3$	*120*	-		7.78E-03	9.76E-03		3.54E-03		8.60E-03	8.70E-03	1.18E-02	9.35E-03		3.24E-03	8.88E-03	1.34E-02	1.07E-02	*120*	0	N/A[1]	N/A[1]	3.24E-03	1.34E-02	9.76E-03	1.18E-02	1.34E-02	11	73
Uranium (Ur)	$\mu g/m^3$	*1.5*	-		1.59E-05	1.90E-05		9.58E-06		1.27E-05	2.18E-05	2.44E-05	5.47E-05		1.12E-05	1.25E-05	5.34E-05	3.14E-05	*1.5*	0	N/A[1]	N/A[1]	9.58E-06	5.47E-05	1.90E-05	5.47E-05	5.34E-05	11	73
Vanadium (V)	$\mu g/m^3$	*2*	*1*		1.50E-03	1.53E-03		1.61E-03		1.43E-03	1.55E-03	1.47E-03	1.46E-03		1.47E-03	1.48E-03	1.45E-03	1.49E-03	*2*	0	N/A[1]	N/A[1]	1.43E-03	1.61E-03	1.61E-03	1.55E-03	1.49E-03	11	73
Zinc (Zn)	$\mu g/m^3$	*120*	-		3.37E-02	4.67E-02		4.05E-02		5.03E-02	4.39E-02	3.58E-02	3.40E-02		1.24E-02	2.62E-02	3.09E-02	3.41E-02	*120*	0	N/A[1]	N/A[1]	1.24E-02	5.03E-02	4.67E-02	5.03E-02	3.41E-02	11	73
Zirconium (Zr)	$\mu g/m^3$	*20*	-		5.98E-04	6.10E-04		6.43E-04		5.73E-04	6.22E-04	5.88E-04	5.84E-04		5.90E-04	5.92E-04	5.81E-04	5.96E-04	*20*	0	N/A[1]	N/A[1]	5.73E-04	6.43E-04	6.43E-04	6.22E-04	5.96E-04	11	73

NOTE: All non-detectable results were reported as 1/2 of the detection limit

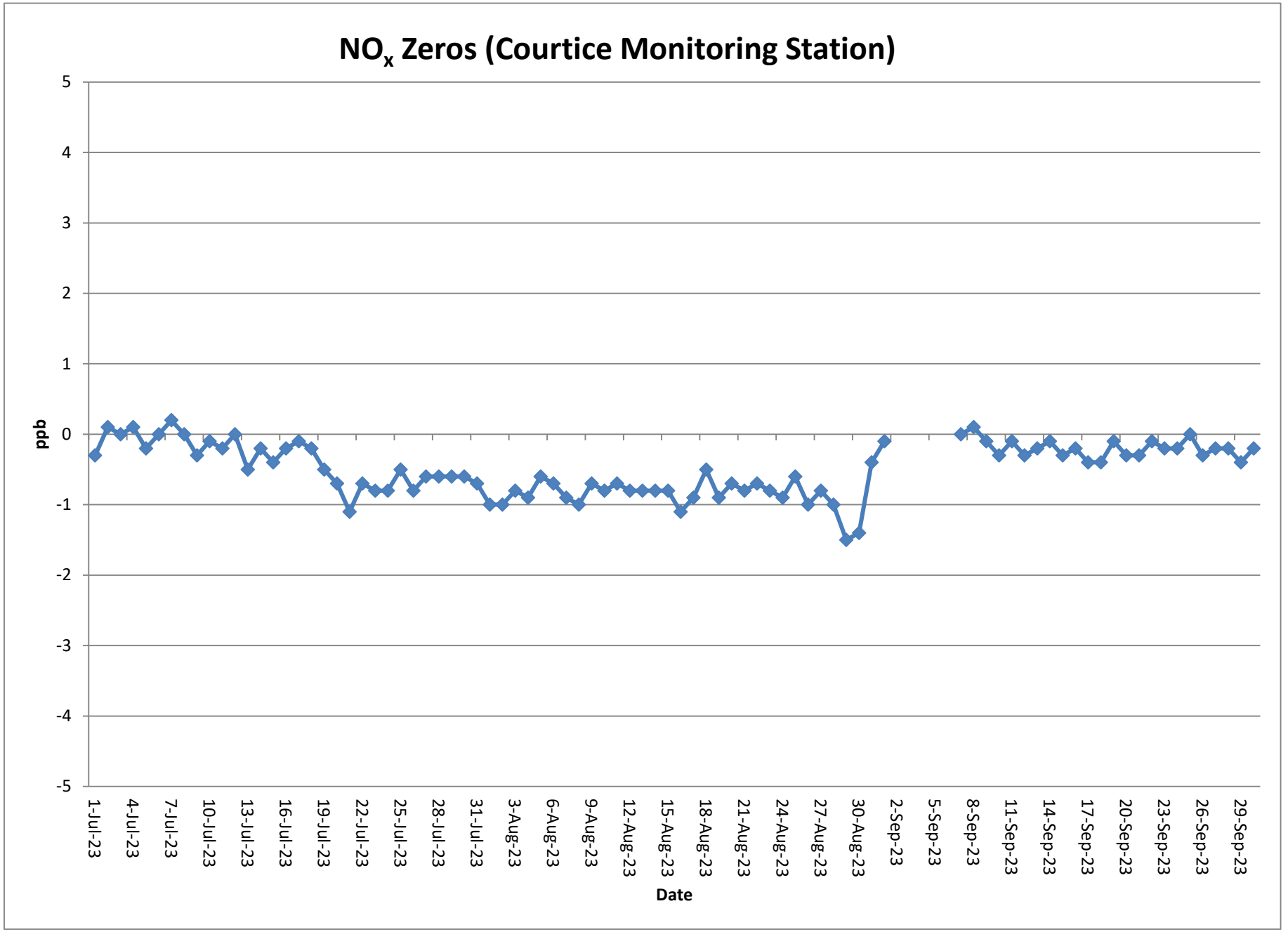
1 - Quarterly averages not presented due to not meeting data validity criteria of >75%

Table B9: 2023 Rundle Road Station Q3 Monitoring Results for TSP and Metals

Contaminant	Units	*MECP Criteria*	*HHRA Health Based Criteria*	5 Jul 23	11 Jul 23	17 Jul 23	23 Jul 23	29 Jul 23	4 Aug 23	10 Aug 23	16 Aug 23	22 Aug 23	28 Aug 23	3 Sep 23	9 Sep 23	15 Sep 23	21 Sep 23	27 Sep 23	MECP Criteria ($\mu g/m^3$)	No. > Criteria	Geometric Mean	Arithmetic Mean	Q3 Minimum Concentration	Q3 Maximum Concentration	July Maximum Concentration	August Maximum Concentration	September Maximum Concentration	Number of Valid Samples	% Valid data
Particulate (TSP)	$\mu g/m^3$	*120*	*120*	47.35	22.00	64.24	22.00	27.45	33.94	36.82	38.17	22.80	21.65	29.32	12.16	20.77	32.44	34.90	*120*	0	28.8	31.1	12.16	64.24	64.24	38.17	34.90	15	100
Mercury (Hg)	$\mu g/m^3$	*2*	*2*	1.57E-05	1.27E-05	4.24E-05	1.27E-05	7.18E-06	7.92E-06	1.17E-05	8.47E-06	3.01E-06	7.75E-06	1.37E-05	2.98E-06	6.51E-06	1.42E-05	2.98E-06	*2*	0	8.85E-06	1.13E-05	2.98E-06	4.24E-05	4.24E-05	1.17E-05	1.42E-05	15	100
Aluminum (Al)	$\mu g/m^3$	*4.8*	-	3.04E-01	1.47E-01	4.45E-01	1.47E-01	2.08E-01	2.36E-01	2.23E-01	1.64E-01	1.58E-01	1.31E-01	1.80E-01	8.34E-02	1.20E-01	2.38E-01	3.00E-01	*4.8*	0	1.89E-01	2.06E-01	8.34E-02	4.45E-01	4.45E-01	2.36E-01	3.00E-01	15	100
Antimony (Sb)	$\mu g/m^3$	*25*	*25*	1.19E-03	7.39E-04	8.97E-04	7.39E-04	5.86E-04	5.36E-04	8.50E-04	5.26E-04	4.63E-04	5.07E-04	1.52E-03	2.68E-04	4.44E-04	7.83E-04	4.76E-04	*25*	0	6.42E-04	7.02E-04	2.68E-04	1.52E-03	1.19E-03	8.50E-04	1.52E-03	15	100
Arsenic (As)	$\mu g/m^3$	*0.3*	*0.3*	9.05E-04	9.09E-04	9.09E-04	9.09E-04	8.97E-04	9.14E-04	9.24E-04	9.07E-04	9.03E-04	8.94E-04	1.93E-03	8.94E-04	8.88E-04	8.90E-04	8.93E-04	*0.3*	0	9.49E-04	9.71E-04	8.88E-04	1.93E-03	9.09E-04	9.24E-04	1.93E-03	15	100
Barium (Ba)	$\mu g/m^3$	*10*	*10*	1.31E-02	6.36E-03	1.41E-02	6.36E-03	4.34E-03	8.47E-03	1.04E-02	8.23E-03	6.62E-03	6.80E-03	9.57E-03	3.09E-03	5.43E-03	1.07E-02	5.28E-03	*10*	0	7.34E-03	7.92E-03	3.09E-03	1.41E-02	1.41E-02	1.04E-02	1.07E-02	15	100
Beryllium (Be)	$\mu g/m^3$	*0.01*	*0.01*	1.51E-05	1.52E-05	1.52E-05	1.52E-05	1.50E-05	1.52E-05	1.54E-05	1.51E-05	1.50E-05	1.49E-05	1.55E-05	1.49E-05	1.48E-05	1.48E-05	1.49E-05	*0.01*	0	1.51E-05	1.51E-05	1.48E-05	1.55E-05	1.52E-05	1.54E-05	1.55E-05	15	100
Bismuth (Bi)	$\mu g/m^3$	-	-	5.43E-04	5.45E-04	5.45E-04	5.45E-04	5.38E-04	5.48E-04	5.54E-04	5.44E-04	5.42E-04	5.37E-04	5.59E-04	5.36E-04	5.33E-04	5.34E-04	5.36E-04	-	-	5.43E-04	5.43E-04	5.33E-04	5.59E-04	5.45E-04	5.54E-04	5.59E-04	15	100
Boron (B)	$\mu g/m^3$	*120*	-	4.52E-03	4.55E-03	1.03E-02	4.55E-03	4.49E-03	4.57E-03	4.62E-03	4.54E-03	4.51E-03	4.47E-03	4.66E-03	4.47E-03	4.44E-03	4.45E-03	4.47E-03	*120*	0	4.78E-03	4.91E-03	4.44E-03	1.03E-02	1.03E-02	4.62E-03	4.66E-03	15	100
Cadmium (Cd)	$\mu g/m^3$	*0.025*	*0.025*	1.18E-03	1.27E-04	1.69E-04	1.27E-04	1.03E-04	8.71E-05	1.05E-04	9.80E-05	4.33E-05	5.66E-05	1.57E-04	6.44E-05	5.27E-05	9.96E-05	9.05E-05	*0.025*	0	1.09E-04	1.70E-04	4.33E-05	1.18E-03	1.18E-03	1.05E-04	1.57E-04	15	100
Chromium (Cr)	$\mu g/m^3$	*0.5*	-	2.71E-03	1.03E-03	2.67E-03	1.03E-03	1.02E-03	3.17E-03	2.52E-03	1.03E-03	1.02E-03	1.01E-03	2.11E-03	1.01E-03	1.01E-03	2.02E-03	1.01E-03	*0.5*	0	1.46E-03	1.63E-03	1.01E-03	3.17E-03	2.71E-03	3.17E-03	2.11E-03	15	100
Cobalt (Co)	$\mu g/m^3$	*0.1*	*0.1*	2.47E-04	8.30E-05	2.26E-04	8.30E-05	1.20E-04	1.65E-04	1.87E-04	1.34E-04	1.25E-04	1.43E-04	1.58E-04	9.89E-05	9.47E-05	1.88E-04	1.71E-04	*0.1*	0	1.40E-04	1.48E-04	8.30E-05	2.47E-04	2.47E-04	1.87E-04	1.88E-04	15	100
Copper (Cu)	$\mu g/m^3$	*50*	-	8.14E-02	1.48E-01	8.30E-02	1.48E-01	9.69E-02	7.01E-02	8.31E-02	7.56E-02	8.12E-02	1.20E-01	3.44E-02	8.58E-02	1.06E-01	8.36E-02	5.57E-02	*50*	0	8.51E-02	9.02E-02	3.44E-02	1.48E-01	1.48E-01	1.20E-01	1.06E-01	15	100
Iron (Fe)	$\mu g/m^3$	*4*	-	7.36E-01	2.58E-01	6.97E-01	2.58E-01	2.83E-01	3.65E-01	4.77E-01	3.65E-01	3.30E-01	3.17E-01	4.39E-01	2.57E-01	2.72E-01	4.70E-01	5.20E-01	*4*	0	3.79E-01	4.03E-01	2.57E-01	7.36E-01	7.36E-01	4.77E-01	5.20E-01	15	100
Lead (Pb)	$\mu g/m^3$	*0.5*	*0.5*	3.67E-03	2.51E-03	2.47E-03	2.51E-03	1.69E-03	2.43E-03	2.17E-03	2.01E-03	1.99E-03	1.28E-03	4.56E-03	1.30E-03	1.44E-03	2.65E-03	1.78E-03	*2*	0	2.16E-03	2.30E-03	1.28E-03	4.56E-03	3.67E-03	2.43E-03	4.56E-03	15	100
Magnesium (Mg)	$\mu g/m^3$	-	-	4.43E-01	1.64E-01	6.24E-01	1.64E-01	2.27E-01	2.85E-01	3.71E-01	3.46E-01	2.05E-01	1.53E-01	3.41E-01	1.22E-01	1.51E-01	2.59E-01	2.44E-01	-	-	2.47E-01	2.73E-01	1.22E-01	6.24E-01	6.24E-01	3.71E-01	3.41E-01	15	100
Manganese (Mn)	$\mu g/m^3$	*0.4*	-	1.98E-02	6.67E-03	2.50E-02	6.67E-03	8.61E-03	1.21E-02	1.42E-02	1.14E-02	9.51E-03	7.33E-03	1.35E-02	5.95E-03	7.04E-03	1.20E-02	1.05E-02	*0.4*	0	1.04E-02	1.14E-02	5.95E-03	2.50E-02	2.50E-02	1.42E-02	1.35E-02	15	100
Molybdenum (Mo)	$\mu g/m^3$	*120*	-	5.37E-03	6.85E-03	4.07E-03	6.85E-03	5.01E-03	3.87E-03	4.80E-03	4.00E-03	4.06E-03	6.02E-03	2.57E-03	3.78E-03	5.98E-03	4.80E-03	2.95E-03	*120*	0	4.56E-03	4.73E-03	2.57E-03	6.85E-03	6.85E-03	6.02E-03	5.98E-03	15	100
Nickel (Ni)	$\mu g/m^3$	*0.2*	-	1.33E-03	8.67E-04	1.28E-03	8.67E-04	8.31E-04	1.02E-03	1.03E-03	7.74E-04	8.78E-04	8.47E-04	1.19E-03	6.79E-04	5.86E-04	1.10E-03	7.92E-04	*0.2*	0	9.15E-04	9.38E-04	5.86E-04	1.33E-03	1.33E-03	1.03E-03	1.19E-03	15	100
Phosphorus (P)	$\mu g/m^3$	-	-	2.26E-01	2.27E-01	2.27E-01	2.27E-01	2.24E-01	2.29E-01	2.31E-01	2.27E-01	2.26E-01	2.24E-01	2.33E-01	2.23E-01	2.22E-01	2.22E-01	2.23E-01	-	-	2.26E-01	2.26E-01	2.22E-01	2.33E-01	2.27E-01	2.31E-01	2.33E-01	15	100
Selenium (Se)	$\mu g/m^3$	*10*	*10*	1.39E-03	3.94E-04	1.21E-03	3.94E-04	3.89E-04	3.96E-04	4.00E-04	3.93E-04	3.91E-04	3.88E-04	2.98E-03	3.87E-04	3.85E-04	3.86E-04	3.87E-04	*10*	0	5.25E-04	6.85E-04	3.85E-04	2.98E-03	1.39E-03	4.00E-04	2.98E-03	15	100
Silver (Ag)	$\mu g/m^3$	*1*	*1*	5.97E-05	7.33E-05	6.48E-05	7.33E-05	5.62E-05	2.74E-05	2.77E-05	5.44E-05	2.71E-05	6.32E-05	2.80E-05	2.68E-05	6.09E-05	2.67E-05	2.68E-05	*1*	0	4.25E-05	4.64E-05	2.67E-05	7.33E-05	7.33E-05	6.32E-05	6.09E-05	15	100
Strontium (Sr)	$\mu g/m^3$	*120*	-	1.14E-02	5.21E-03	1.31E-02	5.21E-03	5.92E-03	8.04E-03	7.14E-03	5.63E-03	4.81E-03	4.95E-03	5.28E-03	2.50E-03	3.49E-03	8.01E-03	7.68E-03	*120*	0	6.04E-03	6.56E-03	2.50E-03	1.31E-02	1.31E-02	8.04E-03	8.01E-03	15	100
Thallium (Tl)	$\mu g/m^3$	-	-	2.71E-05	2.73E-05	2.73E-05	2.73E-05	2.69E-05	2.74E-05	2.77E-05	2.72E-05	2.71E-05	2.68E-05	2.80E-05	2.68E-05	2.66E-05	2.67E-05	2.68E-05	-	-	2.71E-05	2.71E-05	2.66E-05	2.80E-05	2.73E-05	2.77E-05	2.80E-05	15	100
Tin (Sn)	$\mu g/m^3$	*10*	*10*	1.52E-03	9.82E-04	1.47E-03	9.82E-04	7.00E-04	1.12E-03	1.18E-03	1.22E-03	7.28E-04	6.56E-04	1.45E-03	3.87E-04	5.44E-04	8.36E-04	6.61E-04	*10*	0	8.97E-04	9.62E-04	3.87E-04	1.52E-03	1.52E-03	1.22E-03	1.45E-03	15	100
Titanium (Ti)	$\mu g/m^3$	*120*	-	1.27E-02	3.33E-03	2.36E-02	3.33E-03	7.78E-03	8.53E-03	9.85E-03	7.86E-03	7.82E-03	3.28E-03	8.07E-03	3.28E-03	3.25E-03	1.25E-02	9.53E-03	*120*	0	6.97E-03	8.31E-03	3.25E-03	2.36E-02	2.36E-02	9.85E-03	1.25E-02	15	100
Uranium (Ur)	$\mu g/m^3$	*1.5*	-	2.09E-05	1.04E-05	2.62E-05	1.04E-05	1.08E-05	1.26E-05	1.39E-05	1.06E-05	1.25E-05	2.18E-05	3.50E-05	1.05E-05	8.52E-06	4.00E-05	2.33E-05	*1.5*	0	1.58E-05	1.78E-05	8.52E-06	4.00E-05	2.62E-05	2.18E-05	4.00E-05	15	100
Vanadium (V)	$\mu g/m^3$	*2*	*1*	1.51E-03	1.52E-03	1.52E-03	1.52E-03	1.50E-03	1.52E-03	1.54E-03	1.51E-03	1.50E-03	1.49E-03	1.55E-03	1.49E-03	1.48E-03	1.48E-03	1.49E-03	*2*	0	1.51E-03	1.51E-03	1.48E-03	1.55E-03	1.52E-03	1.54E-03	1.55E-03	15	100
Zinc (Zn)	$\mu g/m^3$	*120*	-	6.45E-02	5.73E-02	4.61E-02	5.73E-02	4.50E-02	7.37E-02	4.85E-02	3.57E-02	2.19E-02	1.60E-02	5.06E-02	1.57E-02	2.50E-02	2.46E-02	2.55E-02	*120*	0	3.62E-02	4.05E-02	1.57E-02	7.37E-02	6.45E-02	7.37E-02	5.06E-02	15	100
Zirconium (Zr)	$\mu g/m^3$	*20*	-	6.03E-04	6.06E-04	6.06E-04	6.06E-04	5.98E-04	6.09E-04	6.16E-04	6.05E-04	6.02E-04	5.96E-04	6.21E-04	5.96E-04	5.92E-04	5.93E-04	5.96E-04	*20*	0	6.03E-04	6.03E-04	5.92E-04	6.21E-04	6.06E-04	6.16E-04	6.21E-04	15	100

NOTE: All non-detectable results were reported as 1/2 of the detection limit

APPENDIX C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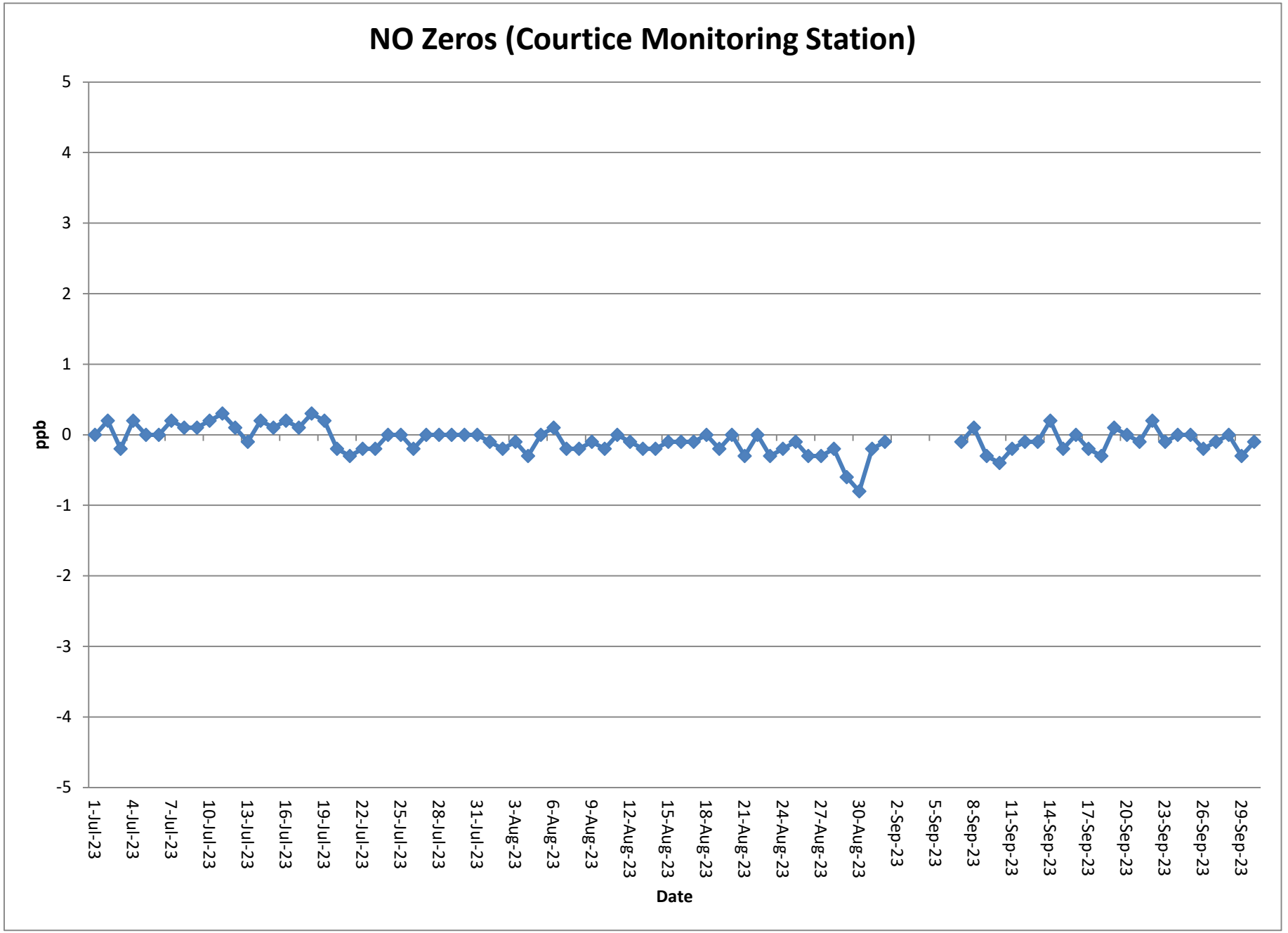
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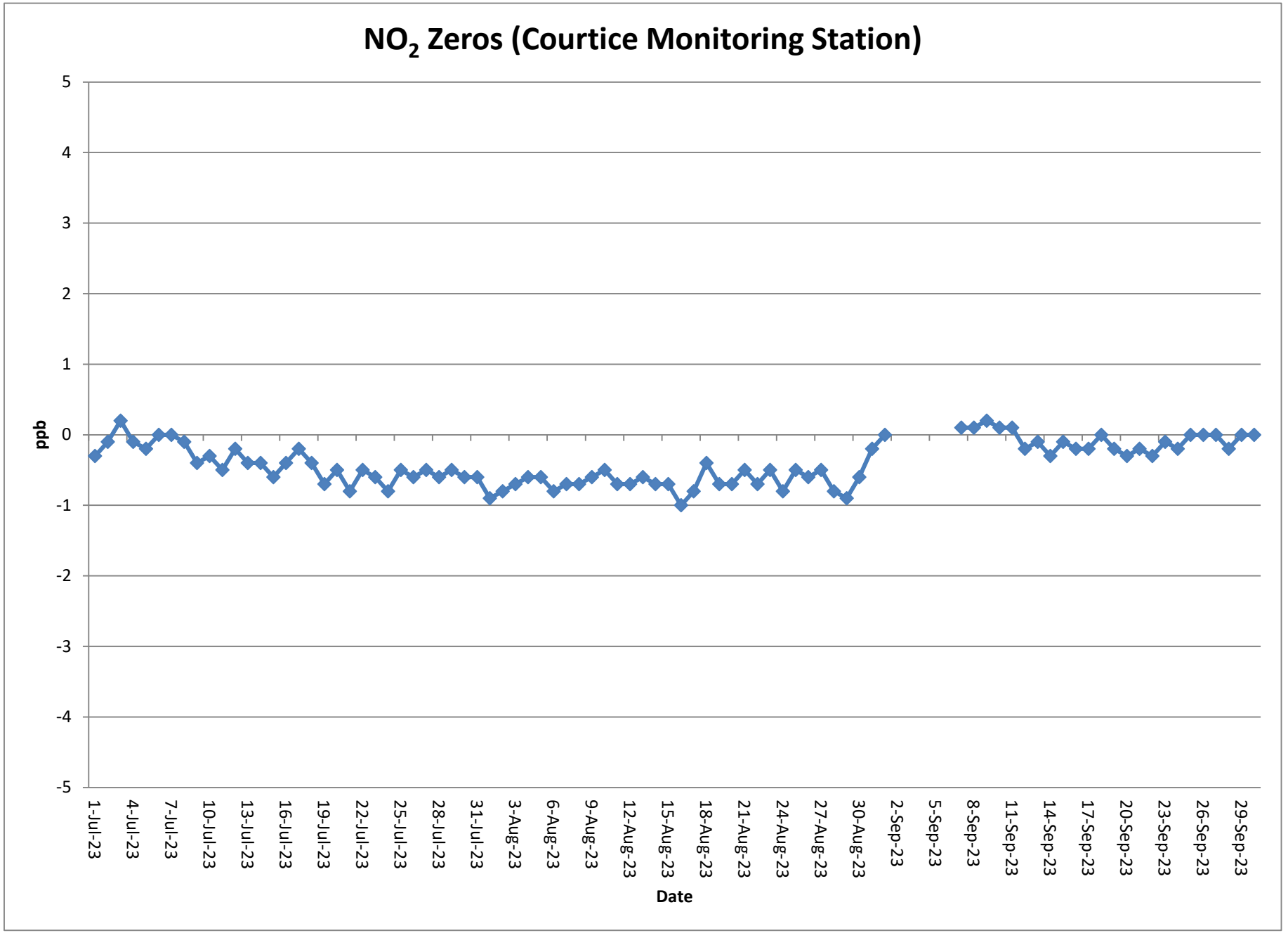
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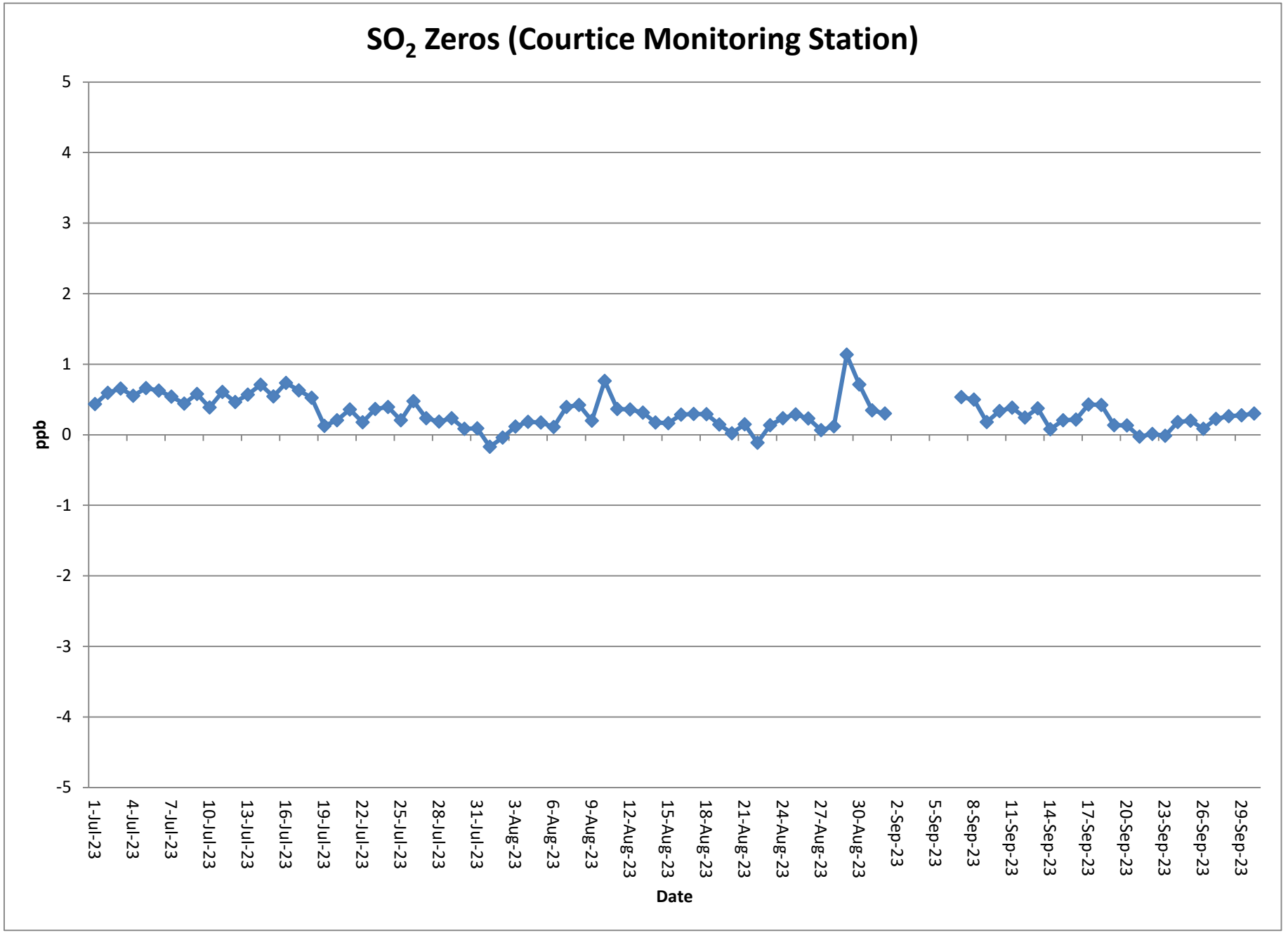
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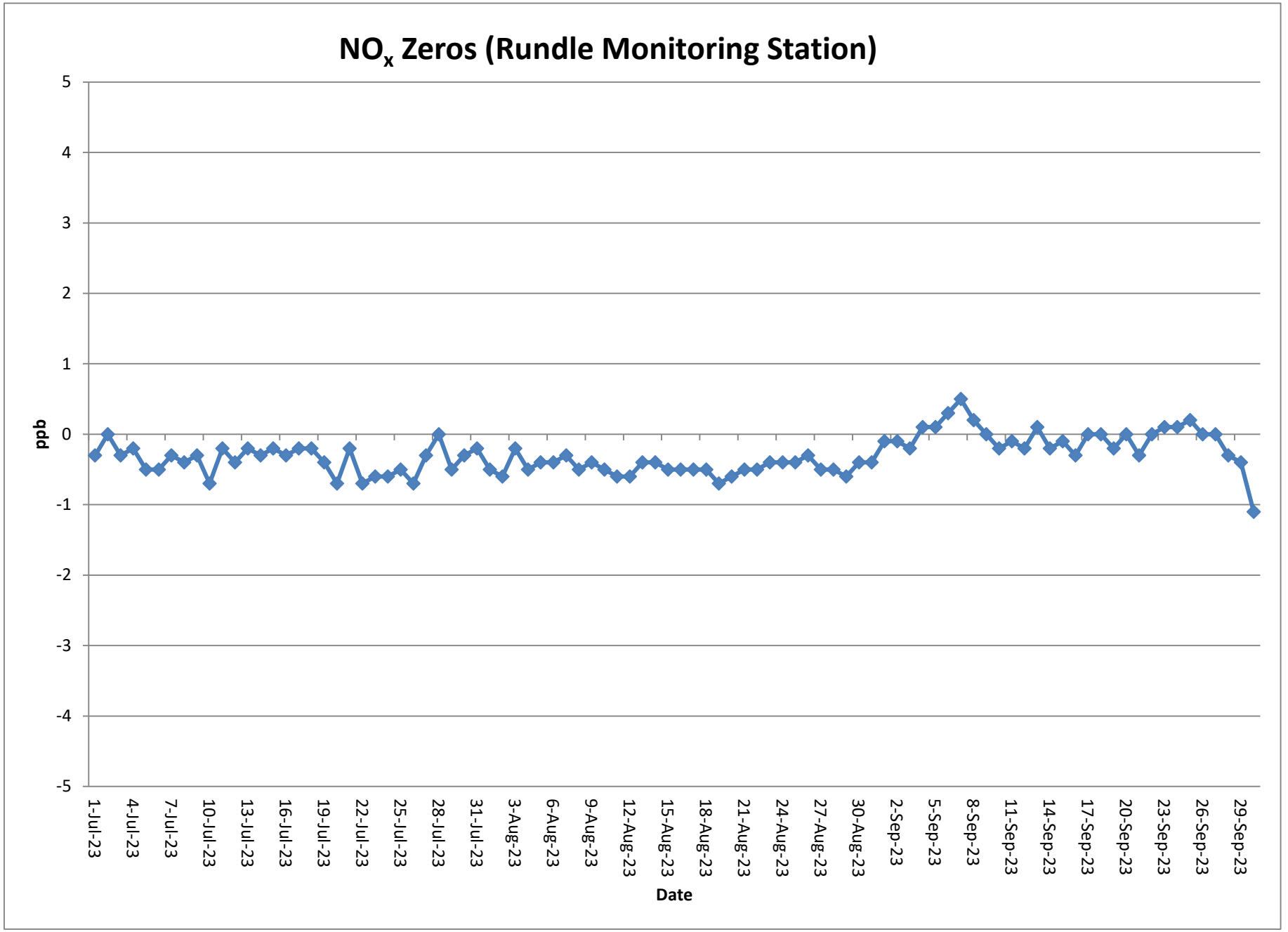
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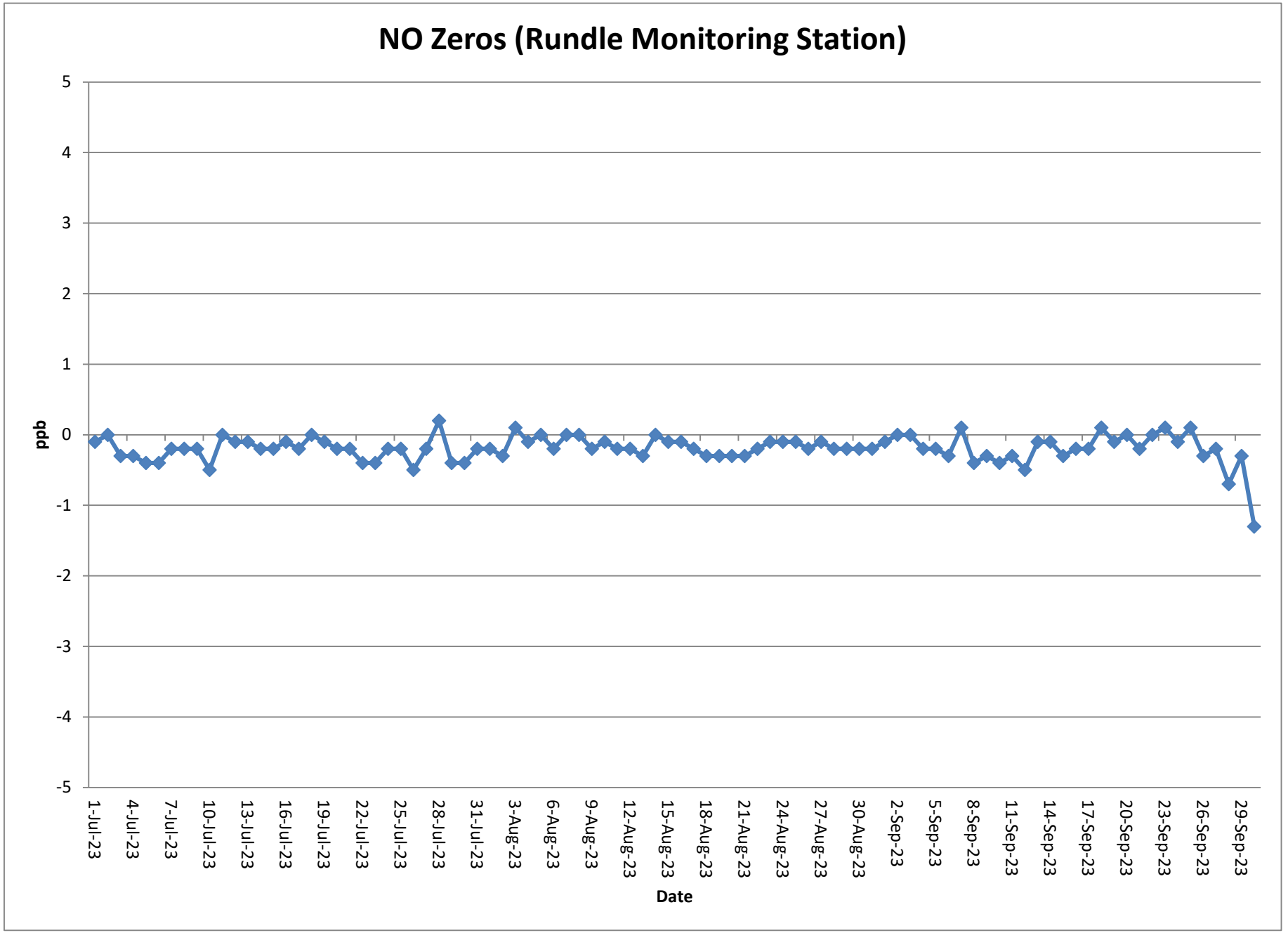
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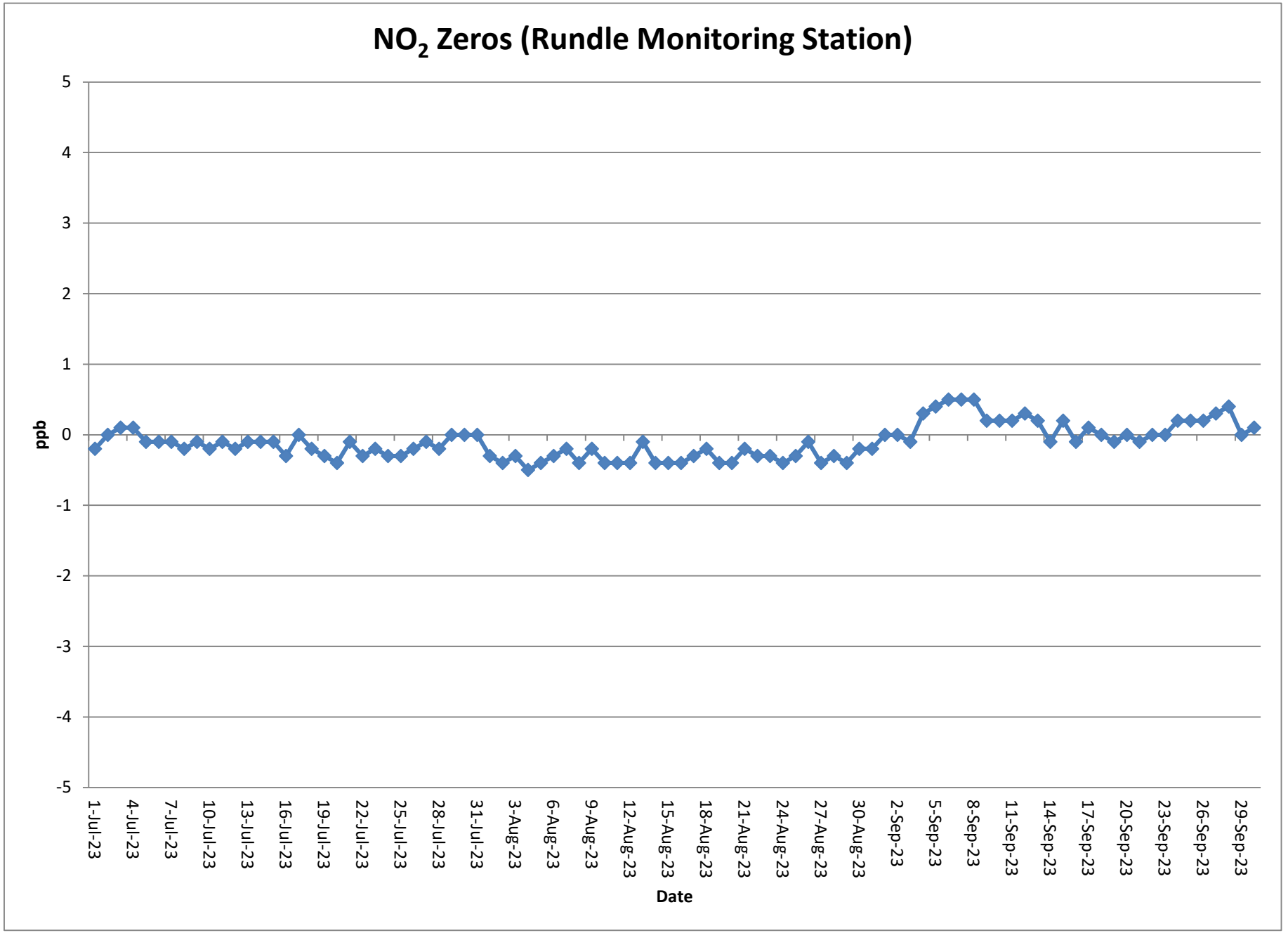
NO2 Zeros (Rundle Monitoring Station)
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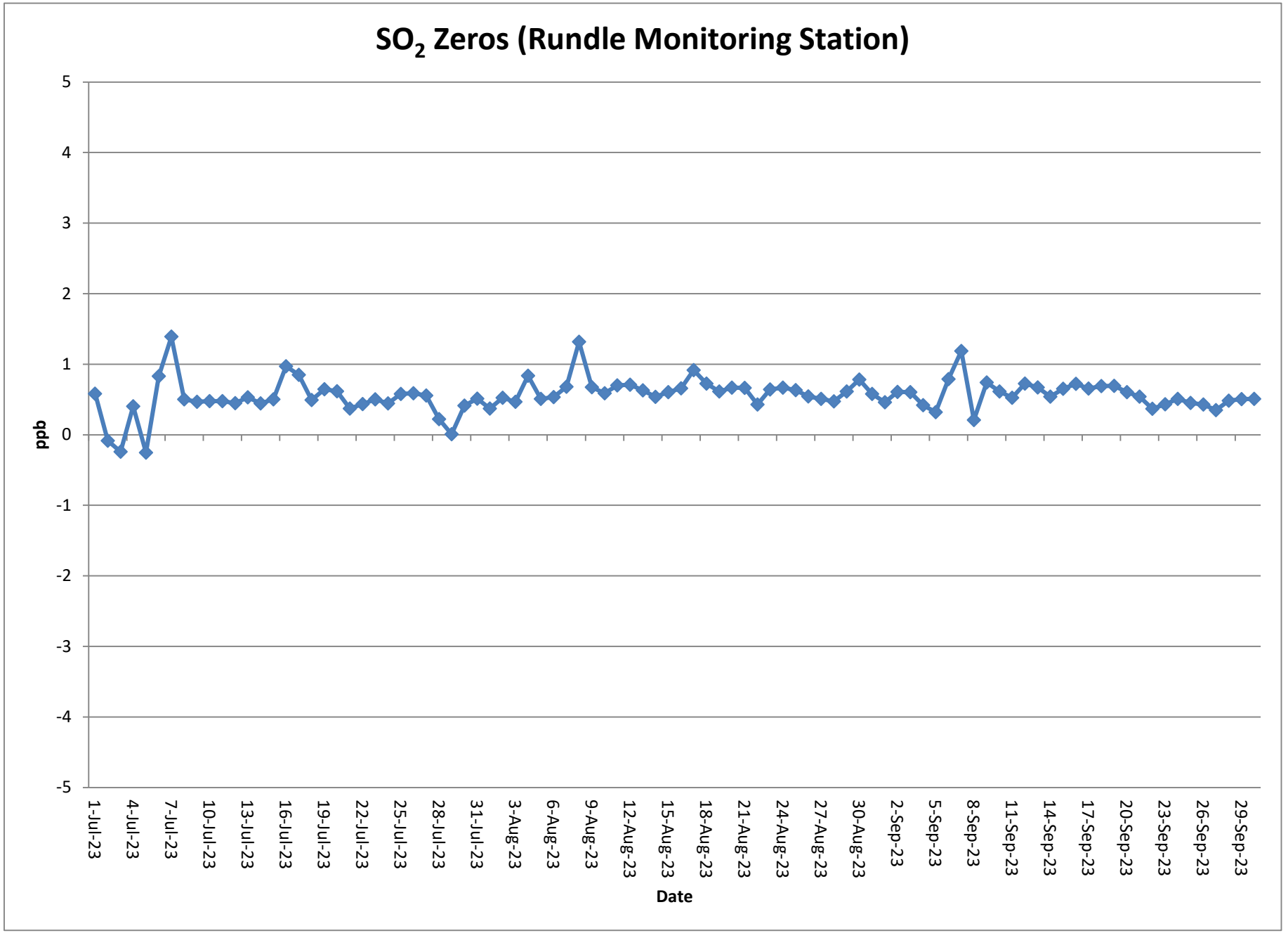
29-Sep-23
Date


SO2 Zeros (Rundle Monitoring Station)
ppb
5
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1-Jul-23
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3-Aug-23
6-Aug-23
9-Aug-23
12-Aug-23
15-Aug-23
18-Aug-23
21-Aug-23
24-Aug-23
27-Aug-23
30-Aug-23
2-Sep-23
5-Sep-23
8-Sep-23
11-Sep-23
14-Sep-23
17-Sep-23
20-Sep-23
23-Sep-23
26-Sep-23
29-Sep-23
Date

APPENDIX D

Table D1: Q3 Edit Log for $PM_{2.5}$ at Courtice Station

Emitter s Name: Durham York Energy Centre									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107		**Email:** Lyndsay.Waller@Durham.ca				
Station Number: 45201				**Station Name:** Courtice Station					
Station Address: 100 Osbourne Road				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: $PM_{2.5}$			**Instrument Make & Model:** Thermo Scientific Model 5030 SHARP Monitor					**s/n:** E 1563	
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST		
Edit #	**Edit date (dd/mm/yyyy)**	**Editor s Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	18/07/2023	SRS	Deleted Hours	18/07/2023	14:00	18/07/2023	15:00	1	Monthly Calibration
2	30/08/2023	SRS	Deleted Hours	30/08/2023	12:00	30/08/2023	14:00	2	Monthly Calibration
3	12/09/2023	DAJH	Zero Corrections	01/08/2023	00:00	01/09/2023	00:00	-	Correcting Values <0 to 0
4	10/10/2023	DAJH	Deleted Hours	01/09/2023	09:00	07/09/2023	10:00	145	Computer Malfunction
5	26/09/2023	SRS	Deleted Hours	26/09/2023	09:00	26/09/2023	10:00	1	MECP Audit
6	26/09/2023	SRS	Deleted Hours	26/09/2023	15:00	26/09/2023	17:00	2	Monthly Calibration

Table D2: Q3 Edit Log for $PM_{2.5}$ at Rundle Road Station

Emitter s Name: Durham York Energy Centre									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107		**Email:** Lyndsay.Waller@Durham.ca				
Station Number: 45200				**Station Name:** Rundle Road Station					
Station Address: Rundle Road				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: $PM_{2.5}$			**Instrument Make & Model:** Thermo Scientific Model 5030 SHARP Monitor						**s/n:** E 1569
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST		
Edit #	**Edit date (dd/mm/yyyy)**	**Editor s Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	14/08/2023	DAJH	Deleted Hours	01/07/2023	00:00	03/07/2023	01:00	49	Instrument Malfunction
2	19/07/2023	SRS	Deleted Hours	19/07/2023	12:00	19/07/2023	14:00	2	Monthly Calibration
3	31/08/2023	SRS	Deleted Hours	31/08/2023	12:00	31/08/2023	14:00	2	Monthly Calibration
4	27/09/2023	SRS	Deleted Hours	27/09/2023	13:00	27/09/2023	14:00	1	Monthly Calibration

Table D3: Q3 Edit Log for NO_X at Courtice Station

Emitter s Name: Durham York Energy Centre									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107			**Email:** Lyndsay.Waller@Durham.ca			
Station Number: 45201				**Station Name:** Courtice Station					
Station Address: 100 Osbourne Road				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: NOx			**Instrument Make & Model:** Teledyne Nitrogen Oxide Analyzer Model T200						**s/n:** 675
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST		
Edit #	**Edit date (dd/mm/yyyy)**	**Editor s Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	18/07/2023	SRS	Deleted Hours	18/07/2023	12:00	18/07/2023	15:00	3	Monthly Calibration
2	14/08/2023	DAJH	Zero Corrections	01/07/2023	00:00	01/08/2023	00:00	-	Correcting Values <0 to 0
3	30/08/2023	SRS	Deleted Hours	30/08/2023	13:00	30/08/2023	15:00	2	Monthly Calibration
4	12/09/2023	DAJH	Zero Corrections	01/08/2023	00:00	01/09/2023	00:00	-	Correcting Values <0 to 0
5	10/10/2023	DAJH	Deleted Hours	01/09/2023	09:00	07/09/2023	10:00	145	Computer Malfunction
6	26/09/2023	SRS	Deleted Hours	26/09/2023	09:00	26/09/2023	11:00	2	MECP Audit
7	26/09/2023	SRS	Deleted Hours	26/09/2023	12:00	26/09/2023	16:00	4	Monthly Calibration
8	10/10/2023	DAJH	Zero Corrections	01/09/2023	00:00	01/10/2023	00:00	-	Correcting Values <0 to 0

Table D4: Q3 Edit Log for NO_X at Rundle Road Station

Emitter s Name: Durham York Energy Centre									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107			**Email:** Lyndsay.Waller@Durham.ca			
Station Number: 45200				**Station Name:** Rundle Road Station					
Station Address: Rundle Road				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: NOx			**Instrument Make & Model:** Teledyne Nitrogen Oxide Analyzer Model T200						**s/n:** 676
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST		
Edit #	**Edit date (dd/mm/yyyy)**	**Editor s Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	19/07/2023	SRS	Deleted Hours	19/07/2023	11:00	19/07/2023	13:00	2	Monthly Calibration
2	14/08/2023	DAJH	Zero Corrections	01/07/2023	00:00	01/08/2023	00:00	-	Correcting Values <0 to 0
3	31/08/2023	SRS	Deleted Hours	31/08/2023	10:00	31/08/2023	12:00	2	Monthly Calibration
4	12/09/2023	DAJH	Zero Corrections	01/08/2023	00:00	01/09/2023	00:00	-	Correcting Values <0 to 0
5	26/09/2023	SRS	Deleted Hours	26/09/2023	11:00	26/09/2023	12:00	1	MECP Audit
6	27/09/2023	SRS	Deleted Hours	27/09/2023	10:00	27/09/2023	14:00	4	Monthly Calibration
7	10/10/2023	DAJH	Zero Corrections	01/09/2023	00:00	01/10/2023	00:00	-	Correcting Values <0 to 0

Table D5: Q3 Edit Log for SO_2 at Courtice Station

Emitter s Name: Durham York Energy Centre									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107			**Email:** Lyndsay.Waller@Durham.ca			
Station Number: 45201				**Station Name:** Courtice Station					
Station Address: 100 Osbourne Road				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: SO_2			**Instrument Make & Model:** Teledyne Sulfur Dioxide Analyzer Model T100						**s/n:** 565
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST		

Edit #	Edit Date (dd/mm/yyyy)	Editor s Name	Edit Action	Starting		Ending		Duration	Reason
				Date (dd/mm/yyyy)	Hour (xx:xx)	Date (dd/mm/yyyy)	Hour (xx:xx)	Deleted Hours	
1	18/07/2023	SRS	Deleted Hours	18/07/2023	11:00	18/07/2023	16:00	5	Monthly Calibration
2	14/08/2023	DAJH	Zero Corrections	01/07/2023	00:00	01/08/2023	00:00	-	Correcting Values <0 to 0
3	30/08/2023	SRS	Deleted Hours	30/08/2023	12:00	30/08/2023	14:00	2	Monthly Calibration
4	12/09/2023	DAJH	Zero Corrections	01/08/2023	00:00	01/09/2023	00:00	-	Correcting Values <0 to 0
5	10/10/2023	DAJH	Deleted Hours	01/09/2023	09:00	07/09/2023	10:00	145	Computer Malfunction
6	26/09/2023	SRS	Deleted Hours	26/09/2023	09:00	26/09/2023	11:00	2	MECP Audit
7	26/09/2023	SRS	Deleted Hours	26/09/2023	15:00	26/09/2023	17:00	2	Monthly Calibration
8	10/10/2023	DAJH	Zero Corrections	01/09/2023	00:00	01/10/2023	00:00	-	Correcting Values <0 to 0

Table D6: Q3 Edit Log for SO_2 at Rundle Road Station

Emitter s Name: Durham York Energy Centre									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107		**Email:** Lyndsay.Waller@Durham.ca				
Station Number: 45200				**Station Name:** Rundle Road Station					
Station Address: Rundle Road				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: SO_2			**Instrument Make & Model:** Teledyne Sulfur Dioxide Analyzer Model T100						**s/n:** 566
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023		All testing done in EST			
Edit #	**Edit date (dd/mm/yyyy)**	**Editor s Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	19/07/2023	SRS	Deleted Hours	19/07/2023	09:00	19/07/2023	14:00	5	Monthly Calibration
2	14/08/2023	DAJH	Zero Corrections	01/07/2023	00:00	01/08/2023	00:00	-	Correcting Values <0 to 0
3	31/08/2023	SRS	Deleted Hours	31/08/2023	12:00	31/08/2023	14:00	3	Monthly Calibration
4	12/09/2023	DAJH	Zero Corrections	01/08/2023	00:00	01/09/2023	00:00	-	Correcting Values <0 to 0
5	26/09/2023	SRS	Deleted Hours	26/09/2023	11:00	26/09/2023	12:00	1	MECP Audit
6	27/09/2023	SRS	Deleted Hours	27/09/2023	13:00	27/09/2023	15:00	2	Monthly Calibration
7	10/10/2023	DAJH	Zero Corrections	01/09/2023	00:00	01/10/2023	00:00	-	Correcting Values <0 to 0

Table D7: Q3 Edit Log for Meteorological Parameters at Courtice Road Station

Emitter s Name: Durham York Energy Centre									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107		**Email:** Lyndsay.Waller@Durham.ca				
Station Number: 45201				**Station Name:** Courtice Station					
Station Address: 100 Osbourne Road				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: WS, WD, Ambient T, P, RH and Rain			**Instrument Make & Model:** Miscellaneous Meterological Instrumentation					**s/n:** N/A	
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST		
Edit #	**Edit date (dd/mm/yyyy)**	**Editor s Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	11/10/2023	DAJH	Deleted Hours	07/09/2023	09:00	30/09/2023	23:00	710	Instrument Malfunction - Rain
2	10/10/2023	DAJH	Deleted Hours	01/09/2023	09:00	07/09/2023	10:00	145	Computer Malfunction

Table D8: Q3 Edit Log for Meteorological Parameters at Rundle Road Station

Emitter s Name: Durham York Energy Centre									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107		**Email:** Lyndsay.Waller@Durham.ca				
Station Number: 45200				**Station Name:** Rundle Station					
Station Address: Rundle Road				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: WS, WD, Ambient T, P, RH and Rain			**Instrument Make & Model:** Miscellaneous Meterological Instrumentation					**s/n:** N/A	
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST		
Edit #	**Edit date (dd/mm/yyyy)**	**Editor s Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	10/10/2023	DAJH	Deleted Hours	21/09/2023	21:00	22/09/2023	07:00	10	Instrument Malfunction - Wind Direction
2	10/10/2023	DAJH	Deleted Hours	22/09/2023	12:00	23/09/2023	21:00	33	Instrument Malfunction - Wind Direction
3	10/10/2023	DAJH	Deleted Hours	24/09/2023	12:00	24/09/2023	19:00	7	Instrument Malfunction - Wind Direction
4	10/10/2023	DAJH	Deleted Hours	25/09/2023	18:00	25/09/2023	22:00	4	Instrument Malfunction - Wind Direction
5	10/10/2023	DAJH	Deleted Hours	26/09/2023	09:00	26/09/2023	18:00	10	Instrument Malfunction - Wind Direction
6	10/10/2023	DAJH	Deleted Hours	27/09/2023	09:00	27/09/2023	12:00	3	Instrument Malfunction - Wind Direction
7	27/09/2023	SRS	Deleted Hours	27/09/2023	13:00	27/09/2023	15:00	2	Calibration

Table D9: Q3 Edit Log for Discrete Sampling at Courtice Station

Emitter's Name: Durham York Energy Center									
Contact	**Name:** Ms. Lyndsay Waller	**Phone:** (905) 404 0888 ext 4107		**Email:** Lyndsay.Waller@Durham.ca					
Station Number: 45201			**Station Name:** Courtice Station						
Station Address: 100 Osbourne Road			**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON						
Pollutants or Parameter: N/A		**Instrument Make & Model:** N/A						**s/n:**	
Data Edit Period	**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST			
Edit #	**Edit date (dd/mm/yyyy)**	**Editor's Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	05/07/2023	DAJH	Deleted Hours	05/07/2023	00:00	05/07/2023	23:00	24	TSP - Equipment Malfunction
2	23/07/2023	DAJH	Deleted Hours	23/07/2023	00:00	23/07/2023	23:00	24	TSP - Equipment Malfunction
3	04/08/2023	DAJH	Deleted Hours	04/08/2023	00:00	04/08/2023	23:00	24	TSP - Equipment Malfunction
3	03/09/2023	DAJH	Deleted Hours	03/09/2023	00:00	03/09/2023	23:00	24	TSP - Equipment Malfunction

Table D10: Q3 Edit Log for Discrete Sampling at Rundle Station

Emitter s Name: Durham York Energy Center									
Contact	**Name:** Ms. Lyndsay Waller		**Phone:** (905) 404 0888 ext 4107		**Email:** Lyndsay.Waller@Durham.ca				
Station Number: 45200				**Station Name:** Rundle Station					
Station Address: Rundle Rd				**Emitter Address:** The Region of Durham, 605 Rossland Road, Whitby, ON					
Pollutants or Parameter: N/A			**Instrument Make & Model:** N/A						**s/n:**
Data Edit Period		**Start Date:** July 1, 2023		**End Date:** September 30, 2023			All testing done in EST		
Edit #	**Edit date (dd/mm/yyyy)**	**Editor s Name**	**Edit Action**	**Starting**		**Ending**		**Duration**	**Reason**
				Date (dd/mm/yyyy)	**Hour (xx:xx)**	**Date (dd/mm/yyyy)**	**Hour (xx:xx)**	**Deleted Hours**	
1	04/08/2023	DAJH	Deleted Hours	04/08/2023	00:00	04/08/2023	23:00	24	PAH - Equipment Malfunction

APPENDIX E

SO2 Exceedance Report **Table E1**

Durham York Energy Centre
Courtice, Ontario
Courtice Station
Baseline Corrected Data

Date	Time	SO_2 5-min Avg.	SO_2 10-minute Running Avg.
(dd/mm/yyyy)	(EST)	(ppb)	(ppb)
13/07/2023	22:00	2	3
13/07/2023	22:05	7	5
13/07/2023	22:10	111	59
13/07/2023	22:15	24	68
13/07/2023	22:20	13	19
13/07/2023	22:25	25	19
13/07/2023	22:30	62	44
Hidden cells with no values exceeding limit.			
18/07/2023	20:50	3	3
18/07/2023	20:55	5	4
18/07/2023	21:00	89	47
18/07/2023	21:05	125	107
18/07/2023	21:10	165	145
18/07/2023	21:15	114	140
18/07/2023	21:20	91	103
18/07/2023	21:25	97	94
18/07/2023	21:30	42	69
18/07/2023	21:35	18	30
18/07/2023	21:40	78	48
18/07/2023	21:45	120	99
18/07/2023	21:50	93	106
18/07/2023	21:55	80	86
18/07/2023	22:00	146	113
18/07/2023	22:05	153	149
18/07/2023	22:10	80	116
18/07/2023	22:15	29	54
18/07/2023	22:20	18	23
Hidden cells with no values exceeding limit.			
18/07/2023	22:35	8	9
18/07/2023	22:40	32	20
18/07/2023	22:45	52	42
18/07/2023	22:50	106	79
18/07/2023	22:55	107	107
18/07/2023	23:00	56	81
18/07/2023	23:05	22	39
18/07/2023	23:10	13	17
18/07/2023	23:15	10	12
Hidden cells with no values exceeding limit.			
19/07/2023	3:40	7	8
19/07/2023	3:45	6	6
19/07/2023	3:50	92	49
19/07/2023	3:55	293	193
19/07/2023	4:00	255	274
19/07/2023	4:05	185	220
19/07/2023	4:10	206	196
19/07/2023	4:15	41	123
19/07/2023	4:20	37	39
19/07/2023	4:25	81	59
19/07/2023	4:30	31	56
19/07/2023	4:35	99	65
19/07/2023	4:40	48	74
19/07/2023	4:45	23	36
19/07/2023	4:50	14	19
19/07/2023	4:55	10	12
Hidden cells with no values exceeding limit.			
19/07/2023	6:50	3	4
19/07/2023	6:55	3	3
19/07/2023	7:00	64	34

19/07/2023	7:05	117	91
19/07/2023	7:10	64	91
19/07/2023	7:15	34	49
19/07/2023	7:20	33	34
Hidden cells with no values exceeding limit.			
19/07/2023	20:05	1	1
19/07/2023	20:10	0	0
19/07/2023	20:15	88	44
19/07/2023	20:20	196	142
19/07/2023	20:25	32	114
19/07/2023	20:30	17	24
19/07/2023	20:35	10	13
Hidden cells with no values exceeding limit.			
19/07/2023	21:15	43	35
19/07/2023	21:20	67	55
19/07/2023	21:25	18	43
19/07/2023	21:30	172	95
19/07/2023	21:35	97	134
19/07/2023	21:40	27	62
19/07/2023	21:45	15	21
19/07/2023	21:50	216	116
19/07/2023	21:55	146	181
19/07/2023	22:00	70	108
19/07/2023	22:05	106	88
19/07/2023	22:10	55	81
19/07/2023	22:15	31	43
19/07/2023	22:20	22	27
19/07/2023	22:25	17	20
19/07/2023	22:30	13	15
19/07/2023	22:35	29	21
19/07/2023	22:40	149	89
19/07/2023	22:45	65	107
19/07/2023	22:50	136	101
19/07/2023	22:55	48	92
19/07/2023	23:00	65	57
19/07/2023	23:05	25	45
Hidden cells with no values exceeding limit.			
20/07/2023	0:05	5	5
20/07/2023	0:10	4	4
20/07/2023	0:15	106	55
20/07/2023	0:20	85	96
20/07/2023	0:25	26	56
20/07/2023	0:30	16	21
20/07/2023	0:35	14	15
Hidden cells with no values exceeding limit.			
20/07/2023	0:55	12	16
20/07/2023	1:00	8	10
20/07/2023	1:05	95	52
20/07/2023	1:10	101	98
20/07/2023	1:15	89	95
20/07/2023	1:20	29	59
20/07/2023	1:25	14	22
Hidden cells with no values exceeding limit.			
20/07/2023	2:10		
20/07/2023	2:15	53	53
20/07/2023	2:20	70	62
20/07/2023	2:25	93	82
20/07/2023	2:30	24	59
20/07/2023	2:35	15	20
20/07/2023	2:40	11	13
Hidden cells with no values exceeding limit.			
20/07/2023	4:15	2	2
20/07/2023	4:20	2	2
20/07/2023	4:25	2	2
20/07/2023	4:30	157	79
20/07/2023	4:35	62	109
20/07/2023	4:40	38	50
20/07/2023	4:45	89	63

Hidden cells with no values exceeding limit.			
20/07/2023	5:20	7	8
20/07/2023	5:25	87	47
20/07/2023	5:30	27	57
20/07/2023	5:35	147	87
20/07/2023	5:40	36	91
20/07/2023	5:45	23	29
20/07/2023	5:50	16	19
Hidden cells with no values exceeding limit.			
22/07/2023	22:30	3	3
22/07/2023	22:35	32	18
22/07/2023	22:40	75	54
22/07/2023	22:45	66	71
22/07/2023	22:50	30	48
22/07/2023	22:55	92	61
22/07/2023	23:00	36	64
Hidden cells with no values exceeding limit.			
22/07/2023	23:25	8	11
22/07/2023	23:30	26	17
22/07/2023	23:35	58	42
22/07/2023	23:40	104	81
22/07/2023	23:45	97	101
22/07/2023	23:50	53	75
22/07/2023	23:55	23	38
23/07/2023	0:00	14	18
23/07/2023	0:05	8	11
Hidden cells with no values exceeding limit.			
23/07/2023	0:35	3	3
23/07/2023	0:40	3	3
23/07/2023	0:45	62	32
23/07/2023	0:50	77	70
23/07/2023	0:55	24	51
23/07/2023	1:00	14	19
23/07/2023	1:05	11	13
23/07/2023	1:10	15	13
23/07/2023	1:15	171	93
23/07/2023	1:20	79	125
23/07/2023	1:25	39	59
23/07/2023	1:30	19	29
Hidden cells with no values exceeding limit.			
23/07/2023	2:05		
23/07/2023	2:10		
23/07/2023	2:15	127	
23/07/2023	2:20	60	94
23/07/2023	2:25	59	60
23/07/2023	2:30	25	42
Hidden cells with no values exceeding limit.			
23/07/2023	21:25	6	8
23/07/2023	21:30	8	7
23/07/2023	21:35	66	37
23/07/2023	21:40	84	75
23/07/2023	21:45	57	71
23/07/2023	21:50	57	57
23/07/2023	21:55	45	51

Notes:

D, T & V	-	Date, Time & Exceedence Value Reported
Faded Values	-	Not used to calculate the number of reportable exceedences
	-	Range of 5-minute measurements that contribute to the Exceedance Value Reported
Max	-	Maximum of the Range
Min	-	Minimum of the Range

Ambient Air Quality Criteria (AAQC) for SO2 = 67 ppb for 10-minute running average

Total Number of Reportable Exceedances: **33**

SO2 Exceedance Report **Table E2**

Durham York Energy Centre
Courtice, Ontario
Courtice Station
Baseline Corrected Data

Date	Time	SO_2 5-min Avg.	SO_2 10-minute Running Avg.
(dd/mm/yyyy)	(EST)	(ppb)	(ppb)
01/08/2023	4:10	3	3
01/08/2023	4:15	14	9
01/08/2023	4:20	77	45
01/08/2023	4:25	99	88
01/08/2023	4:30	48	73
01/08/2023	4:35	82	65
01/08/2023	4:40	76	79
01/08/2023	4:45	59	68
01/08/2023	4:50	57	58
01/08/2023	4:55	21	39
01/08/2023	5:00	12	17
01/08/2023	5:05	15	14
01/08/2023	5:10	67	41
01/08/2023	5:15	84	76
01/08/2023	5:20	64	74
01/08/2023	5:25	25	45
01/08/2023	5:30	21	23
Hidden cells with no values exceeding limit.			
01/08/2023	21:40	0	0
01/08/2023	21:45	0	0
01/08/2023	21:50	63	32
01/08/2023	21:55	73	68
01/08/2023	22:00	56	64
01/08/2023	22:05	21	38
01/08/2023	22:10	48	35
Hidden cells with no values exceeding limit.			
05/08/2023	2:30	8	12
05/08/2023	2:35	38	23
05/08/2023	2:40	84	61
05/08/2023	2:45	68	76
05/08/2023	2:50	70	69
05/08/2023	2:55	78	74
05/08/2023	3:00	55	67
05/08/2023	3:05	57	56
05/08/2023	3:10	31	44
05/08/2023	3:15	17	24
05/08/2023	3:20	26	21
05/08/2023	3:25	110	68
05/08/2023	3:30	59	84
05/08/2023	3:35	62	60
05/08/2023	3:40	43	53
05/08/2023	3:45	81	62
05/08/2023	3:50	86	83
05/08/2023	3:55	93	89
05/08/2023	4:00	34	63
05/08/2023	4:05	20	27
05/08/2023	4:10	31	26
05/08/2023	4:15	82	57
05/08/2023	4:20	64	73
05/08/2023	4:25	33	48
05/08/2023	4:30	72	52
05/08/2023	4:35	72	72
05/08/2023	4:40	56	64
05/08/2023	4:45	40	48
05/08/2023	4:50	16	28
05/08/2023	4:55	98	57
05/08/2023	5:00	90	94
05/08/2023	5:05	57	74

05/08/2023	5:10	67	62
05/08/2023	5:15	45	56
Hidden cells with no values exceeding limit.			
05/08/2023	6:35	5	5
05/08/2023	6:40	19	12
05/08/2023	6:45	112	66
05/08/2023	6:50	76	94
05/08/2023	6:55	84	80
05/08/2023	7:00	56	70
05/08/2023	7:05	46	51
05/08/2023	7:10	46	46
05/08/2023	7:15	46	46
Hidden cells with no values exceeding limit.			
05/08/2023	21:00	21	23
05/08/2023	21:05	13	17
05/08/2023	21:10	12	12
05/08/2023	21:15	133	72
05/08/2023	21:20	23	78
05/08/2023	21:25	14	18
05/08/2023	21:30	19	16
Hidden cells with no values exceeding limit.			
05/08/2023	21:45	5	6
05/08/2023	21:50	4	5
05/08/2023	21:55	5	5
05/08/2023	22:00	138	72
05/08/2023	22:05	27	82
05/08/2023	22:10	14	20
05/08/2023	22:15	11	13
05/08/2023	22:20	14	13
05/08/2023	22:25	12	13
05/08/2023	22:30	119	66
05/08/2023	22:35	83	101
05/08/2023	22:40	23	53
05/08/2023	22:45	11	17
05/08/2023	22:50	8	10
05/08/2023	22:55	7	8
05/08/2023	23:00	90	49
05/08/2023	23:05	137	114
05/08/2023	23:10	279	208
05/08/2023	23:15	76	178
05/08/2023	23:20	27	51
05/08/2023	23:25	64	45
05/08/2023	23:30	84	74
05/08/2023	23:35	109	96
05/08/2023	23:40	31	70
05/08/2023	23:45	153	92
05/08/2023	23:50	154	153
05/08/2023	23:55	131	143
06/08/2023	0:00	102	117
06/08/2023	0:05	97	99
06/08/2023	0:10	100	98
06/08/2023	0:15	91	95
06/08/2023	0:20	47	69
06/08/2023	0:25	26	37
06/08/2023	0:30	18	22
06/08/2023	0:35	14	16
Hidden cells with no values exceeding limit.			
06/08/2023	2:20	4	4
06/08/2023	2:25	26	15
06/08/2023	2:30	90	58
06/08/2023	2:35	91	90
06/08/2023	2:40	155	123
06/08/2023	2:45	176	166
06/08/2023	2:50	52	114
06/08/2023	2:55	28	40
06/08/2023	3:00	46	37
06/08/2023	3:05	74	60
06/08/2023	3:10	30	52

06/08/2023	3:15	109	69
06/08/2023	3:20	202	155
06/08/2023	3:25	111	157
06/08/2023	3:30	268	190
06/08/2023	3:35	162	215
06/08/2023	3:40	88	125
06/08/2023	3:45	65	76
06/08/2023	3:50	44	54
06/08/2023	3:55	24	34
06/08/2023	4:00	16	20
06/08/2023	4:05	12	14
06/08/2023	4:10	38	25
06/08/2023	4:15	98	68
06/08/2023	4:20	91	94
06/08/2023	4:25	31	61
06/08/2023	4:30	18	25
Hidden cells with no values exceeding limit.			
06/08/2023	5:25	5	5
06/08/2023	5:30	4	4
06/08/2023	5:35	33	19
06/08/2023	5:40	123	78
06/08/2023	5:45	129	126
06/08/2023	5:50	102	115
06/08/2023	5:55	36	69
06/08/2023	6:00	24	30
06/08/2023	6:05	62	43
06/08/2023	6:10	40	51
06/08/2023	6:15	22	31
06/08/2023	6:20	89	55
06/08/2023	6:25	96	93
06/08/2023	6:30	118	107
06/08/2023	6:35	124	121
06/08/2023	6:40	69	97
06/08/2023	6:45	31	50
06/08/2023	6:50	27	29
Hidden cells with no values exceeding limit.			
08/08/2023	23:35	1	1
08/08/2023	23:40	0	1
08/08/2023	23:45	22	11
08/08/2023	23:50	137	80
08/08/2023	23:55	128	132
09/08/2023	0:00	109	118
09/08/2023	0:05	30	69
09/08/2023	0:10	17	23
09/08/2023	0:15	10	14
Hidden cells with no values exceeding limit.			
09/08/2023	2:15	3	3
09/08/2023	2:20	3	3
09/08/2023	2:25	95	49
09/08/2023	2:30	358	226
09/08/2023	2:35	102	230
09/08/2023	2:40	31	67
09/08/2023	2:45	184	108
09/08/2023	2:50	208	196
09/08/2023	2:55	38	123
09/08/2023	3:00	98	68
09/08/2023	3:05	203	151
09/08/2023	3:10	120	162
09/08/2023	3:15	179	150
09/08/2023	3:20	38	108
09/08/2023	3:25	161	99
09/08/2023	3:30	118	139
09/08/2023	3:35	56	87
09/08/2023	3:40	29	42
09/08/2023	3:45	17	23
09/08/2023	3:50	119	68
09/08/2023	3:55	32	76
09/08/2023	4:00	20	26

09/08/2023	4:05	14	17
Hidden cells with no values exceeding limit.			
09/08/2023	22:10	10	10
09/08/2023	22:15	8	9
09/08/2023	22:20	98	53
09/08/2023	22:25	66	82
09/08/2023	22:30	78	72
09/08/2023	22:35	123	101
09/08/2023	22:40	83	103
09/08/2023	22:45	72	78
09/08/2023	22:50	31	52
09/08/2023	22:55	19	25
09/08/2023	23:00	13	16
Hidden cells with no values exceeding limit.			
09/08/2023	23:30	11	12
09/08/2023	23:35	30	21
09/08/2023	23:40	46	38
09/08/2023	23:45	144	95
09/08/2023	23:50	38	91
09/08/2023	23:55	23	31
10/08/2023	0:00	16	19
10/08/2023	0:05	10	13
10/08/2023	0:10	44	27
10/08/2023	0:15	31	37
10/08/2023	0:20	127	79
10/08/2023	0:25	140	134
10/08/2023	0:30	37	89
10/08/2023	0:35	24	31
10/08/2023	0:40	54	39
10/08/2023	0:45	26	40
10/08/2023	0:50	17	21
10/08/2023	0:55	13	15
10/08/2023	1:00	67	40
10/08/2023	1:05	70	68
10/08/2023	1:10	39	54
10/08/2023	1:15	32	35
10/08/2023	1:20	94	63
Hidden cells with no values exceeding limit.			
10/08/2023	2:25	19	26
10/08/2023	2:30	13	16
10/08/2023	2:35	154	83
10/08/2023	2:40	96	125
10/08/2023	2:45	42	69
10/08/2023	2:50	26	34
10/08/2023	2:55	18	22
10/08/2023	3:00	13	16
Hidden cells with no values exceeding limit.			
10/08/2023	4:10	13	15
10/08/2023	4:15	14	14
10/08/2023	4:20	50	32
10/08/2023	4:25	120	85
10/08/2023	4:30	32	76
10/08/2023	4:35	22	27
10/08/2023	4:40	68	45
Hidden cells with no values exceeding limit.			
10/08/2023	5:40	7	7
10/08/2023	5:45	6	7
10/08/2023	5:50	72	39
10/08/2023	5:55	136	104
10/08/2023	6:00	82	109
10/08/2023	6:05	32	57
10/08/2023	6:10	21	26
Hidden cells with no values exceeding limit.			
11/08/2023	20:45	4	3
11/08/2023	20:50	24	14
11/08/2023	20:55	92	58
11/08/2023	21:00	75	83
11/08/2023	21:05	45	60

11/08/2023	21:10	205	125
11/08/2023	21:15	166	186
11/08/2023	21:20	40	103
11/08/2023	21:25	23	31
11/08/2023	21:30	12	18
11/08/2023	21:35	10	11
Hidden cells with no values exceeding limit.			
12/08/2023	20:20	4	4
12/08/2023	20:25	3	4
12/08/2023	20:30	18	10
12/08/2023	20:35	143	80
12/08/2023	20:40	82	112
12/08/2023	20:45	22	52
12/08/2023	20:50	26	24
Hidden cells with no values exceeding limit.			
13/08/2023	2:15	3	3
13/08/2023	2:20	2	2
13/08/2023	2:25	61	32
13/08/2023	2:30	172	116
13/08/2023	2:35	91	131
13/08/2023	2:40	30	60
13/08/2023	2:45	20	25
Hidden cells with no values exceeding limit.			
14/08/2023	19:45	0	0
14/08/2023	19:50	28	14
14/08/2023	19:55	80	54
14/08/2023	20:00	63	71
14/08/2023	20:05	18	41
14/08/2023	20:10	11	15
14/08/2023	20:15	7	9
14/08/2023	20:20	6	7
14/08/2023	20:25	77	42
14/08/2023	20:30	89	83
14/08/2023	20:35	60	74
14/08/2023	20:40	91	76
14/08/2023	20:45	73	82
14/08/2023	20:50	69	71
14/08/2023	20:55	37	53
14/08/2023	21:00	18	28
14/08/2023	21:05	12	15
Hidden cells with no values exceeding limit.			
14/08/2023	23:45	8	9
14/08/2023	23:50	14	11
14/08/2023	23:55	110	62
15/08/2023	0:00	43	76
15/08/2023	0:05	69	56
15/08/2023	0:10	81	75
15/08/2023	0:15	62	71
15/08/2023	0:20	40	51
15/08/2023	0:25	20	30
Hidden cells with no values exceeding limit.			
17/08/2023	5:25	10	9
17/08/2023	5:30	11	11
17/08/2023	5:35	24	18
17/08/2023	5:40	143	84
17/08/2023	5:45	38	91
17/08/2023	5:50	17	28
17/08/2023	5:55	11	14
Hidden cells with no values exceeding limit.			
22/08/2023	20:45	25	12
22/08/2023	20:50	31	28
22/08/2023	20:55	98	64
22/08/2023	21:00	183	140
22/08/2023	21:05	142	163
22/08/2023	21:10	153	148
22/08/2023	21:15	36	94
22/08/2023	21:20	18	27
22/08/2023	21:25	11	15

Hidden cells with no values exceeding limit.			
26/08/2023	23:00	6	7
26/08/2023	23:05	13	10
26/08/2023	23:10	111	62
26/08/2023	23:15	81	96
26/08/2023	23:20	73	77
26/08/2023	23:25	79	76
26/08/2023	23:30	62	71
26/08/2023	23:35	35	48
26/08/2023	23:40	16	25
Hidden cells with no values exceeding limit.			
28/08/2023	3:40	3	3
28/08/2023	3:45	3	3
28/08/2023	3:50	59	31
28/08/2023	3:55	194	127
28/08/2023	4:00	40	117
28/08/2023	4:05	21	31
28/08/2023	4:10	16	18
Hidden cells with no values exceeding limit.			
29/08/2023	3:55	4	4
29/08/2023	4:00	3	4
29/08/2023	4:05	122	63
29/08/2023	4:10	73	98
29/08/2023	4:15	18	46
29/08/2023	4:20	27	23
29/08/2023	4:25	88	58
Hidden cells with no values exceeding limit.			
29/08/2023	5:05	7	7
29/08/2023	5:10	6	6
29/08/2023	5:15	107	56
29/08/2023	5:20	56	81
29/08/2023	5:25	82	69
29/08/2023	5:30	76	79
29/08/2023	5:35	45	60
29/08/2023	5:40	54	49
29/08/2023	5:45	96	75
29/08/2023	5:50	35	66
29/08/2023	5:55	20	27
29/08/2023	6:00	13	16
Hidden cells with no values exceeding limit.			
29/08/2023	6:20	8	8
29/08/2023	6:25	7	8
29/08/2023	6:30	9	8
29/08/2023	6:35	139	74
29/08/2023	6:40	124	131
29/08/2023	6:45	50	87
29/08/2023	6:50	28	39
29/08/2023	6:55	46	37
29/08/2023	7:00	40	43
Hidden cells with no values exceeding limit.			
30/08/2023	22:30	14	25
30/08/2023	22:35	24	19
30/08/2023	22:40	67	46
30/08/2023	22:45	141	104
30/08/2023	22:50	39	90
30/08/2023	22:55	16	27
30/08/2023	23:00	134	75
30/08/2023	23:05	23	79
30/08/2023	23:10	15	19
30/08/2023	23:15	23	19
Hidden cells with no values exceeding limit.			
31/08/2023	3:35	8	5
31/08/2023	3:40	25	16
31/08/2023	3:45	71	48
31/08/2023	3:50	96	84
31/08/2023	3:55	63	80
31/08/2023	4:00	91	77
31/08/2023	4:05	88	89

31/08/2023	4:10	30	59
31/08/2023	4:15	16	23
Hidden cells with no values exceeding limit.			
31/08/2023	21:35	1	1
31/08/2023	21:40	1	1
31/08/2023	21:45	114	58
31/08/2023	21:50	106	110
31/08/2023	21:55	21	63
31/08/2023	22:00	58	39
31/08/2023	22:05	66	62

Notes:

D, T & V	- Date, Time & Exceedence Value Reported
Faded Values	- Not used to calculate the number of reportable exceedences
	- Range of 5-minute measurements that contribute to the Exceedance Value Reported
Max	- Maximum of the Range
Min	- Minimum of the Range

Ambient Air Quality Criteria (AAQC) for SO2 = 67 ppb for 10-minute running average

Total Number of Reportable Exceedances: **84**

SO2 Exceedance Report **Table E3**

Durham York Energy Centre
Courtice, Ontario
Courtice Station
Baseline Corrected Data

Date	Time	SO_2	SO_2
		5-min Avg.	10-minute Running Avg.
(dd/mm/yyyy)	(EST)	(ppb)	(ppb)
01/09/2023	3:40	4	5
01/09/2023	3:45	22	13
01/09/2023	3:50	101	62
01/09/2023	3:55	93	97
01/09/2023	4:00	70	81
01/09/2023	4:05	51	61
01/09/2023	4:10	58	55
Hidden cells with no values exceeding limit.			
09/09/2023	19:00	0	0
09/09/2023	19:05	0	0
09/09/2023	19:10	45	23
09/09/2023	19:15	108	77
09/09/2023	19:20	34	71
09/09/2023	19:25	63	48
09/09/2023	19:30	24	44
Hidden cells with no values exceeding limit.			
09/09/2023	19:50	5	6
09/09/2023	19:55	5	5
09/09/2023	20:00	64	34
09/09/2023	20:05	114	89
09/09/2023	20:10	31	73
09/09/2023	20:15	51	41
09/09/2023	20:20	111	81
09/09/2023	20:25	78	94
09/09/2023	20:30	40	59
09/09/2023	20:35	18	29
Hidden cells with no values exceeding limit.			
09/09/2023	23:10	2	2
09/09/2023	23:15	35	18
09/09/2023	23:20	90	62
09/09/2023	23:25	78	84
09/09/2023	23:30	24	51
09/09/2023	23:35	21	23
09/09/2023	23:40	24	23
Hidden cells with no values exceeding limit.			
10/09/2023	6:25	1	1
10/09/2023	6:30	1	1
10/09/2023	6:35	68	35
10/09/2023	6:40	105	87
10/09/2023	6:45	101	103
10/09/2023	6:50	58	80
10/09/2023	6:55	47	53
10/09/2023	7:00	40	44
10/09/2023	7:05	30	35
Hidden cells with no values exceeding limit.			
10/09/2023	19:35	0	0
10/09/2023	19:40	0	0
10/09/2023	19:45	65	33
10/09/2023	19:50	86	76
10/09/2023	19:55	110	98
10/09/2023	20:00	27	69
10/09/2023	20:05	14	21
10/09/2023	20:10	10	12
10/09/2023	20:15	11	11
10/09/2023	20:20	137	74
10/09/2023	20:25	32	84
10/09/2023	20:30	19	25
10/09/2023	20:35	37	28

Hidden cells with no values exceeding limit.			
10/09/2023	23:05	1	1
10/09/2023	23:10	1	1
10/09/2023	23:15	44	23
10/09/2023	23:20	215	130
10/09/2023	23:25	160	187
10/09/2023	23:30	88	124
10/09/2023	23:35	33	61
10/09/2023	23:40	24	28
10/09/2023	23:45	38	31
Hidden cells with no values exceeding limit.			
11/09/2023	19:50	6	3
11/09/2023	19:55	40	23
11/09/2023	20:00	89	65
11/09/2023	20:05	68	78
11/09/2023	20:10	43	55
11/09/2023	20:15	17	30
11/09/2023	20:20	12	15
Hidden cells with no values exceeding limit.			
13/09/2023	19:00	1	0
13/09/2023	19:05	0	0
13/09/2023	19:10	80	40
13/09/2023	19:15	85	82
13/09/2023	19:20	29	57
13/09/2023	19:25	11	20
13/09/2023	19:30	6	9
Hidden cells with no values exceeding limit.			
14/09/2023	22:10	3	5
14/09/2023	22:15	3	3
14/09/2023	22:20	69	36
14/09/2023	22:25	122	96
14/09/2023	22:30	60	91
14/09/2023	22:35	97	79
14/09/2023	22:40	98	98
14/09/2023	22:45	43	70
14/09/2023	22:50	80	61
14/09/2023	22:55	21	51
14/09/2023	23:00	12	17
14/09/2023	23:05	17	15
14/09/2023	23:10	164	90
14/09/2023	23:15	117	140
14/09/2023	23:20	163	140
14/09/2023	23:25	96	130
14/09/2023	23:30	140	118
14/09/2023	23:35	80	110
14/09/2023	23:40	112	96
14/09/2023	23:45	44	78
14/09/2023	23:50	21	32
14/09/2023	23:55	14	17
15/09/2023	0:00	83	48
15/09/2023	0:05	241	162
15/09/2023	0:10	150	196
15/09/2023	0:15	104	127
15/09/2023	0:20	53	78
15/09/2023	0:25	22	37
15/09/2023	0:30	16	19
Hidden cells with no values exceeding limit.			
15/09/2023	0:50	7	7
15/09/2023	0:55	24	15
15/09/2023	1:00	95	59
15/09/2023	1:05	114	104
15/09/2023	1:10	51	82
15/09/2023	1:15	59	55
15/09/2023	1:20	84	72
15/09/2023	1:25	49	67
15/09/2023	1:30	17	33
15/09/2023	1:35	13	15
15/09/2023	1:40	132	72

15/09/2023	1:45		132
15/09/2023	1:50		
15/09/2023	1:55		
Hidden cells with no values exceeding limit.			
15/09/2023	2:20	21	33
15/09/2023	2:25	13	17
15/09/2023	2:30	44	29
15/09/2023	2:35	128	86
15/09/2023	2:40	128	128
15/09/2023	2:45	96	112
15/09/2023	2:50	87	92
15/09/2023	2:55	63	75
15/09/2023	3:00	59	61
15/09/2023	3:05	43	51
15/09/2023	3:10	17	30
15/09/2023	3:15	12	14
15/09/2023	3:20	17	15
15/09/2023	3:25	87	52
15/09/2023	3:30	94	90
15/09/2023	3:35	110	102
15/09/2023	3:40	102	106
15/09/2023	3:45	105	103
15/09/2023	3:50	91	98
15/09/2023	3:55	75	83
15/09/2023	4:00	20	47
15/09/2023	4:05	14	17
15/09/2023	4:10	10	12
15/09/2023	4:15	137	74
15/09/2023	4:20	147	142
15/09/2023	4:25	108	127
15/09/2023	4:30	103	105
15/09/2023	4:35	102	103
15/09/2023	4:40	68	85
15/09/2023	4:45	73	71
15/09/2023	4:50	24	48
15/09/2023	4:55	39	31
15/09/2023	5:00	94	66
15/09/2023	5:05	47	70
15/09/2023	5:10	71	59
15/09/2023	5:15	52	62
15/09/2023	5:20	71	61
Hidden cells with no values exceeding limit.			
15/09/2023	5:30	22	24
15/09/2023	5:35	13	17
15/09/2023	5:40	10	11
15/09/2023	5:45	125	67
15/09/2023	5:50	61	93
15/09/2023	5:55	77	69
15/09/2023	6:00	92	84
15/09/2023	6:05	104	98
15/09/2023	6:10	102	103
15/09/2023	6:15	101	101
15/09/2023	6:20	46	73
15/09/2023	6:25	22	34
15/09/2023	6:30	20	21
15/09/2023	6:35	115	68
15/09/2023	6:40	95	105
15/09/2023	6:45	97	96
15/09/2023	6:50	74	86
15/09/2023	6:55	78	76
15/09/2023	7:00	92	85
15/09/2023	7:05	77	84
15/09/2023	7:10	25	51
15/09/2023	7:15	18	21
15/09/2023	7:20	14	16
15/09/2023	7:25	12	13
15/09/2023	7:30	10	11
15/09/2023	7:35	97	54

15/09/2023	7:40	66	81
15/09/2023	7:45	58	62
15/09/2023	7:50	46	52
15/09/2023	7:55	38	42
Hidden cells with no values exceeding limit.			
15/09/2023	18:55	1	1
15/09/2023	19:00	1	1
15/09/2023	19:05	1	1
15/09/2023	19:10	180	90
15/09/2023	19:15	51	116
15/09/2023	19:20	116	84
15/09/2023	19:25	26	71
15/09/2023	19:30	13	19
15/09/2023	19:35	21	17
15/09/2023	19:40	115	68
15/09/2023	19:45	21	68
15/09/2023	19:50	13	17
15/09/2023	19:55	9	11
Hidden cells with no values exceeding limit.			
16/09/2023	0:50	12	7
16/09/2023	0:55	27	19
16/09/2023	1:00	71	49
16/09/2023	1:05	71	71
16/09/2023	1:10	21	46
16/09/2023	1:15	10	16
16/09/2023	1:20	10	10
Hidden cells with no values exceeding limit.			
16/09/2023	23:45	1	2
16/09/2023	23:50	1	1
16/09/2023	23:55	24	13
17/09/2023	0:00	272	148
17/09/2023	0:05	217	244
17/09/2023	0:10	47	132
17/09/2023	0:15	128	87
17/09/2023	0:20	169	148
17/09/2023	0:25	190	179
17/09/2023	0:30	50	120
17/09/2023	0:35	20	35
17/09/2023	0:40	13	17
17/09/2023	0:45	9	11
Hidden cells with no values exceeding limit.			
17/09/2023	1:00	7	8
17/09/2023	1:05	38	22
17/09/2023	1:10	85	62
17/09/2023	1:15	141	113
17/09/2023	1:20	61	101
17/09/2023	1:25	22	42
17/09/2023	1:30	14	18
Hidden cells with no values exceeding limit.			
17/09/2023	7:05	9	10
17/09/2023	7:10	9	9
17/09/2023	7:15	28	18
17/09/2023	7:20	110	69
17/09/2023	7:25	84	97
17/09/2023	7:30	25	55
17/09/2023	7:35	15	20
Hidden cells with no values exceeding limit.			
20/09/2023	3:50	3	4
20/09/2023	3:55	2	2
20/09/2023	4:00	110	56
20/09/2023	4:05	207	158
20/09/2023	4:10	144	175
20/09/2023	4:15	41	92
20/09/2023	4:20	17	29
20/09/2023	4:25	10	13
20/09/2023	4:30	7	8
Hidden cells with no values exceeding limit.			
20/09/2023	18:45	1	1

20/09/2023	18:50	24	12
20/09/2023	18:55	7	16
20/09/2023	19:00	146	77
20/09/2023	19:05	65	106
20/09/2023	19:10	15	40
20/09/2023	19:15	8	12
Hidden cells with no values exceeding limit.			
20/09/2023	20:00	2	3
20/09/2023	20:05	2	2
20/09/2023	20:10	26	14
20/09/2023	20:15	140	83
20/09/2023	20:20	27	84
20/09/2023	20:25	15	21
20/09/2023	20:30	11	13
Hidden cells with no values exceeding limit.			
20/09/2023	22:05	4	4
20/09/2023	22:10	4	4
20/09/2023	22:15	43	23
20/09/2023	22:20	108	75
20/09/2023	22:25	93	100
20/09/2023	22:30	43	68
20/09/2023	22:35	30	37
20/09/2023	22:40	28	29
20/09/2023	22:45	18	23
Hidden cells with no values exceeding limit.			
20/09/2023	23:00	6	6
20/09/2023	23:05	5	5
20/09/2023	23:10	111	58
20/09/2023	23:15	84	97
20/09/2023	23:20	24	54
20/09/2023	23:25	46	35
20/09/2023	23:30	80	63
Hidden cells with no values exceeding limit.			
21/09/2023	2:40	4	4
21/09/2023	2:45	25	15
21/09/2023	2:50	58	42
21/09/2023	2:55	80	69
21/09/2023	3:00	57	69
21/09/2023	3:05	58	58
21/09/2023	3:10	72	65
21/09/2023	3:15	74	73
21/09/2023	3:20	33	53
21/09/2023	3:25	16	25
21/09/2023	3:30	11	14
Hidden cells with no values exceeding limit.			
21/09/2023	3:50	34	25
21/09/2023	3:55	53	44
21/09/2023	4:00	65	59
21/09/2023	4:05	89	77
21/09/2023	4:10	77	83
21/09/2023	4:15	40	59
21/09/2023	4:20	18	29

Notes:

D, T & V	- Date, Time & Exceedence Value Reported
Faded Values	- Not used to calculate the number of reportable exceedences
	- Range of 5-minute measurements that contribute to the Exceedance Value Reported
Max	- Maximum of the Range
Min	- Minimum of the Range

Ambient Air Quality Criteria (AAQC) for SO2 = 67 ppb for 10-minute running average

Total Number of Reportable Exceedances: **66**

SO2 Exceedance Report **Table E4**

Durham York Energy Centre
Courtice, Ontario
Courtice Station
Baseline Corrected Data

Date	Time	SO_2	SO_2
		5-min Avg.	1-hr Running Avg.
(dd/mm/yyyy)	(EST)	(ppb)	(ppb)
13/07/2023	22:00	2	11
13/07/2023	22:05	7	11
13/07/2023	22:10	111	21
13/07/2023	22:15	24	23
13/07/2023	22:20	13	23
13/07/2023	22:25	25	23
13/07/2023	22:30	62	24
13/07/2023	22:35	59	28
13/07/2023	22:40	21	28
13/07/2023	22:45	13	29
13/07/2023	22:50	9	29
13/07/2023	22:55	57	34
13/07/2023	23:00	63	39
13/07/2023	23:05	47	42
13/07/2023	23:10	33	36
13/07/2023	23:15	17	35
13/07/2023	23:20	12	35
13/07/2023	23:25	28	35
13/07/2023	23:30	13	31
13/07/2023	23:35	9	27
13/07/2023	23:40	6	25
13/07/2023	23:45	4	25
13/07/2023	23:50	4	24
13/07/2023	23:55	4	20
14/07/2023	0:00	7	15
14/07/2023	0:05	8	12
14/07/2023	0:10	4	10
Hidden cells with no values exceeding limit.			
18/07/2023	20:10	8	5
18/07/2023	20:15	7	5
18/07/2023	20:20	16	6
18/07/2023	20:25	20	8
18/07/2023	20:30	12	9
18/07/2023	20:35	5	9
18/07/2023	20:40	4	9
18/07/2023	20:45	4	9
18/07/2023	20:50	3	9
18/07/2023	20:55	5	9
18/07/2023	21:00	89	16
18/07/2023	21:05	125	25
18/07/2023	21:10	165	38
18/07/2023	21:15	114	47
18/07/2023	21:20	91	53
18/07/2023	21:25	97	59
18/07/2023	21:30	42	62
18/07/2023	21:35	18	63
18/07/2023	21:40	78	69
18/07/2023	21:45	120	79
18/07/2023	21:50	93	86
18/07/2023	21:55	80	93
18/07/2023	22:00	146	97
18/07/2023	22:05	153	100
18/07/2023	22:10	80	93
18/07/2023	22:15	29	85
18/07/2023	22:20	18	79
18/07/2023	22:25	12	72
18/07/2023	22:30	10	70
18/07/2023	22:35	8	69

18/07/2023	22:40	32	65
18/07/2023	22:45	52	59
18/07/2023	22:50	106	60
18/07/2023	22:55	107	63
18/07/2023	23:00	56	55
18/07/2023	23:05	22	44
18/07/2023	23:10	13	39
18/07/2023	23:15	10	37
18/07/2023	23:20	8	36
Hidden cells with no values exceeding limit.			
19/07/2023	2:50	3	22
19/07/2023	2:55	3	20
19/07/2023	3:00	3	18
19/07/2023	3:05	3	17
19/07/2023	3:10	33	18
19/07/2023	3:15	12	10
19/07/2023	3:20	17	10
19/07/2023	3:25	28	11
19/07/2023	3:30	14	11
19/07/2023	3:35	9	11
19/07/2023	3:40	7	11
19/07/2023	3:45	6	11
19/07/2023	3:50	92	19
19/07/2023	3:55	293	43
19/07/2023	4:00	255	64
19/07/2023	4:05	185	79
19/07/2023	4:10	206	94
19/07/2023	4:15	41	96
19/07/2023	4:20	37	98
19/07/2023	4:25	81	102
19/07/2023	4:30	31	104
19/07/2023	4:35	99	111
19/07/2023	4:40	48	115
19/07/2023	4:45	23	116
19/07/2023	4:50	14	109
19/07/2023	4:55	10	86
19/07/2023	5:00	8	65
19/07/2023	5:05	6	50
19/07/2023	5:10	5	34
19/07/2023	5:15	5	31
19/07/2023	5:20	5	28
19/07/2023	5:25	4	22
19/07/2023	5:30	4	19
19/07/2023	5:35	8	12
19/07/2023	5:40	6	8
19/07/2023	5:45	5	7
19/07/2023	5:50	4	6
19/07/2023	5:55	4	5
19/07/2023	6:00	4	5
Hidden cells with no values exceeding limit.			
19/07/2023	20:30	17	28
19/07/2023	20:35	10	29
19/07/2023	20:40	19	30
19/07/2023	20:45	11	31
19/07/2023	20:50	15	33
19/07/2023	20:55	10	33
19/07/2023	21:00	6	34
19/07/2023	21:05	5	34
19/07/2023	21:10	27	36
19/07/2023	21:15	43	33
19/07/2023	21:20	67	22
19/07/2023	21:25	18	21
19/07/2023	21:30	172	34
19/07/2023	21:35	97	41
19/07/2023	21:40	27	41
19/07/2023	21:45	15	42
19/07/2023	21:50	216	59
19/07/2023	21:55	146	70

19/07/2023	22:00	70	75
19/07/2023	22:05	106	84
19/07/2023	22:10	55	86
19/07/2023	22:15	31	85
19/07/2023	22:20	22	81
19/07/2023	22:25	17	81
19/07/2023	22:30	13	68
19/07/2023	22:35	29	62
19/07/2023	22:40	149	73
19/07/2023	22:45	65	77
19/07/2023	22:50	136	70
19/07/2023	22:55	48	62
19/07/2023	23:00	65	61
19/07/2023	23:05	25	55
19/07/2023	23:10	49	54
19/07/2023	23:15	27	54
19/07/2023	23:20	14	53
19/07/2023	23:25	31	54
19/07/2023	23:30	28	55
19/07/2023	23:35	16	54
19/07/2023	23:40	9	43
19/07/2023	23:45	7	38
19/07/2023	23:50	6	27
19/07/2023	23:55	8	24
20/07/2023	0:00	6	19
20/07/2023	0:05	5	17
20/07/2023	0:10	4	13
20/07/2023	0:15	106	20
20/07/2023	0:20	85	26
20/07/2023	0:25	26	26
20/07/2023	0:30	16	25
20/07/2023	0:35	14	24
20/07/2023	0:40	13	25
20/07/2023	0:45	12	25
20/07/2023	0:50	20	26
20/07/2023	0:55	12	27
20/07/2023	1:00	8	27
20/07/2023	1:05	95	34
20/07/2023	1:10	101	42
20/07/2023	1:15	89	41
20/07/2023	1:20	29	36
20/07/2023	1:25	14	35
20/07/2023	1:30	12	35
20/07/2023	1:35	12	35
20/07/2023	1:40	12	35
20/07/2023	1:45		37
20/07/2023	1:50		38
20/07/2023	1:55		41
20/07/2023	2:00		
20/07/2023	2:05		
20/07/2023	2:10		
20/07/2023	2:15	53	
Hidden cells with no values exceeding limit.			
20/07/2023	4:20	2	4
20/07/2023	4:25	2	4
20/07/2023	4:30	157	16
20/07/2023	4:35	62	21
20/07/2023	4:40	38	24
20/07/2023	4:45	89	31
20/07/2023	4:50	31	33
20/07/2023	4:55	17	34
20/07/2023	5:00	22	35
20/07/2023	5:05	23	37
20/07/2023	5:10	13	38
20/07/2023	5:15	9	39
20/07/2023	5:20	7	39
20/07/2023	5:25	87	46
20/07/2023	5:30	27	35

20/07/2023	5:35	147	43
20/07/2023	5:40	36	42
20/07/2023	5:45	23	37
20/07/2023	5:50	16	36
20/07/2023	5:55	38	37
20/07/2023	6:00	25	38
20/07/2023	6:05	17	37
20/07/2023	6:10	13	37
20/07/2023	6:15	10	37
20/07/2023	6:20	9	37
20/07/2023	6:25	7	31
20/07/2023	6:30	6	29
Hidden cells with no values exceeding limit.			
22/07/2023	22:30	3	8
22/07/2023	22:35	32	11
22/07/2023	22:40	75	17
22/07/2023	22:45	66	22
22/07/2023	22:50	30	23
22/07/2023	22:55	92	28
22/07/2023	23:00	36	30
22/07/2023	23:05	18	31
22/07/2023	23:10	55	35
22/07/2023	23:15	23	36
22/07/2023	23:20	13	37
22/07/2023	23:25	8	38
22/07/2023	23:30	26	40
22/07/2023	23:35	58	42
22/07/2023	23:40	104	44
22/07/2023	23:45	97	47
22/07/2023	23:50	53	49
22/07/2023	23:55	23	43
23/07/2023	0:00	14	41
23/07/2023	0:05	8	40
23/07/2023	0:10	7	36
23/07/2023	0:15	6	35
23/07/2023	0:20	5	34
23/07/2023	0:25	4	34
23/07/2023	0:30	3	32
23/07/2023	0:35	3	27
23/07/2023	0:40	3	19
23/07/2023	0:45	62	16
23/07/2023	0:50	77	18
23/07/2023	0:55	24	18
23/07/2023	1:00	14	18
23/07/2023	1:05	11	18
23/07/2023	1:10	15	19
23/07/2023	1:15	171	33
23/07/2023	1:20	79	39
23/07/2023	1:25	39	42
23/07/2023	1:30	19	43
23/07/2023	1:35	13	44
23/07/2023	1:40	9	45
23/07/2023	1:45		43
23/07/2023	1:50		40
23/07/2023	1:55		41
23/07/2023	2:00		
23/07/2023	2:05		
23/07/2023	2:10		
23/07/2023	2:15	127	
23/07/2023	2:20	60	
23/07/2023	2:25	59	
23/07/2023	2:30	25	

Notes:

- Date, Time & Exceedence Value Reported
- Not used to calculate the number of reportable exceedences
- Range of 5-minute measurements that contribute to the Exceedance Value Reported

Max - Maximum of the Range

Min - Minimum of the Range

Ambient Air Quality Criteria (AAQC) for SO2 = 40 ppb for 1-hour running average

Total Number of Reportable Exceedances: **12**

SO2 Exceedance Report **Table E5**

Durham York Energy Centre
Courtice, Ontario
Courtice Station
Baseline Corrected Data

Date	Time	SO_2	SO_2
		5-min Avg.	1-hr Running Avg.
(dd/mm/yyyy)	(EST)	(ppb)	(ppb)
01/08/2023	3:45	8	14
01/08/2023	3:50	5	13
01/08/2023	3:55	4	13
01/08/2023	4:00	4	13
01/08/2023	4:05	3	13
01/08/2023	4:10	3	13
01/08/2023	4:15	14	14
01/08/2023	4:20	77	20
01/08/2023	4:25	99	27
01/08/2023	4:30	48	26
01/08/2023	4:35	82	30
01/08/2023	4:40	76	35
01/08/2023	4:45	59	40
01/08/2023	4:50	57	44
01/08/2023	4:55	21	45
01/08/2023	5:00	12	46
01/08/2023	5:05	15	47
01/08/2023	5:10	67	52
01/08/2023	5:15	84	58
01/08/2023	5:20	64	57
01/08/2023	5:25	25	51
01/08/2023	5:30	21	49
01/08/2023	5:35	12	43
01/08/2023	5:40	9	37
01/08/2023	5:45	7	33
01/08/2023	5:50	6	29
01/08/2023	5:55	5	27
Hidden cells with no values exceeding limit.			
05/08/2023	1:50		27
05/08/2023	1:55		29
05/08/2023	2:00		
05/08/2023	2:05		
05/08/2023	2:10		
05/08/2023	2:15	9	
05/08/2023	2:20	13	
05/08/2023	2:25	16	
05/08/2023	2:30	8	
05/08/2023	2:35	38	
05/08/2023	2:40	84	
05/08/2023	2:45	68	
05/08/2023	2:50	70	
05/08/2023	2:55	78	43
05/08/2023	3:00	55	44
05/08/2023	3:05	57	45
05/08/2023	3:10	31	44
05/08/2023	3:15	17	44
05/08/2023	3:20	26	46
05/08/2023	3:25	110	53
05/08/2023	3:30	59	58
05/08/2023	3:35	62	60
05/08/2023	3:40	43	56
05/08/2023	3:45	81	57
05/08/2023	3:50	86	59
05/08/2023	3:55	93	60
05/08/2023	4:00	34	58
05/08/2023	4:05	20	55
05/08/2023	4:10	31	55
05/08/2023	4:15	82	60

05/08/2023	4:20	64	64
05/08/2023	4:25	33	57
05/08/2023	4:30	72	58
05/08/2023	4:35	72	59
05/08/2023	4:40	56	60
05/08/2023	4:45	40	57
05/08/2023	4:50	16	51
05/08/2023	4:55	98	51
05/08/2023	5:00	90	56
05/08/2023	5:05	57	59
05/08/2023	5:10	67	62
05/08/2023	5:15	45	59
05/08/2023	5:20	19	55
05/08/2023	5:25	12	54
05/08/2023	5:30	10	48
05/08/2023	5:35	8	43
05/08/2023	5:40	7	39
05/08/2023	5:45	6	36
05/08/2023	5:50	6	35
05/08/2023	5:55	4	28
05/08/2023	6:00	5	20
Hidden cells with no values exceeding limit.			
05/08/2023	6:10	4	11
05/08/2023	6:15	4	7
05/08/2023	6:20	4	6
05/08/2023	6:25	3	5
05/08/2023	6:30	4	5
05/08/2023	6:35	5	5
05/08/2023	6:40	19	6
05/08/2023	6:45	112	15
05/08/2023	6:50	76	20
05/08/2023	6:55	84	27
05/08/2023	7:00	56	31
05/08/2023	7:05	46	35
05/08/2023	7:10	46	38
05/08/2023	7:15	46	42
05/08/2023	7:20	28	44
05/08/2023	7:25	14	45
05/08/2023	7:30	11	45
05/08/2023	7:35	10	46
05/08/2023	7:40	9	45
05/08/2023	7:45	8	36
05/08/2023	7:50	7	30
05/08/2023	7:55	7	24
05/08/2023	8:00	6	20
05/08/2023	8:05	7	16
05/08/2023	8:10	7	13
05/08/2023	8:15	6	10
05/08/2023	8:20	5	8
Hidden cells with no values exceeding limit.			
05/08/2023	22:00	138	32
05/08/2023	22:05	27	33
05/08/2023	22:10	14	33
05/08/2023	22:15	11	23
05/08/2023	22:20	14	22
05/08/2023	22:25	12	22
05/08/2023	22:30	119	30
05/08/2023	22:35	83	37
05/08/2023	22:40	23	38
05/08/2023	22:45	11	39
05/08/2023	22:50	8	39
05/08/2023	22:55	7	39
05/08/2023	23:00	90	35
05/08/2023	23:05	137	44
05/08/2023	23:10	279	66
05/08/2023	23:15	76	72
05/08/2023	23:20	27	73
05/08/2023	23:25	64	77

05/08/2023	23:30	84	74
05/08/2023	23:35	109	76
05/08/2023	23:40	31	77
05/08/2023	23:45	153	89
05/08/2023	23:50	154	101
05/08/2023	23:55	131	111
06/08/2023	0:00	102	112
06/08/2023	0:05	97	109
06/08/2023	0:10	100	94
06/08/2023	0:15	91	95
06/08/2023	0:20	47	97
06/08/2023	0:25	26	94
06/08/2023	0:30	18	88
06/08/2023	0:35	14	80
06/08/2023	0:40	10	79
06/08/2023	0:45	11	67
06/08/2023	0:50	13	55
06/08/2023	0:55	13	45
06/08/2023	1:00	13	38
06/08/2023	1:05	12	31
06/08/2023	1:10	8	23
Hidden cells with no values exceeding limit.			
06/08/2023	1:50		7
06/08/2023	1:55		6
06/08/2023	2:00		
06/08/2023	2:05		
06/08/2023	2:10		
06/08/2023	2:15	5	
06/08/2023	2:20	4	
06/08/2023	2:25	26	
06/08/2023	2:30	90	
06/08/2023	2:35	91	
06/08/2023	2:40	155	
06/08/2023	2:45	176	
06/08/2023	2:50	52	
06/08/2023	2:55	28	70
06/08/2023	3:00	46	67
06/08/2023	3:05	74	68
06/08/2023	3:10	30	65
06/08/2023	3:15	109	73
06/08/2023	3:20	202	90
06/08/2023	3:25	111	97
06/08/2023	3:30	268	112
06/08/2023	3:35	162	118
06/08/2023	3:40	88	112
06/08/2023	3:45	65	103
06/08/2023	3:50	44	102
06/08/2023	3:55	24	102
06/08/2023	4:00	16	99
06/08/2023	4:05	12	94
06/08/2023	4:10	38	95
06/08/2023	4:15	98	94
06/08/2023	4:20	91	85
06/08/2023	4:25	31	78
06/08/2023	4:30	18	57
06/08/2023	4:35	12	45
06/08/2023	4:40	10	38
06/08/2023	4:45	7	34
06/08/2023	4:50	6	30
06/08/2023	4:55	15	30
06/08/2023	5:00	44	32
06/08/2023	5:05	15	32
06/08/2023	5:10	11	30
06/08/2023	5:15	8	22
06/08/2023	5:20	6	15
06/08/2023	5:25	5	13
06/08/2023	5:30	4	12
06/08/2023	5:35	33	14

06/08/2023	5:40	123	23
06/08/2023	5:45	129	33
06/08/2023	5:50	102	41
06/08/2023	5:55	36	43
06/08/2023	6:00	24	41
06/08/2023	6:05	62	45
06/08/2023	6:10	40	48
06/08/2023	6:15	22	49
06/08/2023	6:20	89	56
06/08/2023	6:25	96	63
06/08/2023	6:30	118	73
06/08/2023	6:35	124	80
06/08/2023	6:40	69	76
06/08/2023	6:45	31	68
06/08/2023	6:50	27	62
06/08/2023	6:55	23	61
06/08/2023	7:00	15	60
06/08/2023	7:05	13	56
06/08/2023	7:10	11	53
06/08/2023	7:15	9	52
06/08/2023	7:20	8	46
06/08/2023	7:25	8	38
06/08/2023	7:30	8	29
06/08/2023	7:35	8	19
06/08/2023	7:40	6	14
06/08/2023	7:45	5	12
06/08/2023	7:50	6	10
06/08/2023	7:55	6	9
Hidden cells with no values exceeding limit.			
08/08/2023	23:25	0	1
08/08/2023	23:30	0	1
08/08/2023	23:35	1	1
08/08/2023	23:40	0	1
08/08/2023	23:45	22	3
08/08/2023	23:50	137	14
08/08/2023	23:55	128	25
09/08/2023	0:00	109	34
09/08/2023	0:05	30	36
09/08/2023	0:10	17	37
09/08/2023	0:15	10	38
09/08/2023	0:20	13	39
09/08/2023	0:25	8	40
09/08/2023	0:30	25	42
09/08/2023	0:35	29	44
09/08/2023	0:40	18	46
09/08/2023	0:45	39	47
09/08/2023	0:50	27	38
09/08/2023	0:55	13	28
09/08/2023	1:00	9	20
09/08/2023	1:05	10	18
09/08/2023	1:10	8	18
09/08/2023	1:15	5	17
09/08/2023	1:20	4	16
09/08/2023	1:25	4	16
09/08/2023	1:30	4	14
09/08/2023	1:35	3	12
09/08/2023	1:40	3	11
09/08/2023	1:45		8
09/08/2023	1:50		6
09/08/2023	1:55		6
09/08/2023	2:00		
09/08/2023	2:05		
09/08/2023	2:10		
09/08/2023	2:15	3	
09/08/2023	2:20	3	
09/08/2023	2:25	95	
09/08/2023	2:30	358	
09/08/2023	2:35	102	

09/08/2023	2:40	31	
09/08/2023	2:45	184	
09/08/2023	2:50	208	
09/08/2023	2:55	38	113
09/08/2023	3:00	98	112
09/08/2023	3:05	203	120
09/08/2023	3:10	120	120
09/08/2023	3:15	179	135
09/08/2023	3:20	38	138
09/08/2023	3:25	161	143
09/08/2023	3:30	118	123
09/08/2023	3:35	56	119
09/08/2023	3:40	29	119
09/08/2023	3:45	17	105
09/08/2023	3:50	119	98
09/08/2023	3:55	32	98
09/08/2023	4:00	20	91
09/08/2023	4:05	14	75
09/08/2023	4:10	10	66
09/08/2023	4:15	45	55
09/08/2023	4:20	31	54
09/08/2023	4:25	16	42
09/08/2023	4:30	12	33
09/08/2023	4:35	10	30
Hidden cells with no values exceeding limit.			
09/08/2023	21:25	6	19
09/08/2023	21:30	15	20
09/08/2023	21:35	41	24
09/08/2023	21:40	31	24
09/08/2023	21:45	36	23
09/08/2023	21:50	70	26
09/08/2023	21:55	58	29
09/08/2023	22:00	21	28
09/08/2023	22:05	11	27
09/08/2023	22:10	10	26
09/08/2023	22:15	8	26
09/08/2023	22:20	98	34
09/08/2023	22:25	66	39
09/08/2023	22:30	78	44
09/08/2023	22:35	123	51
09/08/2023	22:40	83	55
09/08/2023	22:45	72	58
09/08/2023	22:50	31	55
09/08/2023	22:55	19	52
09/08/2023	23:00	13	51
09/08/2023	23:05	8	51
09/08/2023	23:10	9	51
09/08/2023	23:15	8	51
09/08/2023	23:20	8	43
09/08/2023	23:25	12	39
09/08/2023	23:30	11	33
09/08/2023	23:35	30	25
09/08/2023	23:40	46	22
09/08/2023	23:45	144	28
09/08/2023	23:50	38	29
09/08/2023	23:55	23	29
10/08/2023	0:00	16	29
10/08/2023	0:05	10	30
10/08/2023	0:10	44	32
10/08/2023	0:15	31	34
10/08/2023	0:20	127	44
10/08/2023	0:25	140	55
10/08/2023	0:30	37	57
10/08/2023	0:35	24	57
10/08/2023	0:40	54	57
10/08/2023	0:45	26	47
10/08/2023	0:50	17	46
10/08/2023	0:55	13	45

10/08/2023	1:00	67	49
10/08/2023	1:05	70	54
10/08/2023	1:10	39	54
10/08/2023	1:15	32	54
10/08/2023	1:20	94	51
10/08/2023	1:25	37	42
10/08/2023	1:30	22	41
10/08/2023	1:35	15	40
10/08/2023	1:40	9	37
10/08/2023	1:45		38
10/08/2023	1:50		40
10/08/2023	1:55		43
10/08/2023	2:00		
10/08/2023	2:05		
10/08/2023	2:10		
10/08/2023	2:15	83	
10/08/2023	2:20	33	
10/08/2023	2:25	19	
10/08/2023	2:30	13	
10/08/2023	2:35	154	
10/08/2023	2:40	96	
10/08/2023	2:45	42	
10/08/2023	2:50	26	
10/08/2023	2:55	18	54
10/08/2023	3:00	13	50
10/08/2023	3:05	11	46
10/08/2023	3:10	7	43
10/08/2023	3:15	6	36
10/08/2023	3:20	7	34
10/08/2023	3:25	7	33
10/08/2023	3:30	35	35
10/08/2023	3:35	35	25
10/08/2023	3:40	17	19
10/08/2023	3:45	28	17
10/08/2023	3:50	46	19
10/08/2023	3:55	44	21
10/08/2023	4:00	39	23
10/08/2023	4:05	18	24
10/08/2023	4:10	13	24
10/08/2023	4:15	14	25
10/08/2023	4:20	50	29
10/08/2023	4:25	120	38
10/08/2023	4:30	32	38
10/08/2023	4:35	22	37
10/08/2023	4:40	68	41
10/08/2023	4:45	24	41
10/08/2023	4:50	16	38
10/08/2023	4:55	13	36
10/08/2023	5:00	11	34
10/08/2023	5:05	10	33
10/08/2023	5:10	14	33
10/08/2023	5:15	23	34
10/08/2023	5:20	14	31
10/08/2023	5:25	7	21
10/08/2023	5:30	7	19
10/08/2023	5:35	8	18
10/08/2023	5:40	7	13
10/08/2023	5:45	6	11
Hidden cells with no values exceeding limit.			
11/08/2023	20:05	1	1
11/08/2023	20:10	1	1
11/08/2023	20:15	40	5
11/08/2023	20:20	22	6
11/08/2023	20:25	11	7
11/08/2023	20:30	6	7
11/08/2023	20:35	3	7
11/08/2023	20:40	3	8
11/08/2023	20:45	4	8

11/08/2023	20:50	24	10
11/08/2023	20:55	92	17
11/08/2023	21:00	75	23
11/08/2023	21:05	45	27
11/08/2023	21:10	205	44
11/08/2023	21:15	166	55
11/08/2023	21:20	40	56
11/08/2023	21:25	23	57
11/08/2023	21:30	12	58
11/08/2023	21:35	10	58
11/08/2023	21:40	10	59
11/08/2023	21:45	9	59
11/08/2023	21:50	17	59
11/08/2023	21:55	11	52
11/08/2023	22:00	9	46
11/08/2023	22:05	8	43
11/08/2023	22:10	8	27
11/08/2023	22:15	7	14
Hidden cells with no values exceeding limit.			
13/08/2023	1:50		7
13/08/2023	1:55		7
13/08/2023	2:00		
13/08/2023	2:05		
13/08/2023	2:10		
13/08/2023	2:15	3	
13/08/2023	2:20	2	
13/08/2023	2:25	61	
13/08/2023	2:30	172	
13/08/2023	2:35	91	
13/08/2023	2:40	30	
13/08/2023	2:45	20	
13/08/2023	2:50	16	
13/08/2023	2:55	10	45
13/08/2023	3:00	9	41
13/08/2023	3:05	6	38
13/08/2023	3:10	5	35
13/08/2023	3:15	5	36
13/08/2023	3:20	4	36
13/08/2023	3:25	5	31
13/08/2023	3:30	7	17
13/08/2023	3:35	5	10
13/08/2023	3:40	4	8
13/08/2023	3:45	3	7
13/08/2023	3:50	3	5
13/08/2023	3:55	3	5
13/08/2023	4:00	3	4
Hidden cells with no values exceeding limit.			
14/08/2023	19:35	0	0
14/08/2023	19:40	0	0
14/08/2023	19:45	0	0
14/08/2023	19:50	28	2
14/08/2023	19:55	80	9
14/08/2023	20:00	63	14
14/08/2023	20:05	18	16
14/08/2023	20:10	11	17
14/08/2023	20:15	7	17
14/08/2023	20:20	6	18
14/08/2023	20:25	77	24
14/08/2023	20:30	89	32
14/08/2023	20:35	60	37
14/08/2023	20:40	91	44
14/08/2023	20:45	73	50
14/08/2023	20:50	69	54
14/08/2023	20:55	37	50
14/08/2023	21:00	18	46
14/08/2023	21:05	12	46
14/08/2023	21:10	9	46
14/08/2023	21:15	23	47

14/08/2023	21:20	22	48
14/08/2023	21:25	11	43
14/08/2023	21:30	10	36
14/08/2023	21:35	28	34
14/08/2023	21:40	29	28
14/08/2023	21:45	23	24
Hidden cells with no values exceeding limit.			
14/08/2023	23:00	17	22
14/08/2023	23:05	34	25
14/08/2023	23:10	35	23
14/08/2023	23:15	45	22
14/08/2023	23:20	59	24
14/08/2023	23:25	35	25
14/08/2023	23:30	36	26
14/08/2023	23:35	19	26
14/08/2023	23:40	11	26
14/08/2023	23:45	8	26
14/08/2023	23:50	14	26
14/08/2023	23:55	110	35
15/08/2023	0:00	43	37
15/08/2023	0:05	69	40
15/08/2023	0:10	81	44
15/08/2023	0:15	62	45
15/08/2023	0:20	40	44
15/08/2023	0:25	20	43
15/08/2023	0:30	12	41
15/08/2023	0:35	10	40
15/08/2023	0:40	8	40
15/08/2023	0:45	12	40
15/08/2023	0:50	13	40
15/08/2023	0:55	11	32
15/08/2023	1:00	9	29
15/08/2023	1:05	7	24
15/08/2023	1:10	7	18
Hidden cells with no values exceeding limit.			
22/08/2023	20:05	0	0
22/08/2023	20:10	0	0
22/08/2023	20:15	0	0
22/08/2023	20:20	0	0
22/08/2023	20:25	0	0
22/08/2023	20:30	0	0
22/08/2023	20:35	0	0
22/08/2023	20:40	0	0
22/08/2023	20:45	25	2
22/08/2023	20:50	31	5
22/08/2023	20:55	98	13
22/08/2023	21:00	183	28
22/08/2023	21:05	142	40
22/08/2023	21:10	153	53
22/08/2023	21:15	36	56
22/08/2023	21:20	18	57
22/08/2023	21:25	11	58
22/08/2023	21:30	8	59
22/08/2023	21:35	6	59
22/08/2023	21:40	5	60
22/08/2023	21:45	5	58
22/08/2023	21:50	11	56
22/08/2023	21:55	6	49
22/08/2023	22:00	5	34
22/08/2023	22:05	6	23
22/08/2023	22:10	15	11
22/08/2023	22:15	9	9
Hidden cells with no values exceeding limit.			
26/08/2023	22:15	30	4
26/08/2023	22:20	43	8
26/08/2023	22:25	42	11
26/08/2023	22:30	42	14
26/08/2023	22:35	38	17

26/08/2023	22:40	37	20
26/08/2023	22:45	38	23
26/08/2023	22:50	19	25
26/08/2023	22:55	9	26
26/08/2023	23:00	6	26
26/08/2023	23:05	13	27
26/08/2023	23:10	111	36
26/08/2023	23:15	81	40
26/08/2023	23:20	73	42
26/08/2023	23:25	79	45
26/08/2023	23:30	62	47
26/08/2023	23:35	35	47
26/08/2023	23:40	16	45
26/08/2023	23:45	10	43
26/08/2023	23:50	7	42
26/08/2023	23:55	6	42
27/08/2023	0:00	5	41
27/08/2023	0:05	4	41
27/08/2023	0:10	3	32
27/08/2023	0:15	3	25
27/08/2023	0:20	2	19
27/08/2023	0:25	2	13
Hidden cells with no values exceeding limit.			
29/08/2023	4:40	17	34
29/08/2023	4:45	16	35
29/08/2023	4:50	9	35
29/08/2023	4:55	8	36
29/08/2023	5:00	7	36
29/08/2023	5:05	7	26
29/08/2023	5:10	6	21
29/08/2023	5:15	107	28
29/08/2023	5:20	56	30
29/08/2023	5:25	82	30
29/08/2023	5:30	76	34
29/08/2023	5:35	45	36
29/08/2023	5:40	54	39
29/08/2023	5:45	96	46
29/08/2023	5:50	35	48
29/08/2023	5:55	20	49
29/08/2023	6:00	13	50
29/08/2023	6:05	11	50
29/08/2023	6:10	10	50
29/08/2023	6:15	8	42
29/08/2023	6:20	8	38
29/08/2023	6:25	7	32
29/08/2023	6:30	9	26
29/08/2023	6:35	139	34
29/08/2023	6:40	124	40
29/08/2023	6:45	50	36
29/08/2023	6:50	28	35
29/08/2023	6:55	46	38
29/08/2023	7:00	40	40
29/08/2023	7:05	24	41
29/08/2023	7:10	15	41
29/08/2023	7:15	12	42
29/08/2023	7:20	10	42
29/08/2023	7:25	8	42
29/08/2023	7:30	8	42
29/08/2023	7:35	7	31
29/08/2023	7:40	6	21
29/08/2023	7:45	6	17
29/08/2023	7:50	5	16
29/08/2023	7:55	6	12
29/08/2023	8:00	5	9
29/08/2023	8:05	5	8
29/08/2023	8:10	5	7
Hidden cells with no values exceeding limit.			
30/08/2023	21:55	41	4

30/08/2023	22:00	10	4
30/08/2023	22:05	4	5
30/08/2023	22:10	3	5
30/08/2023	22:15	3	5
30/08/2023	22:20	14	6
30/08/2023	22:25	36	9
30/08/2023	22:30	14	10
30/08/2023	22:35	24	12
30/08/2023	22:40	67	18
30/08/2023	22:45	141	30
30/08/2023	22:50	39	33
30/08/2023	22:55	16	31
30/08/2023	23:00	134	41
30/08/2023	23:05	23	43
30/08/2023	23:10	15	44
30/08/2023	23:15	23	45
30/08/2023	23:20	11	45
30/08/2023	23:25	7	43
30/08/2023	23:30	5	42
30/08/2023	23:35	4	40
30/08/2023	23:40	4	35
30/08/2023	23:45	3	24
30/08/2023	23:50	3	21
30/08/2023	23:55	2	20
31/08/2023	0:00	2	9
31/08/2023	0:05	2	7
Hidden cells with no values exceeding limit.			
31/08/2023	3:05	7	5
31/08/2023	3:10	3	5
31/08/2023	3:15	3	5
31/08/2023	3:20	2	5
31/08/2023	3:25	2	5
31/08/2023	3:30	2	5
31/08/2023	3:35	8	6
31/08/2023	3:40	25	7
31/08/2023	3:45	71	12
31/08/2023	3:50	96	20
31/08/2023	3:55	63	24
31/08/2023	4:00	91	31
31/08/2023	4:05	88	38
31/08/2023	4:10	30	40
31/08/2023	4:15	16	41
31/08/2023	4:20	11	42
31/08/2023	4:25	9	43
31/08/2023	4:30	8	43
31/08/2023	4:35	7	43
31/08/2023	4:40	7	41
31/08/2023	4:45	7	36
31/08/2023	4:50	6	29
31/08/2023	4:55	5	24
31/08/2023	5:00	4	17
31/08/2023	5:05	10	10
31/08/2023	5:10	36	10
31/08/2023	5:15	41	12

Notes:

- Date, Time & Exceedence Value Reported
- Not used to calculate the number of reportable exceedences
- Range of 5-minute measurements that contribute to the Exceedance Value Reported

Max - Maximum of the Range

Min - Minimum of the Range

Ambient Air Quality Criteria (AAQC) for SO2 = 40 ppb for 1-hour running average

Total Number of Reportable Exceedances: **29**

SO2 Exceedance Report **Table E6**

Durham York Energy Centre
Courtice, Ontario
Courtice Station
Baseline Corrected Data

Date	Time	SO_2	SO_2
		5-min Avg.	1-hr Running Avg.
(dd/mm/yyyy)	(EST)	(ppb)	(ppb)
01/09/2023	3:10	24	17
01/09/2023	3:15	9	15
01/09/2023	3:20	6	13
01/09/2023	3:25	5	13
01/09/2023	3:30	9	13
01/09/2023	3:35	6	13
01/09/2023	3:40	4	13
01/09/2023	3:45	22	12
01/09/2023	3:50	101	19
01/09/2023	3:55	93	26
01/09/2023	4:00	70	31
01/09/2023	4:05	51	33
01/09/2023	4:10	58	36
01/09/2023	4:15	73	41
01/09/2023	4:20	19	43
01/09/2023	4:25	13	43
01/09/2023	4:30	13	44
01/09/2023	4:35	16	44
01/09/2023	4:40	37	47
01/09/2023	4:45	64	51
01/09/2023	4:50	18	44
01/09/2023	4:55	21	38
01/09/2023	5:00	40	35
01/09/2023	5:05	14	32
01/09/2023	5:10	9	28
01/09/2023	5:15	7	23
01/09/2023	5:20	5	21
Hidden cells with no values exceeding limit.			
09/09/2023	19:00	0	0
09/09/2023	19:05	0	0
09/09/2023	19:10	45	4
09/09/2023	19:15	108	13
09/09/2023	19:20	34	16
09/09/2023	19:25	63	21
09/09/2023	19:30	24	23
09/09/2023	19:35	12	24
09/09/2023	19:40	8	24
09/09/2023	19:45	7	25
09/09/2023	19:50	5	25
09/09/2023	19:55	5	26
09/09/2023	20:00	64	31
09/09/2023	20:05	114	41
09/09/2023	20:10	31	39
09/09/2023	20:15	51	35
09/09/2023	20:20	111	41
09/09/2023	20:25	78	42
09/09/2023	20:30	40	44
09/09/2023	20:35	18	44
09/09/2023	20:40	14	45
09/09/2023	20:45	10	45
09/09/2023	20:50	8	45
09/09/2023	20:55	7	45
09/09/2023	21:00	5	41
09/09/2023	21:05	3	31
09/09/2023	21:10	4	29
Hidden cells with no values exceeding limit.			
10/09/2023	6:10	1	1
10/09/2023	6:15	1	1

10/09/2023	6:20	1	1
10/09/2023	6:25	1	1
10/09/2023	6:30	1	1
10/09/2023	6:35	68	7
10/09/2023	6:40	105	15
10/09/2023	6:45	101	24
10/09/2023	6:50	58	28
10/09/2023	6:55	47	32
10/09/2023	7:00	40	36
10/09/2023	7:05	30	38
10/09/2023	7:10	16	39
10/09/2023	7:15	11	40
10/09/2023	7:20	9	41
10/09/2023	7:25	8	41
10/09/2023	7:30	7	42
10/09/2023	7:35	5	36
10/09/2023	7:40	3	28
10/09/2023	7:45	4	20
10/09/2023	7:50	4	15
10/09/2023	7:55	4	12
10/09/2023	8:00	4	9
10/09/2023	8:05	2	6
10/09/2023	8:10	2	5
10/09/2023	8:15	8	5
10/09/2023	8:20	7	5
Hidden cells with no values exceeding limit.			
10/09/2023	19:20	1	1
10/09/2023	19:25	1	1
10/09/2023	19:30	1	1
10/09/2023	19:35	0	1
10/09/2023	19:40	0	1
10/09/2023	19:45	65	6
10/09/2023	19:50	86	13
10/09/2023	19:55	110	22
10/09/2023	20:00	27	24
10/09/2023	20:05	14	26
10/09/2023	20:10	10	26
10/09/2023	20:15	11	27
10/09/2023	20:20	137	39
10/09/2023	20:25	32	41
10/09/2023	20:30	19	43
10/09/2023	20:35	37	46
10/09/2023	20:40	78	52
10/09/2023	20:45	39	50
10/09/2023	20:50	18	44
10/09/2023	20:55	12	36
10/09/2023	21:00	9	35
10/09/2023	21:05	9	34
10/09/2023	21:10	12	35
10/09/2023	21:15	10	34
10/09/2023	21:20	10	24
10/09/2023	21:25	7	22
10/09/2023	21:30	6	21
Hidden cells with no values exceeding limit.			
10/09/2023	22:25	2	3
10/09/2023	22:30	2	3
10/09/2023	22:35	1	3
10/09/2023	22:40	2	2
10/09/2023	22:45	2	2
10/09/2023	22:50	2	2
10/09/2023	22:55	1	2
10/09/2023	23:00	1	2
10/09/2023	23:05	1	2
10/09/2023	23:10	1	2
10/09/2023	23:15	44	5
10/09/2023	23:20	215	23
10/09/2023	23:25	160	36
10/09/2023	23:30	88	43

10/09/2023	23:35	33	46
10/09/2023	23:40	24	48
10/09/2023	23:45	38	51
10/09/2023	23:50	16	52
10/09/2023	23:55	10	53
11/09/2023	0:00	9	53
11/09/2023	0:05	8	54
11/09/2023	0:10	7	54
11/09/2023	0:15	6	51
11/09/2023	0:20	5	34
11/09/2023	0:25	5	21
11/09/2023	0:30	5	14
11/09/2023	0:35	4	11
Hidden cells with no values exceeding limit.			
14/09/2023	21:35	2	1
14/09/2023	21:40	26	3
14/09/2023	21:45	24	5
14/09/2023	21:50	21	6
14/09/2023	21:55	9	7
14/09/2023	22:00	15	8
14/09/2023	22:05	6	9
14/09/2023	22:10	3	9
14/09/2023	22:15	3	9
14/09/2023	22:20	69	15
14/09/2023	22:25	122	25
14/09/2023	22:30	60	30
14/09/2023	22:35	97	38
14/09/2023	22:40	98	44
14/09/2023	22:45	43	46
14/09/2023	22:50	80	50
14/09/2023	22:55	21	51
14/09/2023	23:00	12	51
14/09/2023	23:05	17	52
14/09/2023	23:10	164	66
14/09/2023	23:15	117	75
14/09/2023	23:20	163	83
14/09/2023	23:25	96	81
14/09/2023	23:30	140	87
14/09/2023	23:35	80	86
14/09/2023	23:40	112	87
14/09/2023	23:45	44	87
14/09/2023	23:50	21	82
14/09/2023	23:55	14	82
15/09/2023	0:00	83	88
15/09/2023	0:05	241	106
15/09/2023	0:10	150	105
15/09/2023	0:15	104	104
15/09/2023	0:20	53	95
15/09/2023	0:25	22	89
15/09/2023	0:30	16	78
15/09/2023	0:35	15	73
15/09/2023	0:40	10	64
15/09/2023	0:45	8	61
15/09/2023	0:50	7	60
15/09/2023	0:55	24	61
15/09/2023	1:00	95	62
15/09/2023	1:05	114	51
15/09/2023	1:10	51	43
15/09/2023	1:15	59	39
15/09/2023	1:20	84	42
15/09/2023	1:25	49	44
15/09/2023	1:30	17	44
15/09/2023	1:35	13	44
15/09/2023	1:40	132	54
15/09/2023	1:45		58
15/09/2023	1:50		64
15/09/2023	1:55		68
15/09/2023	2:00		

15/09/2023	2:05		
15/09/2023	2:10		
15/09/2023	2:15	44	
15/09/2023	2:20	21	
15/09/2023	2:25	13	
15/09/2023	2:30	44	
15/09/2023	2:35	128	
15/09/2023	2:40	128	
15/09/2023	2:45	96	
15/09/2023	2:50	87	
15/09/2023	2:55	63	70
15/09/2023	3:00	59	69
15/09/2023	3:05	43	66
15/09/2023	3:10	17	62
15/09/2023	3:15	12	59
15/09/2023	3:20	17	59
15/09/2023	3:25	87	65
15/09/2023	3:30	94	69
15/09/2023	3:35	110	68
15/09/2023	3:40	102	66
15/09/2023	3:45	105	66
15/09/2023	3:50	91	67
15/09/2023	3:55	75	68
15/09/2023	4:00	20	64
15/09/2023	4:05	14	62
15/09/2023	4:10	10	61
15/09/2023	4:15	137	72
15/09/2023	4:20	147	83
15/09/2023	4:25	108	84
15/09/2023	4:30	103	85
15/09/2023	4:35	102	84
15/09/2023	4:40	68	82
15/09/2023	4:45	73	79
15/09/2023	4:50	24	73
15/09/2023	4:55	39	70
15/09/2023	5:00	94	77
15/09/2023	5:05	47	79
15/09/2023	5:10	71	84
15/09/2023	5:15	52	77
15/09/2023	5:20	71	71
15/09/2023	5:25	26	64
15/09/2023	5:30	22	57
15/09/2023	5:35	13	50
15/09/2023	5:40	10	45
15/09/2023	5:45	125	49
15/09/2023	5:50	61	52
15/09/2023	5:55	77	56
15/09/2023	6:00	92	55
15/09/2023	6:05	104	60
15/09/2023	6:10	102	63
15/09/2023	6:15	101	67
15/09/2023	6:20	46	65
15/09/2023	6:25	22	64
15/09/2023	6:30	20	64
15/09/2023	6:35	115	73
15/09/2023	6:40	95	80
15/09/2023	6:45	97	78
15/09/2023	6:50	74	79
15/09/2023	6:55	78	79
15/09/2023	7:00	92	79
15/09/2023	7:05	77	77
15/09/2023	7:10	25	70
15/09/2023	7:15	18	63
15/09/2023	7:20	14	61
15/09/2023	7:25	12	60
15/09/2023	7:30	10	59
15/09/2023	7:35	97	57
15/09/2023	7:40	66	55

15/09/2023	7:45	58	52
15/09/2023	7:50	46	49
15/09/2023	7:55	38	46
15/09/2023	8:00	38	42
15/09/2023	8:05	31	38
15/09/2023	8:10	16	37
15/09/2023	8:15	10	36
15/09/2023	8:20	8	36
15/09/2023	8:25	7	36
15/09/2023	8:30	7	35
15/09/2023	8:35	7	28
15/09/2023	8:40	5	23
15/09/2023	8:45	5	18
15/09/2023	8:50	5	5
15/09/2023	8:55	5	5
15/09/2023	9:00	4	5
Hidden cells with no values exceeding limit.			
15/09/2023	18:35	9	1
15/09/2023	18:40	5	1
15/09/2023	18:45	1	2
15/09/2023	18:50	1	2
15/09/2023	18:55	1	2
15/09/2023	19:00	1	2
15/09/2023	19:05	1	2
15/09/2023	19:10	180	17
15/09/2023	19:15	51	21
15/09/2023	19:20	116	31
15/09/2023	19:25	26	33
15/09/2023	19:30	13	34
15/09/2023	19:35	21	35
15/09/2023	19:40	115	44
15/09/2023	19:45	21	46
15/09/2023	19:50	13	47
15/09/2023	19:55	9	47
15/09/2023	20:00	8	48
15/09/2023	20:05	7	48
15/09/2023	20:10	72	39
15/09/2023	20:15	12	36
15/09/2023	20:20	8	27
15/09/2023	20:25	39	28
15/09/2023	20:30	33	30
15/09/2023	20:35	12	29
15/09/2023	20:40	7	20
15/09/2023	20:45	5	19
Hidden cells with no values exceeding limit.			
16/09/2023	23:00	2	0
16/09/2023	23:05	5	1
16/09/2023	23:10	47	5
16/09/2023	23:15	18	6
16/09/2023	23:20	6	7
16/09/2023	23:25	3	7
16/09/2023	23:30	2	7
16/09/2023	23:35	2	7
16/09/2023	23:40	2	7
16/09/2023	23:45	1	7
16/09/2023	23:50	1	7
16/09/2023	23:55	24	9
17/09/2023	0:00	272	32
17/09/2023	0:05	217	49
17/09/2023	0:10	47	50
17/09/2023	0:15	128	59
17/09/2023	0:20	169	72
17/09/2023	0:25	190	88
17/09/2023	0:30	50	92
17/09/2023	0:35	20	93
17/09/2023	0:40	13	94
17/09/2023	0:45	9	95
17/09/2023	0:50	10	96

17/09/2023	0:55	9	94
17/09/2023	1:00	7	72
17/09/2023	1:05	38	58
17/09/2023	1:10	85	61
17/09/2023	1:15	141	62
17/09/2023	1:20	61	53
17/09/2023	1:25	22	39
17/09/2023	1:30	14	36
17/09/2023	1:35	10	35
17/09/2023	1:40	9	35
17/09/2023	1:45		37
17/09/2023	1:50		40
17/09/2023	1:55		43
17/09/2023	2:00		
17/09/2023	2:05		
17/09/2023	2:10		
17/09/2023	2:15	6	
17/09/2023	2:20	5	
17/09/2023	2:25	4	
17/09/2023	2:30	3	
17/09/2023	2:35	3	
17/09/2023	2:40	3	
17/09/2023	2:45	76	
17/09/2023	2:50	18	
17/09/2023	2:55	9	14
17/09/2023	3:00	6	13
Hidden cells with no values exceeding limit.			
20/09/2023	3:05	0	1
20/09/2023	3:10	0	1
20/09/2023	3:15	5	1
20/09/2023	3:20	6	1
20/09/2023	3:25	5	2
20/09/2023	3:30	2	2
20/09/2023	3:35	6	2
20/09/2023	3:40	24	4
20/09/2023	3:45	5	4
20/09/2023	3:50	3	5
20/09/2023	3:55	2	5
20/09/2023	4:00	110	14
20/09/2023	4:05	207	31
20/09/2023	4:10	144	43
20/09/2023	4:15	41	46
20/09/2023	4:20	17	47
20/09/2023	4:25	10	47
20/09/2023	4:30	7	48
20/09/2023	4:35	5	48
20/09/2023	4:40	4	46
20/09/2023	4:45	3	46
20/09/2023	4:50	3	46
20/09/2023	4:55	2	46
20/09/2023	5:00	2	37
20/09/2023	5:05	2	20
20/09/2023	5:10	3	8
20/09/2023	5:15	37	8
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20/09/2023	22:10	4	15
20/09/2023	22:15	43	16
20/09/2023	22:20	108	23
20/09/2023	22:25	93	30
20/09/2023	22:30	43	34
20/09/2023	22:35	30	32
20/09/2023	22:40	28	32
20/09/2023	22:45	18	33
20/09/2023	22:50	9	33
20/09/2023	22:55	7	33
20/09/2023	23:00	6	33
20/09/2023	23:05	5	33

20/09/2023	23:10	111	42
20/09/2023	23:15	84	45
20/09/2023	23:20	24	38
20/09/2023	23:25	46	34
20/09/2023	23:30	80	37
20/09/2023	23:35	19	36
20/09/2023	23:40	13	35
20/09/2023	23:45	9	34
20/09/2023	23:50	7	34
20/09/2023	23:55	6	34
21/09/2023	0:00	5	34
21/09/2023	0:05	34	37
21/09/2023	0:10	11	28
21/09/2023	0:15	6	22
Hidden cells with no values exceeding limit.			
21/09/2023	2:20	12	13
21/09/2023	2:25	8	13
21/09/2023	2:30	5	12
21/09/2023	2:35	4	12
21/09/2023	2:40	4	12
21/09/2023	2:45	25	14
21/09/2023	2:50	58	19
21/09/2023	2:55	80	26
21/09/2023	3:00	57	29
21/09/2023	3:05	58	32
21/09/2023	3:10	72	35
21/09/2023	3:15	74	38
21/09/2023	3:20	33	40
21/09/2023	3:25	16	41
21/09/2023	3:30	11	41
21/09/2023	3:35	8	41
21/09/2023	3:40	7	42
21/09/2023	3:45	17	41
21/09/2023	3:50	34	39
21/09/2023	3:55	53	37
21/09/2023	4:00	65	37
21/09/2023	4:05	89	40
21/09/2023	4:10	77	40
21/09/2023	4:15	40	38
21/09/2023	4:20	18	36
21/09/2023	4:25	12	36
21/09/2023	4:30	10	36
21/09/2023	4:35	45	39
21/09/2023	4:40	37	41
21/09/2023	4:45	16	41
21/09/2023	4:50	9	39
21/09/2023	4:55	7	35
21/09/2023	5:00	7	31
21/09/2023	5:05	5	24
21/09/2023	5:10	4	18
21/09/2023	5:15	4	15
21/09/2023	5:20	4	13
21/09/2023	5:25	21	14
21/09/2023	5:30	72	19
21/09/2023	5:35	38	19
21/09/2023	5:40	48	20
21/09/2023	5:45	20	20

Notes:

	- Date, Time & Exceedence Value Reported
	- Not used to calculate the number of reportable exceedences
	- Range of 5-minute measurements that contribute to the Exceedance Value Reported
Max	- Maximum of the Range
Min	- Minimum of the Range

Ambient Air Quality Criteria (AAQC) for SO2 = 40 ppb for 1-hour running average

Total Number of Reportable Exceedances: **22**

APPENDIX F

600 Southgate Drive
Guelph ON Canada
N1G 4P6

Tel: +1.519.823.1311
Fax: +1.519.823.1316
E-mail: solutions@rwdi.com

MEMORANDUM

DATE:	2023-08-24	**RWDI Reference No.:** 2400035
TO:	Lipika Saha	**EMAIL:** Lipika.Saha@Durham.ca
CC:	Andrew Evans	**EMAIL:** Andrew.Evans@Durham.ca
CC:	Lyndsay Waller	**EMAIL:** Lyndsay.Waller@Durham.ca
FROM:	Maja Bokara	**EMAIL:** Maja.Bokara@rwdi.com
RE:	**Exceedance Report – Benzo(a)Pyrene July 11, 2023 Region of Durham, DYEC**	

On August 14, 2023, the results from ALS Environmental were received regarding the PAH results from the July 11, 2023, sampling event. On August 14, 2023, the results were entered and assessed. It was noted that on July 11, 2023, the Rundle Road Station Benzo(a)Pyrene (BaP) concentration was in excess of the 24-hour AAQC as measured by the onsite PUF PS-1 samplers. Attached is a figure depicting the wind rose (indicating the wind speed and direction during the sampling day), and the location of the sampling stations relative to the DYEC.

The following summarizes the BaP concentrations and onsite conditions during the July 11 sampling date:

1. The guideline concentration for BaP is 0.05 ng/m^3. The measured concentration at the Rundle Road sampler was 0.056 ng/m^3.
2. During the sampling day the wind was predominantly from the SW to WSW and the NW, as recorded at the Rundle Road Meteorological Tower. One-hour average wind speeds at Rundle Road Meteorological Tower ranged from 4.3 km/h to 18.5 km/h.
3. RWDI reviewed the available CEMS data over a 72-hour period which includes the day before and after the BaP exceedance date. The data showed no unusual readings, and all parameters were within the expected values as well as below the listed Limits. Based on the data, both boilers 1 and 2 were operating normally during the time reviewed.
4. A review of the current ESDM data shows that Benzo(a)Pyrene emissions from the DYEC for a 24-hour period are estimated to be less than 1% of the MECP limit.
5. At the time of the data review, MECP monitoring station data for BaP was not available.
6. The Rundle Road meteorological data suggests that the Rundle Road Station was partially downwind of the DYEC during the sampling period. Given the wind conditions, it is likely that the measured BaP exceedance is attributable to the Energy Centre operations, with contributions from offsite sources.

At the Rundle Road Station, the NO_2 rolling mean for hourly values were less than 8% of the criteria for the same period. The $PM_{2.5}$ 24-hour average value was 9.3 micrograms per cubic metre at the Rundle Road Station.

We have attached the data files for the samples in question to aid with the review.

Respectfully submitted by:

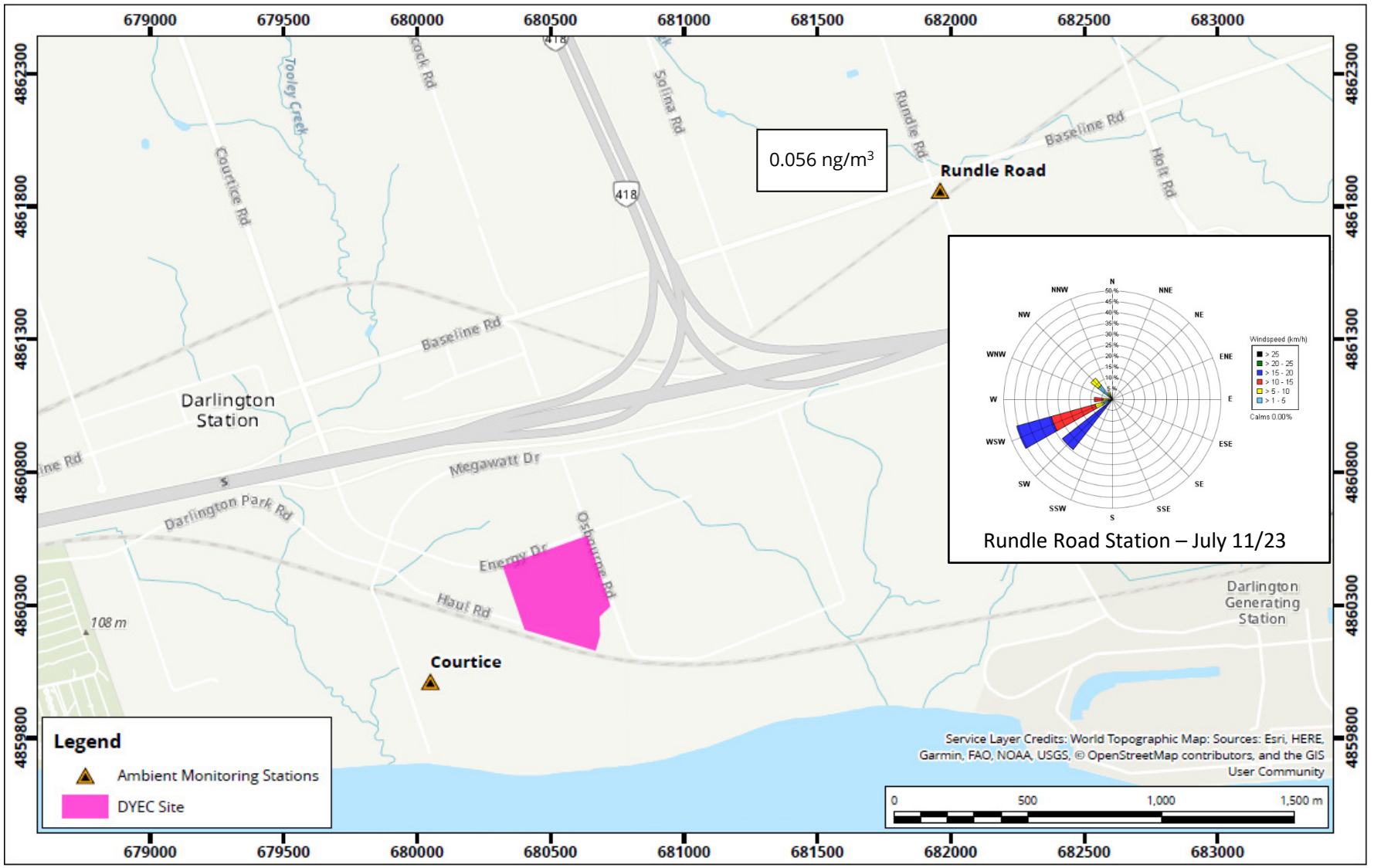
RWDI AIR Inc.

Maja Bokara, PGCert, EP
Project Manager

MB/vit

Attach.

ATTACHMENTS



DYEC Site and Ambient Monitoring Station Locations

Map Projection: NAD 1983 UTM Zone 17N

DYEC - Region of Durham, Ontario

True North

Project #: 2400035

Drawn by: DAJH	Figure: 1
Approx. Scale:	1:20,000
Date Revised:	Aug 23, 2023

ALS Environmental

1435 Norjohn Court, Unit 1, Burlington, Ontario, Canada, L7L 0E6
Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com

L2751783-COFC

Report To		Report Format / Distribution		Service
Company:	RWDI AIR INC. (Guelph)	☑ Standard ☐ Other:		☑ Re
Contact:	Khalid Hussein	☑ PDF ☑ Excel ☐ Digital ☐ Fax		☐ Rush Service (with prior consultation) - surcharge applies
Address:	600 Southgate Drive, Guelph, ON N1G 4P6	Email 1:	Khalid.Hussein@rwdi.com, Steve.Sanderson@rwdi.com	☐ Other - Please contact ALS
Phone:	519-823-1311 Fax:	Email 2:	John.DeYoe@rwdi.com, John.Green@RWDI.com	
Invoice To	Same as Report ? ☐ Yes ☑ No	Email 3:	Dan.Harrigan@rwdi.com, Maja.Bokara@rwdi.com	
		Email 4:	Victoria.Latam@rwdi.com, claire.kocharakkal@alsglobal.com	
Email 1:	accountspayable@rwdi.com	Location:	DYEC	
Email 2:	Khalid.Hussein@rwdi.com	PO:	1803743 Phase 1000	
		Sampled by:	Martin Town	
Quote	Q69531	ALS Contact:	Claire Kocharakkal	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Air Volume (m³)	Sample Type	TSP, Hg, ICP	PAH	DX	Hazardous? Provide Details	Highly Contaminated?	Number of Containers
1	L2751288-2 - Rundle	11-Jul-23	309	Air		X	X			1
2	744039	~~10~~ 11-Jul-23	1649	Air	X					1
3	744037	05-Jul-23	1658	Air	X					1
4	L2751288-3 - Courtice	11-Jul-23	316	Air		X	X			1
5	744040	11-Jul-23	1671	Air	X					1
6	744038	05-Jul-23	INVALID	Air	X					1
7	L2751288-4 - Blank	11-Jul-23		Air		X	X			1
8	744043	11-Jul-23		Air	X					1

Special Instructions / Regulations / Hazardous Details

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided by ALS

Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ?
M	13-Jul-23	12:00	AARON BURTON	14-July-2023	9:20	1.8°C on 15.3°C				

1435 Norjohn Court, Unit 1, Burlington ON, L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact:	Claire Kocharakkal	**Client Name:**	RWDI Air Inc
ALS Project ID:	23601	**Client Address:**	600 Southgate Drive
ALS WO#:	L2751783		Guelph, ON N1G 4P6
Date of Report	14-Aug-23		Canada
Date of Sample Receipt	14-Jul-23	**Client Contact:**	Khalid Hussein
		Client Project ID:	DYEC

COMMENTS: **PAH by CARB method 429 (LR option)- Isotope dilution**

Certified by:

Sabrina Jin
Technical Specialist

ALS Life Sciences

Sample Analysis Summary Report

Sample Name	Method Blank		Method Blank		RUNDLE-DX/PAH-JUL11		COURTICE-DX/PAH-JUL11		BLANK-DX/PAH-JUL11		Laboratory Control Sample
ALS Sample ID	WG3786163-1		WG3786163-4		L2751783-1		L2751783-2		L2751783-3		WG3786163-2
Sample Size	1		1		1		1		1		1
Sample units	sample		sample		sample		sample		sample		n/a
Moisture Content	n/a		n/a		n/a		n/a		n/a		n/a
Matrix	MEDIA		REAGENT		PUF		PUF		PUF		MEDIA
Sampling Date	n/a		n/a		11-Jul-23		11-Jul-23		11-Jul-23		n/a
Extraction Date	18-Jul-23		18-Jul-23		18-Jul-23		18-Jul-23		18-Jul-23		18-Jul-23
Target Analytes	**ng**		**ng**		**ng**		**ng**		**ng**		**%**
Naphthalene	35.7	M	11.8		3800		2750		62.0	B	90.7
2-Methylnaphthalene	6.01		4.55		3750		1870		5.51	B	89.8
1-Methylnaphthalene	3.90		2.81		1920		974		3.48	B	96.8
Acenaphthylene	<1.0	U	<1.0	U	65.3	R	36.2	R	<1.0	U	77.2
Acenaphthene	1.18		<1.0	U	2970		906		1.47	B	73.2
Fluorene	1.10		<1.0	U	3150		974		1.59	B	79.0
Phenanthrene	2.45		1.40		7290		1350		3.48	B	87.9
Anthracene	<1.0	U	<1.0	U	336		24.8		<1.0	U	79.2
Fluoranthene	<1.0	U	<1.0	U	1810		273		1.18		83.5
Pyrene	<1.0	U	<1.0	U	753		119		<1.0	U	86.6
Benzo(a)Anthracene	<1.0	U	<1.0	U	13.3		8.07		<1.0	U	92.0
Chrysene	<1.0	U	<1.0	U	74.2		34.4		<1.0	U	82.3
Benzo(b)Fluoranthene	<1.0	U	<1.0	U	29.6	M	22.4	M	<1.0	U	83.0
Benzo(k)Fluoranthene	<1.0	U	<1.0	U	17.0	M	13.0	M	<1.0	U	80.9
Benzo(e)Pyrene	<1.0	U	<1.0	U	22.8		13.7		<1.0	U	94.5
Benzo(a)Pyrene	<1.0	U	<1.0	U	17.3		12.6		<1.0	U	94.8
Perylene	<1.0	U	<1.0	U	2.29		1.27		<1.0	U	83.9
Indeno(1,2,3-cd)Pyrene	<1.0	U	<1.0	U	20.2		15.4		<1.0	U	95.0
Dibenzo(a,h)Anthracene	<1.0	U	<1.0	U	3.24	R	2.18	M	<1.0	U	81.5
Benzo(g,h,i)Perylene	<1.0	U	<1.0	U	23.1		13.7		<1.0	U	84.0
Additional Analytes											
Tetralin	43.2		1.52		248	B	259	B	95.9	B	NS
Biphenyl	3.67		2.26		1640		815		3.08	B	NS
o-Terphenyl	<1.0	U	<1.0	U	8.93	R	10.6		<1.0	U	NS
Benzo(a)fluorene	<1.0	U	<1.0	U	61.5	M	23.1	M	<1.0	U	NS
Benzo(b)fluorene	<1.0	U	<1.0	U	7.37		3.21		<1.0	U	NS
Field Sampling Standards	**% Rec**		**% Rec**		**% Rec**		**% Rec**		**% Rec**		**% Rec**
1-Methylnaphthalene-D10	NS		NS		64.4		53.7		77.4		NS
Fluorene D10	NS		NS		50.7		47.0		92.2		NS
Terphenyl D14(Surr.)	NS		NS		91.7		81.0		96.1		NS
Extraction Standards	**% Rec**		**% Rec**		**% Rec**		**% Rec**		**% Rec**		**% Rec**
Naphthalene D8	54.8		68.1		46.2	R	52.6		70.6		42.0
2-Methylnaphthalene-D10	62.5		74.1		57.0		67.3		77.3		47.8
Acenaphthylene D8	91.8		91.8		70.8		67.6		97.1		67.9
Phenanthrene D10	77.6		84.9		73.6		65.9		80.3		55.2
Anthracene-D10	84.3		86.5		84.0		68.4		85.4		61.9
Fluoranthene D10	95.2		100.9		92.0		77.3		100.3		71.5
Benz(a)Anthracene-D12	106.7		106.6		148.3		104.3		119.9		94.0
Chrysene D12	86.6		93.2		90.1		68.1		93.6		79.0
Benzo(b)Fluoranthene-D12	98.2		110.3		113.8		85.5		114.5		85.4
Benzo(k)Fluoranthene-D12	84.4		95.0		98.3		77.3		95.0		82.6
Benzo(a)Pyrene D12	92.0		94.0		127.6		87.0		106.7		87.1
Perylene D12	89.5		85.9		118.2		80.9		93.3		83.1
Indeno(1,2,3,cd)Pyrene-D12	73.3		80.9		119.7		70.2		76.5		69.2
Dibenz(a,h)Anthracene-D14	58.6		66.5		104.7		61.5		61.2		64.0
Benzo(g,h,i)Perylene D12	76.0		85.2		99.4		66.2		78.0		70.1

U	Indicates that this compound was not detected above the LOD.
M	Indicates that a peak has been manually integrated.
B	Indicates that this compound was detected in the method blank at greater than 10% of the sample value.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
NS	Indicates that this compound was not spiked in.

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	**Method Blank**	Sampling Date	n/a
ALS Sample ID	WG3786163-1	Extraction Date	18-Jul-23
Analysis Method	PAH by CARB 429		
Analysis Type	blank		
Sample Matrix	MEDIA		
Sample Size	1 sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786163

Approved:
Andrew Reid
--e-signature--
24-Jul-2023

Run Information	**Run 1**
Filename	23072106.D
Run Date	7/21/2023 14:45
Final Volume	0.1 mL
Dilution Factor	1
Analysis Units	ng
Instrument	MSD-5
Column	HP-5MS US2879735H

Target Analytes	**Ret. Time**	**Concentration ng**	**Flags**
Naphthalene	2.69	35.7	M
2-Methylnaphthalene	3.27	6.01	
1-Methylnaphthalene	3.39	3.90	
Acenaphthylene	4.40	<1.0	U
Acenaphthene	4.69	1.18	
Fluorene	5.62	1.10	
Phenanthrene	7.80	2.45	
Anthracene	7.91	<1.0	U
Fluoranthene	11.18	<1.0	U
Pyrene	11.82	<1.0	U
Benzo(a)Anthracene	15.76	<1.0	U
Chrysene	15.84	<1.0	U
Benzo(b)Fluoranthene	NotFnd	<1.0	U
Benzo(k)Fluoranthene	NotFnd	<1.0	U
Benzo(e)Pyrene	NotFnd	<1.0	U
Benzo(a)Pyrene	NotFnd	<1.0	U
Perylene	NotFnd	<1.0	U
Indeno(1,2,3-cd)Pyrene	NotFnd	<1.0	U
Dibenzo(a,h)Anthracene	NotFnd	<1.0	U
Benzo(g,h,i)Perylene	NotFnd	<1.0	U
Additional Analytes			
Tetralin	2.56	43.2	
Biphenyl	3.80	3.67	
o-Terphenyl	NotFnd	<1.0	U
Benzo(a)fluorene	NotFnd	<1.0	U
Benzo(b)fluorene	NotFnd	<1.0	U

Field Sampling Standards	**ng spiked**	**% Rec**
1-Methylnaphthalene-D10	0	NS
Fluorene D10	0	NS
Terphenyl D14(Surr.)	0	NS

Extraction Standards			**% Rec**	**Limits**
Naphthalene D8	100	2.68	54.8	50-150
2-Methylnaphthalene-D10	100	3.25	62.5	50-150
Acenaphthylene D8	100	4.38	91.8	50-150
Phenanthrene D10	100	7.74	77.6	50-150
Anthracene-D10	100	7.87	84.3	50-150
Fluoranthene D10	100	11.14	95.2	50-150
Benz(a)Anthracene-D12	100	15.66	106.7	50-150
Chrysene D12	100	15.77	86.6	50-150
Benzo(b)Fluoranthene-D12	100	18.99	98.2	50-150
Benzo(k)Fluoranthene-D12	100	19.08	84.4	50-150
Benzo(a)Pyrene D12	100	19.87	92.0	50-150
Perylene D12	100	20.10	89.5	50-150
Indeno(1,2,3,cd)Pyrene-D12	100	23.46	73.3	50-150
Dibenz(a,h)Anthracene-D14	100	23.64	58.6	50-150
Benzo(g,h,i)Perylene D12	100	24.40	76.0	50-150

M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the MDL.
NS	Indicates that this compound was not spiked in.

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	**Method Blank**	Sampling Date	n/a
ALS Sample ID	WG3786163-4	Extraction Date	18-Jul-23
Analysis Method	PAH by CARB 429		
Analysis Type	blank		
Sample Matrix	REAGENT		
Sample Size	1 sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786163

Approved:
Andrew Reid
--e-signature--
24-Jul-2023

Run Information	**Run 1**
Filename	23072107.D
Run Date	7/21/2023 15:23
Final Volume	0.1 mL
Dilution Factor	1
Analysis Units	ng
Instrument	MSD-5
Column	HP-5MS US2879735H

Target Analytes	**Ret. Time**	**Concentration ng**	**Flags**
Naphthalene	2.70	11.8	
2-Methylnaphthalene	3.28	4.55	
1-Methylnaphthalene	3.39	2.81	
Acenaphthylene	4.41	<1.0	U
Acenaphthene	4.70	<1.0	U
Fluorene	5.62	<1.0	U
Phenanthrene	7.80	1.40	
Anthracene	7.91	<1.0	U
Fluoranthene	11.18	<1.0	U
Pyrene	11.82	<1.0	U
Benzo(a)Anthracene	15.76	<1.0	U
Chrysene	15.84	<1.0	U
Benzo(b)Fluoranthene	NotFnd	<1.0	U
Benzo(k)Fluoranthene	NotFnd	<1.0	U
Benzo(e)Pyrene	NotFnd	<1.0	U
Benzo(a)Pyrene	NotFnd	<1.0	U
Perylene	NotFnd	<1.0	U
Indeno(1,2,3-cd)Pyrene	NotFnd	<1.0	U
Dibenzo(a,h)Anthracene	NotFnd	<1.0	U
Benzo(g,h,i)Perylene	NotFnd	<1.0	U
Additional Analytes			
Tetralin	2.56	1.52	
Biphenyl	3.80	2.26	
o-Terphenyl	9.07	<1.0	U
Benzo(a)fluorene	NotFnd	<1.0	U
Benzo(b)fluorene	NotFnd	<1.0	U

Field Sampling Standards	**ng spiked**	**% Rec**
1-Methylnaphthalene-D10	0	NS
Fluorene D10	0	NS
Terphenyl D14(Surr.)	0	NS

Extraction Standards			**% Rec**	**Limits**
Naphthalene D8	100	2.69	68.1	50-150
2-Methylnaphthalene-D10	100	3.25	74.1	50-150
Acenaphthylene D8	100	4.39	91.8	50-150
Phenanthrene D10	100	7.74	84.9	50-150
Anthracene-D10	100	7.87	86.5	50-150
Fluoranthene D10	100	11.14	100.9	50-150
Benz(a)Anthracene-D12	100	15.66	106.6	50-150
Chrysene D12	100	15.77	93.2	50-150
Benzo(b)Fluoranthene-D12	100	18.99	110.3	50-150
Benzo(k)Fluoranthene-D12	100	19.08	95.0	50-150
Benzo(a)Pyrene D12	100	19.87	94.0	50-150
Perylene D12	100	20.10	85.9	50-150
Indeno(1,2,3,cd)Pyrene-D12	100	23.46	80.9	50-150
Dibenz(a,h)Anthracene-D14	100	23.64	66.5	50-150
Benzo(g,h,i)Perylene D12	100	24.40	85.2	50-150

M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the MDL.
NS	Indicates that this compound was not spiked in.

ALS Life Sciences

Sample Analysis Report

Sample Name	**RUNDLE-DX/PAH-JUL11**	Sampling Date	11-Jul-23 00:00
ALS Sample ID	L2751783-1	Extraction Date	18-Jul-23
Analysis Method	PAH by CARB 429		
Analysis Type	sample		
Sample Matrix	PUF		
Sample Size	1 sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786163

Approved:
Andrew Reid
--e-signature--
24-Jul-2023

Run Information	**Run 1**	**Run 2**
Filename	23072111.D	23072109.D
Run Date	7/21/2023 17:56	7/21/2023 16:39
Final Volume	0.1 mL	0.1 mL
Dilution Factor	1	20
Analysis Units	ng	ng
Instrument	MSD-5	MSD-5
Column	HP-5MS US2879735H	HP-5MS US2879735H

Target Analytes	**Ret. Time**	**Concentration ng**	**Flags**	**Ret. Time.**	**Concentration ng**	**Flags**
Naphthalene				2.74	3800	
2-Methylnaphthalene				3.31	3750	
1-Methylnaphthalene				3.41	1920	
Acenaphthylene	4.41	65.3	R			
Acenaphthene				4.72	2970	
Fluorene				5.62	3150	
Phenanthrene				7.80	7290	
Anthracene	7.91	336				
Fluoranthene				11.19	1810	
Pyrene	11.82	753				
Benzo(a)Anthracene	15.71	13.3				
Chrysene	15.83	74.2				
Benzo(b)Fluoranthene	19.04	29.6	M			
Benzo(k)Fluoranthene	19.10	17.0	M			
Benzo(e)Pyrene	19.79	22.8				
Benzo(a)Pyrene	19.92	17.3				
Perylene	20.15	2.29				
Indeno(1,2,3-cd)Pyrene	23.53	20.2				
Dibenzo(a,h)Anthracene	23.73	3.24	R			
Benzo(g,h,i)Perylene	24.48	23.1				
Additional Analytes						
Tetralin	2.56	248	B			
Biphenyl				3.82	1640	
o-Terphenyl	9.07	8.93	R			
Benzo(a)fluorene	12.98	61.5	M			
Benzo(b)fluorene	13.20	7.37				

Field Sampling Standards	**ng spiked**		**% Rec**
1-Methylnaphthalene-D10	300	3.35	64.4
Fluorene D10	300	5.56	50.7
Terphenyl D14(Surr.)	300	12.62	91.7

Extraction Standards		**% Rec**	**Limits**		**% Rec**	
Naphthalene D8	100		50-150	2.72	46.2	R
2-Methylnaphthalene-D10	100		50-150	3.27	57	
Acenaphthylene D8	100		50-150	4.40	70.8	
Phenanthrene D10	100		50-150	7.75	73.6	
Anthracene-D10	100	7.87	84.0	50-150		
Fluoranthene D10	100	11.13	92.0	50-150		
Benz(a)Anthracene-D12	100	15.65	148.3	50-150		
Chrysene D12	100	15.76	90.1	50-150		
Benzo(b)Fluoranthene-D12	100	18.98	113.8	50-150		
Benzo(k)Fluoranthene-D12	100	19.06	98.3	50-150		
Benzo(a)Pyrene D12	100	19.86	127.6	50-150		
Perylene D12	100	20.10	118.2	50-150		
Indeno(1,2,3,cd)Pyrene-D12	100	23.44	119.7	50-150		
Dibenz(a,h)Anthracene-D14	100	23.61	104.7	50-150		
Benzo(g,h,i)Perylene D12	100	24.38	99.4	50-150		

M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the MDL.
B	Indicates that this compound was detected in the method blank at greater than 10% of the sample value.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**COURTICE-DX/PAH-JUL11**	Sampling Date	11-Jul-23 00:00
ALS Sample ID	L2751783-2	Extraction Date	18-Jul-23
Analysis Method	PAH by CARB 429		
Analysis Type	sample		
Sample Matrix	PUF		
Sample Size	1 sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786163

Approved:
Andrew Reid
--e-signature--
24-Jul-2023

Run Information	**Run 1**	**Run 2**
Filename	23072112.D	23072110.D
Run Date	7/21/2023 18:34	7/21/2023 17:18
Final Volume	0.1 mL	0.1 mL
Dilution Factor	1	20
Analysis Units	ng	ng
Instrument	MSD-5	MSD-5
Column	HP-5MS US2879735H	HP-5MS US2879735H

Target Analytes	**Ret. Time**	**Concentration ng**	**Flags**	**Ret. Time.**	**Concentration ng**	**Flags**
Naphthalene				2.73	2750	
2-Methylnaphthalene				3.30	1870	
1-Methylnaphthalene				3.41	974	
Acenaphthylene	4.41	36.2	R			
Acenaphthene				4.71	906	
Fluorene				5.62	974	
Phenanthrene				7.80	1350	
Anthracene	7.90	24.8				
Fluoranthene	11.18	273				
Pyrene	11.82	119				
Benzo(a)Anthracene	15.72	8.07				
Chrysene	15.83	34.4				
Benzo(b)Fluoranthene	19.05	22.4	M			
Benzo(k)Fluoranthene	19.11	13.0	M			
Benzo(e)Pyrene	19.79	13.7				
Benzo(a)Pyrene	19.93	12.6				
Perylene	20.16	1.27				
Indeno(1,2,3-cd)Pyrene	23.54	15.4				
Dibenzo(a,h)Anthracene	23.73	2.18	M			
Benzo(g,h,i)Perylene	24.49	13.7				
Additional Analytes						
Tetralin	2.56	259	B			
Biphenyl				3.82	815	
o-Terphenyl	9.07	10.6				
Benzo(a)fluorene	12.98	23.1	M			
Benzo(b)fluorene	13.21	3.21				

Field Sampling Standards	**ng spiked**		**% Rec**
1-Methylnaphthalene-D10	300	3.35	53.7
Fluorene D10	300	5.56	47
Terphenyl D14(Surr.)	300	12.63	81

Extraction Standards			**% Rec**	**Limits**		**% Rec**
Naphthalene D8	100			50-150	2.72	52.6
2-Methylnaphthalene-D10	100			50-150	3.27	67.3
Acenaphthylene D8	100			50-150	4.40	67.6
Phenanthrene D10	100			50-150	7.75	65.9
Anthracene-D10	100	7.86	68.4	50-150		
Fluoranthene D10	100	11.13	77.3	50-150		
Benz(a)Anthracene-D12	100	15.66	104.3	50-150		
Chrysene D12	100	15.76	68.1	50-150		
Benzo(b)Fluoranthene-D12	100	18.98	85.5	50-150		
Benzo(k)Fluoranthene-D12	100	19.07	77.3	50-150		
Benzo(a)Pyrene D12	100	19.87	87.0	50-150		
Perylene D12	100	20.10	80.9	50-150		
Indeno(1,2,3,cd)Pyrene-D12	100	23.45	70.2	50-150		
Dibenz(a,h)Anthracene-D14	100	23.62	61.5	50-150		
Benzo(g,h,i)Perylene D12	100	24.39	66.2	50-150		

M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the MDL.
B	Indicates that this compound was detected in the method blank at greater than 10% of the sample value.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**BLANK-DX/PAH-JUL11**	Sampling Date	11-Jul-23 00:00
ALS Sample ID	L2751783-3	Extraction Date	18-Jul-23
Analysis Method	PAH by CARB 429		
Analysis Type	sample		
Sample Matrix	PUF		
Sample Size	1 sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786163

Approved:
Andrew Reid
--e-signature--
24-Jul-2023

Run Information	**Run 1**
Filename	23072108.D
Run Date	7/21/2023 16:01
Final Volume	0.1 mL
Dilution Factor	1
Analysis Units	ng
Instrument	MSD-5
Column	HP-5MS US2879735H

Target Analytes	**Ret. Time**	**Concentration ng**	**Flags**
Naphthalene	2.69	62.0	B
2-Methylnaphthalene	3.27	5.51	B
1-Methylnaphthalene	3.39	3.48	B
Acenaphthylene	4.41	<1.0	U
Acenaphthene	4.70	1.47	B
Fluorene	5.61	1.59	B
Phenanthrene	7.80	3.48	B
Anthracene	7.91	<1.0	U
Fluoranthene	11.18	1.18	
Pyrene	11.82	<1.0	U
Benzo(a)Anthracene	15.76	<1.0	U
Chrysene	15.84	<1.0	U
Benzo(b)Fluoranthene	NotFnd	<1.0	U
Benzo(k)Fluoranthene	NotFnd	<1.0	U
Benzo(e)Pyrene	NotFnd	<1.0	U
Benzo(a)Pyrene	NotFnd	<1.0	U
Perylene	NotFnd	<1.0	U
Indeno(1,2,3-cd)Pyrene	NotFnd	<1.0	U
Dibenzo(a,h)Anthracene	NotFnd	<1.0	U
Benzo(g,h,i)Perylene	NotFnd	<1.0	U
Additional Analytes			
Tetralin	2.56	95.9	B
Biphenyl	3.80	3.08	B
o-Terphenyl	9.07	<1.0	U
Benzo(a)fluorene	NotFnd	<1.0	U
Benzo(b)fluorene	NotFnd	<1.0	U

Field Sampling Standards	**ng spiked**		**% Rec**
1-Methylnaphthalene-D10	300	3.35	77.4
Fluorene D10	300	5.56	92.2
Terphenyl D14(Surr.)	300	12.63	96.1

Extraction Standards			**% Rec**	**Limits**
Naphthalene D8	100	2.68	70.6	50-150
2-Methylnaphthalene-D10	100	3.24	77.3	50-150
Acenaphthylene D8	100	4.39	97.1	50-150
Phenanthrene D10	100	7.74	80.3	50-150
Anthracene-D10	100	7.87	85.4	50-150
Fluoranthene D10	100	11.13	100.3	50-150
Benz(a)Anthracene-D12	100	15.66	119.9	50-150
Chrysene D12	100	15.77	93.6	50-150
Benzo(b)Fluoranthene-D12	100	18.99	114.5	50-150
Benzo(k)Fluoranthene-D12	100	19.07	95.0	50-150
Benzo(a)Pyrene D12	100	19.87	106.7	50-150
Perylene D12	100	20.10	93.3	50-150
Indeno(1,2,3,cd)Pyrene-D12	100	23.46	76.5	50-150
Dibenz(a,h)Anthracene-D14	100	23.64	61.2	50-150
Benzo(g,h,i)Perylene D12	100	24.40	78.0	50-150

U	Indicates that this compound was not detected above the MDL.
B	Indicates that this compound was detected in the method blank at greater than 10% of the sample value.

ALS Life Sciences

Laboratory Control Sample Analysis Report

Sample Name	**Laboratory Control Sample**	Sampling Date	n/a
ALS Sample ID	WG3786163-2	Extraction Date	18-Jul-23
Analysis Method	PAH by CARB 429		
Analysis Type	LCS		
Sample Matrix	MEDIA		
Sample Size	1 n/a		
Percent Moisture	n/a		
Split Ratio	1	Workgroup	WG3786163

Approved:
Andrew Reid
--e-signature--
24-Jul-2023

Run Information	**Run 1**
Filename	23072104.D
Run Date	7/21/2023 13:28
Final Volume	1 mL
Dilution Factor	1
Analysis Units	%
Instrument	MSD-5
Column	HP-5MS US2879735H

Target Analytes	**ug spiked**	**Ret. Time**	**%**	**Flags**	**Limits**
Naphthalene	100	2.70	90.7		50-150
2-Methylnaphthalene	100	3.28	89.8		50-150
1-Methylnaphthalene	100	3.39	96.8		50-150
Acenaphthylene	100	4.40	77.2		50-150
Acenaphthene	100	4.70	73.2		50-150
Fluorene	100	5.61	79		50-150
Phenanthrene	100	7.79	87.9		50-150
Anthracene	100	7.91	79.2		50-150
Fluoranthene	100	11.18	83.5		50-150
Pyrene	100	11.82	86.6		50-150
Benzo(a)Anthracene	100	15.72	92		50-150
Chrysene	100	15.84	82.3		50-150
Benzo(b)Fluoranthene	100	19.05	83		50-150
Benzo(k)Fluoranthene	100	19.12	80.9		50-150
Benzo(e)Pyrene	100	19.79	94.5		50-150
Benzo(a)Pyrene	100	19.92	94.8		50-150
Perylene	100	20.16	83.9		50-150
Indeno(1,2,3-cd)Pyrene	100	23.53	95		50-150
Dibenzo(a,h)Anthracene	100	23.74	81.5		50-150
Benzo(g,h,i)Perylene	100	24.49	84		50-150
Additional Analytes					
Tetralin	0		NS		
Biphenyl	0		NS		
o-Terphenyl	0		NS		
Benzo(a)fluorene	0		NS		
Benzo(b)fluorene	0		NS		
Field Sampling Standards	**ng spiked**		**% Rec**		
1-Methylnaphthalene-D10	0		NS		
Fluorene D10	0		NS		
Terphenyl D14(Surr.)	0		NS		
Extraction Standards			**% Rec**		**Limits**
Naphthalene D8	100	2.69	42.0		30-150
2-Methylnaphthalene-D10	100	3.25	47.8		30-150
Acenaphthylene D8	100	4.39	67.9		30-150
Phenanthrene D10	100	7.74	55.2		50-150
Anthracene-D10	100	7.86	61.9		50-150
Fluoranthene D10	100	11.13	71.5		50-150
Benz(a)Anthracene-D12	100	15.66	94.0		50-150
Chrysene D12	100	15.76	79.0		50-150
Benzo(b)Fluoranthene-D12	100	18.98	85.4		50-150
Benzo(k)Fluoranthene-D12	100	19.07	82.6		50-150
Benzo(a)Pyrene D12	100	19.87	87.1		30-150
Perylene D12	100	20.10	83.1		50-150
Indeno(1,2,3,cd)Pyrene-D12	100	23.45	69.2		50-150
Dibenz(a,h)Anthracene-D14	100	23.62	64.0		50-150
Benzo(g,h,i)Perylene D12	100	24.39	70.1		50-150

NS Indicates that this compound was not spiked in.
B Indicates that this compound was detected in the method blank at greater than 10% of the sample value.

Table B6: 2023 Rundle Road Station Q3 Monitoring Results for PAHs

Contaminant	Units	*MECP Criteria*	11-Jul-23	No. > Criteria
1-Methylnaphthalene	ng/m^3	*12000*	6.21E+00	0
2-Methylnaphthalene	ng/m^3	*10000*	1.21E+01	0
Acenaphthene	ng/m^3	-	9.61E+00	-
Acenaphthylene	ng/m^3	*3500*	2.11E-01	0
Anthracene	ng/m^3	*200*	1.09E+00	0
Benzo(a)Anthracene	ng/m^3	-	4.30E-02	-
Benzo(a)fluorene	ng/m^3	-	1.99E-01	-
Benzo(a)Pyrene (Historically High)	ng/m^3	*0.05* [1] *5* [2] *1.1* [3]	5.60E-02	1
Benzo(b)Fluoranthene	ng/m^3	-	9.58E-02	-
Benzo(b)fluorene	ng/m^3	-	2.39E-02	-
Benzo(e)Pyrene	ng/m^3	-	7.38E-02	-
Benzo(g,h,i)Perylene	ng/m^3	-	7.48E-02	-
Benzo(k)Fluoranthene	ng/m^3	-	5.50E-02	-
Biphenyl	ng/m^3	-	5.31E+00	-
Chrysene	ng/m^3	-	2.40E-01	-
Dibenzo(a,h)Anthracene	ng/m^3	-	1.05E-02	-
Fluoranthene	ng/m^3	-	5.86E+00	-
Fluorene	ng/m^3	-	1.02E+01	-
Indeno(1,2,3-cd)Pyrene	ng/m^3	-	6.54E-02	-
Naphthalene	ng/m^3	*22500*	1.23E+01	0
o-Terphenyl	ng/m^3	-	2.89E-02	-
Perylene	ng/m^3	-	7.41E-03	-
Phenanthrene	ng/m^3	-	2.36E+01	-
Pyrene	ng/m^3	-	2.44E+00	-
Tetralin	ng/m^3	-	8.03E-01	-
Total PAH[4]	ng/m^3	-	90.72	-

NOTE: All non-detectable results were reported as 1/2 of the detection limit

[1] AAQC

[2] O. Reg. 419/05 Schedule Upper Risk Thresholds

[3] O. Reg. 419/05 24 Hour Guideline

[4] Total PAH sums all PAH contaminants

Station: RofD Rundle Daily: 11/07/2023 Type: AVG 1 Hr. [5 Mins.]

Date & Time	PM2.5	NO	NO2	NOX	SO2	Precip	ET	Rain	Tr_Temp	RH AVG	Rain total	WS km/hr	WD	Hi-Vol Pressure	PUF Pressure	ET	Hivol Flow	PUF Flow
	ug/m3	ppb	ppb	ppb	ppb	Volts	C°	mm	C°	%	mm	km/hr	Deg	in H20	in H20	K	cfm	cfm
11/07/2023 01:00	11.1	0.8	10.4	11.2	0.495	12.9	20.3	0	22.9	81.8	0	4.67	257	3.33	53.2	293.464	36.87	7.85
11/07/2023 02:00	8.4	1	11.9	12.9	0.427	12.9	21	0	23.1	81.1	0	7.55	253	3.37	53.55	294.148	37.04	7.87
11/07/2023 03:00	7.7	0	4.4	4.3	0.659	12.9	21.4	0	23	74.6	0	11.84	248	3.38	53.61	294.557	37.04	7.87
11/07/2023 04:00	9	0	4.1	4.1	0.395	12.9	21.2	0	23.2	71.2	0	10.79	249	3.38	53.8	294.332	37.07	7.88
11/07/2023 05:00	9.9	0	5.3	5.2	0.438	12.9	20.8	0	23	78.9	0	12.51	247	3.37	53.52	293.986	37.05	7.87
11/07/2023 06:00	10.9	2	11.2	13.3	0.417	12.9	21	0	23.2	79.8	0	12.17	245	3.38	52.6	294.15	37.1	7.8
11/07/2023 07:00	12.5	3	11.6	14.6	0.448	12.9	21.2	0	23	78.9	0	12.44	244	3.37	51.77	294.365	37.01	7.74
11/07/2023 08:00	14.5	4.7	13.3	17.9	0.467	12.9	22	0	23.3	73.7	0	15.87	239	3.35	50.38	295.185	36.85	7.64
11/07/2023 09:00	14.1	5.1	11.6	16.7	0.481	12.9	22.5	0	23	73.5	0	17.05	238	3.36	49.35	295.603	36.89	7.56
11/07/2023 10:00	12.3	4.9	10.5	15.5	0.526	12.9	23.1	0	23.2	72.2	0	18.5	237	3.36	48.58	296.219	36.82	7.5
11/07/2023 11:00	14.9	2.7	8.5	11.2	0.542	12.9	23.4	0	23	73.6	0	16.51	232	3.35	48.13	296.571	36.74	7.47
11/07/2023 12:00	11.5	3	8.5	11.5	0.599	12.9	25	0	23.2	64.4	0	15.63	227	3.36	47.52	298.176	36.71	7.41
11/07/2023 13:00	9.6	1.4	5.8	7.1	0.454	12.9	25.9	0	23.1	63	0	16.54	223	3.35	46.86	299.022	36.62	7.35
11/07/2023 14:00	8.6	1.7	5.9	7.6	0.518	12.9	26.4	0	23	60.3	0	15.17	224	3.35	46.35	299.532	36.58	7.31
11/07/2023 15:00	7.5	0.8	3.2	3.9	0.569	12.9	26.3	0	23.1	63.5	0	16.03	220	3.33	46.38	299.408	36.51	7.31
11/07/2023 16:00	7	1.5	3.9	5.4	0.513	12.9	25.8	0	23.1	66.1	0	15.01	220	3.35	46.97	298.924	36.65	7.36
11/07/2023 17:00	7.8	0.4	2.8	3.2	0.564	12.9	24.6	0	23	69.5	0	15.17	235	3.37	47.59	297.686	36.83	7.42
11/07/2023 18:00	7.7	2.1	6.3	8.4	0.662	12.9	23.7	0	23	73.1	0	17.15	243	3.4	48.84	296.883	37	7.52
11/07/2023 19:00	7.2	0.5	3.8	4.3	0.467	12.9	24.4	0	23	67.1	0	10.93	273	3.38	49.47	297.523	36.91	7.55
11/07/2023 20:00	6.5	0.4	5.6	5.9	0.463	12.9	22.8	0	23	69.3	0	8.58	260	3.39	49.28	295.973	37.02	7.55
11/07/2023 21:00	5.5	0	1.7	1.7	0.298	12.9	21.4	0	23.2	76.9	0	4.79	324	3.38	49.52	294.567	37.07	7.59
11/07/2023 22:00	5.7	0	0.9	0.8	0.346	12.9	20.9	0	22.9	80	0	4.29	314	3.38	50.58	294.052	37.1	7.67
11/07/2023 23:00	6.9	0	0.6	0.5	0.208	12.9	20.4	0	23.1	80.2	0	7.25	329	3.41	51.75	293.516	37.27	7.75
11/07/2023 24:00	5.6	0	0.2	0.2	0.298	12.9	19.3	0	23.2	75.1	0	5.06	320	3.42	52.62	292.495	37.43	7.83
Minimum	5.5	0	0.2	0.2	0.208	12.9	19.3	0	22.9	60.3	0	4.29	220	3.33	46.35	292.495	36.51	7.31
MinDate	21:00	03:00	24:00	24:00	23:00	01:00	24:00	01:00	01:00	14:00	01:00	22:00	15:00	01:00	14:00	24:00	15:00	14:00
Maximum	14.9	5.1	13.3	17.9	0.662	12.9	26.4	0	23.3	81.8	0	18.5	329	3.42	53.8	299.532	37.43	7.88
MaxDate	11:00	09:00	08:00	08:00	18:00	01:00	14:00	01:00	08:00	01:00	01:00	10:00	23:00	24:00	04:00	14:00	24:00	04:00
Avg	9.3	1.5	6.3	7.8	0.469	12.9	22.7	0	23.1	72.8	0	12.15	254	3.37	50.09	295.847	36.92	7.61
Num	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Data[%]	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
STD	2.8	1.6	3.9	5.3	0.1	0	2.1	0	0.1	6.2	0	4.5	32.8	0	2.5	2.1	0.2	0.2

600 Southgate Drive
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MEMORANDUM

DATE:	2023-10-10	**RWDI Reference No.:** 2400035
TO:	Lipika Saha	**EMAIL:** Lipika.Saha@Durham.ca
CC:	Andrew Evans	**EMAIL:** Andrew.Evans@Durham.ca
CC:	Lyndsay Waller	**EMAIL:** Lyndsay.Waller@Durham.ca
FROM:	Maja Bokara	**EMAIL:** Maja.Bokara@rwdi.com
RE:	**Exceedance Report – Benzo(a)Pyrene August 28, 2023 Region of Durham, DYEC**	

On September 29, 2023, the results from ALS Environmental were received regarding the PAH results from the August 28, 2023, sampling event. On October 3, 2023, the results were entered and assessed. It was noted that on August 28, 2023, the Courtice Station Benzo(a)Pyrene (BaP) concentration was in excess of the 24-hour AAQC as measured by the onsite PUF PS-1 samplers. Attached is a figure depicting the wind rose (indicating the wind speed and direction during the sampling day), and the location of the sampling stations relative to the DYEC.

The following summarizes the BaP concentrations and onsite conditions during the August 28 sampling date:

1. The guideline concentration for BaP is 0.05 ng/m^3. The measured concentration at the Courtice sampler was 0.559 ng/m^3.
2. During the sampling day the wind was predominantly from the SE to S and the N as recorded at the Courtice Meteorological Tower. One-hour average wind speeds at Courtice Meteorological Tower ranged from 1.2 km/h to 12.0 km/h.
3. RWDI reviewed the available CEMS data over a 72-hour period which includes the day before and after the BaP exceedance date. The data showed no unusual readings, and all parameters were within the expected values as well as below the listed Limits. Based on the data, both boilers 1 and 2 were operating normally during the time reviewed.
4. A review of the current ESDM data shows that Benzo(a)Pyrene emissions from the DYEC for a 24-hour period are estimated to be less than 1% of the MECP limit.
5. At the time of the data review, MECP monitoring station data for BaP was not available.
6. The Courtice meteorological data suggests that the Courtice Station was primarily crosswind of the DYEC during the sampling period. Given the wind conditions, it is unlikely that the measured BaP exceedance is attributable to the Energy Centre operations.

At the Courtice Station, the NO_2 rolling mean for hourly values were less than 12% of the criteria for the same period. The $PM_{2.5}$ 24-hour average value was 4.5 micrograms per cubic metre at the Courtice Station.

We have attached the data files for the samples in question to aid with the review.

Respectfully submitted by:

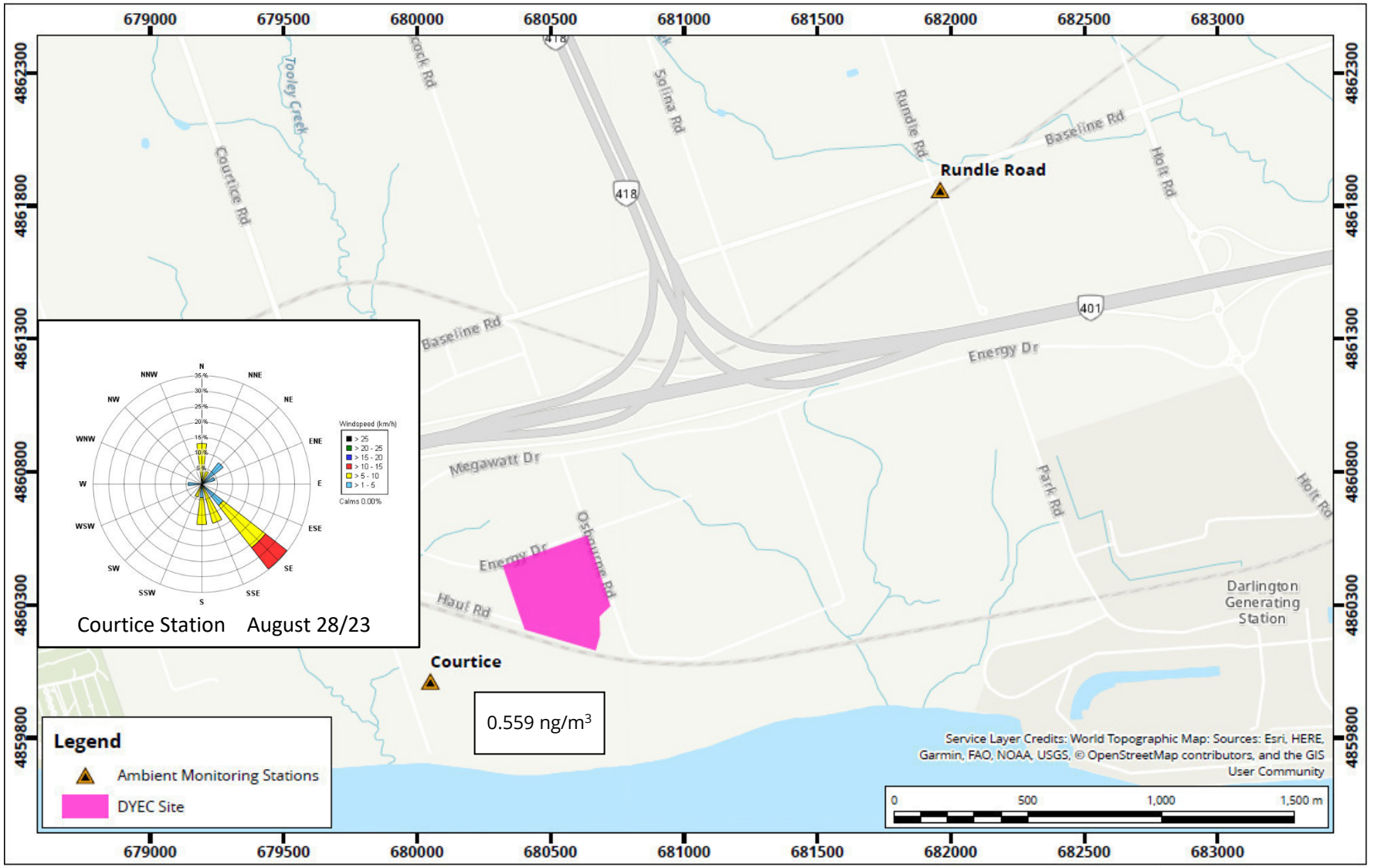
RWDI AIR Inc.

Maja Bokara, PGCert, EP
Project Manager

MB/vit

Attach.

ATTACHMENTS



DYEC Site and Ambient Monitoring Station Locations

True North

Drawn by: DAJH | Figure: 1

Approx. Scale: 1:20,000

Date Revised: Aug 28, 2023

Map Projection: NAD 1983 UTM Zone 17N

DYEC - Region of Durham, Ontario

Project #: 2400035

ALS Environmental
1435 Norjohn Court, Unit 1, Burlington, Ontario, Canada, L7L 0E6
Tel +1-905-331-3111 Fax +1-905-331-4567 www.alsglobal.com

L2752480-COFC

Report To		Report Format / Distribution		Service
Company:	RWDI AIR INC. (Guelph)	☑ Standard | Other:		| Re
Contact:	Khalid Hussein	☑ PDF ☑ Excel | Digital | Fax		| Rush Service (with prior consultation) - surcharge applies
Address:	600 Southgate Drive, Guelph, ON N1G 4P6	Email 1:	Khalid.Hussein@rwdi.com, Steve.Sanderson@rwdi.com	| Other - Please contact ALS
Phone:	519-823-1311 Fax:	Email 2:	John.DeYoe@rwdi.com, John.Green@RWDI.com	
Invoice To	Same as Report ? | Yes | ☑ No	Email 3:	Dan.Harrigan@rwdi.com, Maja.Bokara@rwdi.com	
		Email 4:	Victoria.Latam@rwdi.com, Emma.Nicholls@rwdi.com	
Email 1:	accountspayable@rwdi.com	Location:	DYEC	
Email 2:	Khalid.Hussein@rwdi.com	PO:	~~2205149~~ Phase 3000 24000035	
		Sampled by:	Martin Town	
Quote	Q69531	ALS Contact:	Claire Kocharakkal	

Sample #	Sample Identification (This description will appear on the report)	Date (dd-mmm-yy)	Air Volume (m³)	Sample Type	TSP, Hg, ICP	PAH	DX	Hazardous? Provide Details	Highly Contaminated?	Number of Containers
1	L2752235-2 - Rundle	28-Aug-23	318	Air		X				1
2	744186	28-Aug-23	1677	Air	X					1
3	744184	22-Aug-23	1662	Air	X					1
4	L2752235-3 - Courtice	28-Aug-23	322	Air		X				1
5	744187	28-Aug-23	1711	Air	X					1
6	744185	22-Aug-23	1700	Air	X					1
7				Air						1
8				Air						1

Special Instructions / Regulations / Hazardous Details

By the use of this form the user acknowledges and agrees with the Terms and Conditions as provided by ALS

Released by:	Date (dd-mmm-yy)	Time (hh-mm)	Received by:	Date:	Time:	Temperature:	Verified by:	Date:	Time:	Observations: Yes / No ?
	30-Aug-23	11:50	ARROW BURTON	1-Sept-2023	9:40	9.6°C on 15.5°C				

1435 Norjohn Court, Unit 1, Burlington ON, L7L 0E6
Phone: 905-331-3111, FAX: 905-331-4567

Certificate of Analysis

ALS Project Contact:	Claire Kocharakkal	**Client Name:**	RWDI Air Inc
ALS Project ID:	23601	**Client Address:**	600 Southgate Drive
ALS WO#:	L2752480		Guelph, ON N1G 4P6
Date of Report	29-Sep-23		Canada
Date of Sample Receipt	1-Sep-23	**Client Contact:**	Maja Bokara
		Client Project ID:	DYEC

COMMENTS: **PAH by CARB method 429 (LR option)- Isotope dilution**

The recoveries of some of the labelled standards were marginally below the method control limits. Reported results, calculated via isotope dilutions are not expected to be biased.

For the sample COURTICE-DX/PAH-AUG28, the results of some targets have been reported from the analysis of diluted extract where additional labelled extraction standard has been added for quantification. In this case, the reported values are not recovery corrected and reported recoveries of the standard do not represent extraction and preparation recovery.

Certified by:

Sabrina Jin
Technical Specialist

ALS Life Sciences

Sample Analysis Summary Report

Sample Name	Method Blank		Method Blank		RUNDLE DX/PAH-AUG28		COURTICE DX/PAH-AUG28		Laboratory Control Sample	
ALS Sample ID	WG3786771 1		WG3786771 4		L2752480-1		L2752480-2		WG3786771 2	
Sample Size	1		1		1		1		1	
Sample units	Sample		Sample		Sample		Sample		n/a	
Moisture Content	n/a		n/a		n/a		n/a		n/a	
Matrix	MEDIA		REAGENT		PUF		PUF		MEDIA	
Sampling Date	n/a		n/a		28-Aug-23		28-Aug-23		n/a	
Extraction Date	1-Sep-23		1-Sep-23		1-Sep-23		1-Sep-23		1-Sep-23	
Target Analytes	**ng/sample**		**ng/sample**		**ng/sample**		**ng/sample**		**%**	
Naphthalene	89.0		13.9		2580		22700		150.0	
2-Methylnaphthalene	9.25		6.25		3080		31700		101.0	
1-Methylnaphthalene	5.95		4.15		1950		16000		111.0	
Acenaphthylene	<1.0	U	<1.0	U	98.2	R	1050	R	86.9	
Acenaphthene	1.70		<1.0	U	2210		36200		83.6	
Fluorene	1.50		<1.0	U	1780		18000		83.9	
Phenanthrene	3.20		1.85		3440		24200		91.7	
Anthracene	<1.0	U	<1.0	U	251		6470		85.4	
Fluoranthene	<1.0	U	<1.0	U	799		9240		86.8	
Pyrene	<1.0	U	<1.0	U	357		5220		87.9	
Benzo(a)Anthracene	<1.0	U	<1.0	U	4.05		626		106.0	
Chrysene	<1.0	U	<1.0	U	25.5	R	877		88.3	
Benzo(b)Fluoranthene	<1.0	U	<1.0	U	5.75	M	276		80.4	
Benzo(k)Fluoranthene	<1.0	U	<1.0	U	5.70	M	272	M,R	88.9	
Benzo(e)Pyrene	<1.0	U	<1.0	U	5.55		179		99.9	
Benzo(a)Pyrene	<1.0	U	<1.0	U	2.90		180		106.0	
Perylene	<1.0	U	<1.0	U	1.00		48.8	R	86.5	
Indeno(1,2,3-cd)Pyrene	<1.0	U	<1.0	U	7.80		75.7		91.7	
Dibenzo(a,h)Anthracene	<1.0	U	<1.0	U	1.35		21.4		92.8	
Benzo(g,h,i)Perylene	<1.0	U	<1.0	U	8.45		63.3		86.4	
Additional Analytes										
Tetralin	160	M	<1.0	U	266	M,B	821	B	<1.0	U
Biphenyl	3.45	M	2.20		1260		23100		<1.0	U
o-Terphenyl	<1.0	U	<1.0	U	3.85		6.70		<1.0	U
Benzo(a)fluorene	<1.0	U	<1.0	U	23.3	M	974	M	<1.0	U
Benzo(b)fluorene	<1.0	U	<1.0	U	3.45		244		<1.0	U
Field Sampling Standards	**% Rec**		**% Rec**		**% Rec**		**% Rec**		**% Rec**	
1-Methylnaphthalene-D10	NS		NS		81.7		80.5		NS	
Fluorene D10	NS		NS		54.9		106.5		NS	
Terphenyl D14(Surr.)	NS		NS		103.4		109.5		NS	
Extraction Standards	**% Rec**		**% Rec**		**% Rec**		**% Rec**		**% Rec**	
Naphthalene D8	47.5		60.5		39.7		45.9	R	50.1	
2-Methylnaphthalene-D10	46.8		58.7		40.7		81.6		48.0	
Acenaphthylene D8	43.6		57.6		56.5		35.2		49.0	
Phenanthrene D10	58.0		66.5		88.2		78.9		58.4	
Anthracene-D10	47.5		55.4		68.4		97.9		51.2	
Fluoranthene D10	66.6		68.4		74.2		95.0		63.4	
Benz(a)Anthracene-D12	50.4		45.9		64.4		78.8		59.4	
Chrysene D12	60.0		57.0		62.4		75.7		66.1	
Benzo(b)Fluoranthene-D12	88.3		63.9		84.4		89.1		76.1	
Benzo(k)Fluoranthene-D12	65.3		58.0		66.5		70.6		67.4	
Benzo(a)Pyrene D12	46.2		53.8		49.8		61.7		53.0	
Perylene D12	64.4		50.8		62.7		61.6		67.3	
Indeno(1,2,3,cd)Pyrene-D12	48.2		44.6		51.2		59.5		58.0	
Dibenz(a,h)Anthracene-D14	42.4		39.1		46.3		55.6		52.9	
Benzo(g,h,i)Perylene D12	62.1		58.5		59.9		58.2		65.2	

U	Indicates that this compound was not detected above the LOD.
M	Indicates that a peak has been manually integrated.
B	Indicates that this compound was detected in the method blank at greater than 10% of the sample value.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.
NS	Indicates that this compound was not spiked in

ALS Life Sciences

Laboratory Method Blank Analysis Report

Sample Name	**Method Blank**	Sampling Date	n/a
ALS Sample ID	WG3786771-1	Extraction Date	1-Sep 23
Analysis Method	PAH by CARB 429		
Analysis Type	blank		
Sample Matrix	MEDIA		
Sample Size	1 Sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786771

Approved:
Andrew Reid
e-signature-
29 Sep 2023

Run Information	**Run 1**
Filename	23092157.D
Run Date	9/23/2023 8:11
Final Volume	0.1 mL
Dilution Factor	1
Analysis Units	ng/sample
Instrument	MSD-5
Column	HP-5MS US3388814H

Target Analytes	**Ret. Time**	**Concentration ng/sample**	**Flags**
Naphthalene	2.84	89.0	
2-Methylnaphthalene	3.36	9.25	
1-Methylnaphthalene	3.47	5.95	
Acenaphthylene	4.40	<1.0	U
Acenaphthene	4.65	1.70	
Fluorene	5.51	1.50	
Phenanthrene	7.58	3.20	
Anthracene	7.69	<1.0	U
Fluoranthene	10.87	<1.0	U
Pyrene	11.50	<1.0	U
Benzo(a)Anthracene	NotFnd	<1.0	U
Chrysene	NotFnd	<1.0	U
Benzo(b)Fluoranthene	NotFnd	<1.0	U
Benzo(k)Fluoranthene	NotFnd	<1.0	U
Benzo(e)Pyrene	NotFnd	<1.0	U
Benzo(a)Pyrene	NotFnd	<1.0	U
Perylene	NotFnd	<1.0	U
Indeno(1,2,3-cd)Pyrene	NotFnd	<1.0	U
Dibenzo(a,h)Anthracene	NotFnd	<1.0	U
Benzo(g,h,i)Perylene	NotFnd	<1.0	U
Additional Analytes			
Tetralin	2.73	160	M
Biphenyl	3.84	3.45	M
o-Terphenyl	8.82	<1.0	U
Benzo(a)fluorene	12.68	<1.0	U
Benzo(b)fluorene	12.89	<1.0	U

Field Sampling Standards	**ng spiked**	**% Rec**
1-Methylnaphthalene-D10	0	NS
Fluorene D10	0	NS
Terphenyl D14(Surr.)	0	NS

Extraction Standards			**% Rec**	**Limits**
Naphthalene D8	100	2.84	47.5	50-150
2-Methylnaphthalene-D10	100	3.34	46.8	50-150
Acenaphthylene D8	100	4.37	43.6	50-150
Phenanthrene D10	100	7.53	58.0	50-150
Anthracene-D10	100	7.65	47.5	50-150
Fluoranthene D10	100	10.83	66.6	50-150
Benz(a)Anthracene-D12	100	15.31	50.4	50-150
Chrysene D12	100	15.42	60.0	50-150
Benzo(b)Fluoranthene-D12	100	18.62	88.3	50-150
Benzo(k)Fluoranthene-D12	100	18.72	65.3	50-150
Benzo(a)Pyrene D12	100	19.50	46.2	50-150
Perylene D12	100	19.74	64.4	50-150
Indeno(1,2,3,cd)Pyrene-D12	100	22.76	48.2	50-150
Dibenz(a,h)Anthracene-D14	100	22.95	42.4	50-150
Benzo(g,h,i)Perylene D12	100	23.58	62.1	50-150

M	Indicates that a peak has been manually integrated.
U	Indicates that this compound was not detected above the MDL.
NS	Indicates that this compound was not spiked in

ALS Life Sciences

Sample Analysis Report

Sample Name	**Method Blank**	Sampling Date	n/a
ALS Sample ID	WG3786771-4	Extraction Date	1-Sep 23
Analysis Method	PAH by CARB 429		
Analysis Type	sample		
Sample Matrix	REAGENT		
Sample Size	1 Sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786771

Approved:
Andrew Reid
e-signature-
29 Sep 2023

Run Information	**Run 1**
Filename	23092158.D
Run Date	9/23/2023 8:53
Final Volume	0.1 mL
Dilution Factor	1
Analysis Units	ng/sample
Instrument	MSD-5
Column	HP-5MS US3388814H

Target Analytes	**Ret. Time**	**Concentration ng/sample**	**Flags**
Naphthalene	2.84	13.9	
2-Methylnaphthalene	3.36	6.25	
1-Methylnaphthalene	3.46	4.15	
Acenaphthylene	NotFnd	<1.0	U
Acenaphthene	4.65	<1.0	U
Fluorene	5.51	<1.0	U
Phenanthrene	7.58	1.85	
Anthracene	7.68	<1.0	U
Fluoranthene	10.87	<1.0	U
Pyrene	11.50	<1.0	U
Benzo(a)Anthracene	NotFnd	<1.0	U
Chrysene	NotFnd	<1.0	U
Benzo(b)Fluoranthene	NotFnd	<1.0	U
Benzo(k)Fluoranthene	NotFnd	<1.0	U
Benzo(e)Pyrene	NotFnd	<1.0	U
Benzo(a)Pyrene	NotFnd	<1.0	U
Perylene	NotFnd	<1.0	U
Indeno(1,2,3-cd)Pyrene	NotFnd	<1.0	U
Dibenzo(a,h)Anthracene	NotFnd	<1.0	U
Benzo(g,h,i)Perylene	NotFnd	<1.0	U
Additional Analytes			
Tetralin	NotFnd	<1.0	U
Biphenyl	3.83	2.20	
o-Terphenyl	8.81	<1.0	U
Benzo(a)fluorene	NotFnd	<1.0	U
Benzo(b)fluorene	NotFnd	<1.0	U

Field Sampling Standards	**ng spiked**	**% Rec**
1-Methylnaphthalene-D10	0	NS
Fluorene D10	0	NS
Terphenyl D14(Surr.)	0	NS

Extraction Standards			**% Rec**	**Limits**
Naphthalene D8	100	2.83	60.5	50-150
2-Methylnaphthalene-D10	100	3.33	58.7	50-150
Acenaphthylene D8	100	4.37	57.6	50-150
Phenanthrene D10	100	7.52	66.5	50-150
Anthracene-D10	100	7.64	55.4	50-150
Fluoranthene D10	100	10.82	68.4	50-150
Benz(a)Anthracene-D12	100	15.31	45.9	50-150
Chrysene D12	100	15.43	57.0	50-150
Benzo(b)Fluoranthene-D12	100	18.63	63.9	50-150
Benzo(k)Fluoranthene-D12	100	18.72	58.0	50-150
Benzo(a)Pyrene D12	100	19.51	53.8	50-150
Perylene D12	100	19.74	50.8	50-150
Indeno(1,2,3,cd)Pyrene-D12	100	22.76	44.6	50-150
Dibenz(a,h)Anthracene-D14	100	22.95	39.1	50-150
Benzo(g,h,i)Perylene D12	100	23.58	58.5	50-150

U Indicates that this compound was not detected above the MDL.
NS Indicates that this compound was not spiked in

ALS Life Sciences

Sample Analysis Report

Sample Name	**RUNDLE-DX/PAH AUG28**	Sampling Date	28 Aug 23
ALS Sample ID	L2752480-1	Extraction Date	1-Sep 23
Analysis Method	PAH by CARB 429		
Analysis Type	sample		
Sample Matrix	PUF		
Sample Size	1 Sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786771

Approved:
Andrew Reid
e-signature-
29 Sep 2023

Run Information	**Run 1**	**Run 2**
Filename	23092162.D	23092160.D
Run Date	9/23/2023 11:41	9/23/2023 10:17
Final Volume	0.1 mL	0.1 mL
Dilution Factor	1	10
Analysis Units	ng/sample	ng/sample
Instrument	MSD-5	MSD-5
Column	HP-5MS US3388814H	HP-5MS US3388814H

Target Analytes	**Ret. Time**	**Concentration ng/sample**	**Flags**	**Ret. Time.**	**Concentration ng/sample**	**Flags**
Naphthalene				2.84	2580	
2-Methylnaphthalene				3.35	3080	
1-Methylnaphthalene				3.45	1950	
Acenaphthylene	4.38	98.2	R			
Acenaphthene				4.65	2210	
Fluorene				5.50	1780	
Phenanthrene				7.57	3440	
Anthracene	7.68	251				
Fluoranthene				10.87	799	
Pyrene	11.50	357				
Benzo(a)Anthracene	15.37	4.05				
Chrysene	15.48	25.5	R			
Benzo(b)Fluoranthene	18.68	5.75	M			
Benzo(k)Fluoranthene	18.75	5.70	M			
Benzo(e)Pyrene	19.42	5.55				
Benzo(a)Pyrene	19.55	2.90				
Perylene	19.79	1.00				
Indeno(1,2,3-cd)Pyrene	22.83	7.80				
Dibenzo(a,h)Anthracene	23.01	1.35				
Benzo(g,h,i)Perylene	23.65	8.45				
Additional Analytes						
Tetralin	2.73	266	M B			
Biphenyl				3.83	1260	
o-Terphenyl	8.82	3.85				
Benzo(a)fluorene	12.65	23.3	M			
Benzo(b)fluorene	12.87	3.45				

Field Sampling Standards	**ng spiked**		**% Rec**			**% Rec**
1-Methylnaphthalene-D10	300	3.43	81.7			
Fluorene D10	300	5.45	54.9			
Terphenyl D14(Surr.)	300	12.32	103.4			

Extraction Standards			**% Rec**	**Limits**		**% Rec**
Naphthalene D8	100			50-150	2.83	39.7
2-Methylnaphthalene-D10	100			50-150	3.33	40.7
Acenaphthylene D8	100	4.36	56.5	50-150		
Phenanthrene D10	100			50-150	7.52	88.2
Anthracene-D10	100	7.64	68.4	50-150		
Fluoranthene D10	100	10.82	74.2	50-150		
Benz(a)Anthracene-D12	100	15.31	64.4	50-150		
Chrysene D12	100	15.42	62.4	50-150		
Benzo(b)Fluoranthene-D12	100	18.62	84.4	50-150		
Benzo(k)Fluoranthene-D12	100	18.71	66.5	50-150		
Benzo(a)Pyrene D12	100	19.50	49.8	50-150		
Perylene D12	100	19.74	62.7	50-150		
Indeno(1,2,3,cd)Pyrene-D12	100	22.75	51.2	50-150		
Dibenz(a,h)Anthracene-D14	100	22.94	46.3	50-150		
Benzo(g,h,i)Perylene D12	100	23.57	59.9	50-150		

M	Indicates that a peak has been manually integrated.
B	Indicates that this compound was detected in the method blank at greater than 10% of the sample value.
R	Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**COURTICE-DX/PAH AUG28**	Sampling Date	28 Aug 23
ALS Sample ID	L2752480-2	Extraction Date	1-Sep 23
Analysis Method	PAH by CARB 429		
Analysis Type	sample		
Sample Matrix	PUF		
Sample Size	1 Sample		
Percent Moisture	n/a		
Split Ratio	5	Workgroup	WG3786771

Approved:
Andrew Reid
e-signature-
29 Sep 2023

Run Information	**Run 1**	**Run 2**	**Run 3**
Filename	23092163.D	23092200.D	23092298.D
Run Date	9/23/2023 12:23	9/25/2023 22:47	9/28/2023 12:48
Final Volume	0.1 mL	0.1 mL	0.1 mL
Dilution Factor	1	20	1000
Analysis Units	ng/sample	ng/sample	ng/sample
Instrument	MSD-5	MSD-5	MSD-5
Column	HP-5MS US3388814H	HP-5MS US3388814H	HP-5MS US3388814H

Target Analytes	**Ret. Time**	**Concentration ng/sample**	**Flags**	**Ret. Time.**	**Concentration ng/sample**	**Flags**	**Ret. Time.**	**Concentration ng/sample**	**Flags**
Naphthalene				2.84	22700				
2-Methylnaphthalene							3.36	31700	
1-Methylnaphthalene							3.46	16000	
Acenaphthylene	4.39	1050	R						
Acenaphthene							4.66	36200	
Fluorene							5.52	18000	
Phenanthrene							7.60	24200	
Anthracene				7.69	6470				
Fluoranthene				10.89	9240				
Pyrene				11.51	5220				
Benzo(a)Anthracene	15.36	626							
Chrysene	15.48	877							
Benzo(b)Fluoranthene	18.69	276							
Benzo(k)Fluoranthene	18.75	272 M	R						
Benzo(e)Pyrene	19.42	179							
Benzo(a)Pyrene	19.56	180							
Perylene	19.79	48.8	R						
Indeno(1,2,3-cd)Pyrene	22.82	75.7							
Dibenzo(a,h)Anthracene	23.00	21.4							
Benzo(g,h,i)Perylene	23.65	63.3							
Additional Analytes									
Tetralin	2.72	821	B						
Biphenyl				3.83	23100				
o-Terphenyl	8.83	6.70							
Benzo(a)fluorene	12.66	974 M							
Benzo(b)fluorene	12.86	244							

Field Sampling Standards	**ng spiked**	**% Rec**		**% Rec**		**% Rec**
1-Methylnaphthalene-D10	300		3.44	80.5		
Fluorene D10	300		5.48	106.5		
Terphenyl D14(Surr.)	300		12.34	109.5		

Extraction Standards			**% Rec**	**Limits**		**% Rec**			**% Rec**
Naphthalene D8	100			50-150	2.82	45.9	R		
2-Methylnaphthalene-D10	###			50-150				3.34	81.6
Acenaphthylene D8	100	4.37	35.2	50-150					
Phenanthrene D10	###			50-150				7.54	78.9
Anthracene-D10	100			50-150	7.65	97.9			
Fluoranthene D10	100			50-150	10.84	95.0			
Benz(a)Anthracene-D12	100	15.30	78.8	50-150					
Chrysene D12	100	15.41	75.7	50-150					
Benzo(b)Fluoranthene-D12	100	18.61	89.1	50-150					
Benzo(k)Fluoranthene-D12	100	18.71	70.6	50-150					
Benzo(a)Pyrene D12	100	19.49	61.7	50-150					
Perylene D12	100	19.73	61.6	50-150					
Indeno(1,2,3,cd)Pyrene-D12	100	22.74	59.5	50-150					
Dibenz(a,h)Anthracene-D14	100	22.91	55.6	50-150					
Benzo(g,h,i)Perylene D12	100	23.56	58.2	50-150					

M Indicates that a peak has been manually integrated.

B Indicates that this compound was detected in the method blank at greater than 10% of the sample value.
R Indicates that the ion abundance ratio for this compound did not meet the acceptance criterion.

ALS Life Sciences

Sample Analysis Report

Sample Name	**Laboratory Control Sample**		Sampling Date	n/a	
ALS Sample ID	WG3786771-2		Extraction Date	1-Sep 23	
Analysis Method	PAH by CARB 429				
Analysis Type	sample				
Sample Matrix	MEDIA				Approved:
Sample Size	1	n/a			*Andrew Reid*
Percent Moisture	n/a				e-signature-
Split Ratio	5		Workgroup	WG3786771	29 Sep 2023

Run Information	**Run 1**
Filename	23092152.D
Run Date	9/23/2023 4:40
Final Volume	0.1 mL
Dilution Factor	1
Analysis Units	%
Instrument	MSD-5
Column	HP-5MS US3388814H

Target Analytes	**Ret. Time**	**Concentration %**	**Flags**
Naphthalene	2.84	150.0	
2-Methylnaphthalene	3.36	101.0	
1-Methylnaphthalene	3.46	111.0	
Acenaphthylene	4.39	86.9	
Acenaphthene	4.65	83.6	
Fluorene	5.51	83.9	
Phenanthrene	7.58	91.7	
Anthracene	7.69	85.4	
Fluoranthene	10.87	86.8	
Pyrene	11.50	87.9	
Benzo(a)Anthracene	15.37	106.0	
Chrysene	15.49	88.3	
Benzo(b)Fluoranthene	18.69	80.4	
Benzo(k)Fluoranthene	18.77	88.9	
Benzo(e)Pyrene	19.43	99.9	
Benzo(a)Pyrene	19.57	106.0	
Perylene	19.80	86.5	
Indeno(1,2,3-cd)Pyrene	22.83	91.7	
Dibenzo(a,h)Anthracene	23.03	92.8	
Benzo(g,h,i)Perylene	23.66	86.4	

Additional Analytes			
Tetralin	0	NS	
Biphenyl	0	NS	
o-Terphenyl	0	NS	
Benzo(a)fluorene	0	NS	
Benzo(b)fluorene	0	NS	

Field Sampling Standards	**ng spiked**	**% Rec**	
1-Methylnaphthalene-D10	0	NS	
Fluorene D10	0	NS	
Terphenyl D14(Surr.)	0	NS	

Extraction Standards			**% Rec**	**Limits**
Naphthalene D8	100	2.83	50.1	50-150
2-Methylnaphthalene-D10	100	3.33	48.0	50-150
Acenaphthylene D8	100	4.37	49.0	50-150
Phenanthrene D10	100	7.53	58.4	50-150
Anthracene-D10	100	7.65	51.2	50-150
Fluoranthene D10	100	10.83	63.4	50-150
Benz(a)Anthracene-D12	100	15.31	59.4	50-150
Chrysene D12	100	15.42	66.1	50-150
Benzo(b)Fluoranthene-D12	100	18.63	76.1	50-150
Benzo(k)Fluoranthene-D12	100	18.72	67.4	50-150
Benzo(a)Pyrene D12	100	19.50	53.0	50-150
Perylene D12	100	19.74	67.3	50-150
Indeno(1,2,3,cd)Pyrene-D12	100	22.76	58.0	50-150
Dibenz(a,h)Anthracene-D14	100	22.94	52.9	50-150
Benzo(g,h,i)Perylene D12	100	23.57	65.2	50-150

M	Indicates that a peak has been manually integrated.
NS	Indicates that this compound was not spiked in

Table B5: 2023 Courtice Station Q3 Monitoring Results for PAHs

Contaminant	Units	*MECP Criteria*	28-Aug-23	No. > Criteria
1-Methylnaphthalene	ng/m^3	*12000*	4.97E+01	0
2-Methylnaphthalene	ng/m^3	*10000*	9.84E+01	0
Acenaphthene	ng/m^3		1.12E+02	
Acenaphthylene	ng/m^3	*3500*	3.26E+00	0
Anthracene	ng/m^3	*200*	2.01E+01	0
Benzo(a)Anthracene	ng/m^3		1.94E+00	
Benzo(a)fluorene	ng/m^3		3.02E+00	
Benzo(a)Pyrene (Historically High)	ng/m^3	*0.05* [1] *5* [2] *1.1* [3]	5.59E-01	1
Benzo(b)Fluoranthene	ng/m^3		8.57E-01	
Benzo(b)fluorene	ng/m^3		7.58E-01	
Benzo(e)Pyrene	ng/m^3		5.56E-01	
Benzo(g,h,i)Perylene	ng/m^3		1.97E-01	
Benzo(k)Fluoranthene	ng/m^3		8.45E-01	
Biphenyl	ng/m^3		7.17E+01	
Chrysene	ng/m^3		2.72E+00	
Dibenzo(a,h)Anthracene	ng/m^3		6.65E-02	
Fluoranthene	ng/m^3		2.87E+01	
Fluorene	ng/m^3		5.59E+01	
Indeno(1,2,3-cd)Pyrene	ng/m^3		2.35E-01	
Naphthalene	ng/m^3	*22500*	7.05E+01	0
o-Terphenyl	ng/m^3		2.08E-02	
Perylene	ng/m^3		1.52E-01	
Phenanthrene	ng/m^3		7.52E+01	
Pyrene	ng/m^3		1.62E+01	
Tetralin	ng/m^3		2.55E+00	
Total PAH[4]	ng/m^3		616.60	

NOTE: All non-detectable results were reported as 1/2 of the detection limit

[1] AAQC

[2] O. Reg. 419/05 Schedule Upper Risk Thresholds

[3] O. Reg. 419/05 24 Hour Guideline

[4] Total PAH sums all PAH contaminants

Station: RofD Courtice Daily: 28/08/2023 Type: AVG 1 Hr. [5 Mins.]

Date & Time	PM2.5	NO	NO2	NOX	SO2	WS km/hr	ET	WD	Tr_Temp	RH AVG	BP	Rain total	Hi-Vol Pressure	PUF Pressure	BP	ET	Hivol Flow	PUF Flow
	ug/m3	ppb	ppb	ppb	ppb	km/hr	C°	Deg	C°	%	in HG	mm	in H20	in H20	kPa	K	cfm	cfm
28/08/2023 00:00	8.3	3.5	6.7	10.2	0.328	8.16	14.85	351	21.4	77.6	29.73	0	4.01	49.22	100.69	288	42.3	8.19
28/08/2023 01:00	8.5	1.8	7.8	9.6	0.592	6.31	14.141	209	21.3	79.4	29.73	0	4.04	49.44	100.66	287.291	42.46	8.21
28/08/2023 02:00	8.6	1.8	7.7	9.5	13.13	4.17	13.276	127	21.4	83.5	29.73	0	4.01	49.7	100.67	286.426	42.4	8.24
28/08/2023 03:00	6.9	2.8	9	11.8	27.524	3.12	13.893	41	21.4	80.8	29.73	0	3.99	49.43	100.66	287.043	42.22	8.21
28/08/2023 04:00	5.1	6.5	10.6	17.2	16.217	3.3	13.25	68	21.4	87	29.73	0	4.02	49.23	100.68	286.4	42.46	8.21
28/08/2023 05:00	3.8	3.9	10.2	14.1	18.107	6.1	13.612	11	21.4	87	29.73	0	4.04	48.61	100.69	286.762	42.52	8.16
28/08/2023 06:00	3.5	4	7.9	11.9	27.54	5.38	14.962	18	21.5	80.9	29.74	0	4.01	48.14	100.7	288.112	42.27	8.11
28/08/2023 07:00	3.7	8	7.4	15.4	6.939	5	18.068	45	21.7	72.1	29.74	0	3.96	46.91	100.7	291.218	41.77	7.97
28/08/2023 08:00	4.2	1.8	2.7	4.5	3.558	5.43	20.095	133	21.8	69.5	29.74	0	3.92	45.99	100.7	293.245	41.34	7.88
28/08/2023 09:00	3.5	0.7	0.9	1.6	2.51	9.21	19.916	137	21.7	69.3	29.74	0	3.95	45.98	100.71	293.066	41.57	7.88
28/08/2023 10:00	4.1	0.1	0	0	1.925	11.96	20.386	137	21.8	67.2	29.74	0	3.96	45.95	100.7	293.536	41.56	7.87
28/08/2023 11:00	3.9	0	0	0	1.551	11.05	20.552	143	21.8	64.9	29.73	0	3.94	45.69	100.68	293.702	41.46	7.85
28/08/2023 12:00	2.8	0	0	0	1.236	9.89	20.768	159	21.9	60.1	29.72	0	3.92	45.03	100.65	293.918	41.33	7.8
28/08/2023 13:00	2.5	0	0	0	1.042	9.22	20.895	163	22.1	61.3	29.71	0	3.91	44.83	100.62	294.045	41.22	7.78
28/08/2023 14:00	2.5	0	0	0	0.887	7.77	21.022	172	21.9	61.5	29.7	0	3.9	44.71	100.57	294.172	41.19	7.76
28/08/2023 15:00	1.9	0	0	0	0.773	6.99	21.221	163	21.8	60	29.69	0	3.9	44.66	100.54	294.371	41.13	7.76
28/08/2023 16:00	2.6	0	0	0	0.728	6.56	21.2	140	21.6	59.9	29.69	0	3.92	45.06	100.53	294.35	41.27	7.79
28/08/2023 17:00	2.3	0	0	0	0.653	5.77	20.973	125	21.5	59.5	29.68	0	3.95	46.14	100.51	294.123	41.41	7.87
28/08/2023 18:00	2.6	0	0	0	0.563	2.73	20.257	124	21.2	63.4	29.67	0	3.94	45.97	100.48	293.407	41.42	7.87
28/08/2023 19:00	3.9	7.9	18.7	26.5	1.19	1.21	17.754	<Samp	21.4	75.6	29.67	0	3.95	46.47	100.48	290.904	41.65	7.94
28/08/2023 20:00	4.7	11.9	20.6	32.6	3.099	3.19	16.349	265	21.4	81.7	29.69	0	3.98	47.6	100.53	289.499	41.99	8.04
28/08/2023 21:00	5.6	8.2	16.5	24.7	3.342	3.56	15.38	172	21.4	85	29.69	0	4.02	47.75	100.54	288.53	42.27	8.07
28/08/2023 22:00	6.3	9.6	12.5	22.1	1.843	5.27	14.267	179	21.5	89.4	29.68	0	4.04	48.11	100.52	287.417	42.45	8.11
28/08/2023 23:00	7.3	3.4	10	13.3	1.466	7.09	14.031	352	21.4	88.3	29.68	0	4.08	48.01	100.51	287.181	42.71	8.1
Minimum	1.9	0	0	0	0.328	1.21	13.25	11	21.2	59.5	29.67	0	3.9	44.66	100.48	286.4	41.13	7.76
MinDate	15:00	11:00	10:00	10:00	00:00	19:00	04:00	05:00	18:00	17:00	18:00	00:00	14:00	15:00	18:00	04:00	15:00	14:00
Maximum	8.6	11.9	20.6	32.6	27.54	11.96	21.221	352	22.1	89.4	29.74	0	4.08	49.7	100.71	294.371	42.71	8.24
MaxDate	02:00	20:00	20:00	20:00	06:00	10:00	15:00	23:00	13:00	22:00	06:00	00:00	23:00	02:00	09:00	15:00	23:00	02:00
Avg	4.5	3.2	6.2	9.4	5.698	6.19	17.547	149	21.6	73.5	29.71	0	3.97	47.03	100.61	290.697	41.85	7.99
Num	24	24	24	24	24	24	24	23	24	24	24	24	24	24	24	24	24	24
Data[%]	100	100	100	100	100	100	100	95.83	100	100	100	100	100	100	100	100	100	100
STD	2	3.6	6.3	9.7	8.2	2.7	3.1	85.7	0.2	10.4	0	0	0.1	1.7	0.1	3.1	0.5	0.2

APPENDIX G

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November 1, 2023

Lyndsay Waller
Operations Technician
The Regional Municipality of Durham
Durham York Energy Centre
605 Rossland Road East, 1st Floor
Corporate Services-Legislative Services Division
Whitby, ON L1N 6A3
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Re: Durham York Energy Centre (DYEC)
2023 Ambient Air Q3 Sulphur Dioxide Emissions
RWDI Reference No. 2400035

In support of the 2023, Q3 Ambient Air Quality Monitoring Report prepared by RWDI Inc., the following information is provided in relation to the performance of the DYEC during the periods of elevated sulphur dioxide (SO_2) concentrations observed at the facility's Courtice and Rundle ambient air monitoring stations.

The Emission Summary and Dispersion Modelling (ESDM) report submitted as part of the DYEC ECA Application modelled SO_2 concentrations at the maximum point of impingement (POI) for a facility operating at 110% maximum continuous rating (MCR) with in-stack SO_2 concentrations at the permit limit of 35 mg/m^3. Under this conservative assumed facility operating condition, the predicted maximum 1-hour average concentration at the POI was 8.62 µg/m^3, which represents 8.62% of the new ambient air standard of 100 µg/m^3, which was implemented in 2020.

During Q3, there were one-hundred and eighty-three (183) exceedance events above the rolling 10-minute SO_2 Ambient Air Quality Criteria (AAQC) and sixty-three (63) exceedance events above the rolling 1-hour SO_2 AAQC recorded at the Courtice station. There were no exceedance events above the rolling 10-minute SO_2 Ambient Air Quality Criteria (AAQC) or rolling 1-hour SO_2 AAQC recorded at the Rundle Road station.

Each of the date and times of the SO_2 AAQC exceedances were compared against the wind direction recorded at the ambient air stations as well as the SO_2 concentrations measured at the DYEC by the continuous emissions monitoring system (CEMS).

As indicated by RWDI in the 2023 DYEC Ambient Air Q3 Report, the Courtice Station pollution rose in Figure 6 shows that the majority of elevated SO2 events at Courtice occurred from the north-northeast to northeast directions. The events were likely a result of emissions from surrounding industrial sources with contributions from the DYEC in the east-northeast direction. The Courtice station pollution rose in Figure 7 shows that <1.23% of the 5-min SO2 events are elevated >67 ppb and the majority occurred from the north-northwest to north-northeast directions. The pollution rose indicates that the DYEC was not a contributor to SO2 levels at the station and that the levels may be related to other industrial activity nearby.

The Rundle Road Station pollution rose in Figure 6 shows that there were no elevated SO2 events at Rundle Road. The Rundle Road station pollution rose in Figure 7 shows that there were no 5-min SO2 events elevated >67 ppb.

During the times the SO2 AAQC events occurred, both boilers CEMS concentrations, comprised of 24-hour rolling arithmetic average, were recorded between 0-13 mg/Rm3. The DYEC's CEMS concentrations for both boilers were below the DYEC regulatory compliance limit of 35 mg/Rm3 and the facility was operating under normal conditions.