Mr. Jeffrey Crawford
Rhode Island Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, RI 02908-5767

Arcadis U.S., Inc.
300 Metro Center Boulevard
Suite 250
Warwick
Rhode Island 02886
Tel 401 738 3887
Fax 401 732 1686
www.arcadis.com

ENVIRONMENTAL

Subject:

March 2016 Quarterly Monitoring Report for Springfield Street School Complex

Date:
April 25, 2016

Contact:
Donna H. Pallister, PE

Phone:
401.285.2235

Email:
Donna.pallister@arcadis.com

Our ref:
WK012152.0011

Dear Mr. Crawford:

ARCADIS US, Inc. (ARCADIS) conducted quarterly monitoring of soil gas, indoor air, the cap, and the sub-slab ventilation system March 16th and March 23rd 2016. The monitoring was performed in accordance with the *Long-Term Operation and Maintenance Plan and Site Contingency Plan* (O&M Plan) contained in the *Remedial Action Work Plan* prepared by ATC dated April 2, 1999, revised May 3, 1999 and May 9, 1999. The *Remedial Action Work Plan* (RAWP) was approved by the Rhode Island Department of Environmental Management (RIDEM) in a letter dated June 4, 1999.

This work is subject to the Limitations contained in Attachment A. Results of monitoring are provided in the following sections and in the attachments.

COVER MONITORING

ARCADIS conducted a visual survey of the site on March 23rd, 2016 for evidence of significant soil cover erosion, or for any areas of settling and depression.

The orange indicator barrier was not observed during the inspection, and there was no evidence of significant settling or cover erosion in need of repair.

SUB-SLAB VENTILATION SYSTEM

Field Monitoring

The sub-slab ventilation system was inspected by ARCADIS during the quarterly monitoring on March 23rd, 2016. The two elementary school blowers and one of the two middle school blowers were operating normally upon arrival. The second middle school blower, middle school back, was not operating.

Samples of influent and effluent (before and after the carbon canisters) air were collected at each functioning blower and screened for methane, carbon dioxide, oxygen, carbon monoxide, hydrogen sulfide, and organic vapors using a Landtec GEM5000 Plus and a MiniRae 2000. Results of screening are provided in Table 1. Methane, carbon monoxide, hydrogen sulfide and organic vapors were not detected in any of the samples. Carbon dioxide was detected at concentrations of 0.1% to 0.2 %; all the sample concentrations were greater than the RAWP Action Level of 1000 ppm (0.1%).

Soil Gas Laboratory Results

Sub-slab soil gas samples were collected from the influent to each functioning sub-slab ventilation system. The samples were collected in Tedlar bags and submitted to Con-Test Analytical Laboratories for analysis of volatile organic compounds (VOCs) by EPA method TO-14. Results of the analysis are summarized in Table 2, and the laboratory report is provided in Attachment B.

The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs) and CT DEEP Proposed Residential Volatilization Criteria for Soil Vapor are provided in Table 2 for comparison purposes. The OSHA PELs are not directly applicable to soil gas, because it does not represent exposure point concentrations. The PELs are the average concentrations that OSHA allows to be present in a workplace without any respiratory protection or exposure controls. The concentrations detected in soil gas were well below the OSHA PELs and the CT DEEP Proposed Residential Volatilization Criteria.

INDOOR AIR MONITORING

Indoor air monitoring was conducted on March 16th, 2016 using a Landtec GEM 5000 Plus meter (methane, hydrogen sulfide, oxygen), a Mini Rae photoionization detector (organic vapors), and a Fluke 975 Airmeter (carbon dioxide, carbon monoxide. Results of monitoring are provided in the Table 3. Carbon dioxide measurements were made with a Fluke 975 Airmeter indoor air quality meter. The Fluke 975 has a range of 0 to 5,000 ppm, with a resolution of 1 ppm.

The outside temperature on March 16th, 2016 was approximately 39^{o}F and ambient carbon dioxide was measured at 420 ppm.

All readings were below the RAWP Action Levels. Methane, hydrogen sulfide and carbon monoxide were not detected. Organic vapors were detected in the elementary school library at a concentration of 0.1 ppm, in the elementary school front stairs at a concentration of 0.2 ppm, and in the elementary school cafeteria at a concentration of 0.9 ppm, which is below the RAWP Action Level. Carbon dioxide was detected at concentrations between 486 and 925 ppm. As noted below, these readings are within the expected range for indoor air levels of carbon dioxide in an occupied building.

Concentrations of carbon dioxide inside occupied buildings are expected to be higher than the concentrations in outdoor air because the building occupants expel carbon dioxide. Therefore, in indoor air, the concentration of carbon dioxide is typically used as an indicator of the effectiveness of the heating, ventilating, and air conditioning (HVAC) system in circulating outdoor air into the building. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) have prepared ASHRAE Standard 62.1-2007 titled *Ventilation for Acceptable Indoor Air Quality*. The purpose of the

Standard is to specify minimum ventilation rates and other measures to provide indoor air quality that is acceptable to human occupants and that minimize adverse health effects. A discussion regarding carbon dioxide concentrations in indoor air contained in Informative Attachment C of the Standard states: "… maintaining a steady-state CO_2 concentration in a space of no greater than about 700 ppm above outdoor air levels will indicate that a substantial majority of visitors entering a space will be satisfied with respect to human bioeffluents (body odor)." This is the basis for ASHRAE's recommendations for concentrations of carbon dioxide in indoor air.

The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) for carbon dioxide in the workplace is 5,000 ppm. All readings were below this concentration.

The control panels for the methane monitors at both schools were inspected on March 16th, 2016. The methane monitor control panels had stickers that indicated that the monitors were calibrated by Diamond Technical Services within the month prior to the inspection. Diamond Technical Services calibrates the sensors on a monthly basis.

Calibration Certificates from Diamond Calibration indicate that many of the sensors read above 0 when calibrated to the zero gas. This prevents the sensors from giving a fault alarm if the reading drops below zero due to a sudden temperature change, and still provides a conservative measure of protection because the alarm limit does not change.

GROUNDWATER MONITORING

The groundwater monitoring wells were sampled by ARCADIS on March 23rd, 2016. Prior to sampling, the depth to water was gauged, and a volume of water equivalent to approximately three well volumes was removed from the well. Groundwater samples were collected in laboratory prepared sample jars and delivered under chain-of-custody protocol to Contest Laboratory in East Longmeadow, Massachusetts for analysis for volatile organic compounds by EPA method 8260. During the sampling period, MW-8 was discovered dry and unable to be sampled. The laboratory report is provided as Attachment B. Results of analysis of groundwater samples are summarized in Table 4.

No target analytes were detected in any of the groundwater samples collected on March 23rd, 2016.

SOIL GAS MONITORING

Soil gas monitoring was conducted at 28 locations on March 2016. The sampling was conducted by placing an air sampling gripper cap on each well and attaching a piece of tubing. A volume of air equivalent to approximately 3 well volumes was removed from each well using a Sensidyne BDXII air sampling pump. Soil gas was then screened using a Landtec GEM 5000 Plus Landfill Gas Analyzer and a MiniRae Photoionization Detector (PID).

Soil Gas Field Monitoring Results

Soil gas samples were screened for methane, carbon monoxide, hydrogen sulfide, carbon dioxide, oxygen, and total VOCs. During the screening, well WB-2 could not be located and was not tested. Soil

gas survey results are provided in Table 5. Methane, Carbon monoxide, hydrogen sulfide, and total VOCs were not detected in any samples.

Carbon dioxide was detected in soil gas at concentrations ranging from 0.1% to 9.3% during the March 2016 monitoring event. The carbon dioxide RAWP action level of 0.1% was exceeded at every monitoring point. The maximum concentration detected during the March 2016 monitoring round was 9.3%, which was greater than the maximum detected during the January 2015 round of 4.5%. Graphs depicting carbon dioxide, oxygen, and methane concentrations over time for selected representative wells are presented in Attachment C.

Methane was detected in MPL-6 at a concentration of 0.8%, higher than the RAWP Action Level of 0.5%. MPL-6 is located near Hartford Avenue and has been impacted by natural gas from the street in the past.

The presence of carbon dioxide in soil gas is an indicator of subsurface biological activity and does not represent a threat to users of the property. The highest concentration of carbon dioxide was found in well MPL-6, located on the northern end of the property near Hartford Avenue. The monitoring locations on the northern end of the property adjacent to large expanses of paved parking lot, sidewalk, and streets have typically had the highest carbon dioxide concentrations.

CONCLUSIONS

Hydrogen sulfide, carbon monoxide, and organic vapor concentrations did not exceed RAWP action levels in any soil gas or indoor air samples in this quarterly round of sampling. Methane was detected above the RAWP action level at one soil gas monitoring location. Carbon dioxide concentrations exceeded the action level at 20 soil gas locations and sub slab system monitoring points. The detection of carbon dioxide in soil gas is typical of what has been detected during previous monitoring events and appears to be a result of naturally occurring biological activity in the subsurface.

If you have any questions or require any additional information, please contact the undersigned at 401-285-2235.

Sincerely,

Arcadis U.S., Inc.

Donna H. Pallister, PE, LSP

Senior Environmental Engineer

Copies:

A. Sepe, City of Providence
Providence Public Building Authority

Enclosures:

Tables

1 System Monitoring Notes
2 Soil Gas Lab Results
3 Indoor Air Monitoring Results
4 Groundwater Monitoring Results
5 Soil Gas Survey results

Figures

1 Site Plan

Attachments

A. Limitations and Service Constraints
B. Complete Lab Results
C. Soil Gas Trends

TABLES

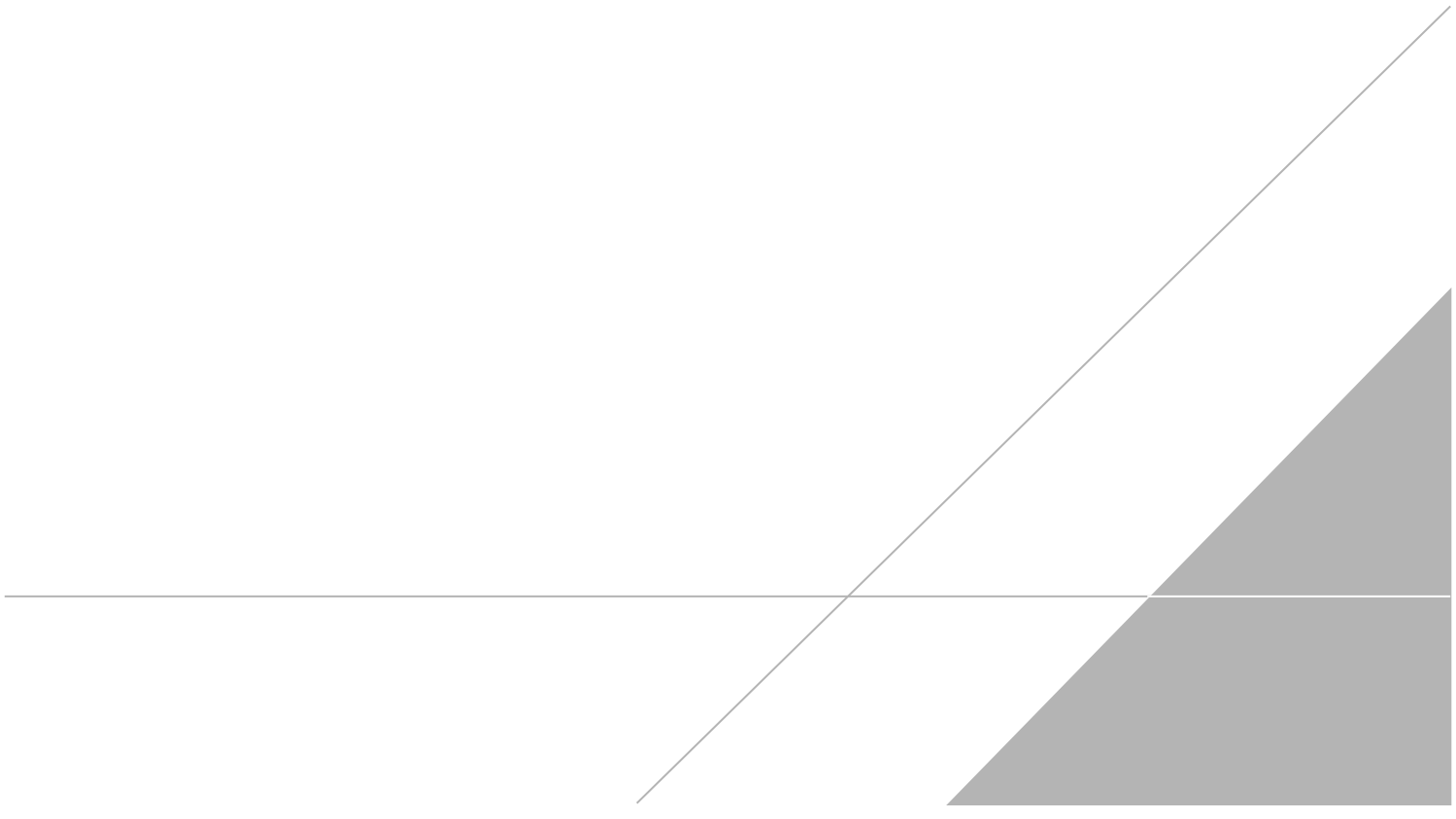


Table 1
System Monitoring Notes
Springfield Street School Complex
Providence, RI
3/23/2016

Monitoring Location	Methane % by volume Landtec	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Elementary School inlet 1	0	0.1	20.8	0	0	0
Elementary School inlet 2	0	0.1	20.1	0	0	0
Elementary School Outlet	0	0.2	20.7	0	0	0
Middle School front shed inlet	0	0.1	20.9	0	0	0
Middle School front shed after 2nd carbon	0	0.1	20.9	0	0	0
Middle School back shed inlet #	NT	NT	NT	NT	NT	NT
Middle School back shed after 2nd carbon #	NT	NT	NT	NT	NT	NT
Remedial Action Work Plan Action Levels	**0.5**	**1,000 ppm (0.1%)**	**NA**	**9 ppm**	**10 ppm**	**5 ppm**

Measurements made with: Landtec GEM5000 Plus, MiniRae 2000
Sampling date: 3/23/2016
Measured by: Kristen Audette & Jon Lewis
#- Middle school back shed not tested because blower not functioning properly

Table 2
Soil Gas Collected form System Influent
Springfield Street School Complex
Providence, RI

ARCADIS Design & Consultancy for natural and built assets

Parameter	Sample Date	CT DEEP Proposed Residental Volatization Criteria For Soil Vapor (ug/m3)*	OSHA PELs (ug/m3)	Middle School Back (ug/m3)	Middle School Front (ug/m3)	Elementary School #1 (ug/m3)	Elementary School # 2 (ug/m3)
Benzene	12/19/2014	3,247	3,000	NT	0.93	0.63	0.67
	5/11/2015			NT	0.43	0.49	0.61
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	ND	ND	0.35
	1/6/2016			NT	0.59	1	0.89
	3/23/2016			NT	ND	ND	ND
Carbon Tetrachloride	12/19/2014	6,395	62,900	NT	ND	ND	ND
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	ND	ND	ND
	1/6/2016			NT	0.64	0.57	0.6
	3/23/2016			NT	ND	ND	ND
Chloroform	12/19/2014	22,334	240,000	NT	ND	1	1.1
	5/11/2015			NT	ND	0.85	1.1
	6/16/2015			NT	ND	1.5	1.5
	10/27/2015			NT	ND	1.3	1.6
	1/6/2016			NT	0.25	1.3	1.3
	3/23/2016			NT	ND	1	1.1
Chloromethane	12/19/2014	NA	207,000	NT	0.77	ND	ND
	5/11/2015			NT	0.57	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	0.51	ND	ND
	1/6/2016			NT	0.35	2.3	2.1
	3/23/2016			NT	ND	ND	ND
1,4-Dichlorobenzene	12/19/2014	5,805,840	450,000	NT	ND	ND	ND
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	0.71	1	0.89
	1/6/2016			NT	1.1	0.51	0.66
	3/23/2016			NT	ND	ND	ND
Dichlorodifluoromethane (Freon 12)	12/19/2014	NA	4,950,000	NT	3.6	4.9	5
	5/11/2015			NT	3	4.1	3
	6/16/2015			NT	4.1	6.6	3.6
	10/27/2015			NT	3.7	4.2	7
	1/6/2016			NT	4.1	4.1	4.3
	3/23/2016			NT	2.7	3.1	5.9
1,2-Dichloroethane	12/19/2014	4,000	202,372	NT	ND	ND	ND
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	ND	ND	ND
	1/6/2016			NT	ND	ND	ND
	3/23/2016			NT	ND	ND	0.56
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	12/19/2014	NA	7,000,000	NT	ND	1	0.98
	5/11/2015			NT	0.82	2.1	1.1
	6/16/2015			NT	2.5	8.2	1.2
	10/27/2015			NT	3.9	2.5	5.6
	1/6/2016			NT	2.8	1.6	2.6
	3/23/2016			NT	0.98	ND	2.6
Ethylbenzene	12/19/2014	7,281,812	435,000	NT	ND	ND	ND
	5/11/2015			NT	2.8	2.5	3.9
	6/16/2015			NT	0.5	0.53	0.56
	10/27/2015			NT	ND	0.72	0.59
	1/6/2016			NT	0.29	0.33	0.48
	3/23/2016			NT	ND	ND	ND

Table 2
Soil Gas Collected form System Influent
Springfield Street School Complex
Providence, RI

ARCADIS Design & Consultancy for natural and built assets

Parameter	Sample Date	CT DEEP Proposed Residental Volatization Criteria For Soil Vapor (ug/m3)*	OSHA PELs (ug/m3)	Middle School Back (ug/m3)	Middle School Front (ug/m3)	Elementary School #1 (ug/m3)	Elementary School # 2 (ug/m3)
Methylene Chloride	12/19/2014	4,237,289	86,750	NT	3.9	4.4	4.2
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	110	78	64
	10/27/2015			NT	21	30	8.4
	1/6/2016			NT	4.1	2.4	2
	3/23/2016			NT	ND	ND	ND
Styrene	12/19/2014	34,633	456,000	NT	5	2.7	2.5
	5/11/2015			NT	30	28	34
	6/16/2015			NT	1.7	1.5	1.7
	10/27/2015			NT	30	46	27
	1/6/2016			NT	34	31	31
	3/23/2016			NT	25	26	25
Tetrachloroethylene	12/19/2014	75,840	678,000	NT	1.8	2.8	3.3
	5/11/2015			NT	15	11	3.7
	6/16/2015			NT	3.9	23	4.8
	10/27/2015			NT	1.6	2.6	32
	1/6/2016			NT	6	2.8	19
	3/23/2016			NT	1.2	1.6	9.8
Toluene	12/19/2014	2,910,779	750,000	NT	54	20	22
	5/11/2015			NT	46	41	53
	6/16/2015			NT	5.7	4.7	6.2
	10/27/2015			NT	27	36	25
	1/6/2016			NT	31	27	28
	3/23/2016			NT	18	18	16
Trichloroethylene	12/19/2014	38,237	537,000	NT	0.82	ND	1.2
	5/11/2015			NT	ND	1.5	ND
	6/16/2015			NT	ND	2.1	ND
	10/27/2015			NT	ND	ND	4.2
	1/6/2016			NT	0.53	0.82	4.1
	3/23/2016			NT	ND	ND	1.1
Trichlorofluoromethane (Freon 11)	12/19/2014	NA	5,600,000	NT	5	3.1	4
	5/11/2015			NT	2.7	2.6	4.5
	6/16/2015			NT	2.3	2.9	2.6
	10/27/2015			NT	2.7	3.7	3.4
	1/6/2016			NT	2.9	2.8	4
	3/23/2016			NT	3.2	2.8	3
1,1,2- Trichloro-1,2,2-trifluoroethane(Freon 113)	12/19/2014	NA	7,600,000	NT	ND	ND	ND
	5/11/2015			NT	ND	ND	ND
	6/16/2015			NT	ND	ND	ND
	10/27/2015			NT	ND	ND	ND
	1/6/2016			NT	0.64	0.77	0.64
	3/23/2016			NT	ND	0.84	0.8
1,2,4-Trimethylbenzene	12/19/2014	NA	125,000	NT	ND	ND	ND
	5/11/2015			NT	1.3	1.7	2.3
	6/16/2015			NT	1.6	1.5	1.5
	10/27/2015			NT	1.2	0.76	1.9
	1/6/2016			NT	0.68	0.44	0.54
	3/23/2016			NT	ND	ND	ND
M/p-Xylene	12/19/2014	2,215,755#	435,000	NT	0.96	0.89	ND
	5/11/2015			NT	18	17	25
	6/16/2015			NT	2.4	2.4	2.6
	10/27/2015			NT	1.3	2.7	2.4
	1/6/2016			NT	1.6	1.2	1.7
	3/23/2016			NT	ND	ND	ND
o-Xylene	12/19/2014	2,215,755#	435,000	NT	ND	ND	ND
	5/11/2015			NT	3.6	3.5	5.4
	6/16/2015			NT	1.4	1.3	1.3
	10/27/2015			NT	0.57	1.1	0.89
	1/6/2016			NT	0.62	0.53	0.64
	3/23/2016			NT	ND	ND	ND

Table 2
Soil Gas Collected form System Influent
Springfield Street School Complex
Providence, RI

Parameter	Sample Date	CT DEEP Proposed Residental Volatization Criteria For Soil Vapor (ug/m3)*	OSHA PELs (ug/m3)	Middle School Back (ug/m3)	Middle School Front (ug/m3)	Elementary School #1 (ug/m3)	Elementary School # 2 (ug/m3)

Notes:
Samples collected in Tedlar bags and analyzed via EPA method TO-14
Only detected compounds are listed, see laboratory certificate for complete list of analyses
OSHA PELs = Occupational Safety and Health Administration Permissable Exposure Limits
CT DEEP= Connecticut Dpeartment of Energy and Environmental Protection
ug/m3 = micrograms per cubic meter
* From Appendix F to Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies
#- Represents Total Xylenes
Results prior to December 2014 are not shown.

Table 3
Indoor Air Monitoring Results
Springfield Street School Complex
Providence, RI
3/16/2016

Monitoring Location	Methane % by volume Landtec	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
E.S. Front office	0	659	22.8	0	0	0
E.S. Elevator	0	822	22.8	0	0	0
E.S. Faculty Work Room	0	837	22.8	0	0	0
E.S. Gym	0	692	22.4	0	0	0
E.S. Stairway B	0	731	22.6	0	0	0
E.S. Stairway C	0	774	21.8	0	0	0
E.S. Library	0	732	22	0	0	0.1
E.S. Front Stairs	0	925	21.8	0	0	0.2
E.S. Cafeteria	0	816	21.6	0	0	0.9
E.S. Mechanical Room	0	866	22.2	1	0	0
M.S. Front Office	0	547	23.7	0	0	0
M.S. Elevator	0	569	23.1	0	0	0
M.S. Stairway near Elem. School GS-01	0	650	22.7	0	0	0
M.S. Near sensor #16 in hall outside cafeteria	0	582	22	0	0	0
M.S. Faculty Work Room	0	557	23.5	0	0	0
M.S. Sensor #15 Outside Gym	0	607	22.1	0	0	0
M.S. GS-03 Across from Boys Bathroom	0	585	23	0	0	0
M.S. Gym	0	645	22	0	0	0
M.S. Outside of Music Room	0	625	22.2	0	0	0
M.S. Cafeteria	0	610	21.9	0	0	0
M.S. Front Hall near sensor #4	0	486	23.6	0	0	0
M.S. Hallway across from elevator near sensor #9	0	690	23.3	0	0	0
M.S. Near sensor GS 06 hallway right end	0	643	22.5	0	0	0
M.S. stairway near Hartford Ave. sensor GS-7	0	699	22.4	0	0	0
Remedial Action Work Plan Action Levels	**0.5**	**1,000 ppm (0.1%)**	**NA**	**9 ppm**	**10 ppm**	**5 ppm**

Notes: The indoor air quality monitoring panels in the M.S. and E.S. were calibrated on 3/16/2016.
E.S. indicates Elementary School, M.S. indicates Middle School
Measurements made with: MiniRae photoionization detector, Fluke 975 Airmeter, Landtec Gem 5000 Plus
PPM = Parts per million
Outdoor conditions: carbon dioxide = 420 ppm temperature = 39 degrees F

Table 4
Groundwater Monitoring Results
Springfield Street School Complex
Providence, RI

Sampling Dates and Results in µg/L		Sampling Dates and Results in µg/L						RIDEM GB Groundwater Objective
Well ID	Detected Compounds	12/18/2014	4/2/2015	6/15/2015	10/29/2015	1/6/2016	3/23/2016	
ATC-1								
	Chloromethane	ND	ND	4.1	ND	ND	ND	NA
ATC-2		Closed	Closed	Closed	Closed	Closed	Closed	
MW-6		ND	ND	ND	NS	NS	ND	
ATC-3		Closed	Closed	Closed	Closed	Closed	Closed	
MW-7		ND	ND	ND	ND	ND	ND	
ATC-4								
	Chlorobenzene	ND	ND	ND	1.2	ND	ND	70
	1,4-dichlorobenzene	1.2	ND	ND	1.8	1.4	1	NA
ATC-5		Closed	Closed	Closed	Closed	Closed	Closed	
MW-8		ND	ND	ND	NS	NS	NS	
Sampled By:		ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	

ND = not detected above method detection limit
NS = not sampled
NA = No applicable standard published
MTBE = Methyl tert-Butyl Ether
µg/L = micrograms per liter
Samples collected prior to 12/18/14 and after 2009 are hidden.

Table 5
Soil Gas Survey
Springfield Street School Complex
Providence, RI
3/23/2016

Monitoring Location	Methane % by volume Landtec	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
WB-1	0	1.4	19.5	0	0	0
WB-2	NT	NT	NT	NT	NT	NT
WB-3	0	0.1	21.2	0	0	0
WB-4	0	0.2	20.9	0	0	0
WB-5	0	0.1	21	0	0	0
WB-6	0	0.2	20.9	0	0	0
WB-7	0	0.1	21.1	0	0	0
WB-8	0	0.1	20.7	0	0	0
WB-12	0	1	20.1	0	0	0
WB-13	0	0.4	20.4	0	0	0
WB-14	0	0.1	20.6	0	0	0
WB-15	0	2.2	17.8	0	0	0
EPL-1	0	0.1	20.8	0	0	0
EPL-2	0	0.1	20.6	0	0	0
EPL-3	0	0.8	20.1	0	0	0
EPL-4	0	1.5	18.8	0	0	0
EPL-5	0	2.5	18	0	0	0
ENE-1	0	0.4	20.6	0	0	0
MG1	0	0.5	19.9	0	0	0.1
MG2	0	1.6	19.5	0	0	0
MG3	0	0.1	20.9	0	0	0
MG4	0	1	20.2	0	0	0
MG5	0	2.8	18.7	0	0	0.1
MPL2	0	0.7	20	0	0	0
MPL3	0	3.1	16.9	0	0	0
MPL5	0	5.2	15.8	0	0	0
MPL6	0.8	9.3	1.1	0	0	0
MPL7	0	7.3	7	0	0	0.1
MPL8	0	1.5	18.8	0	0	0
Remedial Action Work Plan Action Levels	**0.5**	**1,000 ppm (0.1%)**	**NA**	**9 ppm**	**10 ppm**	**5 ppm**

Sampled by: Jonathan Lewis
Weather Conditions: 3/23/2016 - Drizzle in AM, mostly clear, ~50 F
Sampling Equipment: Landtec GEM 5000 Plus, MiniRae 2000 PID

FIGURES

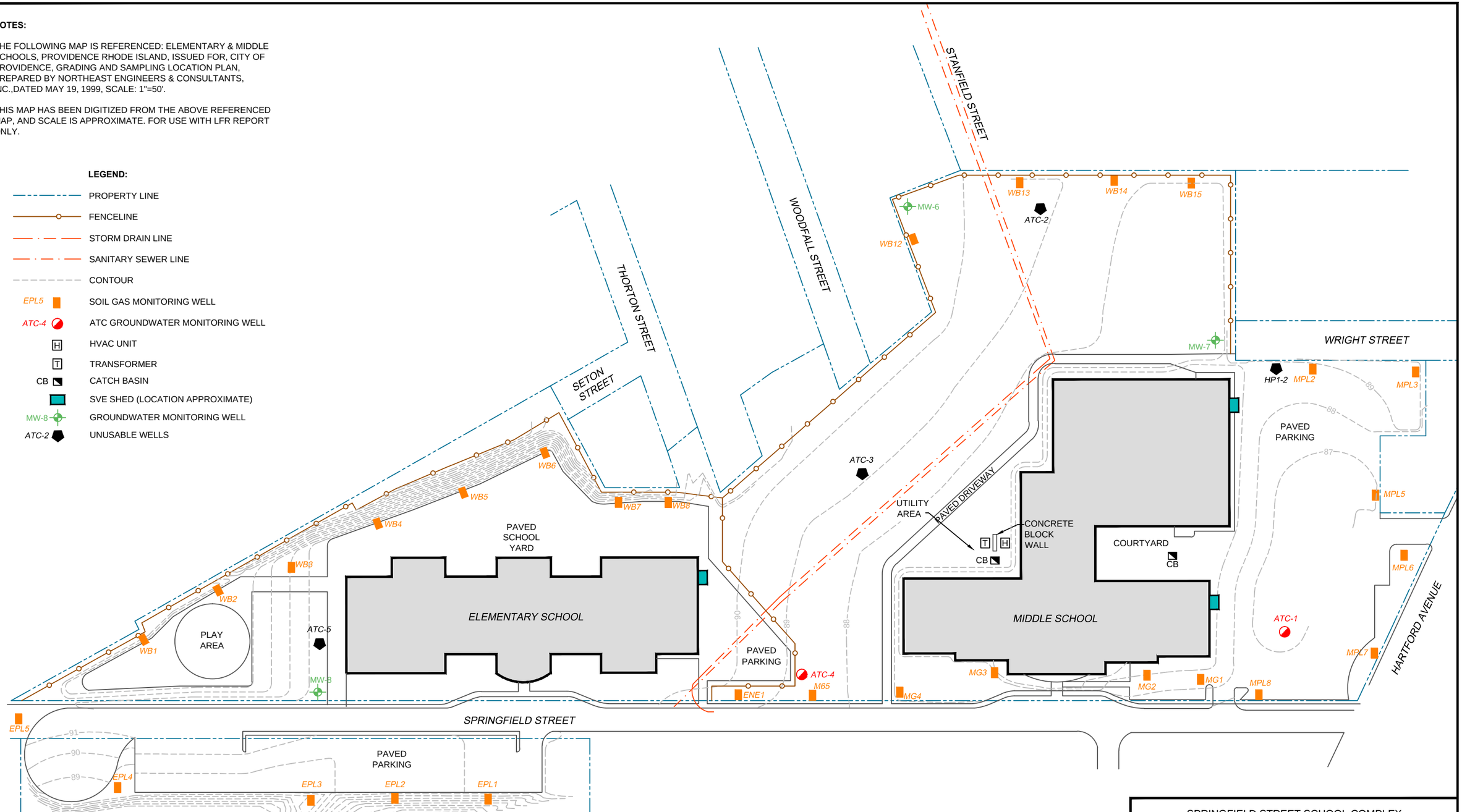
NOTES:

THE FOLLOWING MAP IS REFERENCED: ELEMENTARY & MIDDLE SCHOOLS, PROVIDENCE RHODE ISLAND, ISSUED FOR, CITY OF PROVIDENCE, GRADING AND SAMPLING LOCATION PLAN, PREPARED BY NORTHEAST ENGINEERS & CONSULTANTS, INC.,DATED MAY 19, 1999, SCALE: 1"=50'.

THIS MAP HAS BEEN DIGITIZED FROM THE ABOVE REFERENCED MAP, AND SCALE IS APPROXIMATE. FOR USE WITH LFR REPORT ONLY.

LEGEND:

- PROPERTY LINE
- FENCELINE
- STORM DRAIN LINE
- SANITARY SEWER LINE
- CONTOUR
- EPL5 — SOIL GAS MONITORING WELL
- ATC-4 — ATC GROUNDWATER MONITORING WELL
- H — HVAC UNIT
- T — TRANSFORMER
- CB — CATCH BASIN
- SVE SHED (LOCATION APPROXIMATE)
- MW-8 — GROUNDWATER MONITORING WELL
- ATC-2 — UNUSABLE WELLS



0 100' 200'

GRAPHIC SCALE

SPRINGFIELD STREET SCHOOL COMPLEX
SPRINGFIELD STREET
PROVIDENCE, RHODE ISLAND

SITE PLAN

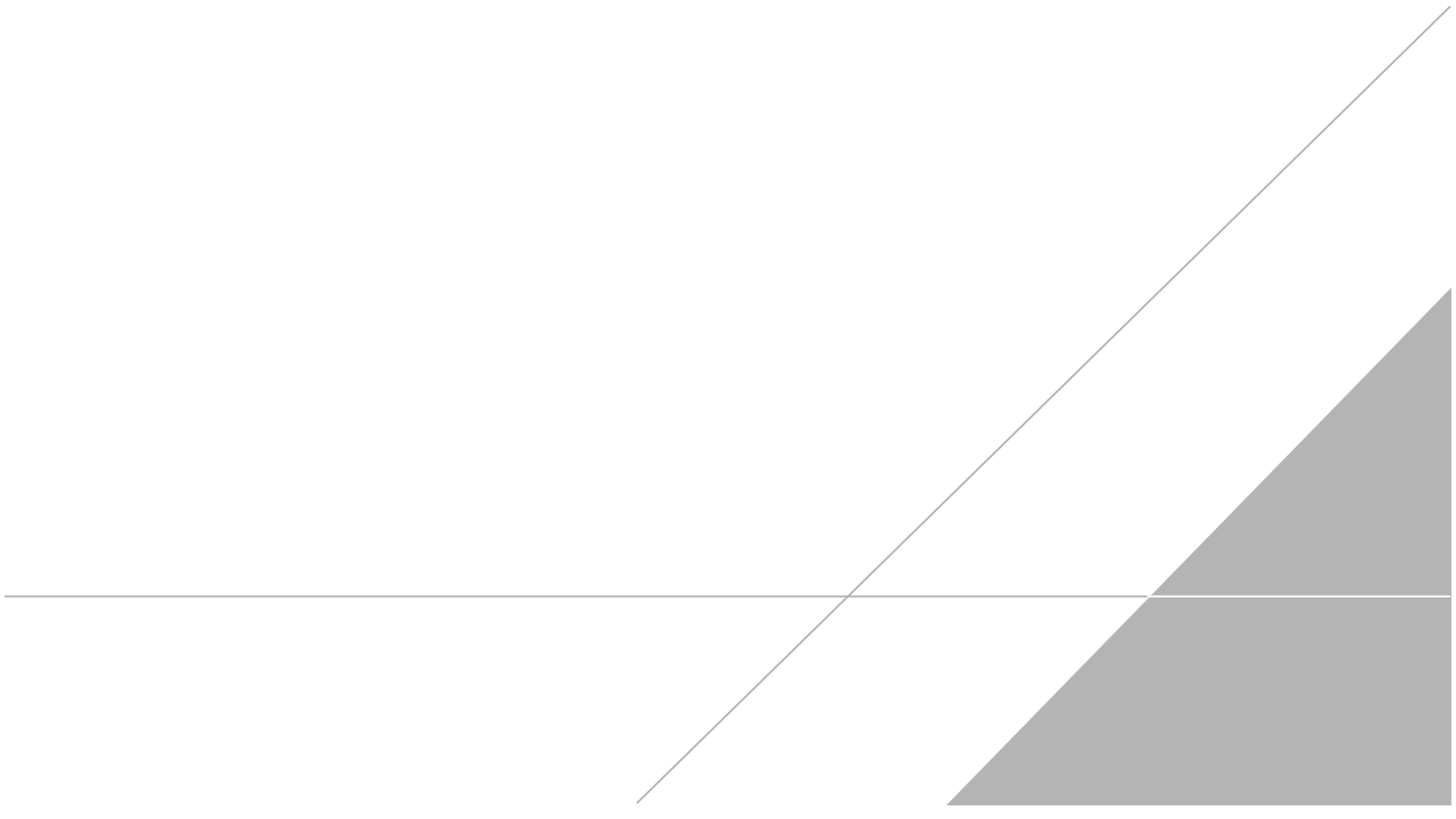
ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

CITY: MANCHESTER, CT DIV/GROUP: ENVCAD DB: B. SMALL PM: TM:
G:\ENVCAD\MANCHESTER\ACTIVE\WK\012152001\00001\WK012152001-B01.dwg LAYOUT: 1 SAVED: 2/17/2016 3:05 PM ACADVER: 19.1S (LMS TECH) PAGESETUP: PDF-LB PLOTSTYLETABLE: ---- PLOTTED: 2/17/2016 3:05 PM BY: HALLIWELL, TRISH

ATTACHMENT A

Limitations and Service Constraints



LIMITATIONS AND SERVICE CONSTRAINTS

GENERAL REPORTS/DOCUMENT

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ARCADIS and the party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that ARCADIS relied upon any information prepared by other parties not under contract to ARCADIS, ARCADIS makes no representation as to the accuracy or completeness of such information. This report is expressly for the sole and exclusive use of the party for whom this report was originally prepared for a particular purpose. Only the party for whom this report was originally prepared and/or other specifically named parties have the right to make use of and rely upon this report. Reuse of this report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties, shall be at the user's sole risk.

Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when ARCADIS' investigative work was performed. It must be recognized that any such investigative or testing activities are inherently limited and do not represent a conclusive or complete characterization. Conditions in other parts of the project site may vary from those at the locations where data were collected. ARCADIS's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in environmental investigation conclusions cannot reasonably be achieved.

ARCADIS, therefore, does not provide any guarantees, certifications, or warranties regarding any conclusions regarding environmental contamination of any such property. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

ATTACHMENT B

Complete Lab Results

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 31, 2016

Donna Pallister
Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886

Project Location: Springfield St.
Client Job Number:
Project Number: WK012152.0007
Laboratory Work Order Number: 16C1114

Enclosed are results of analyses for samples received by the laboratory on March 24, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron L. Benoit
Project Manager

Table of Contents

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886
ATTN: Donna Pallister

REPORT DATE: 3/31/2016

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0007

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C1114

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Springfield St.

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ES #1	16C1114-01	Air		EPA TO-14A	
ES #2	16C1114-02	Air		EPA TO-14A	
MS Front	16C1114-03	Air		EPA TO-14A	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-14A

Qualifications:

A-09

Holding times and stability of samples taken in tedlar bags have not been determined

Analyte & Samples(s) Qualified:

16C1114-01[ES #1], 16C1114-02[ES #2], 16C1114-03[MS Front]

L-05

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

1,1,2-Trichloro-1,2,2-trifluoroethan
16C1114-01[ES #1], 16C1114-02[ES #2], B145402-BS1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

1,2-Dichloropropane
16C1114-01[ES #1], 16C1114-02[ES #2], 16C1114-03[MS Front], B145402-BLK1, B145402-BS1

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

1,1,2-Trichloro-1,2,2-trifluoroethan
16C1114-01[ES #1], 16C1114-02[ES #2], B145402-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
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ANALYTICAL RESULTS

Project Location: Springfield St.
Date Received: 3/24/2016
Field Sample #: ES #1
Sample ID: 16C1114-01
Sample Matrix: Air
Sampled: 3/23/2016 09:55

Sample Description/Location:
Sub Description/Location:
Canister ID:
Canister Size:
Flow Controller ID:
Sample Type:

Work Order: 16C1114
Initial Vacuum(in Hg):
Final Vacuum(in Hg):
Receipt Vacuum(in Hg):
Flow Controller Type:
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzene	ND	0.10		ND	0.32	2	3/26/16 1:23	TPH
Bromomethane	ND	0.10		ND	0.39	2	3/26/16 1:23	TPH
Carbon Tetrachloride	ND	0.10		ND	0.63	2	3/26/16 1:23	TPH
Chlorobenzene	ND	0.10		ND	0.46	2	3/26/16 1:23	TPH
Chloroethane	ND	0.10		ND	0.26	2	3/26/16 1:23	TPH
Chloroform	0.21	0.10		1.0	0.49	2	3/26/16 1:23	TPH
Chloromethane	ND	0.20		ND	0.41	2	3/26/16 1:23	TPH
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	3/26/16 1:23	TPH
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 1:23	TPH
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 1:23	TPH
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 1:23	TPH
Dichlorodifluoromethane (Freon 12)	0.64	0.10		3.1	0.49	2	3/26/16 1:23	TPH
1,1-Dichloroethane	ND	0.10		ND	0.40	2	3/26/16 1:23	TPH
1,2-Dichloroethane	ND	0.10		ND	0.40	2	3/26/16 1:23	TPH
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	3/26/16 1:23	TPH
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	3/26/16 1:23	TPH
1,2-Dichloropropane	ND	0.10	V-05	ND	0.46	2	3/26/16 1:23	TPH
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	3/26/16 1:23	TPH
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	3/26/16 1:23	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	3/26/16 1:23	TPH
Ethylbenzene	ND	0.10		ND	0.43	2	3/26/16 1:23	TPH
Hexachlorobutadiene	ND	0.10		ND	1.1	2	3/26/16 1:23	TPH
Methylene Chloride	ND	1.0		ND	3.5	2	3/26/16 1:23	TPH
Styrene	6.1	0.10		26	0.43	2	3/26/16 1:23	TPH
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	3/26/16 1:23	TPH
Tetrachloroethylene	0.24	0.10		1.6	0.68	2	3/26/16 1:23	TPH
Toluene	4.9	0.10		18	0.38	2	3/26/16 1:23	TPH
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	3/26/16 1:23	TPH
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	3/26/16 1:23	TPH
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	3/26/16 1:23	TPH
Trichloroethylene	ND	0.10		ND	0.54	2	3/26/16 1:23	TPH
Trichlorofluoromethane (Freon 11)	0.50	0.10		2.8	0.56	2	3/26/16 1:23	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.11	0.10	L-05, V-06	0.84	0.77	2	3/26/16 1:23	TPH
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	3/26/16 1:23	TPH
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	3/26/16 1:23	TPH
Vinyl Chloride	ND	0.10		ND	0.26	2	3/26/16 1:23	TPH
m&p-Xylene	ND	0.20		ND	0.87	2	3/26/16 1:23	TPH

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ANALYTICAL RESULTS

Project Location: Springfield St.
Date Received: 3/24/2016
Field Sample #: ES #1
Sample ID: 16C1114-01
Sample Matrix: Air
Sampled: 3/23/2016 09:55

Sample Description/Location:
Sub Description/Location:
Canister ID:
Canister Size:
Flow Controller ID:
Sample Type:

Work Order: 16C1114
Initial Vacuum(in Hg):
Final Vacuum(in Hg):
Receipt Vacuum(in Hg):
Flow Controller Type:
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
o-Xylene	ND	0.10		ND	0.43	2	3/26/16 1:23	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	113	70-130	3/26/16 1:23

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ANALYTICAL RESULTS

Project Location: Springfield St.
Date Received: 3/24/2016
Field Sample #: ES #2
Sample ID: 16C1114-02
Sample Matrix: Air
Sampled: 3/23/2016 10:00

Sample Description/Location:
Sub Description/Location:
Canister ID:
Canister Size:
Flow Controller ID:
Sample Type:

Work Order: 16C1114
Initial Vacuum(in Hg):
Final Vacuum(in Hg):
Receipt Vacuum(in Hg):
Flow Controller Type:
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzene	ND	0.10		ND	0.32	2	3/26/16 2:02	TPH
Bromomethane	ND	0.10		ND	0.39	2	3/26/16 2:02	TPH
Carbon Tetrachloride	ND	0.10		ND	0.63	2	3/26/16 2:02	TPH
Chlorobenzene	ND	0.10		ND	0.46	2	3/26/16 2:02	TPH
Chloroethane	ND	0.10		ND	0.26	2	3/26/16 2:02	TPH
Chloroform	0.22	0.10		1.1	0.49	2	3/26/16 2:02	TPH
Chloromethane	ND	0.20		ND	0.41	2	3/26/16 2:02	TPH
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	3/26/16 2:02	TPH
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 2:02	TPH
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 2:02	TPH
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 2:02	TPH
Dichlorodifluoromethane (Freon 12)	1.2	0.10		5.9	0.49	2	3/26/16 2:02	TPH
1,1-Dichloroethane	ND	0.10		ND	0.40	2	3/26/16 2:02	TPH
1,2-Dichloroethane	0.14	0.10		0.56	0.40	2	3/26/16 2:02	TPH
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	3/26/16 2:02	TPH
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	3/26/16 2:02	TPH
1,2-Dichloropropane	ND	0.10	V-05	ND	0.46	2	3/26/16 2:02	TPH
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	3/26/16 2:02	TPH
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	3/26/16 2:02	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.37	0.10		2.6	0.70	2	3/26/16 2:02	TPH
Ethylbenzene	ND	0.10		ND	0.43	2	3/26/16 2:02	TPH
Hexachlorobutadiene	ND	0.10		ND	1.1	2	3/26/16 2:02	TPH
Methylene Chloride	ND	1.0		ND	3.5	2	3/26/16 2:02	TPH
Styrene	5.8	0.10		25	0.43	2	3/26/16 2:02	TPH
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	3/26/16 2:02	TPH
Tetrachloroethylene	1.4	0.10		9.8	0.68	2	3/26/16 2:02	TPH
Toluene	4.4	0.10		16	0.38	2	3/26/16 2:02	TPH
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	3/26/16 2:02	TPH
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	3/26/16 2:02	TPH
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	3/26/16 2:02	TPH
Trichloroethylene	0.20	0.10		1.1	0.54	2	3/26/16 2:02	TPH
Trichlorofluoromethane (Freon 11)	0.54	0.10		3.0	0.56	2	3/26/16 2:02	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.10	0.10	L-05, V-06	0.80	0.77	2	3/26/16 2:02	TPH
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	3/26/16 2:02	TPH
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	3/26/16 2:02	TPH
Vinyl Chloride	ND	0.10		ND	0.26	2	3/26/16 2:02	TPH
m&p-Xylene	ND	0.20		ND	0.87	2	3/26/16 2:02	TPH

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ANALYTICAL RESULTS

Project Location: Springfield St.
Date Received: 3/24/2016
Field Sample #: ES #2
Sample ID: 16C1114-02
Sample Matrix: Air
Sampled: 3/23/2016 10:00

Sample Description/Location:
Sub Description/Location:
Canister ID:
Canister Size:
Flow Controller ID:
Sample Type:

Work Order: 16C1114
Initial Vacuum(in Hg):
Final Vacuum(in Hg):
Receipt Vacuum(in Hg):
Flow Controller Type:
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
o-Xylene	ND	0.10		ND	0.43	2	3/26/16 2:02	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	118	70-130	3/26/16 2:02

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ANALYTICAL RESULTS

Project Location: Springfield St.
Date Received: 3/24/2016
Field Sample #: MS Front
Sample ID: 16C1114-03
Sample Matrix: Air
Sampled: 3/23/2016 10:15

Sample Description/Location:
Sub Description/Location:
Canister ID:
Canister Size:
Flow Controller ID:
Sample Type:

Work Order: 16C1114
Initial Vacuum(in Hg):
Final Vacuum(in Hg):
Receipt Vacuum(in Hg):
Flow Controller Type:
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzene	ND	0.10		ND	0.32	2	3/26/16 2:41	TPH
Bromomethane	ND	0.10		ND	0.39	2	3/26/16 2:41	TPH
Carbon Tetrachloride	ND	0.10		ND	0.63	2	3/26/16 2:41	TPH
Chlorobenzene	ND	0.10		ND	0.46	2	3/26/16 2:41	TPH
Chloroethane	ND	0.10		ND	0.26	2	3/26/16 2:41	TPH
Chloroform	ND	0.10		ND	0.49	2	3/26/16 2:41	TPH
Chloromethane	ND	0.20		ND	0.41	2	3/26/16 2:41	TPH
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	3/26/16 2:41	TPH
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 2:41	TPH
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 2:41	TPH
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	3/26/16 2:41	TPH
Dichlorodifluoromethane (Freon 12)	0.56	0.10		2.7	0.49	2	3/26/16 2:41	TPH
1,1-Dichloroethane	ND	0.10		ND	0.40	2	3/26/16 2:41	TPH
1,2-Dichloroethane	ND	0.10		ND	0.40	2	3/26/16 2:41	TPH
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	3/26/16 2:41	TPH
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	3/26/16 2:41	TPH
1,2-Dichloropropane	ND	0.10	V-05	ND	0.46	2	3/26/16 2:41	TPH
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	3/26/16 2:41	TPH
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	3/26/16 2:41	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.14	0.10		0.98	0.70	2	3/26/16 2:41	TPH
Ethylbenzene	ND	0.10		ND	0.43	2	3/26/16 2:41	TPH
Hexachlorobutadiene	ND	0.10		ND	1.1	2	3/26/16 2:41	TPH
Methylene Chloride	ND	1.0		ND	3.5	2	3/26/16 2:41	TPH
Styrene	5.8	0.10		25	0.43	2	3/26/16 2:41	TPH
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	3/26/16 2:41	TPH
Tetrachloroethylene	0.18	0.10		1.2	0.68	2	3/26/16 2:41	TPH
Toluene	4.7	0.10		18	0.38	2	3/26/16 2:41	TPH
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	3/26/16 2:41	TPH
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	3/26/16 2:41	TPH
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	3/26/16 2:41	TPH
Trichloroethylene	ND	0.10		ND	0.54	2	3/26/16 2:41	TPH
Trichlorofluoromethane (Freon 11)	0.58	0.10		3.2	0.56	2	3/26/16 2:41	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	3/26/16 2:41	TPH
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	3/26/16 2:41	TPH
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	3/26/16 2:41	TPH
Vinyl Chloride	ND	0.10		ND	0.26	2	3/26/16 2:41	TPH
m&p-Xylene	ND	0.20		ND	0.87	2	3/26/16 2:41	TPH

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ANALYTICAL RESULTS

Project Location: Springfield St.
Date Received: 3/24/2016
Field Sample #: MS Front
Sample ID: 16C1114-03
Sample Matrix: Air
Sampled: 3/23/2016 10:15

Sample Description/Location:
Sub Description/Location:
Canister ID:
Canister Size:
Flow Controller ID:
Sample Type:

Work Order: 16C1114
Initial Vacuum(in Hg):
Final Vacuum(in Hg):
Receipt Vacuum(in Hg):
Flow Controller Type:
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
o-Xylene	ND	0.10		ND	0.43	2	3/26/16 2:41	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	118	70-130	3/26/16 2:41

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Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-14A

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
16C1114-01 [ES #1]	B145402	1	1	N/A	1000	400	200	03/25/16
16C1114-02 [ES #2]	B145402	1	1	N/A	1000	400	200	03/25/16
16C1114-03 [MS Front]	B145402	1	1	N/A	1000	400	200	03/25/16

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B145402 - TO-15 Prep											
Blank (B145402-BLK1)					Prepared & Analyzed: 03/25/16						
Benzene	ND	0.035									
Bromomethane	ND	0.035									
Carbon Tetrachloride	ND	0.035									
Chlorobenzene	ND	0.035									
Chloroethane	ND	0.035									
Chloroform	ND	0.035									
Chloromethane	ND	0.070									
1,2-Dibromoethane (EDB)	ND	0.035									
1,2-Dichlorobenzene	ND	0.035									
1,3-Dichlorobenzene	ND	0.035									
1,4-Dichlorobenzene	ND	0.035									
Dichlorodifluoromethane (Freon 12)	ND	0.035									
1,1-Dichloroethane	ND	0.035									
1,2-Dichloroethane	ND	0.035									
1,1-Dichloroethylene	ND	0.035									
cis-1,2-Dichloroethylene	ND	0.035									
1,2-Dichloropropane	ND	0.035									V-05
cis-1,3-Dichloropropene	ND	0.035									
trans-1,3-Dichloropropene	ND	0.035									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035									
Ethylbenzene	ND	0.035									
Hexachlorobutadiene	ND	0.035									
Methylene Chloride	ND	0.35									
Styrene	ND	0.035									
1,1,2,2-Tetrachloroethane	ND	0.035									
Tetrachloroethylene	ND	0.035									
Toluene	ND	0.035									
1,2,4-Trichlorobenzene	ND	0.035									
1,1,1-Trichloroethane	ND	0.035									
1,1,2-Trichloroethane	ND	0.035									
Trichloroethylene	ND	0.035									
Trichlorofluoromethane (Freon 11)	ND	0.035									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.035									
1,2,4-Trimethylbenzene	ND	0.035									
1,3,5-Trimethylbenzene	ND	0.035									
Vinyl Chloride	ND	0.035									
m&p-Xylene	ND	0.070									
o-Xylene	ND	0.035									
Surrogate: 4-Bromofluorobenzene (1)	*9.10*				*8.00*		*114*	*70-130*			

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC		%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B145402 - TO-15 Prep												
LCS (B145402-BS1)					Prepared & Analyzed: 03/25/16							
Benzene	4.07				5.00		81.3		70-130			
Bromomethane	5.72				5.00		114		70-130			
Carbon Tetrachloride	4.56				5.00		91.2		70-130			
Chlorobenzene	5.02				5.00		100		70-130			
Chloroethane	5.85				5.00		117		70-130			
Chloroform	6.05				5.00		121		70-130			
Chloromethane	5.19				5.00		104		70-130			
1,2-Dibromoethane (EDB)	4.94				5.00		98.8		70-130			
1,2-Dichlorobenzene	5.54				5.00		111		70-130			
1,3-Dichlorobenzene	5.60				5.00		112		70-130			
1,4-Dichlorobenzene	5.47				5.00		109		70-130			
Dichlorodifluoromethane (Freon 12)	6.21				5.00		124		70-130			
1,1-Dichloroethane	5.44				5.00		109		70-130			
1,2-Dichloroethane	5.12				5.00		102		70-130			
1,1-Dichloroethylene	5.23				5.00		105		70-130			
cis-1,2-Dichloroethylene	5.19				5.00		104		70-130			
1,2-Dichloropropane	3.90				5.00		78.1		70-130			V-05
cis-1,3-Dichloropropene	4.39				5.00		87.8		70-130			
trans-1,3-Dichloropropene	4.02				5.00		80.4		70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	5.21				5.00		104		70-130			
Ethylbenzene	4.95				5.00		99.1		70-130			
Hexachlorobutadiene	5.34				5.00		107		70-130			
Methylene Chloride	4.64				5.00		92.7		70-130			
Styrene	5.22				5.00		104		70-130			
1,1,2,2-Tetrachloroethane	4.74				5.00		94.7		70-130			
Tetrachloroethylene	5.46				5.00		109		70-130			
Toluene	5.02				5.00		100		70-130			
1,2,4-Trichlorobenzene	4.98				5.00		99.5		70-130			
1,1,1-Trichloroethane	4.16				5.00		83.3		70-130			
1,1,2-Trichloroethane	5.04				5.00		101		70-130			
Trichloroethylene	4.36				5.00		87.2		70-130			
Trichlorofluoromethane (Freon 11)	6.49				5.00		130		70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	7.17				5.00		**143**	*	70-130			L-05, V-06
1,2,4-Trimethylbenzene	5.16				5.00		103		70-130			
1,3,5-Trimethylbenzene	5.06				5.00		101		70-130			
Vinyl Chloride	5.49				5.00		110		70-130			
m&p-Xylene	10.6				10.0		106		70-130			
o-Xylene	4.83				5.00		96.6		70-130			
Surrogate: 4-Bromofluorobenzene (1)	*9.44*				*8.00*		*118*		*70-130*			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
A-09	Holding times and stability of samples taken in tedlar bags have not been determined
L-05	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-14A in Air	
Benzene	AIHA,FL,NY
Bromomethane	AIHA,FL,NY
Carbon Tetrachloride	AIHA,FL,NY
Chlorobenzene	AIHA,FL,NY
Chloroethane	AIHA,FL,NY
Chloroform	AIHA,FL,NY
Chloromethane	AIHA,FL,NY
1,2-Dibromoethane (EDB)	NY
1,2-Dichlorobenzene	AIHA,FL,NY
1,3-Dichlorobenzene	AIHA,FL,NY
1,4-Dichlorobenzene	AIHA,FL,NY
Dichlorodifluoromethane (Freon 12)	AIHA,FL,NY
1,1-Dichloroethane	AIHA,FL,NY
1,2-Dichloroethane	AIHA,FL,NY
1,1-Dichloroethylene	AIHA,FL,NY
cis-1,2-Dichloroethylene	AIHA,FL,NY
1,2-Dichloropropane	AIHA,FL,NY
cis-1,3-Dichloropropene	AIHA,FL,NY
trans-1,3-Dichloropropene	NY
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,FL,NY
Ethylbenzene	AIHA,FL,NY
Hexachlorobutadiene	AIHA,FL,NY
Methylene Chloride	AIHA,FL,NY
Styrene	AIHA,FL,NY
1,1,2,2-Tetrachloroethane	AIHA,FL,NY
Tetrachloroethylene	AIHA,FL,NY
Toluene	AIHA,FL,NY
1,2,4-Trichlorobenzene	AIHA,FL,NY
1,1,1-Trichloroethane	AIHA,FL,NY
1,1,2-Trichloroethane	AIHA,FL,NY
Trichloroethylene	AIHA,FL,NY
Trichlorofluoromethane (Freon 11)	AIHA,FL,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NY
1,2,4-Trimethylbenzene	AIHA,FL,NY
1,3,5-Trimethylbenzene	AIHA,FL,NY
Vinyl Chloride	AIHA,FL,NY
m&p-Xylene	AIHA,FL,NY
o-Xylene	AIHA,FL,NY

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

16C1114

CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Rev 04.05.12

Company Name: ARCADIS
Address: 300 METRO CENTER BLVD
WARWICK, RI 02086
Attention: DONNA PALLISTER
Project Location: SPRINGFIELD STREET
Sampled By: JONATHON LEWIS

Telephone: 401-738-3887
Project #: WK01215.0010
Client PO#:

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ○ WEBSITE
Fax #:
Email: DONNAPALLISTER@aol.com
Format: ☒ PDF ☒ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers	** Preservation	***Container Code
01	ES #1	3-23-16	955		X	A		1		
02	ES #2	3-23-16	100		X	A		1		
03	MS FRONT	3-23-16	1015		X	A		1		

ANALYSIS REQUESTED
TO-14 - VOCs

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)		Date/Time: 3-23-16/1650
Received by: (signature)	3/24/16	Date/Time: 10:50
Relinquished by: (signature)	3/24/16	Date/Time: 16:15
Received by: (signature)	3/24/16	Date/Time: 16:15

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other STD
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

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con-test® ANALYTICAL LABORATORY

AIR Only Receipt Checklist

39 Spruce St.
East Longmeadow, MA.
01028
P: 413-525-2332
F: 413-525-6405

CLIENT NAME Arcadis **RECEIVED BY**: VP **DATE**: 3/24/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** x **No** _____

2) Does the chain agree with the samples? **Yes** X **No** _____
If not, explain:

3) Are all the samples in good condition? **Yes** X **No** _____
If not, explain:

4) Are there any samples "On Hold"? **Yes** _____ **No** x Stored where: _____

5) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** _____ **No** x

Who was notified _____ Date _____ Time _____

6) Location where samples are stored: Air

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

7) Number of cans Individually Certified or Batch Certified? _____

Containers received at Con-Test

		# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)			
Tedlar Bags		3	
TO-17 Tubes			
Regulators			
Restrictors			
Hg/Hopcalite Tube (NIOSH 6009)			
(TO-4A/ TO-10A/TO-13) PUFs			
PCB Florisil Tubes (NIOSH 5503)			
Air cassette			
PM 2.5/PM 10			
TO-11A Cartridges			
Other			

Unused Summas/PUF Media:

Unused Regulators:

1) Was all media (used & unused) checked into the WASP?

2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments:

Login Sample Receipt Checklist
(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The coolers'/boxes' custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) Samples are received within Holding Time.	T	
10) Sample containers have legible labels.	T	
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	T	
12) Sample collection date/times are provided.	T	
13) Appropriate sample/media containers are used.	T	
14) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
15) Trip blanks provided if applicable.	NA	

Who notified of False statements? **Date/Time:**

Doc #278 Rev. 5 October 2014 **Log-In Technician Initials:** **VP** #####

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 30, 2016

Donna Pallister
Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886

Project Location: Springfield St.
Client Job Number:
Project Number: WK012152.0007
Laboratory Work Order Number: 16C1113

Enclosed are results of analyses for samples received by the laboratory on March 24, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron L. Benoit
Project Manager

Table of Contents

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Arcadis US, Inc. - Warwick, RI
300 Metro Center Blvd., Suite 250
Warwick, RI 02886
ATTN: Donna Pallister

REPORT DATE: 3/30/2016

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0007

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C1113

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Springfield St.

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ATC-1	16C1113-01	Ground Water		SW-846 8260C	
MW-7	16C1113-02	Ground Water		SW-846 8260C	
ATC-4	16C1113-03	Ground Water		SW-846 8260C	
E Blank	16C1113-04	Equipment Blank Water		SW-846 8260C	
MW-6	16C1113-05	Ground Water		SW-846 8260C	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8260C

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Bromochloromethane
B145123-BSD1

Methyl Acetate
B145123-BS1

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

tert-Butyl Alcohol (TBA)
16C1113-01[ATC-1], 16C1113-02[MW-7], 16C1113-03[ATC-4], 16C1113-04[E Blank], 16C1113-05[MW-6], B145123-BLK1, B145123-BS1, B145123-BSD1

Vinyl Chloride
16C1113-01[ATC-1], 16C1113-02[MW-7], 16C1113-03[ATC-4], 16C1113-04[E Blank], 16C1113-05[MW-6], B145123-BLK1, B145123-BS1, B145123-BSD1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

tert-Butyl Alcohol (TBA)
16C1113-01[ATC-1], 16C1113-02[MW-7], 16C1113-03[ATC-4], 16C1113-04[E Blank], 16C1113-05[MW-6], B145123-BLK1, B145123-BS1, B145123-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Methyl Acetate
B145123-BS1, B145123-BSD1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. Sample Description: Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: ATC-1 Sampled: 3/23/2016 08:50

Sample ID: 16C1113-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	R-05, V-05	SW-846 8260C	3/25/16	3/26/16 4:11	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. Sample Description: Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: ATC-1 Sampled: 3/23/2016 08:50

Sample ID: 16C1113-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Methyl Acetate	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	3/25/16	3/26/16 4:11	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:11	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	110	70-130		3/26/16 4:11
Toluene-d8	102	70-130		3/26/16 4:11
4-Bromofluorobenzene	93.6	70-130		3/26/16 4:11

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. | Sample Description: | Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: MW-7 | Sampled: 3/23/2016 11:40

Sample ID: 16C1113-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	R-05, V-05	SW-846 8260C	3/25/16	3/26/16 4:38	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. Sample Description: Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: MW-7 Sampled: 3/23/2016 11:40

Sample ID: 16C1113-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Methyl Acetate	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	3/25/16	3/26/16 4:38	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 4:38	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
1,2-Dichloroethane-d4	112	70-130		3/26/16	4:38
Toluene-d8	101	70-130		3/26/16	4:38
4-Bromofluorobenzene	92.8	70-130		3/26/16	4:38

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. | Sample Description: | Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: ATC-4 | Sampled: 3/23/2016 10:10

Sample ID: 16C1113-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	R-05, V-05	SW-846 8260C	3/25/16	3/26/16 5:05	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,4-Dichlorobenzene	1.0	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. Sample Description: Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: ATC-4 Sampled: 3/23/2016 10:10

Sample ID: 16C1113-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Methyl Acetate	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	3/25/16	3/26/16 5:05	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:05	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	112	70-130		3/26/16 5:05
Toluene-d8	100	70-130		3/26/16 5:05
4-Bromofluorobenzene	93.9	70-130		3/26/16 5:05

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. Sample Description: Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: E Blank Sampled: 3/23/2016 10:14

Sample ID: 16C1113-04

Sample Matrix: Equipment Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	R-05, V-05	SW-846 8260C	3/25/16	3/26/16 3:44	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. | Sample Description: | Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: E Blank | Sampled: 3/23/2016 10:14

Sample ID: 16C1113-04

Sample Matrix: Equipment Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Methyl Acetate	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	3/25/16	3/26/16 3:44	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 3:44	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	110	70-130		3/26/16 3:44
Toluene-d8	102	70-130		3/26/16 3:44
4-Bromofluorobenzene	93.2	70-130		3/26/16 3:44

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. Sample Description: Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: MW-6 Sampled: 3/23/2016 12:37

Sample ID: 16C1113-05

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	R-05, V-05	SW-846 8260C	3/25/16	3/26/16 5:32	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Springfield St. Sample Description: Work Order: 16C1113

Date Received: 3/24/2016

Field Sample #: MW-6 Sampled: 3/23/2016 12:37

Sample ID: 16C1113-05

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Methyl Acetate	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Methyl Cyclohexane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
Vinyl Chloride	ND	2.0	µg/L	1	R-05	SW-846 8260C	3/25/16	3/26/16 5:32	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	3/25/16	3/26/16 5:32	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	110	70-130		3/26/16 5:32
Toluene-d8	102	70-130		3/26/16 5:32
4-Bromofluorobenzene	94.7	70-130		3/26/16 5:32

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16C1113-01 [ATC-1]	B145123	5	5.00	03/25/16
16C1113-02 [MW-7]	B145123	5	5.00	03/25/16
16C1113-03 [ATC-4]	B145123	5	5.00	03/25/16
16C1113-04 [E Blank]	B145123	5	5.00	03/25/16
16C1113-05 [MW-6]	B145123	5	5.00	03/25/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145123 - SW-846 5030B										
Blank (B145123-BLK1)				Prepared: 03/25/16 Analyzed: 03/26/16						
Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							R-05, V-05
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	2.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.50	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl Acetate	ND	1.0	µg/L							

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B145123 - SW-846 5030B											
Blank (B145123-BLK1)				Prepared: 03/25/16 Analyzed: 03/26/16							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L								
Methyl Cyclohexane	ND	1.0	µg/L								
Methylene Chloride	ND	5.0	µg/L								
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L								
Naphthalene	ND	2.0	µg/L								
n-Propylbenzene	ND	1.0	µg/L								
Styrene	ND	1.0	µg/L								
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L								
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L								
Tetrachloroethylene	ND	1.0	µg/L								
Tetrahydrofuran	ND	10	µg/L								
Toluene	ND	1.0	µg/L								
1,2,3-Trichlorobenzene	ND	2.0	µg/L								
1,2,4-Trichlorobenzene	ND	1.0	µg/L								
1,3,5-Trichlorobenzene	ND	1.0	µg/L								
1,1,1-Trichloroethane	ND	1.0	µg/L								
1,1,2-Trichloroethane	ND	1.0	µg/L								
Trichloroethylene	ND	1.0	µg/L								
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L								
1,2,3-Trichloropropane	ND	2.0	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L								
1,2,4-Trimethylbenzene	ND	1.0	µg/L								
1,3,5-Trimethylbenzene	ND	1.0	µg/L								
Vinyl Chloride	ND	2.0	µg/L							R-05	
m+p Xylene	ND	2.0	µg/L								
o-Xylene	ND	1.0	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*27.6*		µg/L	25.0		110	70-130				
Surrogate: Toluene-d8	*25.2*		µg/L	25.0		101	70-130				
Surrogate: 4-Bromofluorobenzene	*23.7*		µg/L	25.0		95.0	70-130				
LCS (B145123-BS1)				Prepared: 03/25/16 Analyzed: 03/26/16							
Acetone	104	50	µg/L	100		104	70-160				†
Acrylonitrile	9.74	5.0	µg/L	10.0		97.4	70-130				
tert-Amyl Methyl Ether (TAME)	8.83	0.50	µg/L	10.0		88.3	70-130				
Benzene	11.5	1.0	µg/L	10.0		115	70-130				
Bromobenzene	10.1	1.0	µg/L	10.0		101	70-130				
Bromochloromethane	12.7	1.0	µg/L	10.0		127	70-130				
Bromodichloromethane	9.99	0.50	µg/L	10.0		99.9	70-130				
Bromoform	9.60	1.0	µg/L	10.0		96.0	70-130				
Bromomethane	4.12	2.0	µg/L	10.0		41.2	40-160				†
2-Butanone (MEK)	124	20	µg/L	100		124	40-160				†
tert-Butyl Alcohol (TBA)	83.5	20	µg/L	100		83.5	40-160			R-05, V-05	†
n-Butylbenzene	10.8	1.0	µg/L	10.0		108	70-130				
sec-Butylbenzene	9.86	1.0	µg/L	10.0		98.6	70-130				
tert-Butylbenzene	10.2	1.0	µg/L	10.0		102	70-130				
tert-Butyl Ethyl Ether (TBEE)	10.2	0.50	µg/L	10.0		102	70-130				
Carbon Disulfide	9.37	2.0	µg/L	10.0		93.7	70-130				
Carbon Tetrachloride	10.8	1.0	µg/L	10.0		108	70-130				
Chlorobenzene	9.61	1.0	µg/L	10.0		96.1	70-130				
Chlorodibromomethane	9.34	0.50	µg/L	10.0		93.4	70-130				
Chloroethane	10.9	2.0	µg/L	10.0		109	70-130				
Chloroform	11.1	2.0	µg/L	10.0		111	70-130				

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B145123 - SW-846 5030B											
LCS (B145123-BS1)				Prepared: 03/25/16 Analyzed: 03/26/16							
Chloromethane	6.28	2.0	µg/L	10.0		62.8	40-160				†
2-Chlorotoluene	8.97	1.0	µg/L	10.0		89.7	70-130				
4-Chlorotoluene	9.53	1.0	µg/L	10.0		95.3	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	10.2	5.0	µg/L	10.0		102	70-130				
1,2-Dibromoethane (EDB)	9.77	0.50	µg/L	10.0		97.7	70-130				
Dibromomethane	11.0	1.0	µg/L	10.0		110	70-130				
1,2-Dichlorobenzene	10.0	1.0	µg/L	10.0		100	70-130				
1,3-Dichlorobenzene	9.58	1.0	µg/L	10.0		95.8	70-130				
1,4-Dichlorobenzene	9.72	1.0	µg/L	10.0		97.2	70-130				
trans-1,4-Dichloro-2-butene	10.8	2.0	µg/L	10.0		108	70-130				
Dichlorodifluoromethane (Freon 12)	5.75	2.0	µg/L	10.0		57.5	40-160				†
1,1-Dichloroethane	11.8	1.0	µg/L	10.0		118	70-130				
1,2-Dichloroethane	10.3	1.0	µg/L	10.0		103	70-130				
1,1-Dichloroethylene	9.52	1.0	µg/L	10.0		95.2	70-130				
cis-1,2-Dichloroethylene	11.1	1.0	µg/L	10.0		111	70-130				
trans-1,2-Dichloroethylene	11.0	1.0	µg/L	10.0		110	70-130				
1,2-Dichloropropane	10.8	1.0	µg/L	10.0		108	70-130				
1,3-Dichloropropane	9.95	0.50	µg/L	10.0		99.5	70-130				
2,2-Dichloropropane	8.14	1.0	µg/L	10.0		81.4	40-130				†
1,1-Dichloropropene	11.3	2.0	µg/L	10.0		113	70-130				
cis-1,3-Dichloropropene	8.00	0.50	µg/L	10.0		80.0	70-130				
trans-1,3-Dichloropropene	8.42	0.50	µg/L	10.0		84.2	70-130				
Diethyl Ether	10.1	2.0	µg/L	10.0		101	70-130				
Diisopropyl Ether (DIPE)	10.6	0.50	µg/L	10.0		106	70-130				
1,4-Dioxane	118	50	µg/L	100		118	40-130				†
Ethylbenzene	9.89	1.0	µg/L	10.0		98.9	70-130				
Hexachlorobutadiene	10.6	0.50	µg/L	10.0		106	70-130				
2-Hexanone (MBK)	111	10	µg/L	100		111	70-160				†
Isopropylbenzene (Cumene)	9.20	1.0	µg/L	10.0		92.0	70-130				
p-Isopropyltoluene (p-Cymene)	10.3	1.0	µg/L	10.0		103	70-130				
Methyl Acetate	14.5	1.0	µg/L	10.0		**145**	70-130	*		L-07, V-20	
Methyl tert-Butyl Ether (MTBE)	9.92	1.0	µg/L	10.0		99.2	70-130				
Methyl Cyclohexane	10.4	1.0	µg/L	10.0		104	70-130				
Methylene Chloride	10.6	5.0	µg/L	10.0		106	70-130				
4-Methyl-2-pentanone (MIBK)	109	10	µg/L	100		109	70-160				†
Naphthalene	11.5	2.0	µg/L	10.0		115	40-130				†
n-Propylbenzene	9.20	1.0	µg/L	10.0		92.0	70-130				
Styrene	9.27	1.0	µg/L	10.0		92.7	70-130				
1,1,1,2-Tetrachloroethane	9.54	1.0	µg/L	10.0		95.4	70-130				
1,1,2,2-Tetrachloroethane	10.3	0.50	µg/L	10.0		103	70-130				
Tetrachloroethylene	9.91	1.0	µg/L	10.0		99.1	70-130				
Tetrahydrofuran	12.1	10	µg/L	10.0		121	70-130				
Toluene	9.82	1.0	µg/L	10.0		98.2	70-130				
1,2,3-Trichlorobenzene	11.6	2.0	µg/L	10.0		116	70-130				
1,2,4-Trichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130				
1,3,5-Trichlorobenzene	9.34	1.0	µg/L	10.0		93.4	70-130				
1,1,1-Trichloroethane	10.5	1.0	µg/L	10.0		105	70-130				
1,1,2-Trichloroethane	10.6	1.0	µg/L	10.0		106	70-130				
Trichloroethylene	10.8	1.0	µg/L	10.0		108	70-130				
Trichlorofluoromethane (Freon 11)	9.13	2.0	µg/L	10.0		91.3	70-130				
1,2,3-Trichloropropane	10.2	2.0	µg/L	10.0		102	70-130				

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B145123 - SW-846 5030B											
LCS (B145123-BS1)				Prepared: 03/25/16 Analyzed: 03/26/16							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.52	1.0	µg/L	10.0		95.2	70-130				
1,2,4-Trimethylbenzene	10.6	1.0	µg/L	10.0		106	70-130				
1,3,5-Trimethylbenzene	9.47	1.0	µg/L	10.0		94.7	70-130				
Vinyl Chloride	7.25	2.0	µg/L	10.0		72.5	40-160			R-05	†
m+p Xylene	19.3	2.0	µg/L	20.0		96.6	70-130				
o-Xylene	9.66	1.0	µg/L	10.0		96.6	70-130				
Surrogate: 1,2-Dichloroethane-d4	*27.7*		µg/L	25.0		111	70-130				
Surrogate: Toluene-d8	*24.9*		µg/L	25.0		99.7	70-130				
Surrogate: 4-Bromofluorobenzene	*23.5*		µg/L	25.0		94.2	70-130				
LCS Dup (B145123-BSD1)				Prepared: 03/25/16 Analyzed: 03/26/16							
Acetone	88.4	50	µg/L	100		88.4	70-160	16.0	25		†
Acrylonitrile	8.70	5.0	µg/L	10.0		87.0	70-130	11.3	25		
tert-Amyl Methyl Ether (TAME)	8.48	0.50	µg/L	10.0		84.8	70-130	4.04	25		
Benzene	11.3	1.0	µg/L	10.0		113	70-130	1.40	25		
Bromobenzene	9.98	1.0	µg/L	10.0		99.8	70-130	1.20	25		
Bromochloromethane	13.2	1.0	µg/L	10.0		**132** *	70-130	3.48	25	L-07	
Bromodichloromethane	10.3	0.50	µg/L	10.0		103	70-130	2.67	25		
Bromoform	9.44	1.0	µg/L	10.0		94.4	70-130	1.68	25		
Bromomethane	4.80	2.0	µg/L	10.0		48.0	40-160	15.2	25		†
2-Butanone (MEK)	101	20	µg/L	100		101	40-160	21.0	25		†
tert-Butyl Alcohol (TBA)	64.2	20	µg/L	100		64.2	40-160	**26.2** *	25	R-05, V-05	†
n-Butylbenzene	10.5	1.0	µg/L	10.0		105	70-130	3.28	25		
sec-Butylbenzene	9.80	1.0	µg/L	10.0		98.0	70-130	0.610	25		
tert-Butylbenzene	10.1	1.0	µg/L	10.0		101	70-130	0.494	25		
tert-Butyl Ethyl Ether (TBEE)	9.88	0.50	µg/L	10.0		98.8	70-130	3.58	25		
Carbon Disulfide	8.80	2.0	µg/L	10.0		88.0	70-130	6.27	25		
Carbon Tetrachloride	10.8	1.0	µg/L	10.0		108	70-130	0.185	25		
Chlorobenzene	9.70	1.0	µg/L	10.0		97.0	70-130	0.932	25		
Chlorodibromomethane	9.36	0.50	µg/L	10.0		93.6	70-130	0.214	25		
Chloroethane	10.6	2.0	µg/L	10.0		106	70-130	2.70	25		
Chloroform	11.0	2.0	µg/L	10.0		110	70-130	1.08	25		
Chloromethane	8.05	2.0	µg/L	10.0		80.5	40-160	24.7	25		†
2-Chlorotoluene	8.84	1.0	µg/L	10.0		88.4	70-130	1.46	25		
4-Chlorotoluene	9.42	1.0	µg/L	10.0		94.2	70-130	1.16	25		
1,2-Dibromo-3-chloropropane (DBCP)	8.47	5.0	µg/L	10.0		84.7	70-130	19.0	25		
1,2-Dibromoethane (EDB)	9.80	0.50	µg/L	10.0		98.0	70-130	0.307	25		
Dibromomethane	11.0	1.0	µg/L	10.0		110	70-130	0.636	25		
1,2-Dichlorobenzene	9.74	1.0	µg/L	10.0		97.4	70-130	2.73	25		
1,3-Dichlorobenzene	9.33	1.0	µg/L	10.0		93.3	70-130	2.64	25		
1,4-Dichlorobenzene	9.68	1.0	µg/L	10.0		96.8	70-130	0.412	25		
trans-1,4-Dichloro-2-butene	9.97	2.0	µg/L	10.0		99.7	70-130	7.81	25		
Dichlorodifluoromethane (Freon 12)	5.63	2.0	µg/L	10.0		56.3	40-160	2.11	25		†
1,1-Dichloroethane	12.0	1.0	µg/L	10.0		120	70-130	1.68	25		
1,2-Dichloroethane	10.6	1.0	µg/L	10.0		106	70-130	2.77	25		
1,1-Dichloroethylene	9.59	1.0	µg/L	10.0		95.9	70-130	0.733	25		
cis-1,2-Dichloroethylene	11.2	1.0	µg/L	10.0		112	70-130	0.179	25		
trans-1,2-Dichloroethylene	11.2	1.0	µg/L	10.0		112	70-130	1.98	25		
1,2-Dichloropropane	10.5	1.0	µg/L	10.0		105	70-130	2.54	25		
1,3-Dichloropropane	9.88	0.50	µg/L	10.0		98.8	70-130	0.706	25		
2,2-Dichloropropane	8.07	1.0	µg/L	10.0		80.7	40-130	0.864	25		†
1,1-Dichloropropene	11.2	2.0	µg/L	10.0		112	70-130	1.60	25		

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B145123 - SW-846 5030B											
LCS Dup (B145123-BSD1)				Prepared: 03/25/16 Analyzed: 03/26/16							
cis-1,3-Dichloropropene	8.06	0.50	µg/L	10.0		80.6	70-130	0.747	25		
trans-1,3-Dichloropropene	8.09	0.50	µg/L	10.0		80.9	70-130	4.00	25		
Diethyl Ether	9.78	2.0	µg/L	10.0		97.8	70-130	3.61	25		
Diisopropyl Ether (DIPE)	10.4	0.50	µg/L	10.0		104	70-130	1.91	25		
1,4-Dioxane	98.5	50	µg/L	100		98.5	40-130	18.0	50		† ‡
Ethylbenzene	9.87	1.0	µg/L	10.0		98.7	70-130	0.202	25		
Hexachlorobutadiene	10.7	0.50	µg/L	10.0		107	70-130	0.468	25		
2-Hexanone (MBK)	91.7	10	µg/L	100		91.7	70-160	18.9	25		†
Isopropylbenzene (Cumene)	9.19	1.0	µg/L	10.0		91.9	70-130	0.109	25		
p-Isopropyltoluene (p-Cymene)	10.1	1.0	µg/L	10.0		101	70-130	2.06	25		
Methyl Acetate	12.9	1.0	µg/L	10.0		129	70-130	11.3	25	V-20	
Methyl tert-Butyl Ether (MTBE)	9.48	1.0	µg/L	10.0		94.8	70-130	4.54	25		
Methyl Cyclohexane	10.1	1.0	µg/L	10.0		101	70-130	2.54	25		
Methylene Chloride	10.8	5.0	µg/L	10.0		108	70-130	1.59	25		
4-Methyl-2-pentanone (MIBK)	95.7	10	µg/L	100		95.7	70-160	13.1	25		†
Naphthalene	9.80	2.0	µg/L	10.0		98.0	40-130	15.7	25		†
n-Propylbenzene	9.25	1.0	µg/L	10.0		92.5	70-130	0.542	25		
Styrene	9.42	1.0	µg/L	10.0		94.2	70-130	1.61	25		
1,1,1,2-Tetrachloroethane	9.21	1.0	µg/L	10.0		92.1	70-130	3.52	25		
1,1,2,2-Tetrachloroethane	9.60	0.50	µg/L	10.0		96.0	70-130	7.04	25		
Tetrachloroethylene	10.2	1.0	µg/L	10.0		102	70-130	2.79	25		
Tetrahydrofuran	11.1	10	µg/L	10.0		111	70-130	8.64	25		
Toluene	9.91	1.0	µg/L	10.0		99.1	70-130	0.912	25		
1,2,3-Trichlorobenzene	10.6	2.0	µg/L	10.0		106	70-130	8.98	25		
1,2,4-Trichlorobenzene	9.69	1.0	µg/L	10.0		96.9	70-130	6.30	25		
1,3,5-Trichlorobenzene	9.13	1.0	µg/L	10.0		91.3	70-130	2.27	25		
1,1,1-Trichloroethane	10.4	1.0	µg/L	10.0		104	70-130	0.763	25		
1,1,2-Trichloroethane	10.0	1.0	µg/L	10.0		100	70-130	5.61	25		
Trichloroethylene	11.0	1.0	µg/L	10.0		110	70-130	1.93	25		
Trichlorofluoromethane (Freon 11)	9.06	2.0	µg/L	10.0		90.6	70-130	0.770	25		
1,2,3-Trichloropropane	9.46	2.0	µg/L	10.0		94.6	70-130	8.02	25		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	9.03	1.0	µg/L	10.0		90.3	70-130	5.28	25		
1,2,4-Trimethylbenzene	10.2	1.0	µg/L	10.0		102	70-130	3.17	25		
1,3,5-Trimethylbenzene	9.23	1.0	µg/L	10.0		92.3	70-130	2.57	25		
Vinyl Chloride	10.5	2.0	µg/L	10.0		105	40-160	**36.3** *	25	R-05	†
m+p Xylene	19.2	2.0	µg/L	20.0		96.2	70-130	0.415	25		
o-Xylene	9.69	1.0	µg/L	10.0		96.9	70-130	0.310	25		
Surrogate: 1,2-Dichloroethane-d4	*27.4*		µg/L	25.0		110	70-130				
Surrogate: Toluene-d8	*25.3*		µg/L	25.0		101	70-130				
Surrogate: 4-Bromofluorobenzene	*23.2*		µg/L	25.0		92.7	70-130				

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
Acetone	CT,NY,ME,NH,VA
Acrylonitrile	CT,NY,ME,NH,VA
tert-Amyl Methyl Ether (TAME)	NY,ME,NH,VA
Benzene	CT,NY,ME,NH,VA
Bromochloromethane	NY,ME,NH,VA
Bromodichloromethane	CT,NY,ME,NH,VA
Bromoform	CT,NY,ME,NH,VA
Bromomethane	CT,NY,ME,NH,VA
2-Butanone (MEK)	CT,NY,ME,NH,VA
tert-Butyl Alcohol (TBA)	NY,ME,NH,VA
n-Butylbenzene	NY,ME,VA
sec-Butylbenzene	NY,ME,VA
tert-Butylbenzene	NY,ME,VA
tert-Butyl Ethyl Ether (TBEE)	NY,ME,NH,VA
Carbon Disulfide	CT,NY,ME,NH,VA
Carbon Tetrachloride	CT,NY,ME,NH,VA
Chlorobenzene	CT,NY,ME,NH,VA
Chlorodibromomethane	CT,NY,ME,NH,VA
Chloroethane	CT,NY,ME,NH,VA
Chloroform	CT,NY,ME,NH,VA
Chloromethane	CT,NY,ME,NH,VA
2-Chlorotoluene	NY,ME,NH,VA
4-Chlorotoluene	NY,ME,NH,VA
Dibromomethane	NY,ME,NH,VA
1,2-Dichlorobenzene	CT,NY,ME,NH,VA
1,3-Dichlorobenzene	CT,NY,ME,NH,VA
1,4-Dichlorobenzene	CT,NY,ME,NH,VA
trans-1,4-Dichloro-2-butene	NY,ME,NH,VA
Dichlorodifluoromethane (Freon 12)	NY,ME,NH,VA
1,1-Dichloroethane	CT,NY,ME,NH,VA
1,2-Dichloroethane	CT,NY,ME,NH,VA
1,1-Dichloroethylene	CT,NY,ME,NH,VA
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NY,ME,NH,VA
1,2-Dichloropropane	CT,NY,ME,NH,VA
1,3-Dichloropropane	NY,ME,VA
2,2-Dichloropropane	NY,ME,NH,VA
1,1-Dichloropropene	NY,ME,NH,VA
cis-1,3-Dichloropropene	CT,NY,ME,NH,VA
trans-1,3-Dichloropropene	CT,NY,ME,NH,VA
Diisopropyl Ether (DIPE)	NY,ME,NH,VA
Ethylbenzene	CT,NY,ME,NH,VA
Hexachlorobutadiene	CT,NY,ME,NH,VA
2-Hexanone (MBK)	CT,NY,ME,NH,VA
Isopropylbenzene (Cumene)	NY,ME,VA
p-Isopropyltoluene (p-Cymene)	CT,NY,ME,NH,VA
Methyl tert-Butyl Ether (MTBE)	CT,NY,ME,NH,VA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
Methylene Chloride	CT,NY,ME,NH,VA
4-Methyl-2-pentanone (MIBK)	CT,NY,ME,NH,VA
Naphthalene	NY,ME,NH,VA
n-Propylbenzene	CT,NY,ME,NH,VA
Styrene	CT,NY,ME,NH,VA
1,1,1,2-Tetrachloroethane	CT,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	CT,NY,ME,NH,VA
Tetrachloroethylene	CT,NY,ME,NH,VA
Toluene	CT,NY,ME,NH,VA
1,2,3-Trichlorobenzene	NY,ME,NH,VA
1,2,4-Trichlorobenzene	CT,NY,ME,NH,VA
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,NY,ME,NH,VA
1,1,2-Trichloroethane	CT,NY,ME,NH,VA
Trichloroethylene	CT,NY,ME,NH,VA
Trichlorofluoromethane (Freon 11)	CT,NY,ME,NH,VA
1,2,3-Trichloropropane	NY,ME,NH,VA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NY,VA
1,2,4-Trimethylbenzene	NY,ME,VA
1,3,5-Trimethylbenzene	NY,ME,VA
Vinyl Chloride	CT,NY,ME,NH,VA
m+p Xylene	CT,NY,ME,NH,VA
o-Xylene	CT,NY,ME,NH,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

16C1113

CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Rev 04.05.12

Company Name: ARCADIS
Address: 300 METRO CENTER BLVD
WARWICK, RI 02086
Attention: DONNA DAUSTER
Project Location: SPRINGFIELD STREET,
Sampled By: KRISTEN AUDETTE/

Telephone: 401 738-3887
Project #: WK01215 2.0010
Client PO#:

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #:
Email: DONNA.DAUSTER@arcadis.com
Format: ⊘ PDF ⊘ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	# of Containers	** Preservation	*** Container Code
01	ATC-1	3-23-16	850		⊘	GW		3	H	V
02	MW-7	3-23-16	1140		⊘	GW		3	H	V
03	ATC-4	3-23-16	1010		⊘	GW		3	H	V
04	FBlank	3-23-16	1014		⊘	W		3	H	V
05	MW-6	3-23-16	1237		⊘	GW		3	H	V
06	TripBlank	—	—		—			1	H	V

ANALYSIS REQUESTED: 8260B VOC

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time: 3/24/16 10:50
Relinquished by: (signature)	Date/Time: 3/24/16 16:15
Received by: (signature)	Date/Time: 3/24/16 16:15

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other STAT
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: ARCADIS **RECEIVED BY**: VP **DATE**: 3/24/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** ____ **No** X

If not, explain: Trip Blank Vials never received

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** **X** **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.7

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No

(Walk-in clients only) if not already approved

Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below	15		Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials: # HCl 15 # Methanol ____

Bisulfate ____ # DI Water ____

Thiosulfate ____ Unpreserved ____

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

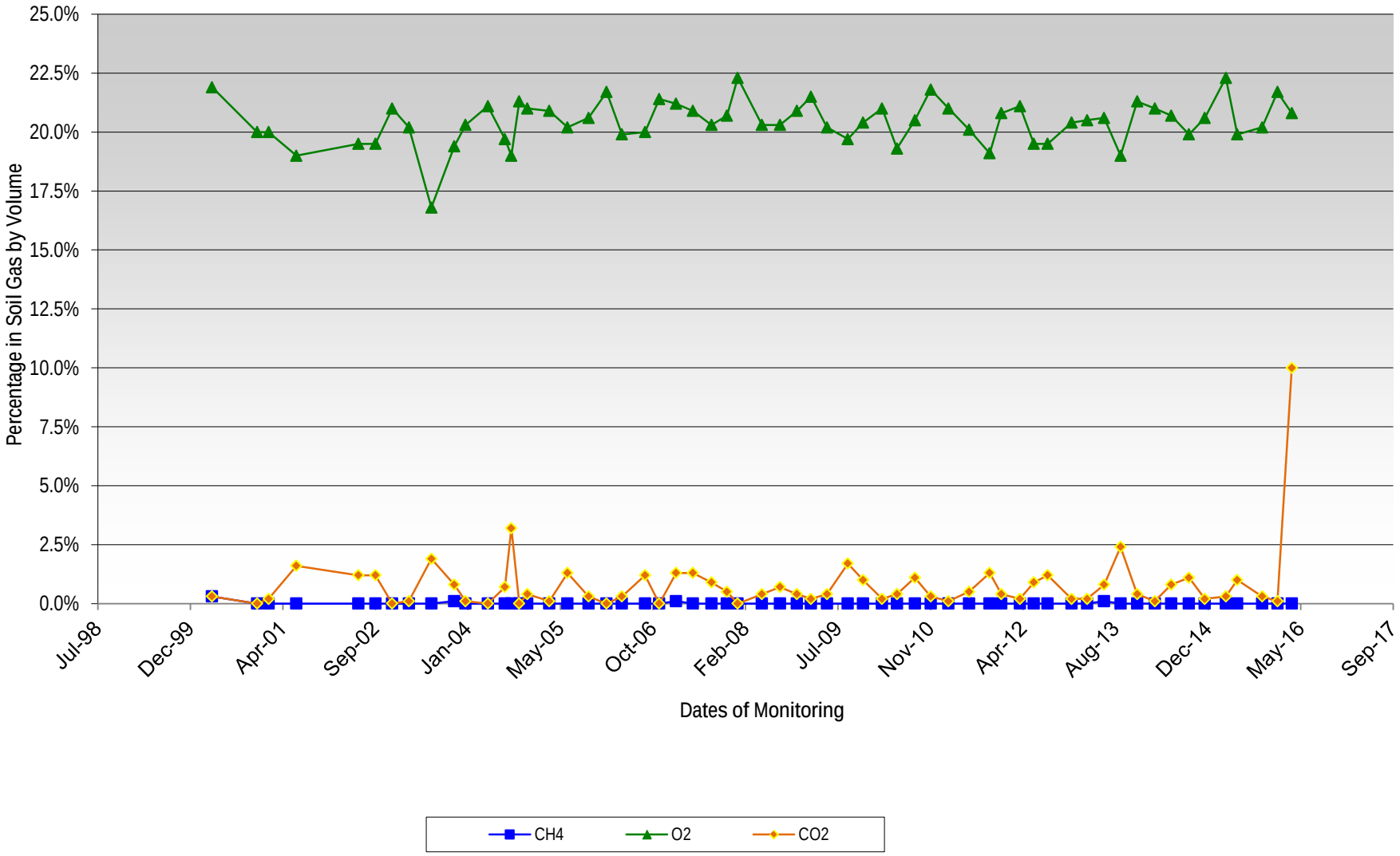
Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** VP **Date/Time: 3/24/16 1345**

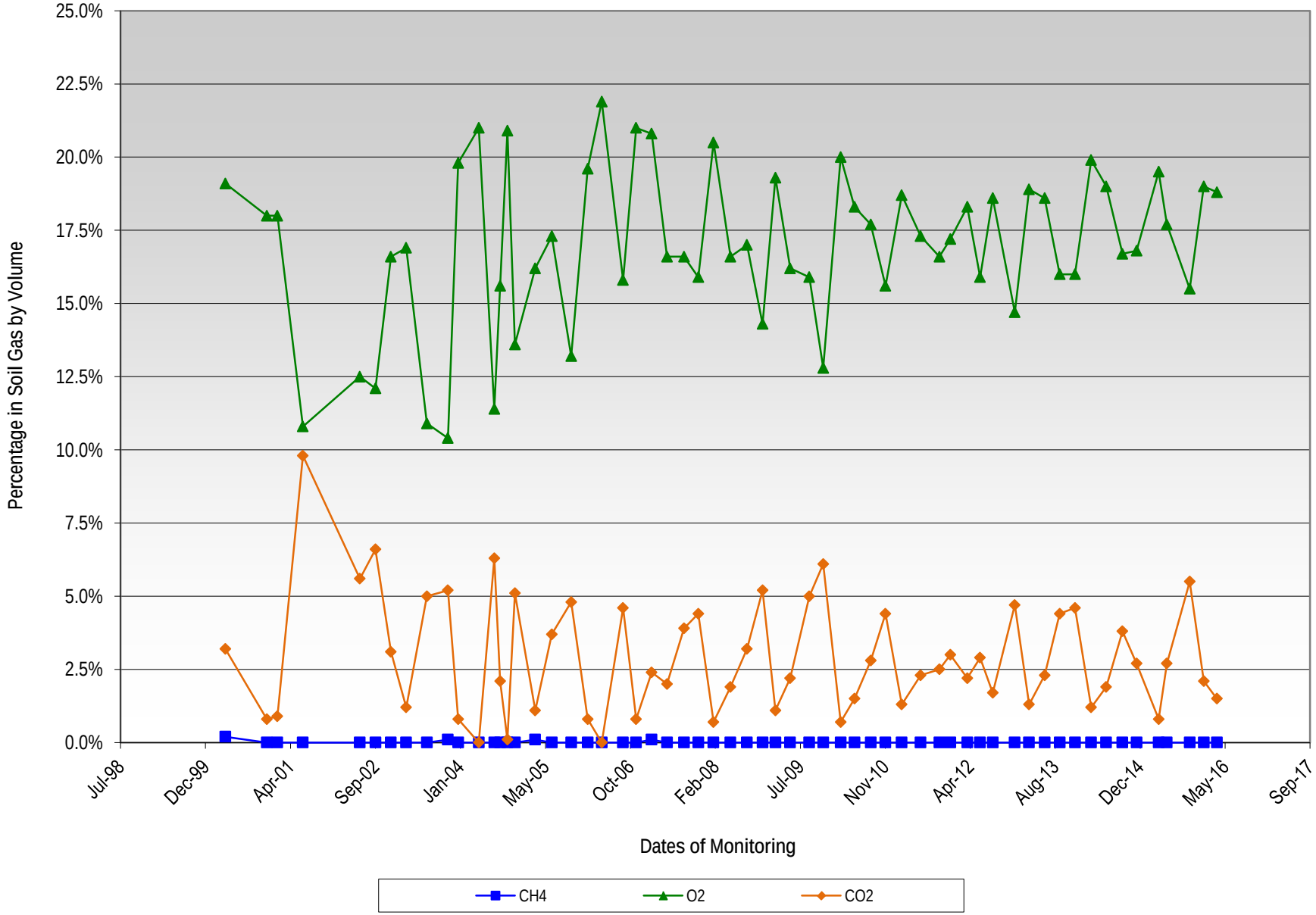
ATTACHMENT C

Soil Gas Trends

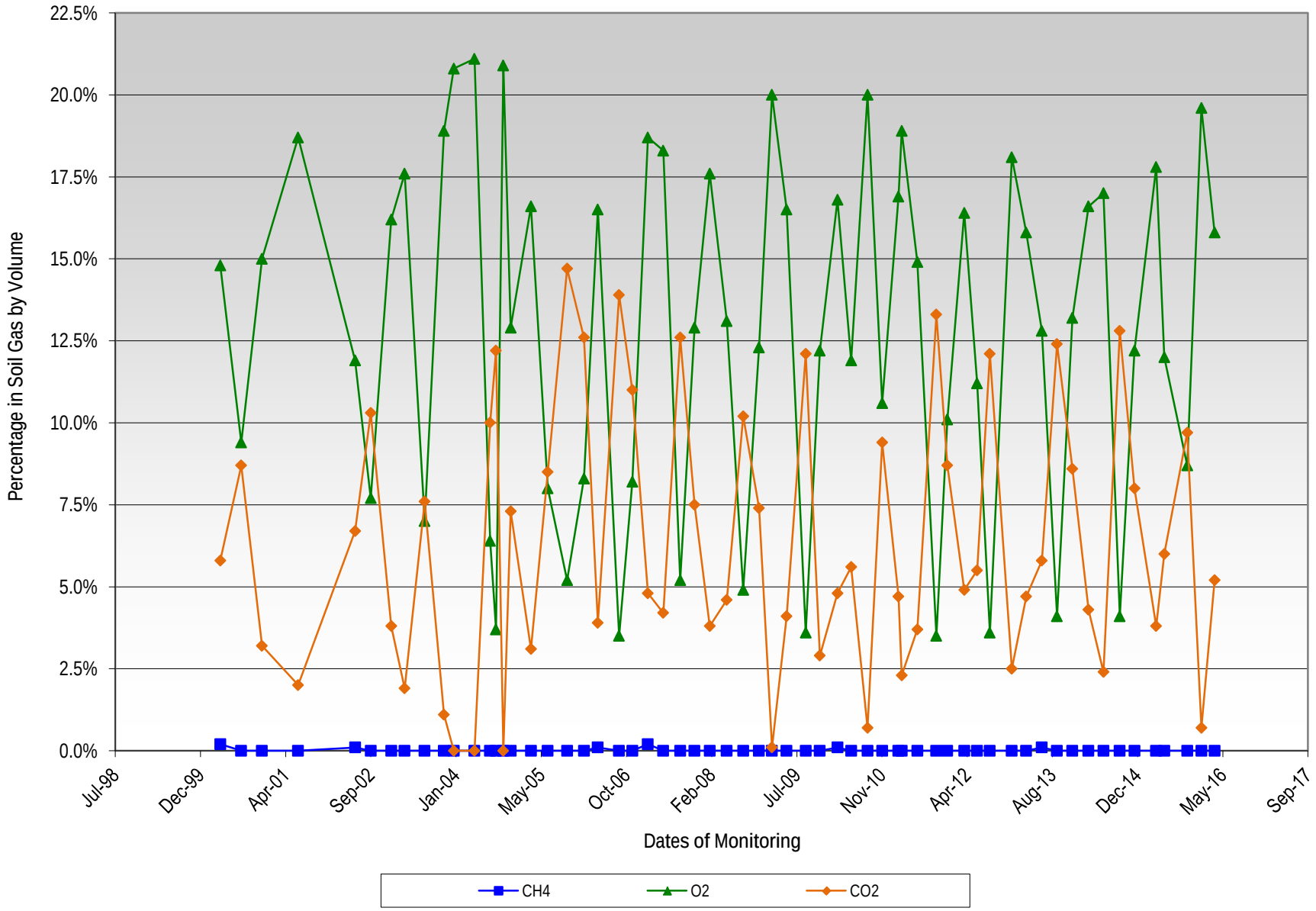
Soil Gas Well EPL1
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



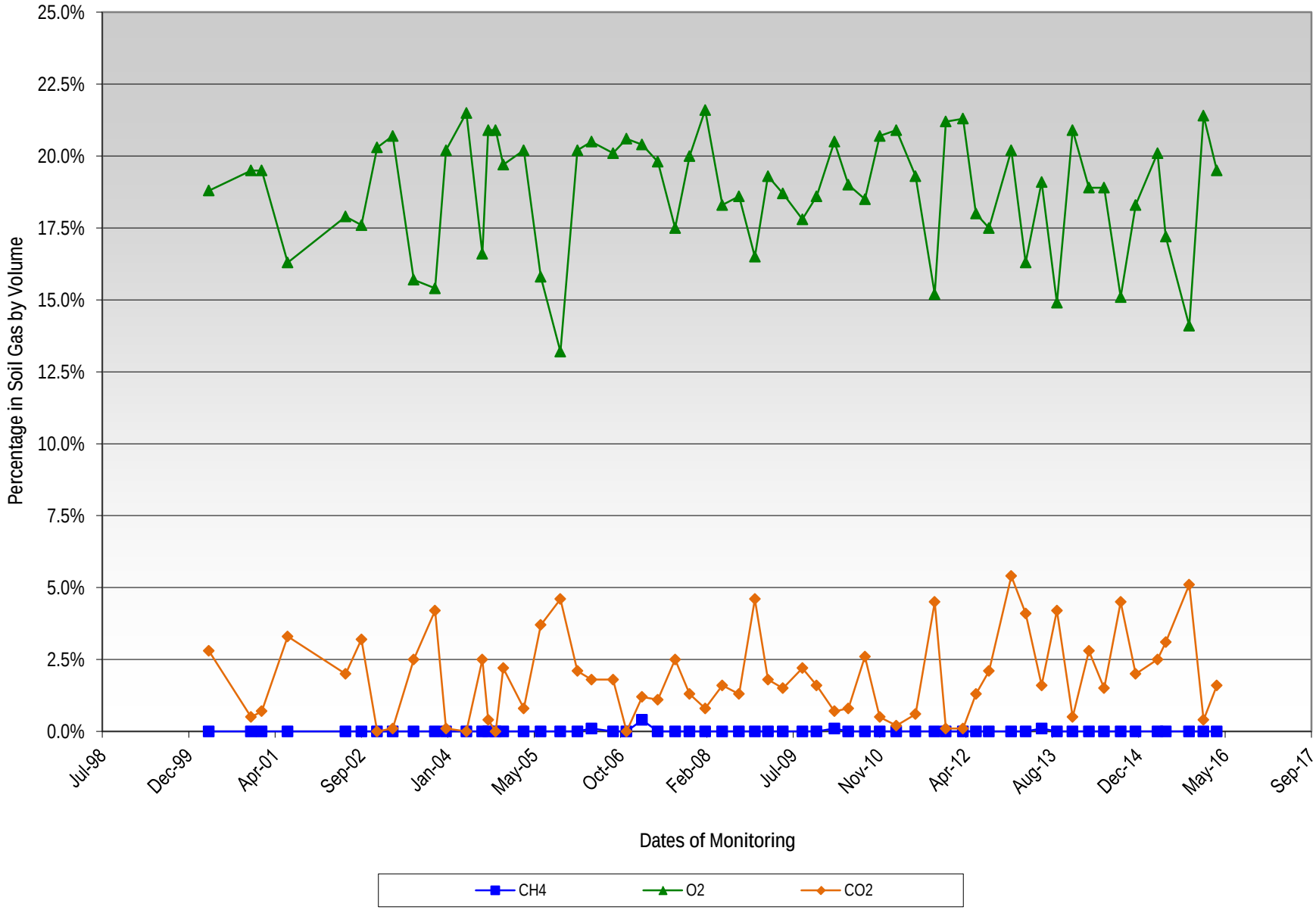
Soil Gas Well EPL4
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



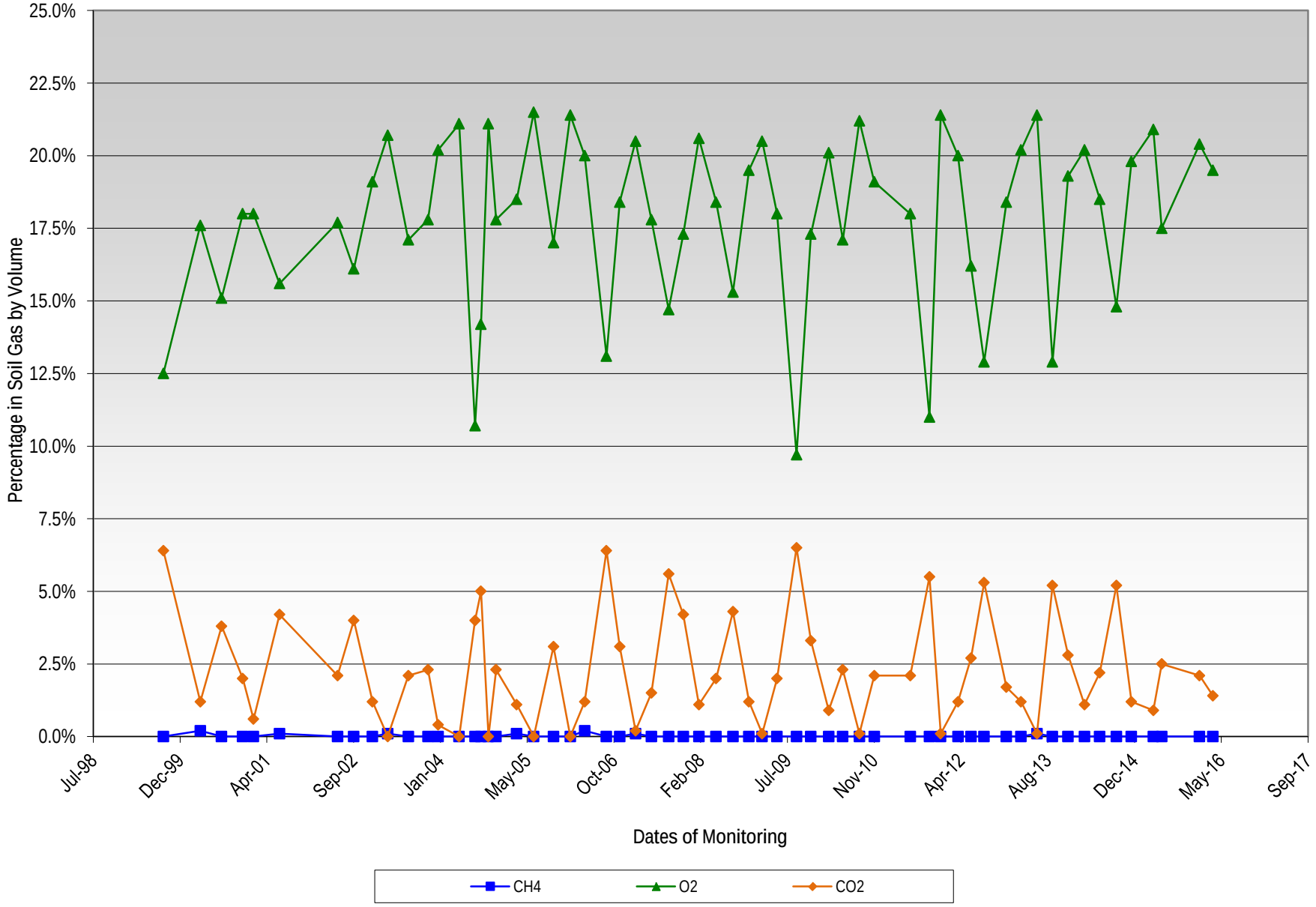
Soil Gas Well MPL5
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



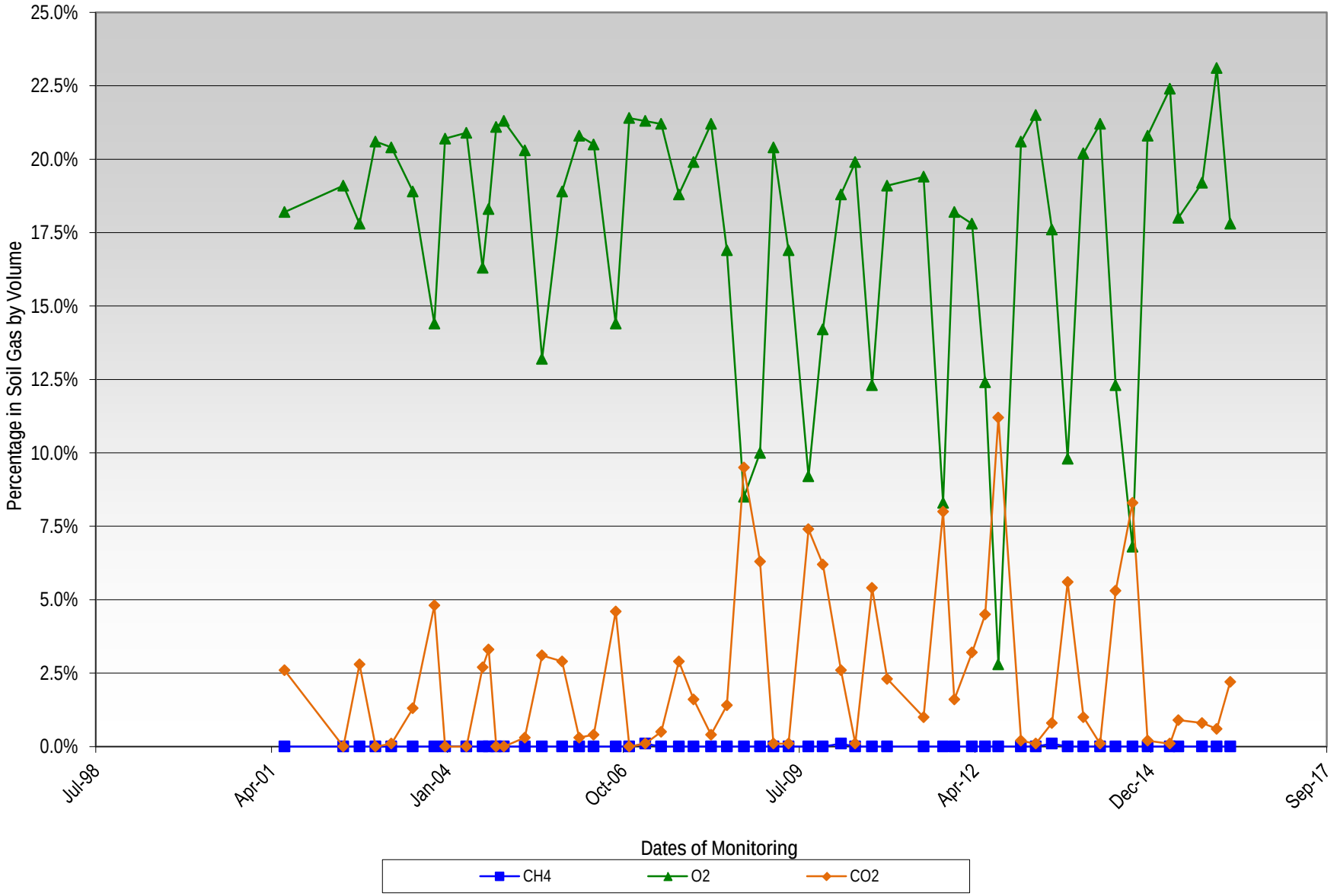
Soil Gas Well MG2
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



Soil Gas Well WB1
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



Soil Gas Well WB15
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



Soil Gas MPL 7
Fluctuation in Methane, Oxygen, Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island