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A Division of METROLINX

## Data Summary Q3, 2011

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Item	Term	Description	Units
1)	NO	Nitric Oxide	ppb
2)	NO <sub>2</sub>	Nitrogen Dioxide	ppb
3)	NO <sub>X</sub>	Oxides of Nitrogen	ppb
4)	PM <sub>2.5</sub>	Particulate Matter < 2.5 micron	µg/m <sup>3</sup>
5)	CO	Carbon Monoxide	ppm
6)	SO <sub>2</sub>	Sulphur Dioxide	ppb
7)	WS	Resultant Mean Wind Speed	km/hr
8)	WD	Resultant Mean Wind Direction	Degrees
9)	ATEM	Ambient Temperature	°C
10)	SLR	Solar Radiation Flux Density	W/m <sup>2</sup>
11)	BP	Barometric Pressure	mb
12)	RH	Relative Humidity	%
13)	PRECP	Total Precipitation	mm
14)	VOC	Volatile Organic Compounds	µg/m <sup>3</sup>
15)	PAH	Polycyclic Aromatic Hydrocarbons	ng/m <sup>3</sup>
16)	TSP	Total Suspended Particulate	µg/m <sup>3</sup>
17)	ppb	Parts per billion	
18)	ppm	Parts per million	
19)	µg/m <sup>3</sup>	Micrograms per cubic metre	
20)	ng/m <sup>3</sup>	Nanograms per cubic metre	
21)	km/hr	Kilometres per hour	
22)	mm	Millimetres	
23)	mb	Millibars	
24)	W/m <sup>2</sup>	Watts per square metre	
25)	GC/MS	Gas Chromatography / Mass Spectrometry	
26)	PUF	Polyurethane Foam	
27)	GF	Glass Fibre	
28)	RDL	Reportable Detection Limit	
29)	Ave	Average	
30)	Min	Minimum	
31)	Max	Maximum	
32)	MOE	Ministry of the Environment	
33)	AAQC	Ambient Air Quality Criteria	
34)	O. Reg 419/05	Ontario Regulation 419/05	
35)	CWS	Canada Wide Standard	
36)	WHO	World Health Organization	
37)	EST	Eastern Standard Time	
38)	Clock Average	1 Hr Clock Average (i.e. 09:00 to 10:00) 24 Hr Clock Average (i.e. 00:00 to 23:00)	
39)	Running Average	Creating a series of averages of varying subset time frames of the full dataset.	



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**Metrolinx Air Monitoring Network  
Statistics 2011, Q1 - Q3**

Stats		Maximum 24 Hr Running Average			Maximum 8 Hr Running Average			Maximum 1 Hr Running Average			Maximum ½ Hr Running Average			Maximum 24 Hr Clock Average		Maximum 1 Hr Clock Average		Events > 24 Hr AAQC		Events > 8 Hr AAQC		Events > 1 Hr AAQC		Events > ½ Hr Standard		Monthly Mean					
Station	Month	NO2 ppb	CO ppm	SO2 ppb	CO ppm	NO2 ppb	CO ppm	SO2 ppb	NO2 ppb	CO ppm	SO2 ppb	PM2.5 µg/m3	PM2.5 µg/m3	NO2 No.	SO2 No.	CO No.	NO2 No.	CO No.	SO2 No.	NO2 No.	CO No.	SO2 No.	NO ppb	NO2 ppb	NOX ppb	PM2.5 µg/m <sup>3</sup>	CO ppm	SO2 ppb			
35020	January	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	February	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	March	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	April	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	May	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	June	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	July	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	August	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	September	26	0.30	2	0.58	46	1.05	7	54	1.34	9	18	49	0	0	0	0	0	0	0	0	0	5	14	19	7	0.11	0.4			
<b>Q3 Total</b>																0	0	0	0	0	0	0									
<b>Q3 Arithmetic Mean<sup>1</sup></b>																						5	14	19	7	0.11	0.4				

Stats		Percent Valid Data					
Station	Month	NO %	NO2 %	NOX %	PM2.5 %	CO %	SO2 %
35020	January	---	---	---	---	---	---
	February	---	---	---	---	---	---
	March	---	---	---	---	---	---
	April	---	---	---	---	---	---
	May	---	---	---	---	---	---
	June	---	---	---	---	---	---
	July	---	---	---	---	---	---
	August	---	---	---	---	---	---
	September	99.4	99.4	99.4	88.3	99.4	99.4
<b>Q3 Arithmetic Mean<sup>1</sup></b>		99.4	99.4	99.4	88.3	99.4	99.4



Number of Days > 24 Hr Average Reference Level of 30 µg/m <sup>3</sup> for PM2.5		
Month	Station	Station
	35020	35021
January	---	---
February	---	0
March	---	0
April	---	0
May	---	0
June	---	0
July	---	0
August	---	0
September	0	0
<b>Q1 Total</b>	---	0
<b>Q2 Total</b>	---	0
<b>Q3 Total</b>	0	0

O.Reg 419/05 Standards			
Period	NO2	CO	SO2
	ppb	ppm	ppb
½ Hr	250	5	300

Ambient Air Quality Criteria (AAQC)			
Period	NO2	CO	SO2
	ppb	ppm	ppb
1 Hr	200	30	250
8 Hr	---	13	---
24 Hr	100	---	100

Note 1 : Q3 Arithmetic Mean based on available data. Station 35020 commissioned 01 September, 2011.

Note 2 : "INS" Insufficient data to calculate the monthly and/or quarterly means. Station 35021 decommissioned from August 26 to September 13, 2011 for relocation.

Note 3 : Q1 Arithmetic Mean based on available data. Station 35021 commissioned 01 February, 2011.

Note 4 : Total Precipitation based on available data. Station 35021 commissioned 01 February, 2011, decommissioned from August 26 to September 13, 2011 for relocation.



**Station** : 35020 **Sample Matrix** : Teflon Coated Filter  
**Location** : Wallace Avenue, Toronto **Method** : IO-3.1  
**Reporting Period** : 01 July, 2011 to 30 September, 2011 **Valid Samples - Number / %** : 5 / 100%

Parameter	TSP	Hg	As	Cd	Cr	Co	Cu	Pb	Mn	Ni	Se	V	Zn
Name		Mercury	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Selenium	Vanadium	Zinc
Units	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
AAQC	120	2	0.3	0.025	0.5	0.1	50	0.5	0.4	0.2	10	2	120
RDL	3	0.00001	0.0037	0.0012	0.0012	0.0012	0.0012	0.0018	0.00061	0.0018	0.0061	0.0012	0.0031
Date													
02-Jul-11	---	---	---	---	---	---	---	---	---	---	---	---	---
08-Jul-11	---	---	---	---	---	---	---	---	---	---	---	---	---
14-Jul-11	---	---	---	---	---	---	---	---	---	---	---	---	---
20-Jul-11	---	---	---	---	---	---	---	---	---	---	---	---	---
26-Jul-11	---	---	---	---	---	---	---	---	---	---	---	---	---
01-Aug-11	---	---	---	---	---	---	---	---	---	---	---	---	---
07-Aug-11	---	---	---	---	---	---	---	---	---	---	---	---	---
13-Aug-11	---	---	---	---	---	---	---	---	---	---	---	---	---
19-Aug-11	---	---	---	---	---	---	---	---	---	---	---	---	---
25-Aug-11	---	---	---	---	---	---	---	---	---	---	---	---	---
31-Aug-11	---	---	---	---	---	---	---	---	---	---	---	---	---
06-Sep-11	15	0.000010	0.00185	0.0006	0.0364	0.0006	0.0112	0.0067	0.0195	0.0047	0.00305	0.0225	0.1290
12-Sep-11	49	0.000030	0.00460	0.0006	0.0445	0.0016	0.0226	0.0145	0.0491	0.0069	0.00305	0.0279	0.1830
18-Sep-11	22	0.000020	0.00380	0.0006	0.0408	0.0013	0.0136	0.0098	0.0231	0.0055	0.00305	0.0260	0.1280
24-Sep-11	37	0.000020	0.00550	0.0006	0.0501	0.0014	0.0428	0.0107	0.0465	0.0071	0.00305	0.0303	0.1930
30-Sep-11	18	0.000005	0.00185	0.0006	0.0443	0.0012	0.0126	0.0079	0.0302	0.0058	0.00305	0.0263	0.1410
<b>Ave</b>	28	0.000017	0.00352	0.0006	0.0432	0.0012	0.0206	0.0099	0.0337	0.0060	0.00305	0.0266	0.1548
<b>Max</b>	49	0.000030	0.00550	0.0006	0.0501	0.0016	0.0428	0.0145	0.0491	0.0071	0.00305	0.0303	0.1930
<b>Min</b>	15	0.000005	0.00185	0.0006	0.0364	0.0006	0.0112	0.0067	0.0195	0.0047	0.00305	0.0225	0.1280
<b>No. &gt; AAQC</b>	0	0	0	0	0	0	0	0	0	0	0	0	0

**Note 1:** Station commissioned September 1, 2011.

**Note 2:** All non detectable results are reported as ½ the detection limit.

**Note 3:** In July, 2011 the MOE added and/or revised AAQCs for the following parameters:

Chromium (1.5 µg/m<sup>3</sup> - 0.5 µg/m<sup>3</sup>), Cobalt (0.1 µg/m<sup>3</sup>), Manganese (2.5 µg/m<sup>3</sup> - 0.4 µg/m<sup>3</sup>), Nickel (2 µg/m<sup>3</sup> - 0.2 µg/m<sup>3</sup>)



**Station** : 35020  
**Location** : Wallace Avenue, Toronto  
**Reporting Period** : 01 July, 2011 to 30 September, 2011

**Sample Matrix** : PUF Cartridge  
**Method** : GC/MS (TO13)  
**Valid Samples - No. / %** : 5 / 100%

Parameter	AAQC	RDL	02-Jul-11	08-Jul-11	14-Jul-11	20-Jul-11	26-Jul-11	01-Aug-11	07-Aug-11	13-Aug-11	19-Aug-11	25-Aug-11	31-Aug-11	06-Sep-11	12-Sep-11	18-Sep-11	24-Sep-11	30-Sep-11	Ave	Max	Min	Samples
	ng/m <sup>3</sup>	ng/m <sup>3</sup>																	ng/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	> AAQC No.
1,2-Dimethylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
1-Methylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	1.900	0.335	0.648	1.900	0.335	x
1-Methylphenanthrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	1.100	0.335	0.870	0.335	0.595	1.100	0.335	x
2,6 & 2,7-Dimethylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Chloronaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Methylanthracene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Methylnaphthalene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.560	0.600	0.590	3.400	11.000	3.230	11.000	0.560	x
3-Methylcholanthrene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
7,12-Dimethylbenzo(a)anthracene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
9,10-Dimethylanthracene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
9-Methylphenanthrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Acenaphthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.620	1.400	1.100	4.600	0.570	1.658	4.600	0.570	x
Acenaphthylene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	1.900	0.165	0.512	1.900	0.165	x
Anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	1.500	0.590	1.100	0.165	0.704	1.500	0.165	x
Benzo(a)anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Benzo(a)fluorene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Benzo(a)pyrene	0.05	0.330	---	---	---	---	---	---	---	---	---	---	---	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	0
Benzo(b)fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Benzo(b)fluorene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(e)pyrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(g,h,i)perylene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Benzo(j)fluoranthene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.335	0.335	0.233	0.335	0.165	x
Benzo(k)fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.165	0.165	0.267	0.335	0.165	x
Biphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	1.300	0.335	0.528	1.300	0.335	x
Chrysene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Coronene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Dibenz(a,h)anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Dibenzo(a,e)pyrene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Dibenzo(a,i)pyrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.830	10.000	3.000	4.400	2.000	4.046	10.000	0.830	x
Fluorene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	1.200	3.600	2.300	7.700	2.000	3.360	7.700	1.200	x
Indeno(1,2,3-cd)pyrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
m-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Naphthalene	22500	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.800	0.690	3.600	2.000	1.485	3.600	0.335	0
o-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Perylene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Phenanthrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	3.500	35.000	12.000	23.000	8.900	16.480	35.000	3.500	x
p-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Pyrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.530	4.600	1.300	2.100	0.970	1.900	4.600	0.530	x
Quinoline	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Tetralin	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(b)anthracene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Dibenzo(a,c)anthracene + Picene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Triphenylene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x

**Note 1:** Station commissioned September 1, 2011.

**Note 2:** All non detectable results are reported as ½ the detection limit.

**Note 3:** At the time of the AAQMRP, the criterion for Benzo(a)pyrene (B(a)P) was 1.1 ng/m<sup>3</sup>. This limit was revised to 0.05 ng/m<sup>3</sup> in July 2011. Current analytical methods are not able to detect below 0.05 ng/m<sup>3</sup> and B(a)P is reported as below the detection limit. Metrolinx is working with the MOE to resolve this issue.

**Note 4:** Analytical laboratory modified RDL values on September 24 for the following parameter(s):

Benzo(j)fluoranthene (0.330 ng/m<sup>3</sup> - 0.670 ng/m<sup>3</sup>), Benzo(k)fluoranthene (0.670 ng/m<sup>3</sup> - 0.330 ng/m<sup>3</sup>)



**Station** : 35020  
**Location** : Wallace Avenue, Toronto  
**Reporting Period** : 01 July, 2011 to 30 September, 2011

**Sample Matrix** : 102mm GF Filter  
**Method** : GC/MS (TO13)  
**Valid Samples - No. / %** : 5 / 100%

Parameter	AAQC	RDL	02-Jul-11	08-Jul-11	14-Jul-11	20-Jul-11	26-Jul-11	01-Aug-11	07-Aug-11	13-Aug-11	19-Aug-11	25-Aug-11	31-Aug-11	06-Sep-11	12-Sep-11	18-Sep-11	24-Sep-11	30-Sep-11	Ave	Max	Min	Samples
	ng/m <sup>3</sup>	ng/m <sup>3</sup>																	ng/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	> AAQC No.
1,2-Dimethylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
1-Methylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
1-Methylphenanthrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2,6 & 2,7-Dimethylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Chloronaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Methylanthracene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Methylnaphthalene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
3-Methylcholanthrene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
7,12-Dimethylbenzo(a)anthracene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
9,10-Dimethylanthracene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
9-Methylphenanthrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Acenaphthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Acenaphthylene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Benzo(a)anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Benzo(a)fluorene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Benzo(a)pyrene	0.05	0.330	---	---	---	---	---	---	---	---	---	---	---	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	0
Benzo(b)fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.390	0.400	0.165	0.257	0.400	0.165	x
Benzo(b)fluorene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(e)pyrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(g,h,i)perylene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.360	0.165	0.204	0.360	0.165	x
Benzo(j)fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Benzo(k)fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.165	0.165	0.267	0.335	0.165	x
Biphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Chrysene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Coronene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Dibenz(a,h)anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Dibenzo(a,e)pyrene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Dibenzo(a,i)pyrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.490	0.165	0.165	0.230	0.490	0.165	x
Fluorene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Indeno(1,2,3-cd)pyrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
m-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Naphthalene	22500	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0
o-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Perylene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Phenanthrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
p-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Pyrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.360	0.165	0.165	0.204	0.360	0.165	x
Quinoline	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Tetralin	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(b)anthracene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Dibenzo(a,c)anthracene + Picene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Triphenylene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x

**Note 1:** Station commissioned September 1, 2011.

**Note 2:** All non detectable results are reported as ½ the detection limit.

**Note 3:** At the time of the AAQMRP, the criterion for Benzo(a)pyrene (B(a)P) was 1.1 ng/m<sup>3</sup>. This limit was revised to 0.05 ng/m<sup>3</sup> in July 2011. Current analytical methods are not able to detect below 0.05 ng/m<sup>3</sup> and B(a)P is reported as below the detection limit. Metrolinx is working with the MOE to resolve this issue.

**Note 4:** Analytical laboratory modified RDL values on September 24 for the following parameter(s):

Benzo(j)fluoranthene (0.330 ng/m<sup>3</sup> - 0.670 ng/m<sup>3</sup>), Benzo(k)fluoranthene (0.670 ng/m<sup>3</sup> - 0.330 ng/m<sup>3</sup>)

**Station** : 35020  
**Location** : Wallace Avenue, Toronto  
**Reporting Period** : 01 July, 2011 to 30 September, 2011

**Sample Matrix** : PUF + Filter  
**Method** : GC/MS (TO13)  
**Valid Samples - No. / %** : 5 / 100%

Parameter	AAQC	RDL	02-Jul-11	08-Jul-11	14-Jul-11	20-Jul-11	26-Jul-11	01-Aug-11	07-Aug-11	13-Aug-11	19-Aug-11	25-Aug-11	31-Aug-11	06-Sep-11	12-Sep-11	18-Sep-11	24-Sep-11	30-Sep-11	Ave	Max	Min	Samples
	ng/m <sup>3</sup>	ng/m <sup>3</sup>																	ng/m <sup>3</sup>	ng/m <sup>3</sup>	ng/m <sup>3</sup>	> AAQC No.
1,2-Dimethylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
1-Methylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	1.900	0.335	0.648	1.900	0.335	x
1-Methylphenanthrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	1.100	0.335	0.870	0.335	0.595	1.100	0.335	x
2,6 & 2,7-Dimethylnaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Chloronaphthalene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Methylanthracene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
2-Methylnaphthalene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.560	0.600	0.590	3.400	11.000	3.230	11.000	0.560	x
3-Methylcholanthrene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
7,12-Dimethylbenzo(a)anthracene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
9,10-Dimethylanthracene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
9-Methylphenanthrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Acenaphthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.620	1.400	1.100	4.600	0.570	1.658	4.600	0.570	x
Acenaphthylene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	1.900	0.165	0.512	1.900	0.165	x
Anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	1.500	0.590	1.100	0.165	0.704	1.500	0.165	x
Benzo(a)anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Benzo(a)fluorene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Benzo(a)pyrene	0.05	0.330	---	---	---	---	---	---	---	---	---	---	---	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330	0
Benzo(b)fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.390	0.400	0.165	0.257	0.400	0.165	x
Benzo(b)fluorene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(e)pyrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(g,h,i)perylene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.360	0.165	0.204	0.360	0.165	x
Benzo(j)fluoranthene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.335	0.335	0.233	0.335	0.165	x
Benzo(k)fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.165	0.165	0.267	0.335	0.165	x
Biphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	1.300	0.335	0.528	1.300	0.335	x
Chrysene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Coronene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Dibenz(a,h)anthracene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
Dibenzo(a,e)pyrene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Dibenzo(a,i)pyrene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Fluoranthene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.830	10.000	3.500	4.400	2.000	4.146	10.000	0.830	x
Fluorene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	1.200	3.600	2.300	7.700	2.000	3.360	7.700	1.200	x
Indeno(1,2,3-cd)pyrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.165	0.165	0.165	0.165	0.165	0.165	0.165	0.165	x
m-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Naphthalene	22500	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.800	0.690	3.600	2.000	1.485	3.600	0.335	0
o-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Perylene	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Phenanthrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	3.500	35.000	12.000	23.000	8.900	16.480	35.000	3.500	x
p-Terphenyl	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Pyrene	x	0.330	---	---	---	---	---	---	---	---	---	---	---	0.530	4.600	1.800	2.100	0.970	2.000	4.600	0.530	x
Quinoline	x	1.30	---	---	---	---	---	---	---	---	---	---	---	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	x
Tetralin	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Benzo(b)anthracene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Dibenzo(a,c)anthracene + Picene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x
Triphenylene	x	0.670	---	---	---	---	---	---	---	---	---	---	---	0.335	0.335	0.335	0.335	0.335	0.335	0.335	0.335	x

**Note 1:** Station commissioned September 1, 2011.

**Note 2:** All non detectable results are reported as ½ the detection limit.

**Note 3:** At the time of the AAQMRP, the criterion for Benzo(a)pyrene (B(a)P) was 1.1 ng/m<sup>3</sup>. This limit was revised to 0.05 ng/m<sup>3</sup> in July 2011. Current analytical methods are not able to detect below 0.05 ng/m<sup>3</sup> and B(a)P is reported as below the detection limit. Metrolinx is working with the MOE to resolve this issue.

**Note 4:** Analytical laboratory modified RDL values on September 24 for the following parameter(s):

Benzo(j)fluoranthene (0.330 ng/m<sup>3</sup> - 0.670 ng/m<sup>3</sup>), Benzo(k)fluoranthene (0.670 ng/m<sup>3</sup> - 0.330 ng/m<sup>3</sup>)



**Station** : 35021 **Sample Matrix** : Teflon Coated Filter  
**Location** : Weston Road, Toronto **Method** : IO-3.1  
**Reporting Period** : 01 July, 2011 to 30 September, 2011 **Valid Samples - Number / %** : 13 / 81.3%

Parameter	TSP	Hg	As	Cd	Cr	Co	Cu	Pb	Mn	Ni	Se	V	Zn
Name		Mercury	Arsenic	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Selenium	Vanadium	Zinc
Units	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>
AAQC	120	2	0.3	0.025	0.5	0.1	50	0.5	0.4	0.2	10	2	120
RDL	3	0.00001	0.0037	0.0012	0.0012	0.0012	0.0012	0.0018	0.00061	0.0018	0.0061	0.0012	0.0031
Date													
02-Jul-11	50	0.000020	0.00550	0.0006	0.0441	0.0014	0.0549	0.0164	0.0460	0.0068	0.00305	0.0274	0.1790
08-Jul-11	43	0.000021	0.00185	0.0006	0.0422	0.0015	0.0249	0.0177	0.0393	0.0066	0.00305	0.0253	0.1620
14-Jul-11	42	0.000020	0.00185	0.0006	0.0417	0.0016	0.0234	0.0156	0.0426	0.0065	0.00305	0.0249	0.1390
20-Jul-11	55	0.000020	0.00185	0.0006	0.0373	0.0013	0.0194	0.0170	0.0423	0.0058	0.00305	0.0226	0.1360
26-Jul-11	26	0.000005	0.00185	0.0006	0.0422	0.0006	0.0173	0.0084	0.0358	0.0057	0.00305	0.0278	0.1610
01-Aug-11	27	0.000005	0.00185	0.0006	0.0417	0.0006	0.0138	0.0086	0.0297	0.0054	0.00305	0.0268	0.1550
07-Aug-11	27	0.000005	0.00390	0.0006	0.0425	0.0006	0.0151	0.0086	0.0318	0.0055	0.00305	0.0270	0.1610
13-Aug-11	40	0.000020	0.00450	0.0006	0.0441	0.0014	0.0261	0.0122	0.0394	0.0067	0.00305	0.0279	0.1680
19-Aug-11	65	0.000020	0.00400	0.0006	0.0449	0.0017	0.0299	0.0159	0.0655	0.0080	0.00305	0.0280	0.1750
25-Aug-11	29	0.000005	0.00185	0.0006	0.0436	0.0015	0.0174	0.0097	0.0406	0.0063	0.00305	0.0271	0.1520
31-Aug-11	<b>Station Relocation - No Power to Site</b>												
06-Sep-11													
12-Sep-11													
18-Sep-11													
24-Sep-11	31	0.000010	0.00420	0.0006	0.0475	0.0012	0.0246	0.0090	0.0431	0.0062	0.00305	0.0287	0.1510
30-Sep-11	20	0.000005	0.00185	0.0006	0.0454	0.0006	0.0140	0.0135	0.0344	0.0059	0.00305	0.0281	0.1330
Ave	37	0.000013	0.00284	0.0006	0.0429	0.0012	0.0225	0.0123	0.0395	0.0062	0.00305	0.0267	0.1549
Max	65	0.000021	0.00550	0.0006	0.0475	0.0017	0.0549	0.0177	0.0655	0.0080	0.00305	0.0287	0.1790
Min	20	0.000005	0.00185	0.0006	0.0373	0.0006	0.0122	0.0077	0.0235	0.0053	0.00305	0.0226	0.1330
No. > AAQC	0	0	0	0	0	0	0	0	0	0	0	0	0

**Note 1:** Station shutdown between August 26 - September 13 for relocation. No sampling conducted.

**Note 2:** All non detectable results are reported as ½ the detection limit.

**Note 3:** In July, 2011 the MOE added and/or revised AAQCs for the following parameter(s):

Chromium (1.5 µg/m<sup>3</sup> - 0.5 µg/m<sup>3</sup>), Cobalt (0.1 µg/m<sup>3</sup>), Manganese (2.5 µg/m<sup>3</sup> - 0.4 µg/m<sup>3</sup>), Nickel (2 µg/m<sup>3</sup> - 0.2 µg/m<sup>3</sup>)







