



QUARTERLY PROGRESS REPORT

GREENBANK AIRWAYS

1140 HIGHWAY 47 EAST, UXBRIDGE, ONTARIO

JANUARY 1, 2015 – MARCH 31, 2015

APRIL 28, 2015

PREPARED FOR:
GLEN SMITH
DIRECTOR OF PUBLIC WORKS & PARKS
TOWNSHIP OF SCUGOG
P.O. Box 780
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PREPARED BY:
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1.0 INTRODUCTION

D.L. Services Inc. (“DLS”) is pleased to provide the following Quarterly Progress Report, as required by the Site Alteration Agreement (“the Agreement”), dated September 12, 2012, between Greenbank Airways (2307880 Ontario Inc.) and The Corporation of the Township of Scugog.

1.1 Background Information

Greenbank Airways Fill Operation received its initial loads of soil on November 16, 2012. As per condition 17 of the above referenced Agreement, this report outlines the following information for the reporting period:

- a) A list of all sources of fill sent to Greenbank Airways (Site) during the reporting period including the owner and municipal address of said Site;
- b) A list of all complaints received including a brief description of the complaint, contact information of the complainant, the time and date the complaint was received and the full name of the person who received the complaint;
- c) The results of testing conducted in connection with the fill operation; and,
- d) A list of any incidents involving a breach of the Agreement or the Appendices, the By-law permit including the date, time and a brief description of the persons involved.

The reader is referred to previous progress reports prepared and issued by DLS dated January 15, 2013, April 24, 2013, June 30, 2013, January 21, 2014, January 29, 2014, May 28, 2014, July 24, 2014, November 12, 2014 and January 9, 2015.

2.0 SOURCE SITES

The Table below shows all the Source Sites approved by DLS from which soil was received over the course of this quarter.

Table 1: Approved Source Sites Received At Greenbank Airways This Quarter

SOURCE SITE ID	OWNER OR OPERATOR	MUNICIPAL ADDRESS
GB-0003	GREEN FOR LIFE ENVIRONMENTAL CORP.	1070 TOY AVENUE, PICKERING, ONTARIO
GB-0016	CITY OF TORONTO	LAKESHORE BLVD AND NEWFOUNDLAND ROAD (EXIBITION PLACE), TORONTO, ONTARIO
GB-0022	ELLIS DON CONSTRUCTION	YORKDALE MALL EXPANSION
GB-0026	HARDING GATE DEVELOPMENTS	1894 SCUGOG STREET, PORT PERRY, ONTARIO

3.0 FILL VOLUMES

Greenbank Airways Management will provide a detailed report of all load count and fill volume information for each Source Site that has been received at the “Fill Site” during the reporting period directly to the Corporation of the Township of Scugog.

4.0 COMPLAINTS

1. Geoff Carpentier avocetnatureservices@gmail.com (February 18, 2015 at 12:05pm)

- Complaint of trucks not being screened as they offloaded.
- Complaint received by John Packer of Greenbank Airways who forwarded complaint to DLS.
- DLS responded to say that DLS was on site screening trucks.

Greenbank Airways has informed DLS that no other formal complaints were received during this reporting period.

5.0 AUDIT SAMPLING

The Fill Quality Control Procedures for the Greenbank Fill Operation require DLS to gather at least one soil sample from each source site in each calendar month.

DLS has collected one or more audit sample(s) per month from each source site comprised of soil that was accepted during this reporting period. Each soil sample is collected using dedicated nitrile gloves and a new laboratory supplied plastic “Terracore” Plunger Sampler. New containers are provided by the laboratory for each individual sample (two-180 ml amber jars for Regulation 153 metals, polycyclic aromatic hydrocarbons (PAH’s) and petroleum hydrocarbons (PHC) Fractions 2 through 4, and two clear vials with methanol preservative that have been prepared and supplied by lab are used to analyze for volatile organic compounds (VOC’s) and PHC F1 fraction). The audit samples are submitted to Caduceon Environmental Laboratories (“Caduceon”), a CALA accredited laboratory, for analysis of metals, PAHs, VOC’s and PHC F1-F4. The analytical data is summarized below in Table 2. Unabbreviated laboratory certificates of analyses are presented in Appendix “A”. In addition to the audit sampling, field screening methodologies are employed using an Eagle 2 photo-ionization detector and a Niton XRF Analyzer to help assess soil quality on site as soil is received.

As discussed below, audit samples identified locations where fill material failed to meet the required standards provided in Table 2 (Full Depth Site Condition Standards for Use in a Potable Groundwater Condition and Industrial/Commercial/Community property use) of the MOE Document entitled “*Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*” (April 15, 2011).

Soil audit sample GB-0022-2015-1-6-SS-1 found in Report #B15-00605-1 failed to meet MOE Table 2 Industrial/Commercial/Community soil standards. This soil sample had an exceedance of Benzo(a)pyrene. Greenbank Airways has been notified of this sample analysis exceedance and soils have been recommended for removal and transportation to a licensed treatment facility.

Audit sample GB-0003-2015-2-12-136 found in Report # B15-04019-1 had an exceedance of Petroleum Hydrocarbons in the F1 fraction. Greenbank Airways have been notified of this exceedance. DLS recommended the removal of soils at this audit sample location by Greenbank Airways and transportation to a licensed treatment facility.

Lastly, soil associated with some engineered fill used for road construction (B15-06676-1) failed to meet MOE Table 2 Industrial/Commercial/Community soil standards with an exceedance of Lead. On March 31, 2015, DLS noticed that this material contained recycled asphalt, brick, cinder block, and/or slag. DLS advised Greenbank that the material should be removed.

All remaining soil audit samples collected during this reporting period met the required standards provided in Table 2 (Full Depth Site Condition Standards for Use in a Potable

Groundwater Condition and Industrial/Commercial/Community property use) of the MOE Document entitled “*Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*” (April 15, 2011).

Analytical data pertaining to audit samples collected during this reporting period are summarized below in Table 2. Unabbreviated laboratory certificates of analyses are presented in Appendix “A”.

6.0 CONCLUSIONS

Further excavation is still required to complete the remedial excavations that have already begun and. During soil removal, additional assessment should be conducted and verification samples should be collected to evaluate the quality of the remaining soil and to ensure that the impacted material is sufficiently removed.

Additional locations where soil removal is required have been identified by audit sampling. Remedial excavations are recommended at each location where an exceedance was identified. GPS coordinates for each location are available upon request. Verification samples should be obtained to evaluate the quality of the remaining soil.

Upon completion of the soil removal, a report describing the remedial excavations and quality of the remaining soil will be prepared.

7.0 STATEMENT OF LIMITATIONS

This report has been prepared by D.L. Services Inc. for the exclusive use of Greenbank Airways and the Township of Scugog. D. L. Services Inc. will not be responsible for any use of, reliance upon or decisions based upon this report by any party (ies) other than those named above.

The data and information contained in this report reflects D.L. Services Inc. best judgment about the information available at the time of report preparation and are accurate for the time period in which the work was carried out. No assurance is made about subsequent changes in site conditions. D.L. Services Inc. reserves the right to re-evaluate the interpretations, conclusions and recommendations presented in this report based upon new information discovered in the future.

It is trusted that the above is satisfactory. Please contact the undersigned if you have any questions.

Yours truly,
D.L. Services INC.

Scott Pitsch, P. Geo-Limited, QP
Operations Manager

Ron Mahoney, C. Tech.
Project Manager

Kevin McClintock, B.Sc., P. Eng., QP
Environmental Engineer

Table 2 - Monthly Audit Soil Sample Results for Metals, PHC's, VOCs, and PAHs

			GB-0016-2015-1-15	GB-0022-2015-1-6-SS-1	GB0003-2015-1-27-122	GB-0003-2015-2-3-122	GB-0026-2015-2-47-ss-1	GB-0003-2015-2-12-136
			B15-01203-1 15-Jan-15	B15-00605-1 6-Jan-15	B15-01975-1 27-Jan-15	B15-02611-1 03 Feb 2015	B15-02613-1 04 Feb 2015	B15-04019-1 12 Feb 2015
Parameter	Guidelines	Units						
Antimony	40 µg/g	µg/g	0.5	0.7	1.5	< 0.4	< 0.4	< 0.4
Arsenic	18 µg/g	µg/g	1.3	1.6	3	2.7	2.0	0.6
Barium	670 µg/g	µg/g	103	50	38.9	64.9	48.6	58.9
Beryllium	8 µg/g	µg/g	0.61	0.4	0.32	0.37	0.31	0.32
Boron	120 µg/g	µg/g	7.2	9.7	5.9	5.7	5.2	7.2
Boron (HWS)	2 µg/g	µg/g	0.57	0.3	0.47	0.10	0.44	0.45
Cadmium	1.9 µg/g	µg/g	0.10	< 0.5	0.34	0.09	0.11	0.09
Chromium	160 µg/g	µg/g	32.3	16	15.2	19.6	12.9	13.0
Chromium (VI)	8 µg/g	µg/g	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cobalt	80 µg/g	µg/g	8.8	6	3.8	5.8	3.0	3.6
Copper	230 µg/g	µg/g	23.5	14	100	17.0	10.0	11.9
Lead	120 µg/g	µg/g	8.4	14	33.3	6.7	6.9	10.0
Mercury	3.9 µg/g	µg/g	0.028	0.027	0.032	0.013	0.014	0.018
Molybdenum	40 µg/g	µg/g	0.3	< 1	3.7	0.4	0.3	0.3
Nickel	270 µg/g	µg/g	23.2	13	10.5	14.4	7.9	9.9
Selenium	5.5 µg/g	µg/g	0.2	< 0.5	0.5	0.6	0.6	< 0.1
Silver	40 µg/g	µg/g	0.11	4.1	0.06	0.07	0.04	0.04
Thallium	3.3 µg/g	µg/g	0.03	< 0.1	0.08	< 0.02	< 0.02	0.13
Uranium	33 µg/g	µg/g	0.54	0.5	0.41	0.86	0.50	0.53
Vanadium	86 µg/g	µg/g	37.7	21	20.5	27.7	24.2	21.9
Zinc	340 µg/g	µg/g	50	60	80	40	40	30
Acetone	16 µg/g	µg/g	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Benzene	0.32 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.22
Bromodichloromethane	1.5 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Bromoform	0.61 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Bromomethane	0.05 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	0.21 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Monochlorobenzene (Chlorobenzene)	2.4 µg/g	µg/g	< 0.02	< 0.02	0.06	< 0.02	< 0.02	< 0.02
Chloroform	0.47 µg/g	µg/g	< 0.02	< 0.02	0.06	< 0.02	< 0.02	< 0.02
Dibromochloromethane	2.3 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichlorobenzene,1,2-	1.2 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorobenzene,1,3-	9.6 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorobenzene,1,4-	0.2 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	16 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichloroethane,1,1-	0.47 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloroethane,1,2-	0.05 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloroethylene,1,1-	0.064 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloroethene, cis-1,2-	1.9 µg/g	µg/g	< 0.02	< 0.02	0.06	< 0.02	< 0.02	< 0.02
Dichloroethene, trans-1,2-	1.3 µg/g	µg/g	< 0.02	< 0.02	0.04	< 0.02	< 0.02	< 0.02

Table 2 - Monthly Audit Soil Sample Results for Metals, PHC's, VOCs, and PAHs

			GB-0016-2015-1-15	GB-0022-2015-1-6-SS-1	GB0003-2015-1-27-122	GB-0003-2015-2-3-122	GB-0026-2015-2-47-ss-1	GB-0003-2015-2-12-136
			B15-01203-1 15-Jan-15	B15-00605-1 6-Jan-15	B15-01975-1 27-Jan-15	B15-02611-1 03 Feb 2015	B15-02613-1 04 Feb 2015	B15-04019-1 12 Feb 2015
Dichloropropane,1,2-	0.16 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloropropene, cis-1,3-		µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloropropene, trans-1,3-		µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloropropene 1,3- cis+trans	0.059 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	1.1 µg/g	µg/g	0.12	< 0.05	< 0.05	0.20	< 0.05	2.79
Dibromoethane,1,2- (Ethylene Dibromide)	0.05 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Hexane	46 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	5.30
Methyl Ethyl Ketone	70 µg/g	µg/g	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl Isobutyl Ketone	31 µg/g	µg/g	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Methyl-t-butyl Ether	1.6 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dichloromethane (Methylene Chloride)	1.6 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Styrene	34 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethane,1,1,1,2-	0.087 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Tetrachloroethane,1,1,2,2-	0.05 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	1.9 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	6.4 µg/g	µg/g	0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.5
Trichloroethane,1,1,1,-	6.1 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Trichloroethane,1,1,2,-	0.05 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Trichloroethylene	0.55 µg/g	µg/g	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	4 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Vinyl Chloride	0.032 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Xylene, m,p-		µg/g	0.39	< 0.03	< 0.03	0.39	< 0.03	9.86
Xylene, o-		µg/g	0.18	< 0.03	< 0.03	0.19	< 0.03	1.21
Xylene, m,p,o-	26 µg/g		0.57	< 0.03	< 0.03	0.57	< 0.03	11.1
PHC F1 (C6-C10)	55 µg/g	µg/g	< 10	< 10	< 10	49	< 10	123
PHC F2 (>C10-C16)	230 µg/g	µg/g	< 10	< 5	46	125	< 5	32
PHC F3 (>C16-C34)	1700 µg/g	µg/g	10	50	130	140	20	110
PHC F4 (>C34-C50)	3300 µg/g	µg/g	< 10	10	50	< 10	30	40
Acenaphthene	21 µg/g	µg/g	< 0.02	0.117	0.014	0.128	< 0.02	< 0.02
Acenaphthylene	0.15 µg/g	µg/g	< 0.02	0.043	< 0.005	< 0.005	< 0.02	< 0.02
Anthracene	0.67 µg/g	µg/g	< 0.02	0.314	0.015	0.038	< 0.02	0.024
Benzo(a)anthracene	0.96 µg/g	µg/g	0.03	0.756	0.033	0.007	< 0.02	0.087
Benzo(a)pyrene	0.3 µg/g	µg/g	< 0.05	0.543	0.028	< 0.005	< 0.02	0.079
Benzo(b)fluoranthene	0.96 µg/g	µg/g	< 0.05	0.719	0.04	0.006	< 0.02	0.099
Benzo(b+k)fluoranthene		µg/g		1	0.054	< 0.01	< 0.04	0.13
Benzo(g,h,i)perylene	9.6 µg/g	µg/g	< 0.03	0.309	0.023	< 0.005	< 0.02	0.024
Benzo(k)fluoranthene	0.96 µg/g	µg/g	< 0.05	0.282	0.013	< 0.005	< 0.02	0.036
Chrysene	9.6 µg/g	µg/g	0.03	0.724	0.037	0.011	< 0.02	0.036
Dibenzo(a,h)anthracene	0.1 µg/g	µg/g	< 0.05	0.085	0.005	< 0.005	< 0.02	< 0.02
Fluoranthene	9.6 µg/g	µg/g	0.05	1.62	0.066	0.019	0.026	0.119
Fluorene	62 µg/g	µg/g	< 0.02	0.122	0.022	0.221	< 0.02	< 0.02
Indeno(1,2,3,-cd)pyrene	0.76 µg/g	µg/g	< 0.03	0.351	0.024	< 0.005	< 0.02	0.036

Greenbank Airways
1140 Highway 47 East, Uxbridge, ON

Table 2 - Monthly Audit Soil Sample Results for Metals, PHC's, VOCs, and PAHs

January 1- Mar 31, 2015

	GB-0016-2015-1-15	GB-0022-2015-1-6-SS-1	GB0003-2015-1-27-122	GB-0003-2015-2-3-122	GB-0026-2015-2-47-ss-1	GB-0003-2015-2-12-136		
	B15-01203-1 15-Jan-15	B15-00605-1 6-Jan-15	B15-01975-1 27-Jan-15	B15-02611-1 03 Feb 2015	B15-02613-1 04 Feb 2015	B15-04019-1 12 Feb 2015		
Methylnaphthalene,1-	30 µg/g	µg/g	< 0.02	0.032	0.062	0.847	< 0.02	0.024
Methylnaphthalene,2-	30 µg/g	µg/g	< 0.02	0.032	0.056	1.21	< 0.02	0.040
Naphthalene	9.6 µg/g	µg/g	< 0.02	0.053	0.017	0.155	< 0.02	0.040
Phenanthrene	12 µg/g	µg/g	0.03	1.29	0.079	0.611	0.022	0.056
Pyrene	96 µg/g	µg/g	0.04	1.25	0.064	0.031	0.022	0.115

M.D.L. = Method Detection Limit

Guidelines = O. Reg. 153 - Table 2 - Industrial/Commercial/Community Soil

Note: Source Site ID information provided by Greenbank Airways

Table 2 - Monthly Audit Soil Sample Results for Metals, PHC's, VOCs, and PAHs

Parameter	Guidelines	Units	GB-0003-2015-2-	GB-0003-2015-3-	GB-0003-2015-	Downtown
			24-137	3-138	03-10-139	
			B15-04025-1	B15-04465-1	B15-05002-1	B15-06676-1
			24 Feb 2015	03 Mar 2015	10 Mar 2015	31 Mar 2015
Antimony	40 µg/g	µg/g	2.7	0.6	2.7	7.4
Arsenic	18 µg/g	µg/g	0.9	3.7	7.0	10.4
Barium	670 µg/g	µg/g	89.0	54	61.8	52.7
Beryllium	8 µg/g	µg/g	0.48	0.3	0.31	0.43
Boron	120 µg/g	µg/g	17.0	11.2	12.1	8.8
Boron (HWS)	2 µg/g	µg/g	1.02	0.10	0.95	0.69
Cadmium	1.9 µg/g	µg/g	0.53	< 0.5	0.79	0.38
Chromium	160 µg/g	µg/g	24.0	21	18.9	20.0
Chromium (VI)	8 µg/g	µg/g	< 0.5	< 0.5	< 0.5	< 0.5
Cobalt	80 µg/g	µg/g	7.7	7	4.0	14.3
Copper	230 µg/g	µg/g	115	66	186	132
Lead	120 µg/g	µg/g	63.6	17	49.4	142
Mercury	3.9 µg/g	µg/g	0.038	0.027	0.036	0.110
Molybdenum	40 µg/g	µg/g	27.1	4	20.5	4.5
Nickel	270 µg/g	µg/g	18.6	15	12.9	53.1
Selenium	5.5 µg/g	µg/g	0.3	< 0.5	< 0.1	0.8
Silver	40 µg/g	µg/g	0.09	< 0.2	0.12	0.13
Thallium	3.3 µg/g	µg/g	0.17	0.1	0.02	0.23
Uranium	33 µg/g	µg/g	0.52	0.6	0.43	0.47
Vanadium	86 µg/g	µg/g	28.2	23	19.6	25.3
Zinc	340 µg/g	µg/g	210	73	220	110
Acetone	16 µg/g	µg/g	< 0.5	< 0.3	< 0.5	< 0.5
Benzene	0.32 µg/g	µg/g	< 0.02	< 0.02	< 0.02	0.07
Bromodichloromethane	1.5 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Bromoform	0.61 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Bromomethane	0.05 µg/g	µg/g	< 0.05	< 0.03	< 0.05	< 0.05
Carbon Tetrachloride	0.21 µg/g	µg/g	< 0.05	< 0.02	< 0.05	< 0.05
Monochlorobenzene (Chlorobenzene)	2.4 µg/g	µg/g	< 0.02	< 0.03	< 0.02	< 0.02
Chloroform	0.47 µg/g	µg/g	< 0.02	< 0.03	< 0.02	< 0.02
Dibromochloromethane	2.3 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Dichlorobenzene,1,2-	1.2 µg/g	µg/g	< 0.05	< 0.02	< 0.05	< 0.05
Dichlorobenzene,1,3-	9.6 µg/g	µg/g	< 0.05	< 0.02	< 0.05	< 0.05
Dichlorobenzene,1,4-	0.2 µg/g	µg/g	< 0.05	< 0.02	< 0.05	< 0.05
Dichlorodifluoromethane	16 µg/g	µg/g	< 0.05	< 0.02	< 0.05	< 0.05
Dichloroethane,1,1-	0.47 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Dichloroethane,1,2-	0.05 µg/g	µg/g	< 0.02	< 0.03	< 0.02	< 0.02
Dichloroethylene,1,1-	0.064 µg/g	µg/g	< 0.02	< 0.03	< 0.02	< 0.02
Dichloroethene, cis-1,2-	1.9 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Dichloroethene, trans-1,2-	1.3 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02

Table 2 - Monthly Audit Soil Sample Results for Metals, PHC's, VOCs, and PAHs

			GB-0003-2015-2-	GB-0003-2015-3-	GB-0003-2015-	Downtown
			24-137	3-138	03-10-139	
			B15-04025-1 24 Feb 2015	B15-04465-1 03 Mar 2015	B15-05002-1 10 Mar 2015	B15-06676-1 31 Mar 2015
Dichloropropane, 1,2-	0.16 µg/g	µg/g	< 0.02	< 0.03	< 0.05	< 0.02
Dichloropropene, cis-1,3-		µg/g	< 0.02	< 0.03	< 0.02	< 0.02
Dichloropropene, trans-1,3-		µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Dichloropropene 1,3- cis+trans	0.059 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	1.1 µg/g	µg/g	< 0.05	< 0.03	< 0.02	< 0.05
Dibromoethane, 1,2- (Ethylene Dibromide)	0.05 µg/g	µg/g	< 0.02	< 0.03	0.11	< 0.02
Hexane	46 µg/g	µg/g	< 0.02	< 0.04	< 0.02	0.10
Methyl Ethyl Ketone	70 µg/g	µg/g	< 0.5	< 0.03	< 0.5	< 0.5
Methyl Isobutyl Ketone	31 µg/g	µg/g	< 0.5	< 0.1	< 0.5	< 0.5
Methyl-t-butyl Ether	1.6 µg/g	µg/g	< 0.05	< 0.02	< 0.05	< 0.05
Dichloromethane (Methylene Chloride)	1.6 µg/g	µg/g	< 0.05	< 0.02	< 0.02	< 0.05
Styrene	34 µg/g	µg/g	< 0.05	< 0.03	< 0.05	< 0.05
Tetrachloroethane, 1,1,1,2-	0.087 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Tetrachloroethane, 1,1,1,2,2-	0.05 µg/g	µg/g	< 0.05	< 0.02	< 0.05	< 0.05
Tetrachloroethylene	1.9 µg/g	µg/g	< 0.05	< 0.03	< 0.05	< 0.05
Toluene	6.4 µg/g	µg/g	< 0.2	< 0.03	< 0.2	0.3
Trichloroethane, 1,1,1-	6.1 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Trichloroethane, 1,1,1,2-	0.05 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Trichloroethylene	0.55 µg/g	µg/g	< 0.05	< 0.03	< 0.05	< 0.05
Trichlorofluoromethane	4 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Vinyl Chloride	0.032 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.02
Xylene, m,p-		µg/g	0.12	< 0.04	0.07	0.15
Xylene, o-		µg/g	< 0.03	< 0.03	0.12	0.10
Xylene, m,p,o-	26 µg/g		0.12	< 0.05	0.05	0.25
PHC F1 (C6-C10)	55 µg/g	µg/g	< 10	< 10	< 10	< 10
PHC F2 (>C10-C16)	230 µg/g	µg/g	28	37	20	< 5
PHC F3 (>C16-C34)	1700 µg/g	µg/g	150	980	140	30
PHC F4 (>C34-C50)	3300 µg/g	µg/g	120	330	90	10
Acenaphthene	21 µg/g	µg/g	< 0.02	< 0.02	< 0.02	< 0.03
Acenaphthylene	0.15 µg/g	µg/g	< 0.02	< 0.02	< 0.02	0.091
Anthracene	0.67 µg/g	µg/g	< 0.02	< 0.02	0.03	0.188
Benzo(a)anthracene	0.96 µg/g	µg/g	0.025	0.027	0.07	0.220
Benzo(a)pyrene	0.3 µg/g	µg/g	0.022	< 0.02	0.08	0.279
Benzo(b)fluoranthene	0.96 µg/g	µg/g	0.036	0.022	0.09	0.552
Benzo(b+k)fluoranthene		µg/g	0.051	< 0.04		0.734
Benzo(g,h,i)perylene	9.6 µg/g	µg/g	< 0.02	< 0.02	0.06	0.182
Benzo(k)fluoranthene	0.96 µg/g	µg/g	< 0.02	< 0.02	0.07	0.182
Chrysene	9.6 µg/g	µg/g	0.018	0.022	0.06	0.295
Dibenzo(a,h)anthracene	0.1 µg/g	µg/g	< 0.02	< 0.02	0.05	< 0.03
Fluoranthene	9.6 µg/g	µg/g	0.065	0.036	0.14	0.370
Fluorene	62 µg/g	µg/g	< 0.02	< 0.02	0.02	< 0.03
Indeno(1,2,3,-cd)pyrene	0.76 µg/g	µg/g	< 0.02	< 0.02	0.09	0.150

Greenbank Airways
 1140 Highway 47 East, Uxbridge, ON

Table 2 - Monthly Audit Soil Sample Results for Metals, PHC's, VOCs, and PAHs

January 1- Mar 31, 2015

			GB-0003-2015-2- 24-137	GB-0003-2015-3- 3-138	GB-0003-2015- 03-10-139	Downtown
			B15-04025-1 24 Feb 2015	B15-04465-1 03 Mar 2015	B15-05002-1 10 Mar 2015	B15-06676-1 31 Mar 2015
Methylnaphthalene,1-	30 µg/g	µg/g	< 0.02	< 0.02	0.03	0.198
Methylnaphthalene,2-	30 µg/g	µg/g	< 0.02	< 0.02	0.06	0.198
Naphthalene	9.6 µg/g	µg/g	< 0.02	< 0.02	0.03	0.188
Phenanthrene	12 µg/g	µg/g	0.069	0.027	0.13	0.220
Pyrene	96 µg/g	µg/g	0.051	0.040	0.13	0.365

M.D.L. = Method Detection Limit
 Guidelines = O. Reg. 153 - Table 2 - Industrial/Commercial/Community Soil

Note: Source Site ID information provided by Greenbank Airways



APPENDIX A

LABORATORY CERTIFICATES OF ANALYSIS

C.O.C.: G45555

REPORT No. B15-01203 (i)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1
 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 19-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 26-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0016-2015-1-15			
Sample I.D.	B15-01203-1			
Date Collected	15-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Antimony	µg/g	0.4	EPA 200.8	21-Jan-15/R	0.5			
Arsenic	µg/g	0.5	EPA 200.8	21-Jan-15/R	1.3			
Barium	µg/g	0.4	EPA 200.8	21-Jan-15/R	103			
Beryllium	µg/g	0.05	EPA 200.8	21-Jan-15/R	0.61			
Boron	µg/g	0.5	EPA 200.8	21-Jan-15/R	7.2			
Boron (HWS)	µg/g	0.02	MOE 3470	20-Jan-15/R	0.57			
Cadmium	µg/g	0.03	EPA 200.8	21-Jan-15/R	0.10			
Chromium	µg/g	0.4	EPA 200.8	21-Jan-15/R	32.3			
Chromium (VI)	µg/g	0.5	EPA3060A	21-Jan-15/R	< 0.5			
Cobalt	µg/g	0.2	EPA 200.8	21-Jan-15/R	8.8			
Copper	µg/g	0.4	EPA 200.8	21-Jan-15/R	23.5			
Lead	µg/g	0.1	EPA 200.8	21-Jan-15/R	8.4			
Mercury	µg/g	0.005	EPA7471A	21-Jan-15/R	0.028			
Molybdenum	µg/g	0.1	EPA 200.8	21-Jan-15/R	0.3			
Nickel	µg/g	0.4	EPA 200.8	21-Jan-15/R	23.2			
Selenium	µg/g	0.1	EPA 200.8	21-Jan-15/R	0.2			
Silver	µg/g	0.01	EPA 200.8	21-Jan-15/R	0.11			



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0016-2015-1-15			
Sample I.D.	B15-01203-1			
Date Collected	15-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Thallium	µg/g	0.02	EPA 200.8	21-Jan-15/R	0.03			
Uranium	µg/g	0.02	EPA 200.8	21-Jan-15/R	0.54			
Vanadium	µg/g	0.8	EPA 200.8	21-Jan-15/R	37.7			
Zinc	µg/g	30	EPA 200.8	21-Jan-15/R	50			

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 26-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0016-2015-1-15			
Sample I.D.	B15-01203-1			
Date Collected	15-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Acetone	µg/g	0.5	EPA 8260	20-Jan-15/R	< 0.5			
Benzene	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Bromodichloromethane	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Bromoform	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Bromomethane	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Carbon Tetrachloride	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Chloroform	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dibromochloromethane	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 26-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0016-2015-1-15			
Sample I.D.	B15-01203-1			
Date Collected	15-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Ethylbenzene	µg/g	0.05	EPA 8260	20-Jan-15/R	0.12			
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Hexane	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	20-Jan-15/R	< 0.5			
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	20-Jan-15/R	< 0.5			
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Styrene	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit
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P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0016-2015-1-15			
Sample I.D.	B15-01203-1			
Date Collected	15-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Tetrachloroethane,1,1,1,2-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Tetrachloroethane,1,1,2,2-	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Tetrachloroethylene	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Toluene	µg/g	0.2	EPA 8260	20-Jan-15/R	0.2			
Trichloroethane,1,1,1-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Trichloroethane,1,1,2-	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Trichloroethylene	µg/g	0.05	EPA 8260	20-Jan-15/R	< 0.05			
Trichlorofluoromethane	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Vinyl Chloride	µg/g	0.02	EPA 8260	20-Jan-15/R	< 0.02			
Xylene, m,p-	µg/g	0.03	EPA 8260	20-Jan-15/R	0.39			
Xylene, o-	µg/g	0.03	EPA 8260	20-Jan-15/R	0.18			
Xylene, m,p,o-	µg/g	0.03	EPA 8260	20-Jan-15/R	0.57			
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	20-Jan-15/R	< 10			
PHC F2 (>C10-C16)	µg/g	10	CWS Tier 1	21-Jan-15/R	< 10			
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	21-Jan-15/R	10			
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	21-Jan-15/R	< 10			
% moisture	%			21-Jan-15/R	14.3			



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45555

REPORT No. B15-01203 (ii)

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285 Dalton Ave
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 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 19-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 26-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0016-2015-1-15			
Sample I.D.	B15-01203-1			
Date Collected	15-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed
-----------	-------	--------	------------------	--------------------

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45555

REPORT No. B15-01203 (iii)

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DATE RECEIVED: 19-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 26-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0016-2015-1-15			
Sample I.D.	B15-01203-1			
Date Collected	15-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Acenaphthene	µg/g	0.02	EPA 8270	21-Jan-15/R	< 0.02			
Acenaphthylene	µg/g	0.02	EPA 8270	21-Jan-15/R	< 0.02			
Anthracene	µg/g	0.02	EPA 8270	21-Jan-15/R	< 0.02			
Benzo(a)anthracene	µg/g	0.01	EPA 8270	21-Jan-15/R	0.03			
Benzo(a)pyrene	µg/g	0.05	EPA 8270	21-Jan-15/R	< 0.05			
Benzo(b)fluoranthene	µg/g	0.05	EPA 8270	21-Jan-15/R	< 0.05			
Benzo(g,h,i)perylene	µg/g	0.03	EPA 8270	21-Jan-15/R	< 0.03			
Benzo(k)fluoranthene	µg/g	0.05	EPA 8270	21-Jan-15/R	< 0.05			
Chrysene	µg/g	0.02	EPA 8270	21-Jan-15/R	0.03			
Dibenzo(a,h)anthracene	µg/g	0.05	EPA 8270	21-Jan-15/R	< 0.05			
Fluoranthene	µg/g	0.02	EPA 8270	21-Jan-15/R	0.05			
Fluorene	µg/g	0.02	EPA 8270	21-Jan-15/R	< 0.02			
Indeno(1,2,3,-cd)pyrene	µg/g	0.03	EPA 8270	21-Jan-15/R	< 0.03			
Methylnaphthalene,1-	µg/g	0.02	EPA 8270	21-Jan-15/R	< 0.02			
Methylnaphthalene,2-	µg/g	0.02	EPA 8270	21-Jan-15/R	< 0.02			
Naphthalene	µg/g	0.02	EPA 8270	21-Jan-15/R	< 0.02			
Phenanthrene	µg/g	0.01	EPA 8270	21-Jan-15/R	0.03			



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 26-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0016-2015-1-15			
Sample I.D.	B15-01203-1			
Date Collected	15-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Pyrene	µg/g	0.02	EPA 8270	21-Jan-15/R	0.04			

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from

C.O.C.: G45226

REPORT No. B15-00605 (i)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1
 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 12-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 16-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0022-2015-1-6-SS-1			
Sample I.D.	B15-00605-1			
Date Collected	06-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.5	EPA 6020	16-Jan-15/O	0.7		
Arsenic	µg/g	0.5	EPA 6020	16-Jan-15/O	1.6		
Boron (HWS)	µg/g	0.02	MOE3470	14-Jan-15/O	0.30		
Boron	µg/g	0.5	EPA 6010	14-Jan-15/O	9.7		
Barium	µg/g	1	EPA 6010	14-Jan-15/O	50		
Beryllium	µg/g	0.2	EPA 6010	14-Jan-15/O	0.4		
Cadmium	µg/g	0.5	EPA 6010	14-Jan-15/O	< 0.5		
Chromium	µg/g	1	EPA 6010	14-Jan-15/O	16		
Chromium (VI)	µg/g	0.5	EPA7196A	14-Jan-15/O	< 0.5		
Cobalt	µg/g	1	EPA 6010	14-Jan-15/O	6		
Copper	µg/g	1	EPA 6010	14-Jan-15/O	14		
Lead	µg/g	5	EPA 6010	14-Jan-15/O	14		
Mercury	µg/g	0.005	EPA 7471A	15-Jan-15/O	0.027		
Molybdenum	µg/g	1	EPA 6010	14-Jan-15/O	< 1		
Nickel	µg/g	1	EPA 6010	14-Jan-15/O	13		
Selenium	µg/g	0.5	EPA 6020	16-Jan-15/O	< 0.5		
Silver	µg/g	0.2	EPA 6010	14-Jan-15/O	4.1		
Thallium	µg/g	0.1	EPA 6020	16-Jan-15/O	< 0.1		
Uranium	µg/g	0.1	EPA 6020	16-Jan-15/O	0.5		
Vanadium	µg/g	1	EPA 6010	14-Jan-15/O	21		
Zinc	µg/g	3	EPA 6010	14-Jan-15/O	60		



M.D.L. = Method Detection Limit
 Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill

Richard Lecompte
 Lab Supervisor

C.O.C.: G45226

REPORT No. B15-00605 (ii)

Report To:

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Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1
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 Fax: 613-544-2770

DATE RECEIVED: 12-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 16-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0022-2015-1-6-SS-1			
Sample I.D.	B15-00605-1			
Date Collected	06-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acetone	µg/g	0.5	EPA 8260	14-Jan-15/R	< 0.5		
Benzene	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Bromodichloromethane	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Bromoform	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Bromomethane	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Carbon Tetrachloride	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Chloroform	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dibromochloromethane	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Ethylbenzene	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		



M.D.L. = Method Detection Limit
 Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

Richard Lecompte
 Lab Supervisor

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JOB/PROJECT NO.: Greenbank

DATE REPORTED: 16-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0022-2015-1-6-SS-1			
Sample I.D.	B15-00605-1			
Date Collected	06-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Hexane	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	14-Jan-15/R	< 0.5		
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	14-Jan-15/R	< 0.5		
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Styrene	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Tetrachloroethane,1,1,1,2-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Tetrachloroethane,1,1,2,2-	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Tetrachloroethylene	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Toluene	µg/g	0.2	EPA 8260	14-Jan-15/R	< 0.2		
Trichloroethane,1,1,1-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Trichloroethane,1,1,2-	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Trichloroethylene	µg/g	0.05	EPA 8260	14-Jan-15/R	< 0.05		
Trichlorofluoromethane	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Vinyl Chloride	µg/g	0.02	EPA 8260	14-Jan-15/R	< 0.02		
Xylene, m,p-	µg/g	0.03	EPA 8260	14-Jan-15/R	< 0.03		
Xylene, o-	µg/g	0.03	EPA 8260	14-Jan-15/R	< 0.03		
Xylene, m,p,o-	µg/g	0.03	EPA 8260	14-Jan-15/R	< 0.03		
Acenaphthene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.117		
Acenaphthylene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.043		
Anthracene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.314		
Benzo(a)anthracene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.756		
Benzo(a)pyrene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.543		
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.719		
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	14-Jan-15/K	1.00		



M.D.L. = Method Detection Limit
 Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill

Richard Lecompte
 Lab Supervisor

C.O.C.: G45226

REPORT No. B15-00605 (ii)

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Attention: Kevin McClintock

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285 Dalton Ave
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 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 12-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 16-Jan-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0022-2015-1-6-SS-1			
Sample I.D.	B15-00605-1			
Date Collected	06-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.309		
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.282		
Chrysene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.724		
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.085		
Fluoranthene	µg/g	0.005	EPA 8270	14-Jan-15/K	1.62		
Fluorene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.122		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.351		
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	14-Jan-15/K	0.032		
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	14-Jan-15/K	0.032		
Naphthalene	µg/g	0.005	EPA 8270	14-Jan-15/K	0.053		
Phenanthrene	µg/g	0.005	EPA 8270	14-Jan-15/K	1.29		
Pyrene	µg/g	0.005	EPA 8270	14-Jan-15/K	1.25		
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	14-Jan-15/R	< 10		
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	14-Jan-15/K	< 5		
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	14-Jan-15/K	50		
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	14-Jan-15/K	10		
% moisture	%			14-Jan-15/K	18.2		



M.D.L. = Method Detection Limit
 Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill

Richard Lecompte
 Lab Supervisor

C.O.C.: G45222

REPORT No. B15-01975 (i)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 28-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 03-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-1-27-122			
Sample I.D.	B15-01975-1			
Date Collected	27-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.4	EPA 200.8	30-Jan-15/R	1.5		
Arsenic	µg/g	0.5	EPA 200.8	30-Jan-15/R	3.0		
Barium	µg/g	0.4	EPA 200.8	30-Jan-15/R	38.9		
Beryllium	µg/g	0.05	EPA 200.8	30-Jan-15/R	0.32		
Boron	µg/g	0.5	EPA 200.8	30-Jan-15/R	5.9		
Boron (HWS)	µg/g	0.02	MOE 3470	30-Jan-15/R	0.47		
Cadmium	µg/g	0.03	EPA 200.8	30-Jan-15/R	0.34		
Chromium	µg/g	0.4	EPA 200.8	30-Jan-15/R	15.2		
Chromium (VI)	µg/g	0.5	EPA3060A	30-Jan-15/R	< 0.5		
Cobalt	µg/g	0.2	EPA 200.8	30-Jan-15/R	3.8		
Copper	µg/g	0.4	EPA 200.8	30-Jan-15/R	100		
Lead	µg/g	0.1	EPA 200.8	30-Jan-15/R	33.3		
Mercury	µg/g	0.005	EPA7471A	30-Jan-15/R	0.032		
Molybdenum	µg/g	0.1	EPA 200.8	30-Jan-15/R	3.7		
Nickel	µg/g	0.4	EPA 200.8	30-Jan-15/R	10.5		
Selenium	µg/g	0.1	EPA 200.8	30-Jan-15/R	0.5		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 03-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-1-27-122			
Sample I.D.	B15-01975-1			
Date Collected	27-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Silver	µg/g	0.01	EPA 200.8	30-Jan-15/R	0.06		
Thallium	µg/g	0.02	EPA 200.8	30-Jan-15/R	0.08		
Uranium	µg/g	0.02	EPA 200.8	30-Jan-15/R	0.41		
Vanadium	µg/g	0.8	EPA 200.8	30-Jan-15/R	20.5		
Zinc	µg/g	30	EPA 200.8	30-Jan-15/R	80		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-01975 (ii)

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Attention: Kevin McClintock

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285 Dalton Ave
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Tel: 613-544-2001

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DATE RECEIVED: 28-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 03-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-1-27-122			
Sample I.D.	B15-01975-1			
Date Collected	27-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acetone	µg/g	0.5	EPA 8260	29-Jan-15/R	< 0.5		
Benzene	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Bromodichloromethane	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Bromoform	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Bromomethane	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Carbon Tetrachloride	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	29-Jan-15/R	0.06		
Chloroform	µg/g	0.02	EPA 8260	29-Jan-15/R	0.06		
Dibromochloromethane	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-1-27-122			
Sample I.D.	B15-01975-1			
Date Collected	27-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	29-Jan-15/R	0.06		
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	29-Jan-15/R	0.04		
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Ethylbenzene	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Dibromoethane, 1,2-(Ethylene Dibromide)	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Hexane	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	29-Jan-15/R	< 0.5		
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	29-Jan-15/R	< 0.5		
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		



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 Lab Manager

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P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-1-27-122			
Sample I.D.	B15-01975-1			
Date Collected	27-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Styrene	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Tetrachloroethane, 1,1,1,2-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Tetrachloroethane, 1,1,2,2-	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Tetrachloroethylene	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Toluene	µg/g	0.2	EPA 8260	29-Jan-15/R	< 0.2		
Trichloroethane, 1,1,1-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Trichloroethane, 1,1,2-	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Trichloroethylene	µg/g	0.05	EPA 8260	29-Jan-15/R	< 0.05		
Trichlorofluoromethane	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Vinyl Chloride	µg/g	0.02	EPA 8260	29-Jan-15/R	< 0.02		
Xylene, m,p-	µg/g	0.03	EPA 8260	29-Jan-15/R	< 0.03		
Xylene, o-	µg/g	0.03	EPA 8260	29-Jan-15/R	< 0.03		
Xylene, m,p,o-	µg/g	0.03	EPA 8260	29-Jan-15/R	< 0.03		
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	29-Jan-15/R	< 10		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45222

REPORT No. B15-01975 (ii)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1
 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 28-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 03-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-1-27-122			
Sample I.D.	B15-01975-1			
Date Collected	27-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	02-Feb-15/K	46		
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	02-Feb-15/K	130		
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	02-Feb-15/K	50 ¹		
PHC F4 (Gravimetric)	µg/g	50	CWS Tier 1	03-Feb-15/K	420		
% moisture	%			03-Feb-15/K	9.90		

1 Note: F4 Gravimetric analysis required.

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-01975 (iii)

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DATE RECEIVED: 28-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 03-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-1-27-122			
Sample I.D.	B15-01975-1			
Date Collected	27-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acenaphthene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.014		
Acenaphthylene	µg/g	0.005	EPA 8270	03-Feb-15/K	< 0.005		
Anthracene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.015		
Benzo(a)anthracene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.033		
Benzo(a)pyrene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.028		
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.040		
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	03-Feb-15/K	0.054		
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.023		
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.013		
Chrysene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.037		
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.005		
Fluoranthene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.066		
Fluorene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.022		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.024		
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	03-Feb-15/K	0.062		
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	03-Feb-15/K	0.056		



Michelle Dubien
 Lab Manager

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DATE RECEIVED: 28-Jan-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 03-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-1-27-122			
Sample I.D.	B15-01975-1			
Date Collected	27-Jan-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Naphthalene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.017		
Phenanthrene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.079		
Pyrene	µg/g	0.005	EPA 8270	03-Feb-15/K	0.064		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien

Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-02611 (i)

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Attention: Kevin McClintock

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285 Dalton Ave
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 12-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-3-122			
Sample I.D.	B15-02611-1			
Date Collected	03-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.4	EPA 200.8	10-Feb-15/R	< 0.4		
Arsenic	µg/g	0.5	EPA 200.8	10-Feb-15/R	2.7		
Barium	µg/g	0.4	EPA 200.8	10-Feb-15/R	64.9		
Beryllium	µg/g	0.05	EPA 200.8	10-Feb-15/R	0.37		
Boron	µg/g	0.5	EPA 200.8	10-Feb-15/R	5.7		
Boron (HWS)	µg/g	0.02	MOE 3470	10-Feb-15/R	0.10		
Cadmium	µg/g	0.03	EPA 200.8	10-Feb-15/R	0.09		
Chromium	µg/g	0.4	EPA 200.8	10-Feb-15/R	19.6		
Chromium (VI)	µg/g	0.5	EPA3060A	11-Feb-15/R	< 0.5		
Cobalt	µg/g	0.2	EPA 200.8	10-Feb-15/R	5.8		
Copper	µg/g	0.4	EPA 200.8	10-Feb-15/R	17.0		
Lead	µg/g	0.1	EPA 200.8	10-Feb-15/R	6.7		
Mercury	µg/g	0.005	EPA7471A	10-Feb-15/R	0.013		
Molybdenum	µg/g	0.1	EPA 200.8	10-Feb-15/R	0.4		
Nickel	µg/g	0.4	EPA 200.8	10-Feb-15/R	14.4		
Selenium	µg/g	0.1	EPA 200.8	10-Feb-15/R	0.6		
Silver	µg/g	0.01	EPA 200.8	10-Feb-15/R	0.07		



Michelle Dubien
 Lab Manager

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DATE REPORTED: 12-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-3-122			
Sample I.D.	B15-02611-1			
Date Collected	03-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Thallium	µg/g	0.02	EPA 200.8	10-Feb-15/R	< 0.02			
Uranium	µg/g	0.02	EPA 200.8	10-Feb-15/R	0.86			
Vanadium	µg/g	0.8	EPA 200.8	10-Feb-15/R	27.7			
Zinc	µg/g	30	EPA 200.8	10-Feb-15/R	40			

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



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JOB/PROJECT NO.: Greenbank

DATE REPORTED: 12-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-3-122			
Sample I.D.	B15-02611-1			
Date Collected	03-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acetone	µg/g	0.5	EPA 8260	09-Feb-15/R	< 0.5		
Benzene	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Bromodichloromethane	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Bromoform	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Bromomethane	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Carbon Tetrachloride	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Chloroform	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dibromochloromethane	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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JOB/PROJECT NO.: Greenbank

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P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-3-122			
Sample I.D.	B15-02611-1			
Date Collected	03-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Ethylbenzene	µg/g	0.05	EPA 8260	09-Feb-15/R	0.20			
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Hexane	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	09-Feb-15/R	< 0.5			
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	09-Feb-15/R	< 0.5			
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05			
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05			
Styrene	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05			



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SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-3-122			
Sample I.D.	B15-02611-1			
Date Collected	03-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Tetrachloroethane,1,1,1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Tetrachloroethane,1,1,2,2-	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05			
Tetrachloroethylene	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05			
Toluene	µg/g	0.2	EPA 8260	09-Feb-15/R	< 0.2			
Trichloroethane,1,1,1-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Trichloroethane,1,1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Trichloroethylene	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05			
Trichlorofluoromethane	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Vinyl Chloride	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02			
Xylene, m,p-	µg/g	0.03	EPA 8260	09-Feb-15/R	0.39			
Xylene, o-	µg/g	0.03	EPA 8260	09-Feb-15/R	0.19			
Xylene, m,p,o-	µg/g	0.03	EPA 8260	09-Feb-15/R	0.57			
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	09-Feb-15/R	49			
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	11-Feb-15/K	125			
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	11-Feb-15/K	140			
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	11-Feb-15/K	< 10			
Comment-extractable	-		-	11-Feb-15	FO/NDP			



Michelle Dubien
 Lab Manager

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Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-02611 (ii)

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DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 12-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-3-122			
Sample I.D.	B15-02611-1			
Date Collected	03-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Comment-purgeable	-		-	09-Feb-15	NDP			
% moisture	%			12-Feb-15/K	16.0			

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

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nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45223

REPORT No. B15-02611 (iii)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 12-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-3-122			
Sample I.D.	B15-02611-1			
Date Collected	03-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acenaphthene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.128		
Acenaphthylene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.005		
Anthracene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.038		
Benzo(a)anthracene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.007		
Benzo(a)pyrene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.005		
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.006		
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	10-Feb-15/K	< 0.01		
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.005		
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.005		
Chrysene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.011		
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.005		
Fluoranthene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.019		
Fluorene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.221		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.005		
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	10-Feb-15/K	0.847		
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	10-Feb-15/K	1.21		
Naphthalene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.155		



Michelle Dubien
 Lab Manager

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 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 12-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-3-122			
Sample I.D.	B15-02611-1			
Date Collected	03-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Phenanthrene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.611			
Pyrene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.031			

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



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C.O.C.: G45735

REPORT No. B15-04019 (i)

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DATE RECEIVED: 26-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 04-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-12-136			
Sample I.D.	B15-04019-1			
Date Collected	12-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.4	EPA 200.8	03-Mar-15/R	< 0.4		
Arsenic	µg/g	0.5	EPA 200.8	03-Mar-15/R	0.6		
Barium	µg/g	0.4	EPA 200.8	03-Mar-15/R	58.9		
Beryllium	µg/g	0.05	EPA 200.8	03-Mar-15/R	0.32		
Boron	µg/g	0.5	EPA 200.8	03-Mar-15/R	7.2		
Boron (HWS)	µg/g	0.02	MOE 3470	02-Mar-15/R	0.45		
Cadmium	µg/g	0.03	EPA 200.8	03-Mar-15/R	0.09		
Chromium	µg/g	0.4	EPA 200.8	03-Mar-15/R	13.0		
Chromium (VI)	µg/g	0.5	EPA3060A	02-Mar-15/R	< 0.5		
Cobalt	µg/g	0.2	EPA 200.8	03-Mar-15/R	3.6		
Copper	µg/g	0.4	EPA 200.8	03-Mar-15/R	11.9		
Lead	µg/g	0.1	EPA 200.8	03-Mar-15/R	10.0		
Mercury	µg/g	0.005	EPA7471A	03-Mar-15/R	0.018		
Molybdenum	µg/g	0.1	EPA 200.8	03-Mar-15/R	0.3		
Nickel	µg/g	0.4	EPA 200.8	03-Mar-15/R	9.9		
Selenium	µg/g	0.1	EPA 200.8	03-Mar-15/R	< 0.1		



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 Lab Manager

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P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-12-136			
Sample I.D.	B15-04019-1			
Date Collected	12-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Silver	µg/g	0.01	EPA 200.8	03-Mar-15/R	0.04		
Thallium	µg/g	0.02	EPA 200.8	03-Mar-15/R	0.13		
Uranium	µg/g	0.02	EPA 200.8	03-Mar-15/R	0.53		
Vanadium	µg/g	0.8	EPA 200.8	03-Mar-15/R	21.9		
Zinc	µg/g	30	EPA 200.8	03-Mar-15/R	30		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

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 Lab Manager

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DATE REPORTED: 04-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-12-136			
Sample I.D.	B15-04019-1			
Date Collected	12-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acetone	µg/g	0.5	EPA 8260	27-Feb-15/R	< 0.5		
Benzene	µg/g	0.02	EPA 8260	27-Feb-15/R	0.22		
Bromodichloromethane	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Bromoform	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Bromomethane	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Carbon Tetrachloride	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Chloroform	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dibromochloromethane	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		



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 Lab Manager

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DATE REPORTED: 04-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-12-136			
Sample I.D.	B15-04019-1			
Date Collected	12-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Ethylbenzene	µg/g	0.05	EPA 8260	27-Feb-15/R	2.79		
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Hexane	µg/g	0.02	EPA 8260	27-Feb-15/R	5.30		
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	27-Feb-15/R	< 0.5		
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	27-Feb-15/R	< 0.5		
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		



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SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-12-136			
Sample I.D.	B15-04019-1			
Date Collected	12-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Styrene	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Tetrachloroethane, 1,1,1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Tetrachloroethane, 1,1,2,2-	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Tetrachloroethylene	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Toluene	µg/g	0.2	EPA 8260	27-Feb-15/R	0.5		
Trichloroethane, 1,1,1-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Trichloroethane, 1,1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Trichloroethylene	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Trichlorofluoromethane	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Vinyl Chloride	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Xylene, m,p-	µg/g	0.03	EPA 8260	27-Feb-15/R	9.86		
Xylene, o-	µg/g	0.03	EPA 8260	27-Feb-15/R	1.21		
Xylene, m,p,o-	µg/g	0.03	EPA 8260	27-Feb-15/R	11.1		
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	27-Feb-15/R	123		



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DATE REPORTED: 04-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-12-136			
Sample I.D.	B15-04019-1			
Date Collected	12-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	03-Mar-15/K	32		
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	03-Mar-15/K	110		
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	03-Mar-15/K	40		
% moisture	%			04-Mar-15/K	12.5		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



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DATE REPORTED: 04-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-12-136			
Sample I.D.	B15-04019-1			
Date Collected	12-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acenaphthene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Acenaphthylene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Anthracene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.024		
Benzo(a)anthracene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.087		
Benzo(a)pyrene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.079		
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.099		
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	03-Mar-15/K	0.13		
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.024		
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.036		
Chrysene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.036		
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Fluoranthene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.119		
Fluorene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.036		
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	03-Mar-15/K	0.024		
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	03-Mar-15/K	0.040		

Elevated MDLs due to sample matrix interferences



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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JOB/PROJECT NO.: Greenbank

DATE REPORTED: 04-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-12-136			
Sample I.D.	B15-04019-1			
Date Collected	12-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Naphthalene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.040		
Phenanthrene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.056		
Pyrene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.115		

Elevated MDLs due to sample matrix interferences

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45734

REPORT No. B15-04025 (i)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 26-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 05-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-24-137			
Sample I.D.	B15-04025-1			
Date Collected	24-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.4	EPA 200.8	03-Mar-15/R	2.7		
Arsenic	µg/g	0.5	EPA 200.8	03-Mar-15/R	0.9		
Barium	µg/g	0.4	EPA 200.8	03-Mar-15/R	89.0		
Beryllium	µg/g	0.05	EPA 200.8	03-Mar-15/R	0.48		
Boron	µg/g	0.5	EPA 200.8	03-Mar-15/R	17.0		
Boron (HWS)	µg/g	0.02	MOE 3470	02-Mar-15/R	1.02		
Cadmium	µg/g	0.03	EPA 200.8	03-Mar-15/R	0.53		
Chromium	µg/g	0.4	EPA 200.8	03-Mar-15/R	24.0		
Chromium (VI)	µg/g	0.5	EPA3060A	02-Mar-15/R	< 0.5		
Cobalt	µg/g	0.2	EPA 200.8	03-Mar-15/R	7.7		
Copper	µg/g	0.4	EPA 200.8	03-Mar-15/R	115		
Lead	µg/g	0.1	EPA 200.8	03-Mar-15/R	63.6		
Mercury	µg/g	0.005	EPA7471A	03-Mar-15/R	0.038		
Molybdenum	µg/g	0.1	EPA 200.8	03-Mar-15/R	27.1		
Nickel	µg/g	0.4	EPA 200.8	03-Mar-15/R	18.6		
Selenium	µg/g	0.1	EPA 200.8	03-Mar-15/R	0.3		



Michelle Dubien
 Lab Manager

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DATE REPORTED: 05-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-24-137			
Sample I.D.	B15-04025-1			
Date Collected	24-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Silver	µg/g	0.01	EPA 200.8	03-Mar-15/R	0.09		
Thallium	µg/g	0.02	EPA 200.8	03-Mar-15/R	0.17		
Uranium	µg/g	0.02	EPA 200.8	03-Mar-15/R	0.52		
Vanadium	µg/g	0.8	EPA 200.8	03-Mar-15/R	28.2		
Zinc	µg/g	30	EPA 200.8	03-Mar-15/R	210		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-04025 (ii)

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DATE RECEIVED: 26-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 05-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-24-137			
Sample I.D.	B15-04025-1			
Date Collected	24-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acetone	µg/g	0.5	EPA 8260	27-Feb-15/R	< 0.5		
Benzene	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Bromodichloromethane	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Bromoform	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Bromomethane	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Carbon Tetrachloride	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Chloroform	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dibromochloromethane	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit
 Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 05-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-24-137			
Sample I.D.	B15-04025-1			
Date Collected	24-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Ethylbenzene	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Hexane	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	27-Feb-15/R	< 0.5		
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	27-Feb-15/R	< 0.5		
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 05-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-24-137			
Sample I.D.	B15-04025-1			
Date Collected	24-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Styrene	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Tetrachloroethane, 1,1,1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Tetrachloroethane, 1,1,2,2-	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Tetrachloroethylene	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Toluene	µg/g	0.2	EPA 8260	27-Feb-15/R	< 0.2		
Trichloroethane, 1,1,1-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Trichloroethane, 1,1,2-	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Trichloroethylene	µg/g	0.05	EPA 8260	27-Feb-15/R	< 0.05		
Trichlorofluoromethane	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Vinyl Chloride	µg/g	0.02	EPA 8260	27-Feb-15/R	< 0.02		
Xylene, m,p-	µg/g	0.03	EPA 8260	27-Feb-15/R	0.12		
Xylene, o-	µg/g	0.03	EPA 8260	27-Feb-15/R	< 0.03		
Xylene, m,p,o-	µg/g	0.03	EPA 8260	27-Feb-15/R	0.12		
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	27-Feb-15/R	< 10		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 05-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-24-137			
Sample I.D.	B15-04025-1			
Date Collected	24-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	03-Mar-15/K	28		
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	03-Mar-15/K	150		
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	03-Mar-15/K	120 ¹		
PHC F4 (Gravimetric)	µg/g	50	CWS Tier 1	04-Mar-15/K	800		
% moisture	%			04-Mar-15/K	15.5		

1 Note: F4 Gravimetric analysis required.

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien

Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-04025 (iii)

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DATE RECEIVED: 26-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 05-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-24-137			
Sample I.D.	B15-04025-1			
Date Collected	24-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acenaphthene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Acenaphthylene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Anthracene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Benzo(a)anthracene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.025		
Benzo(a)pyrene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.022		
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.036		
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	03-Mar-15/K	0.051		
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Chrysene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.018		
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Fluoranthene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.065		
Fluorene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02		

Elevated MDLs due to sample matrix interferences



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-04025 (iii)

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Fax: 613-544-2770

DATE RECEIVED: 26-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 05-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-2-24-137			
Sample I.D.	B15-04025-1			
Date Collected	24-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Naphthalene	µg/g	0.005	EPA 8270	03-Mar-15/K	< 0.02	¹	
Phenanthrene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.069		
Pyrene	µg/g	0.005	EPA 8270	03-Mar-15/K	0.051		

¹ diluted due to matrix, elevated detection limits

Elevated MDLs due to sample matrix interferences

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

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nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

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C.O.C.: G45697

REPORT No. B15-02613 (i)

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DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 13-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0026-2015-2-47-ss-1			
Sample I.D.	B15-02613-1			
Date Collected	04-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.4	EPA 200.8	10-Feb-15/R	< 0.4		
Arsenic	µg/g	0.5	EPA 200.8	10-Feb-15/R	2.0		
Barium	µg/g	0.4	EPA 200.8	10-Feb-15/R	48.6		
Beryllium	µg/g	0.05	EPA 200.8	10-Feb-15/R	0.31		
Boron	µg/g	0.5	EPA 200.8	10-Feb-15/R	5.2		
Boron (HWS)	µg/g	0.02	MOE 3470	10-Feb-15/R	0.44		
Cadmium	µg/g	0.03	EPA 200.8	10-Feb-15/R	0.11		
Chromium	µg/g	0.4	EPA 200.8	10-Feb-15/R	12.9		
Chromium (VI)	µg/g	0.5	EPA3060A	11-Feb-15/R	< 0.5		
Cobalt	µg/g	0.2	EPA 200.8	10-Feb-15/R	3.0		
Copper	µg/g	0.4	EPA 200.8	10-Feb-15/R	10.0		
Lead	µg/g	0.1	EPA 200.8	10-Feb-15/R	6.9		
Mercury	µg/g	0.005	EPA7471A	10-Feb-15/R	0.014		
Molybdenum	µg/g	0.1	EPA 200.8	10-Feb-15/R	0.3		
Nickel	µg/g	0.4	EPA 200.8	10-Feb-15/R	7.9		
Selenium	µg/g	0.1	EPA 200.8	10-Feb-15/R	0.6		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 13-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0026-2015-2-47-ss-1			
Sample I.D.	B15-02613-1			
Date Collected	04-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Silver	µg/g	0.01	EPA 200.8	10-Feb-15/R	0.04		
Thallium	µg/g	0.02	EPA 200.8	10-Feb-15/R	< 0.02		
Uranium	µg/g	0.02	EPA 200.8	10-Feb-15/R	0.50		
Vanadium	µg/g	0.8	EPA 200.8	10-Feb-15/R	24.2		
Zinc	µg/g	30	EPA 200.8	10-Feb-15/R	40		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45697

REPORT No. B15-02613 (ii)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 13-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0026-2015-2-47-ss-1			
Sample I.D.	B15-02613-1			
Date Collected	04-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acetone	µg/g	0.5	EPA 8260	09-Feb-15/R	< 0.5		
Benzene	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Bromodichloromethane	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Bromoform	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Bromomethane	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Carbon Tetrachloride	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Chloroform	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dibromochloromethane	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		



Michelle Dubien
 Lab Manager

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0026-2015-2-47-ss-1			
Sample I.D.	B15-02613-1			
Date Collected	04-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Ethylbenzene	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Dibromoethane, 1,2-(Ethylene Dibromide)	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Hexane	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	09-Feb-15/R	< 0.5		
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	09-Feb-15/R	< 0.5		
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		



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SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0026-2015-2-47-ss-1			
Sample I.D.	B15-02613-1			
Date Collected	04-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Styrene	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Tetrachloroethane, 1,1,1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Tetrachloroethane, 1,1,2,2-	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Tetrachloroethylene	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Toluene	µg/g	0.2	EPA 8260	09-Feb-15/R	< 0.2		
Trichloroethane, 1,1,1-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Trichloroethane, 1,1,2-	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Trichloroethylene	µg/g	0.05	EPA 8260	09-Feb-15/R	< 0.05		
Trichlorofluoromethane	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Vinyl Chloride	µg/g	0.02	EPA 8260	09-Feb-15/R	< 0.02		
Xylene, m,p-	µg/g	0.03	EPA 8260	09-Feb-15/R	< 0.03		
Xylene, o-	µg/g	0.03	EPA 8260	09-Feb-15/R	< 0.03		
Xylene, m,p,o-	µg/g	0.03	EPA 8260	09-Feb-15/R	< 0.03		
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	09-Feb-15/R	< 10		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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JOB/PROJECT NO.: Greenbank

DATE REPORTED: 13-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0026-2015-2-47-ss-1			
Sample I.D.	B15-02613-1			
Date Collected	04-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	11-Feb-15/K	< 5		
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	11-Feb-15/K	20		
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	11-Feb-15/K	30 ¹		
PHC F4 (Gravimetric)	µg/g	50	CWS Tier 1	13-Feb-15/K	290		
% moisture	%			13-Feb-15/K	15.2		

1 Note: F4 Gravimetric analysis required.

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-02613 (iii)

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285 Dalton Ave
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Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 13-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0026-2015-2-47-ss-1			
Sample I.D.	B15-02613-1			
Date Collected	04-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acenaphthene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Acenaphthylene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Anthracene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Benzo(a)anthracene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Benzo(a)pyrene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	10-Feb-15/K	< 0.04		
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Chrysene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Fluoranthene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.026		
Fluorene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45697

REPORT No. B15-02613 (iii)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1
 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 06-Feb-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 13-Feb-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0026-2015-2-47-ss-1			
Sample I.D.	B15-02613-1			
Date Collected	04-Feb-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Naphthalene	µg/g	0.005	EPA 8270	10-Feb-15/K	< 0.02		
Phenanthrene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.022		
Pyrene	µg/g	0.005	EPA 8270	10-Feb-15/K	0.022		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45235

REPORT No. B15-04465 (i)

Report To:

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 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 04-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 10-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-3-3-138			
Sample I.D.	B15-04465-1			
Date Collected	03-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.5	EPA 6020	09-Mar-15/O	0.6		
Arsenic	µg/g	0.5	EPA 6020	09-Mar-15/O	3.7		
Barium	µg/g	1	EPA 6010	06-Mar-15/O	54		
Beryllium	µg/g	0.2	EPA 6010	06-Mar-15/O	0.3		
Boron	µg/g	0.5	EPA 6010	06-Mar-15/O	11.2		
Boron (HWS)	µg/g	0.02	MOE3470	06-Mar-15/O	0.10		
Cadmium	µg/g	0.5	EPA 6010	06-Mar-15/O	< 0.5		
Chromium	µg/g	1	EPA 6010	06-Mar-15/O	21		
Chromium (VI)	µg/g	0.5	EPA7196A	10-Mar-15/O	< 0.5		
Cobalt	µg/g	1	EPA 6010	06-Mar-15/O	7		
Copper	µg/g	1	EPA 6010	06-Mar-15/O	66		
Lead	µg/g	5	EPA 6010	06-Mar-15/O	17		
Mercury	µg/g	0.005	EPA 7471A	06-Mar-15/O	0.027		
Molybdenum	µg/g	1	EPA 6010	06-Mar-15/O	4		
Nickel	µg/g	1	EPA 6010	06-Mar-15/O	15		
Selenium	µg/g	0.5	EPA 6020	09-Mar-15/O	< 0.5		
Silver	µg/g	0.2	EPA 6010	06-Mar-15/O	< 0.2		



Michelle Dubien
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SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-3-3-138			
Sample I.D.	B15-04465-1			
Date Collected	03-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Thallium	µg/g	0.1	EPA 6020	09-Mar-15/O	0.1			
Uranium	µg/g	0.1	EPA 6020	09-Mar-15/O	0.6			
Vanadium	µg/g	1	EPA 6010	06-Mar-15/O	23			
Zinc	µg/g	3	EPA 6010	06-Mar-15/O	73			

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

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SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-3-3-138			
Sample I.D.	B15-04465-1			
Date Collected	03-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Acetone	µg/g	0.3	EPA 8260	06-Mar-15/O	< 0.3			
Benzene	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Bromoform	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Bromodichloromethane	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Bromomethane	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Carbon Tetrachloride	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Monochlorobenzene (Chlorobenzene)	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Chloroform	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Dibromochloromethane	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichlorobenzene, 1,2-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichlorobenzene, 1,3-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichlorobenzene, 1,4-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichlorodifluoromethane	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichloroethane, 1,1-	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			



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 Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1
 Tel: 613-544-2001
 Fax: 613-544-2770

Attention: Kevin McClintock

DATE RECEIVED: 04-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 10-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-3-3-138			
Sample I.D.	B15-04465-1			
Date Collected	03-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Dichloroethane, 1,2-	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichloroethene, 1,1-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichloroethene, trans-1,2-	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Dichloropropane, 1,2-	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Dichloropropene 1,3-cis+trans	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Ethylbenzene	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Dichloromethane (Methylene Chloride)	µg/g	0.04	EPA 8260	06-Mar-15/O	< 0.04			
Hexane	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Methyl Ethyl Ketone	µg/g	0.1	EPA 8260	06-Mar-15/O	< 0.1			
Methyl Isobutyl Ketone	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Methyl-t-butyl Ether	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Styrene	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45235

REPORT No. B15-04465 (ii)

Report To:

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 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

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285 Dalton Ave
 Kingston Ontario K7K 6Z1
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DATE RECEIVED: 04-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 10-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-3-3-138			
Sample I.D.	B15-04465-1			
Date Collected	03-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed				
Tetrachloroethane,1,1,1,2-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Tetrachloroethane,1,1,2,2-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Tetrachloroethylene	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Toluene	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Trichloroethane,1,1,1-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Trichloroethane,1,1,2-	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Trichloroethylene	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Trichlorofluoromethane	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Vinyl Chloride	µg/g	0.02	EPA 8260	06-Mar-15/O	< 0.02			
Xylene, m,p-	µg/g	0.04	EPA 8260	06-Mar-15/O	< 0.04			
Xylene, o-	µg/g	0.03	EPA 8260	06-Mar-15/O	< 0.03			
Xylene, m,p,o-	µg/g	0.05	EPA 8260	06-Mar-15/O	< 0.05			
% moisture	%			10-Mar-15/K	15.0			
PHC F1 (C6-C10)	µg/g	10	MOE E3398	06-Mar-15/O	< 10			
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	09-Mar-15/K	37			
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	09-Mar-15/K	980			
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	09-Mar-15/K	330			



Michelle Dubien
 Lab Manager

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Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-04465 (ii)

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DATE RECEIVED: 04-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 10-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-3-3-138			
Sample I.D.	B15-04465-1			
Date Collected	03-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed
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µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45235

REPORT No. B15-04465 (iii)

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DATE RECEIVED: 04-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 10-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-3-3-138			
Sample I.D.	B15-04465-1			
Date Collected	03-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acenaphthene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Acenaphthylene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Anthracene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Benzo(a)anthracene	µg/g	0.005	EPA 8270	09-Mar-15/K	0.027		
Benzo(a)pyrene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	09-Mar-15/K	0.022		
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	09-Mar-15/K	< 0.04		
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Chrysene	µg/g	0.005	EPA 8270	09-Mar-15/K	0.022		
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Fluoranthene	µg/g	0.005	EPA 8270	09-Mar-15/K	0.036		
Fluorene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		
Naphthalene	µg/g	0.005	EPA 8270	09-Mar-15/K	< 0.02		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit
 Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-04465 (iii)

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Attention: Kevin McClintock

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DATE RECEIVED: 04-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 10-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-3-3-138			
Sample I.D.	B15-04465-1			
Date Collected	03-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Phenanthrene	µg/g	0.005	EPA 8270	09-Mar-15/K	0.027		
Pyrene	µg/g	0.005	EPA 8270	09-Mar-15/K	0.040		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45237

REPORT No. B15-05002 (i)

Report To:

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 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
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Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 11-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 19-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-03-10-139			
Sample I.D.	B15-05002-1			
Date Collected	10-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.4	EPA 200.8	13-Mar-15/R	2.7		
Arsenic	µg/g	0.5	EPA 200.8	13-Mar-15/R	7.0		
Barium	µg/g	0.4	EPA 200.8	13-Mar-15/R	61.8		
Beryllium	µg/g	0.05	EPA 200.8	13-Mar-15/R	0.31		
Boron	µg/g	0.5	EPA 200.8	13-Mar-15/R	12.1		
Boron (HWS)	µg/g	0.02	MOE 3470	16-Mar-15/R	0.95		
Cadmium	µg/g	0.03	EPA 200.8	13-Mar-15/R	0.79		
Chromium	µg/g	0.4	EPA 200.8	13-Mar-15/R	18.9		
Chromium (VI)	µg/g	0.5	EPA3060A	13-Mar-15/R	< 0.5		
Cobalt	µg/g	0.2	EPA 200.8	13-Mar-15/R	4.0		
Copper	µg/g	0.4	EPA 200.8	13-Mar-15/R	186		
Lead	µg/g	0.1	EPA 200.8	13-Mar-15/R	49.4		
Mercury	µg/g	0.005	EPA7471A	16-Mar-15/R	0.036		
Molybdenum	µg/g	0.1	EPA 200.8	13-Mar-15/R	20.5		
Nickel	µg/g	0.4	EPA 200.8	13-Mar-15/R	12.9		
Selenium	µg/g	0.1	EPA 200.8	13-Mar-15/R	< 0.1		



Michelle Dubien
 Lab Manager

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Client I.D.	GB-0003-2015-03-10-139			
Sample I.D.	B15-05002-1			
Date Collected	10-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Silver	µg/g	0.01	EPA 200.8	13-Mar-15/R	0.12		
Thallium	µg/g	0.02	EPA 200.8	13-Mar-15/R	0.02		
Uranium	µg/g	0.02	EPA 200.8	13-Mar-15/R	0.43		
Vanadium	µg/g	0.8	EPA 200.8	13-Mar-15/R	19.6		
Zinc	µg/g	30	EPA 200.8	13-Mar-15/R	220		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

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nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

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REPORT No. B15-05002 (ii)

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DATE REPORTED: 19-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-03-10-139			
Sample I.D.	B15-05002-1			
Date Collected	10-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acetone	µg/g	0.5	EPA 8260	12-Mar-15/R	< 0.5		
Benzene	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Bromodichloromethane	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Bromoform	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Bromomethane	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Carbon Tetrachloride	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Chloroform	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dibromochloromethane	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		



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 Lab Manager

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 Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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Sample I.D.	B15-05002-1			
Date Collected	10-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Ethylbenzene	µg/g	0.05	EPA 8260	12-Mar-15/R	0.11		
Hexane	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	12-Mar-15/R	< 0.5		
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	12-Mar-15/R	< 0.5		
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		



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SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-03-10-139			
Sample I.D.	B15-05002-1			
Date Collected	10-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Styrene	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Tetrachloroethane, 1,1,1,2-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Tetrachloroethane, 1,1,2,2-	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Tetrachloroethylene	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Toluene	µg/g	0.2	EPA 8260	12-Mar-15/R	< 0.2		
Trichloroethane, 1,1,1-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Trichloroethane, 1,1,2-	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Trichloroethylene	µg/g	0.05	EPA 8260	12-Mar-15/R	< 0.05		
Trichlorofluoromethane	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Vinyl Chloride	µg/g	0.02	EPA 8260	12-Mar-15/R	< 0.02		
Xylene, m,p-	µg/g	0.03	EPA 8260	12-Mar-15/R	0.07		
Xylene, m,p,o-	µg/g	0.03	EPA 8260	12-Mar-15/R	0.12		
Xylene, o-	µg/g	0.03	EPA 8260	12-Mar-15/R	0.05		
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	12-Mar-15/R	< 10		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45237

REPORT No. B15-05002 (ii)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1
 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 11-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 19-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-03-10-139			
Sample I.D.	B15-05002-1			
Date Collected	10-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
PHC F2 (>C10-C16)	µg/g	10	CWS Tier 1	13-Mar-15/R	20		
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	13-Mar-15/R	140		
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	13-Mar-15/R	90 ¹		
PHC F4 (Gravimetric)	µg/g	50	CWS Tier 1	19-Mar-15/K	520		
% moisture	%			19-Mar-15/K	13.7		

1 Note: Chromat did not return to baseline F4G required

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien

Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-05002 (iii)

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DATE RECEIVED: 11-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 19-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-03-10-139			
Sample I.D.	B15-05002-1			
Date Collected	10-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acenaphthene	µg/g	0.02	EPA 8270	17-Mar-15/R	< 0.02		
Acenaphthylene	µg/g	0.02	EPA 8270	17-Mar-15/R	< 0.02		
Anthracene	µg/g	0.02	EPA 8270	17-Mar-15/R	0.03		
Benzo(a)anthracene	µg/g	0.01	EPA 8270	17-Mar-15/R	0.07		
Benzo(a)pyrene	µg/g	0.05	EPA 8270	17-Mar-15/R	0.08		
Benzo(b)fluoranthene	µg/g	0.05	EPA 8270	17-Mar-15/R	0.09		
Benzo(g,h,i)perylene	µg/g	0.03	EPA 8270	17-Mar-15/R	0.06		
Benzo(k)fluoranthene	µg/g	0.05	EPA 8270	17-Mar-15/R	0.07		
Chrysene	µg/g	0.02	EPA 8270	17-Mar-15/R	0.06		
Dibenzo(a,h)anthracene	µg/g	0.05	EPA 8270	17-Mar-15/R	0.05		
Fluoranthene	µg/g	0.02	EPA 8270	17-Mar-15/R	0.14		
Fluorene	µg/g	0.02	EPA 8270	17-Mar-15/R	0.02		
Indeno(1,2,3,-cd)pyrene	µg/g	0.03	EPA 8270	17-Mar-15/R	0.09		
Methylnaphthalene,1-	µg/g	0.02	EPA 8270	17-Mar-15/R	0.03		
Methylnaphthalene,2-	µg/g	0.02	EPA 8270	17-Mar-15/R	0.06		
Naphthalene	µg/g	0.02	EPA 8270	17-Mar-15/R	0.03		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-05002 (iii)

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DATE RECEIVED: 11-Mar-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 19-Mar-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	GB-0003-2015-03-10-139			
Sample I.D.	B15-05002-1			
Date Collected	10-Mar-15			

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Phenanthrene	µg/g	0.01	EPA 8270	17-Mar-15/R	0.13		
Pyrene	µg/g	0.02	EPA 8270	17-Mar-15/R	0.13		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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C.O.C.: G45878

REPORT No. B15-06676 (i)

Report To:

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 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 01-Apr-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 08-Apr-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	Downtown		
Sample I.D.	B15-06676-1		
Date Collected	31-Mar-15		

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Antimony	µg/g	0.4	EPA 200.8	07-Apr-15/R	7.4		
Arsenic	µg/g	0.5	EPA 200.8	07-Apr-15/R	10.4		
Barium	µg/g	0.4	EPA 200.8	07-Apr-15/R	52.7		
Beryllium	µg/g	0.05	EPA 200.8	07-Apr-15/R	0.43		
Boron	µg/g	0.5	EPA 200.8	07-Apr-15/R	8.8		
Boron (HWS)	µg/g	0.02	MOE 3470	06-Apr-15/R	0.69		
Cadmium	µg/g	0.03	EPA 200.8	07-Apr-15/R	0.38		
Chromium	µg/g	0.4	EPA 200.8	07-Apr-15/R	20.0		
Chromium (VI)	µg/g	0.5	EPA3060A	06-Apr-15/R	< 0.5		
Cobalt	µg/g	0.2	EPA 200.8	07-Apr-15/R	14.3		
Copper	µg/g	0.4	EPA 200.8	07-Apr-15/R	132		
Lead	µg/g	0.1	EPA 200.8	07-Apr-15/R	142		
Mercury	µg/g	0.005	EPA7471A	06-Apr-15/R	0.110		
Molybdenum	µg/g	0.1	EPA 200.8	07-Apr-15/R	4.5		
Nickel	µg/g	0.4	EPA 200.8	07-Apr-15/R	53.1		
Selenium	µg/g	0.1	EPA 200.8	07-Apr-15/R	0.8		
Silver	µg/g	0.01	EPA 200.8	07-Apr-15/R	0.13		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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JOB/PROJECT NO.: Greenbank

DATE REPORTED: 08-Apr-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	Downtown		
Sample I.D.	B15-06676-1		
Date Collected	31-Mar-15		

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Thallium	µg/g	0.02	EPA 200.8	07-Apr-15/R	0.23		
Uranium	µg/g	0.02	EPA 200.8	07-Apr-15/R	0.47		
Vanadium	µg/g	0.8	EPA 200.8	07-Apr-15/R	25.3		
Zinc	µg/g	30	EPA 200.8	07-Apr-15/R	110		

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-06676 (ii)

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DATE RECEIVED: 01-Apr-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 08-Apr-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	Downtown		
Sample I.D.	B15-06676-1		
Date Collected	31-Mar-15		

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acetone	µg/g	0.5	EPA 8260	02-Apr-15/R	< 0.5		
Benzene	µg/g	0.02	EPA 8260	02-Apr-15/R	0.07		
Bromodichloromethane	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Bromoform	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Bromomethane	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Carbon Tetrachloride	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Monochlorobenzene (Chlorobenzene)	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Chloroform	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dibromochloromethane	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dichlorobenzene, 1,2-	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Dichlorobenzene, 1,3-	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Dichlorobenzene, 1,4-	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Dichlorodifluoromethane	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Dichloroethane, 1,1-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dichloroethane, 1,2-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dichloroethylene, 1,1-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 08-Apr-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	Downtown		
Sample I.D.	B15-06676-1		
Date Collected	31-Mar-15		

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Dichloroethene, cis-1,2-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dichloroethene, trans-1,2-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dichloropropane, 1,2-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dichloropropene, cis-1,3-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dichloropropene, trans-1,3-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Dichloropropene 1,3-cis+trans	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Ethylbenzene	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Dibromoethane, 1,2- (Ethylene Dibromide)	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Hexane	µg/g	0.02	EPA 8260	02-Apr-15/R	0.10		
Methyl Ethyl Ketone	µg/g	0.5	EPA 8260	02-Apr-15/R	< 0.5		
Methyl Isobutyl Ketone	µg/g	0.5	EPA 8260	02-Apr-15/R	< 0.5		
Methyl-t-butyl Ether	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Dichloromethane (Methylene Chloride)	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Styrene	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Tetrachloroethane, 1,1,1,2-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		



Michelle Dubien
 Lab Manager

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JOB/PROJECT NO.: Greenbank

DATE REPORTED: 08-Apr-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	Downtown		
Sample I.D.	B15-06676-1		
Date Collected	31-Mar-15		

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Tetrachloroethane, 1,1,2,2-	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Tetrachloroethylene	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Toluene	µg/g	0.2	EPA 8260	02-Apr-15/R	0.3		
Trichloroethane, 1,1,1-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Trichloroethane, 1,1,2-	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Trichloroethylene	µg/g	0.05	EPA 8260	02-Apr-15/R	< 0.05		
Trichlorofluoromethane	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Vinyl Chloride	µg/g	0.02	EPA 8260	02-Apr-15/R	< 0.02		
Xylene, m,p-	µg/g	0.03	EPA 8260	02-Apr-15/R	0.15		
Xylene, o-	µg/g	0.03	EPA 8260	02-Apr-15/R	0.10		
Xylene, m,p,o-	µg/g	0.03	EPA 8260	02-Apr-15/R	0.25		
PHC F1 (C6-C10)	µg/g	10	CWS Tier 1	02-Apr-15/R	< 10		
PHC F2 (>C10-C16)	µg/g	5	CWS Tier 1	02-Apr-15/K	< 5		
PHC F3 (>C16-C34)	µg/g	10	CWS Tier 1	02-Apr-15/K	30		
PHC F4 (>C34-C50)	µg/g	10	CWS Tier 1	02-Apr-15/K	10		
% moisture	%			08-Apr-15/K	12.6		



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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DATE REPORTED: 08-Apr-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	Downtown		
Sample I.D.	B15-06676-1		
Date Collected	31-Mar-15		

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed
-----------	-------	--------	------------------	--------------------

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10, nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien

Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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REPORT No. B15-06676 (iii)

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JOB/PROJECT NO.: Greenbank

DATE REPORTED: 08-Apr-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	Downtown		
Sample I.D.	B15-06676-1		
Date Collected	31-Mar-15		

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Acenaphthene	µg/g	0.005	EPA 8270	07-Apr-15/K	< 0.03		
Acenaphthylene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.091		
Anthracene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.188		
Benzo(a)anthracene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.220		
Benzo(a)pyrene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.279		
Benzo(b)fluoranthene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.552		
Benzo(b+k)fluoranthene	µg/g	0.01	EPA 8270	07-Apr-15/K	0.734		
Benzo(g,h,i)perylene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.182		
Benzo(k)fluoranthene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.182		
Chrysene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.295		
Dibenzo(a,h)anthracene	µg/g	0.005	EPA 8270	07-Apr-15/K	< 0.03		
Fluoranthene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.370		
Fluorene	µg/g	0.005	EPA 8270	07-Apr-15/K	< 0.03		
Indeno(1,2,3,-cd)pyrene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.150		
Methylnaphthalene,1-	µg/g	0.005	EPA 8270	07-Apr-15/K	0.198		
Methylnaphthalene,2-	µg/g	0.005	EPA 8270	07-Apr-15/K	0.198		
Naphthalene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.188		

Elevated MDLs due to sample matrix interferences



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

C.O.C.: G45878

REPORT No. B15-06676 (iii)

Report To:

Green Bank Airport
 1140 Hwy 47 East,
 Uxbridge Ontario L9P 1N5 Canada

Attention: Kevin McClintock

Caduceon Environmental Laboratories

285 Dalton Ave
 Kingston Ontario K7K 6Z1
 Tel: 613-544-2001
 Fax: 613-544-2770

DATE RECEIVED: 01-Apr-15

JOB/PROJECT NO.: Greenbank

DATE REPORTED: 08-Apr-15

P.O. NUMBER: 1203-966

SAMPLE MATRIX: Soil

WATERWORKS NO.

Client I.D.	Downtown		
Sample I.D.	B15-06676-1		
Date Collected	31-Mar-15		

Parameter	Units	M.D.L.	Reference Method	Date/Site Analyzed			
Phenanthrene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.220		
Pyrene	µg/g	0.005	EPA 8270	07-Apr-15/K	0.365		

Elevated MDLs due to sample matrix interferences

µg/g = micrograms per gram (parts per million) and is equal to mg/Kg

F1 C6-C10 hydrocarbons in µg/g, (F1-btex if requested)

F2 C10-C16 hydrocarbons in µg/g, (F2-naph if requested)

F3 C16-C34 hydrocarbons in µg/g, (F3-pah if requested)

F4 C34-C50 hydrocarbons in µg/g

This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.

Any deviations from the method are noted and reported for any particular sample.

nC6 and nC10 response factor is within 30% of response factor for toluene:

nC10,nC16 and nC34 response factors within 10% of each other:

C50 response factors within 70% of nC10+nC16+nC34 average:

Linearity is within 15%:

All results expressed on a dry weight basis.

Unless otherwise noted all chromatograms returned to baseline by the retention time of nC50.

Unless otherwise noted all extraction, analysis, QC requirements and limits for holding time were met.

If analyzed for F4 and F4G they are not to be summed but the greater of the two numbers are to be used in application to the CWS PHC

QC will be made available upon request.



Michelle Dubien
 Lab Manager

M.D.L. = Method Detection Limit

Site Analyzed: K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill

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