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

ENVIRONMENTAL

Subject: September 2013 Quarterly Monitoring Report for Springfield Street
School Complex

Date:
October 24, 2013

Dear Mr. Crawford:

Contact:
Donna H. Pallister, PE

ARCADIS US, Inc. (ARCADIS) conducted quarterly monitoring of soil gas, indoor air, the cap, and the sub-slab ventilation system between September 10 and September 11, 2013. 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.

Phone:
401.738.3887

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Donna.pallister@arcadis-us.com

Our ref:
WK012152.0009

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 September 10, 2013 for evidence of significant soil cover erosion, or for any areas where the orange snow fencing indicator barrier was visible. ARCADIS did not observe any areas where the orange indicator barrier was visible during this monitoring event. No evidence of erosion or significant settling was observed.

SUB-SLAB VENTILATION SYSTEM

Field Monitoring

The sub-slab ventilation system was inspected by ARCADIS during the quarterly monitoring on September 11, 2013. The two elementary school blowers and the two middle school blowers were operating normally upon arrival.

Samples of influent and effluent (before and after the carbon canisters) air were collected at each blower and screened for methane, carbon dioxide, oxygen, carbon monoxide, hydrogen sulfide, and organic vapors using a Landtec GEM2000 Plus and a MiniRae 2000. Results of screening are provided on Table 1. Methane, hydrogen sulfide, carbon monoxide, and organic vapors were not detected in any of the samples. Carbon dioxide was detected at concentrations of 0.3% at one location and 0.2% at two locations. Carbon dioxide was not detected at remainder of the locations. Therefore, all seven sample concentrations were equal to the RAWP Action Level of 1000 ppm (0.1%).

Air samples were also collected in Tedlar bags from influent air at each blower. The Tedlar bags were submitted to Con-test Analytical Laboratory for analysis for VOC via EPA method TO-14.

Soil Gas Laboratory Results

Sub-slab soil gas samples were collected on September 11, 2013 from the influent to each sub-slab ventilation system. The samples were collected in Tedlar bags and submitted to Con-Test Analytical Laboratories for analysis by 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) are provided in Table 2 for comparison purposes even though they 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.

Results were also compared to the Connecticut Department of Environmental Protection (CTDEP) Residential Volatilization Criteria for Soil Vapor. These criteria are intended to be protective for occupants of residential dwellings. Site concentrations were well below the CTDEP criteria.

INDOOR AIR MONITORING

Indoor air monitoring was conducted on September 10, 2013 using a Landtec GEM 2000 Plus meter (methane, hydrogen sulfide, oxygen), a Mini Rae photoionization detector (organic vapors), and a Fluke 975 Airmeter (carbon dioxide, carbon monoxide). School was in session during the monitoring event.

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 September 10, 2013 was 78 °F. Carbon dioxide was measured outside in the school parking lot at 481 ppm.

All readings were below the RAWP Action Levels. Methane, carbon monoxide, hydrogen sulfide, and organic vapors were not detected, and carbon dioxide was within the expected range for 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 Appendix C of the Standard states: "maintaining a steady-state CO₂ 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 average concentrations measured inside the site buildings were less than 700 ppm above the ambient outdoor concentrations.

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 September 10, 2013. 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 September 11, 2013. 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. The laboratory report is provided as Attachment B. Results of analysis of groundwater samples are summarized in Table 4.

Two target analytes were detected in two of the wells: 1,4-dichlorobenzene, which was detected in a sample collected from monitoring well ATC-4 at a concentration of 1.8 µg/L; and chloroform, which was detected in MW-6 at a concentration of 2.5 µg/L. There is no GB groundwater standard for these compounds. Both compounds have been detected during previous sampling events in these wells at similar concentrations. Chloroform is often found in drinking water from chlorinated public water supply sources. No other target analytes were detected in any of the groundwater samples collected on September 11, 2013.

SOIL GAS MONITORING

Soil gas monitoring was conducted at 29 locations on September 10, 2013. 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 2000 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. Soil gas survey results are provided in Table 5. Methane, carbon monoxide, hydrogen sulfide, and total VOCs were not detected in any soil gas wells.

Carbon dioxide was detected in soil gas at concentrations ranging from 0.8% to 13.3% during the September monitoring event. The carbon dioxide Remedial Action Work Plan Action Level is 0.1% and 25 readings exceeded the action level. The maximum concentration detected during the September 2013 monitoring round was 13.3%, which was higher than the maximum detected during the June 2013 round of 10.5%. This is consistent with the pattern shown during previous rounds of declining carbon dioxide concentrations in the winter, and increasing concentrations in the summer and early fall. Graphs presenting carbon dioxide, oxygen, and methane concentrations over time for selected representative wells are presented in Attachment C.

The presence of carbon dioxide in soil gas is an indicator of subsurface bacterial 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

Methane, Hydrogen sulfide, carbon monoxide and organic vapor concentrations did not exceed RAWP action levels in any soil gas or indoor air samples. Carbon dioxide concentrations exceeded the action level at 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 bacterial activity in the subsurface.

If you have any questions or require any additional information, please contact the undersigned at 401-738-3887, extension 25.

Sincerely,

ARCADIS U.S., Inc.

A handwritten signature in black ink, appearing to read "Donna H. Pallister". The signature is fluid and cursive, with the first name being the most prominent.

Donna H. Pallister, PE, LSP
Senior Environmental Engineer

Copies:

A. Sepe, City of Providence
Providence Public Building Authority

Tables

Table 1
 System Monitoring Notes
 Springfield Street School Complex
 Providence, Rhode Island
 September 11, 2013

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	0.2	19.7	0	0	0.0
Elementary School inlet 2	0.0	0.2	19.6	0	0	0.0
Elementary School Outlet	0.0	0.3	19.5	0	0	0.0
Middle School front shed inlet	0.0	0.0	19.7	0	0	0.0
Middle School front shed after 2 nd carbon	0.0	0.0	19.8	0	0	0.0
Middle School back shed inlet	0.0	0.0	19.4	0	0	0.0
Middle School back shed after 2 nd carbon	0.0	0.0	19.6	0	0	0.0
Remedial Action Work Plan Action Levels	0.5	1,000 ppm (0.1%)	NA	9 ppm	10 ppm	5 ppm

Measurements made with: Landtec GEM2000 Plus, MiniRae 2000

Sampling date: September 11, 2013

Measured by: Andrew DaSilva

Table 2
Soil Gas Samples Collected from System Influent
Springfield Street School Complex

Parameter	Sample Date	CT DEP Proposed Residential Volatilization Criteria For Soil Vapor (ug/m3)*	OSHA PEL's (ug/m3)	Middle School Back (ug/m3)	Middle School Front (ug/m3)	Elementary School #1 (ug/m3)	Elementary School #2 (ug/m3)
Benzene	8/23/2012	3,247	3,000	0.87	1	0.7	0.7
	1/4/2013			0.2	0.26	0.37	0.33
	3/20/2013			ND	0.44	0.57	0.54
	6/6/13 and 6/11/13			2.2	2.2	1.7	0.76
	9/11/2013			0.51	0.47	0.49	0.43
Carbon Tetrachloride	8/23/2012	6,395	62,900	ND	ND	0.65	ND
	1/4/2013			ND	ND	ND	ND
	3/20/2013			ND	ND	ND	ND
	6/6/13 and 6/11/13			ND	ND	ND	ND
	9/11/2013			ND	ND	ND	ND
Chloroform	8/23/2012	22,334	240,000	ND	ND	1.7	1.7
	1/4/2013			0.26	ND	0.51	0.58
	3/20/2013			ND	ND	0.6	0.6
	6/6/13 and 6/11/13			ND	ND	2.1	1.7
	9/11/2013			1.3	ND	1.9	2.1
Chloromethane	8/23/2012	NA	207,000	ND	2	ND	ND
	1/4/2013			0.18	0.23	ND	ND
	3/20/2013			ND	ND	ND	ND
	6/6/13 and 6/11/13			ND	1.2	ND	ND
	9/11/2013			ND	ND	ND	ND
1,4-Dichlorobenzene	8/23/2012	5,805,840	450,000	1.9	ND	1.9	ND
	1/4/2013			ND	ND	ND	ND
	3/20/2013			ND	ND	ND	ND
	6/6/13 and 6/11/13			ND	ND	ND	ND
	9/11/2013			ND	ND	ND	ND
Dichlorodifluoromethane (Freon 12)	8/23/2012	NA	4,950,000	7	2.3	11	6.6
	1/4/2013			2.6	1.7	2.6	3.5
	3/20/2013			3.2	2.6	3	3
	6/6/13 and 6/11/13			5.5	2.5	4.4	3.9
	9/11/2013			10	4.6	3.6	3.9
trans- 1,3- Dichloropropene	8/23/2012	4,613	5,000	ND	ND	ND	0.61
	1/4/2013			ND	ND	ND	ND
	3/20/2013			ND	ND	ND	ND
	6/6/13 and 6/11/13			ND	ND	ND	ND
	9/11/2013			ND	ND	ND	ND
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	8/23/2012	NA	7,000,000	17	0.78	20	2
	1/4/2013			2.7	1.3	1.7	0.83
	3/20/2013			6.4	1.7	1.2	1.2
	6/6/13 and 6/11/13			7.6	ND	1.1	0.98
	9/11/2013			16	6.1	2	2.2
Ethylbenzene	8/23/2012	7,281,812	435,000	0.49	ND	0.49	ND
	1/4/2013			1.2	1.3	1.6	1
	3/20/2013			3	2.1	2.4	2
	6/6/13 and 6/11/13			0.95	1.2	0.87	0.44
	9/11/2013			ND	ND	ND	ND
Methylene Chloride	8/23/2012	4,237,289	86,750	19	52	18	46
	1/4/2013			5.8	6.8	10	5.9
	3/20/2013			55	33	29	36
	6/6/13 and 6/11/13			38	42	49	24
	9/11/2013			34	32	35	29
Styrene	8/23/2012	34,633	456,000	27	6.6	28	6.7
	1/4/2013			6.8	7.4	7.2	5.3
	3/20/2013			6.8	7.1	9.7	9.2
	6/6/13 and 6/11/13			2.1	1.9	2.3	1.2
	9/11/2013			0.82	0.95	0.89	0.97
Tetrachloroethylene	8/23/2012	75,840	678,000	1.4	ND	29	3.6
	1/4/2013			2.9	3.1	8.6	3.3
	3/20/2013			8.9	5.7	5.5	7.7
	6/6/13 and 6/11/13			2.8	ND	3	8.1
	9/11/2013			8.2	5.5	7.9	7.4
Toluene	8/23/2012	2,910,779	750,000	280	150	300	140
	1/4/2013			31	41	44	25
	3/20/2013			45	32	50	48
	6/6/13 and 6/11/13			63	59	71	16
	9/11/2013			3.8	4.3	4.1	3.9
Trichloroethylene	8/23/2012	38,237	537,000	ND	ND	4.5	0.63
	1/4/2013			1	1.3	3.7	1.3
	3/20/2013			7	3.1	2.9	3.9
	6/6/13 and 6/11/13			ND	ND	ND	3.2
	9/11/2013			2.1	1.4	1.9	1.6
Trichlorofluoromethane (Freon 11)	8/23/2012	NA	5,600,000	8.5	8	17	14
	1/4/2013			1.6	1.1	1.2	0.18
	3/20/2013			3	2.1	2	1.9
	6/6/13 and 6/11/13			4.4	3.4	9.6	6.7
	9/11/2013			10	11	8.3	7.3
1,2,4-Trimethylbenzene	8/23/2012	NA	125,000	ND	ND	ND	ND
	1/4/2013			ND	ND	ND	ND
	3/20/2013			ND	ND	ND	ND
	6/6/13 and 6/11/14			ND	1	ND	ND
	9/11/2013			ND	ND	0.71	0.63
m/p-Xylene	8/23/2012	2,215,755#	435,000	1.2	0.9	1.1	ND
	1/4/2013			6	6.3	7.1	4.3
	3/20/2013			11	8.7	9.7	8.1
	6/6/13 and 6/11/13			3.2	3.8	2.8	2.2
	9/11/2013			1.1	1.1	1.1	1.1
o-Xylene	8/23/2012	2,215,755#	435,000	0.45	ND	0.45	ND
	1/4/2013			1.3	1.40	1.40	0.88
	3/20/2013			3.5	2.8	3.2	2.70
	6/6/13 and 6/11/13			1.2	1.4	1.1	0.83
	9/11/2013			ND	0.46	0.45	ND

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 PEL's = Occupational Safety and Health Administration Permissible Exposure Limits
 CT DEP= Connecticut Department of 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

Table 3
Indoor Air Monitoring Results
Springfield Street School Complex
Providence, Rhode Island
September 10, 2013

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
E.S. Front office	0.0	648	20.9	0	0	0.0
E.S. Elevator	0.0	774	20.9	0	0	0.0
E.S. Faculty Work Room	0.0	815	20.9	0	0	0.0
E.S. Gym	0.0	810	20.9	0	0	0.0
E.S. Stairway B	0.0	730	20.9	0	0	0.0
E.S. Stairway C	0.0	810	20.9	0	0	0.0
E.S. Library	0.0	795	20.9	0	0	0.0
E.S. Front Stairs	0.0	815	21.0	0	0	0.0
E.S. Cafeteria	0.0	995	20.9	0	0	0.0
E.S. Hall Near Gym	0.0	769	20.9	0	0	0.0

Table 3
Indoor Air Monitoring Notes
Springfield Street School Complex
September 10, 2013

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
M.S. Front Office	0.0	699	20.6	0	0	0.0
M.S. Elevator	0.0	601	20.7	0	0	0.0
M.S. Stairway near Elem. School GS-01	0.0	639	20.7	0	0	0.0
M.S. Near sensor #16 in hall outside cafeteria	0.0	618	20.8	0	0	0.0
M.S. Faculty Work Room	0.0	534	20.7	0	0	0.0
M.S. Sensor #15 Outside Gym	0.0	569	20.8	0	0	0.0
M.S. GS-03 Across from Boys Bathroom	0.0	644	20.6	0	0	0.0
M.S. Second Floor - Library	0.0	868	20.7	0	0	0.0
M.S. Music Room	0.0	628	20.8	0	0	0.0
M.S. Cafeteria	0.0	631	20.7	0	0	0.0

Table 3
Indoor Air Monitoring Notes
Springfield Street School Complex
September 10, 2013

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
M.S. Front Hall near sensor #4	0.0	638	20.7	0	0	0.0
M.S. Hallway across from elevator near sensor #9	0.0	547	20.7	0	0	0.0
M.S. Near sensor GS 06 hallway right end	0.0	679	20.7	0	0	0.0
M.S. stairway near Hartford Ave. sensor GS-7	0.0	721	20.7	0	0	0.0
Remedial Action Work Plan Action Levels	0.5	1,000 ppm (0.1%)	NA	9 ppm	5 ppm	5 ppm

Notes:

E.S. indicates Elementary School, M.S. indicates Middle School

Measurements made with: MiniRae photoionization detector, Fluke 975 Airmeter, Landtec Gem 2000 Plus

PPM = Parts per million

Outdoor conditions: carbon dioxide = 481 ppm temperature = 78 degrees F

Table 5
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
September 10, 2013

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
WB-1	0.0	5.2	12.9	0	0	0.0
WB-2	0.0	2.0	19.2	0	0	0.0
WB-3	0.0	0.0	20.5	0	0	0.0
WB-4	0.0	0.0	20.4	0	0	0.0
WB-5	0.0	0.0	20.6	0	0	0.0
WB-6	0.0	0.0	20.5	0	0	0.0
WB-7 R	0.0	0.8	19.9	0	0	0.0
WB-8	0.0	1.8	19.0	0	0	0.0
WB-12	0.0	3.6	17.7	0	0	0.0
WB-13	0.0	2.8	16.2	0	0	0.0
WB-14	0.0	7.9	8.8	0	0	0.0
WB-15	0.0	5.6	9.8	0	0	0.0
EPL-1	0.0	2.4	19.0	0	0	0.0
EPL-2	0.0	3.4	17.5	0	0	0.0
EPL-3	0.0	4.8	15.3	0	0	0.0
EPL-4	0.0	4.4	16.0	0	0	0.0
EPL-5	0.0	5.8	11.9	0	0	0.0
ENE-1	0.0	6.1	10.9	0	0	0.0

Table 5
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
September 10, 2013

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MG1	0.0	6.2	10.6	0	0	0.0
MG2	0.0	4.2	14.9	0	0	0.0
MG3	0.0	3.9	15.1	0	0	0.0
MG4	0.0	4.1	14.6	0	0	0.0
MG5	0.0	5.7	11.5	0	0	0.0
MPL2	0.0	9.3	6.1	0	0	0.0
MPL3	0.0	12.8	1.0	0	0	0.0
MPL5	0.0	12.4	4.1	0	0	0.0
MPL6	0.0	13.3	5.7	0	0	0.0
MPL7	0.0	8.6	9.7	0	0	0.0
MPL8	0.0	8.9	9.0	0	0	0.0
Remedial Action Work Plan Action Levels	0.5%	0.1% (1,000 PPM)	NA	9 PPM	10 PPM	5 PPM

Sampled by: Andrew DaSilva

Weather Conditions: Cloudy, 78 degrees Fahrenheit

Sampling Equipment: Landtec GEM 2000 Plus, MiniRae 2000 PID

Appendix A

Limitations & 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.

ARCADIS

Appendix B

Laboratory Results

September 19, 2013

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

Project Location: Springfield St., Providence, RI
Client Job Number:
Project Number: WK012152.0007
Laboratory Work Order Number: 13I0428

Enclosed are results of analyses for samples received by the laboratory on September 12, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager



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: 9/19/2013

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0007

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 1310428

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., Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ATC-1	1310428-01	Ground Water		SW-846 8260C	
MW-7	1310428-02	Ground Water		SW-846 8260C	
MW-6	1310428-03	Ground Water		SW-846 8260C	
ATC-4	1310428-04	Ground Water		SW-846 8260C	
MW-8	1310428-05	Ground Water		SW-846 8260C	
Trip Blank	1310428-06	Ground Water		SW-846 8260C	

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:

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:

Acetone

B080970-BS1, B080970-BSD1

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

Analyte & Samples(s) Qualified:

1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene

13I0428-01[ATC-1], 13I0428-02[MW-7], 13I0428-03[MW-6], 13I0428-04[ATC-4], 13I0428-05[MW-8], 13I0428-06[Trip Blank], B080970-BLK1, B080970-BS1, B080970-BSD1

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:

1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromo-3-chloropropane (DBCP), Bromoform, Naphthalene, tert-Butyl Alcohol (TBA), Tetrahydrofuran

13I0428-01[ATC-1], 13I0428-02[MW-7], 13I0428-03[MW-6], 13I0428-04[ATC-4], 13I0428-05[MW-8], 13I0428-06[Trip Blank], B080970-BLK1, B080970-BS1, B080970-BSD1

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane

13I0428-01[ATC-1], 13I0428-02[MW-7], 13I0428-03[MW-6], 13I0428-04[ATC-4], 13I0428-05[MW-8], 13I0428-06[Trip Blank], B080970-BLK1, B080970-BS1, B080970-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.



Michael A. Erickson
Laboratory Director



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

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: ATC-1

Sampled: 9/11/2013 10:00

Sample ID: 1310428-01

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	9/17/13	9/17/13 22:48	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:48	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: ATC-1

Sampled: 9/11/2013 10:00

Sample ID: 1310428-01

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	9/17/13	9/17/13 22:48	LBD
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:48	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Tetrahydrofuran	ND	10	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:48	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	115	70-130	9/17/13 22:48
Toluene-d8	98.4	70-130	9/17/13 22:48
4-Bromofluorobenzene	91.6	70-130	9/17/13 22:48

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: MW-7

Sampled: 9/11/2013 10:30

Sample ID: 1310428-02

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	9/17/13	9/17/13 23:18	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:18	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: MW-7

Sampled: 9/11/2013 10:30

Sample ID: 1310428-02

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	9/17/13	9/17/13 23:18	LBD
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:18	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Tetrahydrofuran	ND	10	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:18	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	113	70-130	9/17/13 23:18
Toluene-d8	97.6	70-130	9/17/13 23:18
4-Bromofluorobenzene	91.6	70-130	9/17/13 23:18



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

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: MW-6

Sampled: 9/11/2013 11:00

Sample ID: 1310428-03

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	9/17/13	9/17/13 23:49	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:49	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Chloroform	2.5	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: MW-6

Sampled: 9/11/2013 11:00

Sample ID: 1310428-03

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	9/17/13	9/17/13 23:49	LBD
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:49	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Tetrahydrofuran	ND	10	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 23:49	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	115	70-130	9/17/13 23:49
Toluene-d8	97.9	70-130	9/17/13 23:49
4-Bromofluorobenzene	94.6	70-130	9/17/13 23:49

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: ATC-4

Sampled: 9/11/2013 12:00

Sample ID: 1310428-04

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	9/17/13	9/18/13 0:19	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:19	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,4-Dichlorobenzene	1.8	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD



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

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: ATC-4

Sampled: 9/11/2013 12:00

Sample ID: 1310428-04

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	9/17/13	9/18/13 0:19	LBD
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:19	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Tetrahydrofuran	ND	10	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:19	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	117	70-130	
Toluene-d8	99.6	70-130	
4-Bromofluorobenzene	94.8	70-130	



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

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: MW-8

Sampled: 9/11/2013 13:10

Sample ID: 1310428-05

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	9/17/13	9/18/13 0:50	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:50	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: MW-8

Sampled: 9/11/2013 13:10

Sample ID: 1310428-05

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	9/17/13	9/18/13 0:50	LBD
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:50	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Tetrahydrofuran	ND	10	µg/L	1	V-05	SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/18/13 0:50	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	114	70-130	
Toluene-d8	97.6	70-130	
4-Bromofluorobenzene	93.2	70-130	

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: Trip Blank

Sampled: 9/11/2013 00:00

Sample ID: 1310428-06

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	9/17/13	9/17/13 22:17	LBD
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Benzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Bromoform	ND	1.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:17	LBD
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD



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

Project Location: Springfield St., Providence, RI

Sample Description:

Work Order: 1310428

Date Received: 9/12/2013

Field Sample #: Trip Blank

Sampled: 9/11/2013 00:00

Sample ID: 1310428-06

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	9/17/13	9/17/13 22:17	LBD
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Naphthalene	ND	2.0	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:17	LBD
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Styrene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Tetrahydrofuran	ND	10	µg/L	1	V-05	SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Toluene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	L-04, V-05	SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	9/17/13	9/17/13 22:17	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	112	70-130	9/17/13 22:17
Toluene-d8	98.1	70-130	9/17/13 22:17
4-Bromofluorobenzene	94.2	70-130	9/17/13 22:17

Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
13I0428-01 [ATC-1]	B080970	5	5.00	09/17/13
13I0428-02 [MW-7]	B080970	5	5.00	09/17/13
13I0428-03 [MW-6]	B080970	5	5.00	09/17/13
13I0428-04 [ATC-4]	B080970	5	5.00	09/17/13
13I0428-05 [MW-8]	B080970	5	5.00	09/17/13
13I0428-06 [Trip Blank]	B080970	5	5.00	09/17/13

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
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Batch B080970 - SW-846 5030B

Blank (B080970-BLK1)

Prepared & Analyzed: 09/17/13

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							V-05
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							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	4.0	µg/L							
Carbon Tetrachloride	ND	5.0	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							V-05
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							V-16
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 tert-Butyl Ether (MTBE)	ND	1.0	µg/L							

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
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Batch B080970 - SW-846 5030B

Blank (B080970-BLK1)

Prepared & Analyzed: 09/17/13

Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							V-05
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							V-05
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							L-04, V-05
1,2,4-Trichlorobenzene	ND	1.0	µg/L							L-04, V-05
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							
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	24.6		µg/L	25.0		98.6	70-130			
Surrogate: 4-Bromofluorobenzene	23.3		µg/L	25.0		93.1	70-130			

LCS (B080970-BS1)

Prepared & Analyzed: 09/17/13

Acetone	214	50	µg/L	100		214 *	70-160			L-02 †
Acrylonitrile	10.9	5.0	µg/L	10.0		109	70-130			
tert-Amyl Methyl Ether (TAME)	9.99	0.50	µg/L	10.0		99.9	70-130			
Benzene	9.89	1.0	µg/L	10.0		98.9	70-130			
Bromobenzene	9.93	1.0	µg/L	10.0		99.3	70-130			
Bromochloromethane	10.2	1.0	µg/L	10.0		102	70-130			
Bromodichloromethane	10.3	0.50	µg/L	10.0		103	70-130			
Bromoform	7.60	1.0	µg/L	10.0		76.0	70-130			V-05
Bromomethane	7.59	2.0	µg/L	10.0		75.9	40-160			†
2-Butanone (MEK)	134	20	µg/L	100		134	40-160			†
tert-Butyl Alcohol (TBA)	79.8	20	µg/L	100		79.8	40-160			V-05 †
n-Butylbenzene	10.6	1.0	µg/L	10.0		106	70-130			
sec-Butylbenzene	10.9	1.0	µg/L	10.0		109	70-130			
tert-Butylbenzene	10.5	1.0	µg/L	10.0		105	70-130			
tert-Butyl Ethyl Ether (TBEE)	10.6	0.50	µg/L	10.0		106	70-130			
Carbon Disulfide	11.0	4.0	µg/L	10.0		110	70-130			
Carbon Tetrachloride	9.87	5.0	µg/L	10.0		98.7	70-130			
Chlorobenzene	9.89	1.0	µg/L	10.0		98.9	70-130			
Chlorodibromomethane	8.48	0.50	µg/L	10.0		84.8	70-130			
Chloroethane	10.9	2.0	µg/L	10.0		109	70-130			
Chloroform	10.4	2.0	µg/L	10.0		104	70-130			
Chloromethane	9.27	2.0	µg/L	10.0		92.7	40-160			†
2-Chlorotoluene	10.3	1.0	µg/L	10.0		103	70-130			

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 B080970 - SW-846 5030B										
LCS (B080970-BS1)										
Prepared & Analyzed: 09/17/13										
4-Chlorotoluene	10.5	1.0	µg/L	10.0		105	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	7.67	5.0	µg/L	10.0		76.7	70-130			V-05
1,2-Dibromoethane (EDB)	9.92	0.50	µg/L	10.0		99.2	70-130			
Dibromomethane	10.3	1.0	µg/L	10.0		103	70-130			
1,2-Dichlorobenzene	9.94	1.0	µg/L	10.0		99.4	70-130			
1,3-Dichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130			
1,4-Dichlorobenzene	10.4	1.0	µg/L	10.0		104	70-130			
trans-1,4-Dichloro-2-butene	7.98	2.0	µg/L	10.0		79.8	70-130			
Dichlorodifluoromethane (Freon 12)	7.97	2.0	µg/L	10.0		79.7	40-160			†
1,1-Dichloroethane	10.3	1.0	µg/L	10.0		103	70-130			
1,2-Dichloroethane	10.8	1.0	µg/L	10.0		108	70-130			
1,1-Dichloroethylene	11.4	1.0	µg/L	10.0		114	70-130			
cis-1,2-Dichloroethylene	10.6	1.0	µg/L	10.0		106	70-130			
trans-1,2-Dichloroethylene	11.7	1.0	µg/L	10.0		117	70-130			
1,2-Dichloropropane	10.4	1.0	µg/L	10.0		104	70-130			
1,3-Dichloropropane	10.1	0.50	µg/L	10.0		101	70-130			
2,2-Dichloropropane	9.76	1.0	µg/L	10.0		97.6	40-130			†
1,1-Dichloropropene	10.4	2.0	µg/L	10.0		104	70-130			
cis-1,3-Dichloropropene	9.52	0.50	µg/L	10.0		95.2	70-130			
trans-1,3-Dichloropropene	12.0	0.50	µg/L	10.0		120	70-130			
Diethyl Ether	10.6	2.0	µg/L	10.0		106	70-130			
Diisopropyl Ether (DIPE)	11.7	0.50	µg/L	10.0		117	70-130			
1,4-Dioxane	93.6	50	µg/L	100		93.6	40-130			V-16 †
Ethylbenzene	10.2	1.0	µg/L	10.0		102	70-130			
Hexachlorobutadiene	10.4	0.50	µg/L	10.0		104	70-130			
2-Hexanone (MBK)	136	10	µg/L	100		136	70-160			†
Isopropylbenzene (Cumene)	10.4	1.0	µg/L	10.0		104	70-130			
p-Isopropyltoluene (p-Cymene)	10.7	1.0	µg/L	10.0		107	70-130			
Methyl tert-Butyl Ether (MTBE)	10.9	1.0	µg/L	10.0		109	70-130			
Methylene Chloride	12.5	5.0	µg/L	10.0		125	70-130			
4-Methyl-2-pentanone (MIBK)	107	10	µg/L	100		107	70-160			†
Naphthalene	6.75	2.0	µg/L	10.0		67.5	40-130			V-05 †
n-Propylbenzene	10.7	1.0	µg/L	10.0		107	70-130			
Styrene	10.4	1.0	µg/L	10.0		104	70-130			
1,1,1,2-Tetrachloroethane	10.1	1.0	µg/L	10.0		101	70-130			
1,1,2,2-Tetrachloroethane	9.21	0.50	µg/L	10.0		92.1	70-130			
Tetrachloroethylene	10.6	1.0	µg/L	10.0		106	70-130			
Tetrahydrofuran	9.51	10	µg/L	10.0		95.1	70-130			V-05
Toluene	9.97	1.0	µg/L	10.0		99.7	70-130			
1,2,3-Trichlorobenzene	6.78	5.0	µg/L	10.0		67.8	* 70-130			L-04, V-05
1,2,4-Trichlorobenzene	6.69	1.0	µg/L	10.0		66.9	* 70-130			L-04, V-05
1,3,5-Trichlorobenzene	10.0	1.0	µg/L	10.0		100	70-130			
1,1,1-Trichloroethane	10.0	1.0	µg/L	10.0		100	70-130			
1,1,2-Trichloroethane	9.96	1.0	µg/L	10.0		99.6	70-130			
Trichloroethylene	10.1	1.0	µg/L	10.0		101	70-130			
Trichlorofluoromethane (Freon 11)	10.9	2.0	µg/L	10.0		109	70-130			
1,2,3-Trichloropropane	9.73	2.0	µg/L	10.0		97.3	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11.1	1.0	µg/L	10.0		111	70-130			
1,2,4-Trimethylbenzene	11.1	1.0	µg/L	10.0		111	70-130			
1,3,5-Trimethylbenzene	10.6	1.0	µg/L	10.0		106	70-130			
Vinyl Chloride	9.29	2.0	µg/L	10.0		92.9	40-160			†

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
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Batch B080970 - SW-846 5030B

LCS (B080970-BS1)

Prepared & Analyzed: 09/17/13

m+p Xylene	21.6	2.0	µg/L	20.0		108	70-130			
o-Xylene	10.6	1.0	µg/L	10.0		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	26.7		µg/L	25.0		107	70-130			
Surrogate: Toluene-d8	25.3		µg/L	25.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	24.6		µg/L	25.0		98.6	70-130			

LCS Dup (B080970-BSD1)

Prepared & Analyzed: 09/17/13

Acetone	202	50	µg/L	100		202 *	70-160	5.75	25	L-02 †
Acrylonitrile	10.5	5.0	µg/L	10.0		105	70-130	3.64	25	
tert-Amyl Methyl Ether (TAME)	9.95	0.50	µg/L	10.0		99.5	70-130	0.401	25	
Benzene	9.85	1.0	µg/L	10.0		98.5	70-130	0.405	25	
Bromobenzene	9.83	1.0	µg/L	10.0		98.3	70-130	1.01	25	
Bromochloromethane	10.4	1.0	µg/L	10.0		104	70-130	2.34	25	
Bromodichloromethane	10.2	0.50	µg/L	10.0		102	70-130	1.47	25	
Bromoform	7.43	1.0	µg/L	10.0		74.3	70-130	2.26	25	V-05
Bromomethane	9.16	2.0	µg/L	10.0		91.6	40-160	18.7	25	†
2-Butanone (MEK)	123	20	µg/L	100		123	40-160	8.75	25	†
tert-Butyl Alcohol (TBA)	68.3	20	µg/L	100		68.3	40-160	15.6	25	V-05 †
n-Butylbenzene	10.4	1.0	µg/L	10.0		104	70-130	2.20	25	
sec-Butylbenzene	10.7	1.0	µg/L	10.0		107	70-130	2.13	25	
tert-Butylbenzene	10.4	1.0	µg/L	10.0		104	70-130	1.53	25	
tert-Butyl Ethyl Ether (TBEE)	10.6	0.50	µg/L	10.0		106	70-130	0.284	25	
Carbon Disulfide	10.6	4.0	µg/L	10.0		106	70-130	3.53	25	
Carbon Tetrachloride	9.88	5.0	µg/L	10.0		98.8	70-130	0.101	25	
Chlorobenzene	9.82	1.0	µg/L	10.0		98.2	70-130	0.710	25	
Chlorodibromomethane	8.00	0.50	µg/L	10.0		80.0	70-130	5.83	25	
Chloroethane	10.6	2.0	µg/L	10.0		106	70-130	2.88	25	
Chloroform	10.4	2.0	µg/L	10.0		104	70-130	0.768	25	
Chloromethane	9.55	2.0	µg/L	10.0		95.5	40-160	2.98	25	†
2-Chlorotoluene	10.1	1.0	µg/L	10.0		101	70-130	1.47	25	
4-Chlorotoluene	10.5	1.0	µg/L	10.0		105	70-130	0.0949	25	
1,2-Dibromo-3-chloropropane (DBCP)	7.17	5.0	µg/L	10.0		71.7	70-130	6.74	25	V-05
1,2-Dibromoethane (EDB)	9.64	0.50	µg/L	10.0		96.4	70-130	2.86	25	
Dibromomethane	9.93	1.0	µg/L	10.0		99.3	70-130	3.46	25	
1,2-Dichlorobenzene	10.0	1.0	µg/L	10.0		100	70-130	0.702	25	
1,3-Dichlorobenzene	9.97	1.0	µg/L	10.0		99.7	70-130	2.08	25	
1,4-Dichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130	2.82	25	
trans-1,4-Dichloro-2-butene	7.12	2.0	µg/L	10.0		71.2	70-130	11.4	25	
Dichlorodifluoromethane (Freon 12)	7.76	2.0	µg/L	10.0		77.6	40-160	2.67	25	†
1,1-Dichloroethane	10.4	1.0	µg/L	10.0		104	70-130	0.580	25	
1,2-Dichloroethane	10.3	1.0	µg/L	10.0		103	70-130	4.57	25	
1,1-Dichloroethylene	11.1	1.0	µg/L	10.0		111	70-130	2.23	25	
cis-1,2-Dichloroethylene	10.4	1.0	µg/L	10.0		104	70-130	1.61	25	
trans-1,2-Dichloroethylene	11.8	1.0	µg/L	10.0		118	70-130	0.680	25	
1,2-Dichloropropane	9.84	1.0	µg/L	10.0		98.4	70-130	5.15	25	
1,3-Dichloropropane	9.89	0.50	µg/L	10.0		98.9	70-130	1.70	25	
2,2-Dichloropropane	9.42	1.0	µg/L	10.0		94.2	40-130	3.55	25	†
1,1-Dichloropropene	10.4	2.0	µg/L	10.0		104	70-130	0.289	25	
cis-1,3-Dichloropropene	9.20	0.50	µg/L	10.0		92.0	70-130	3.42	25	
trans-1,3-Dichloropropene	11.8	0.50	µg/L	10.0		118	70-130	2.10	25	
Diethyl Ether	10.2	2.0	µg/L	10.0		102	70-130	4.03	25	
Diisopropyl Ether (DIPE)	11.8	0.50	µg/L	10.0		118	70-130	0.768	25	

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 B080970 - SW-846 5030B										
LCS Dup (B080970-BSD1)										
					Prepared & Analyzed: 09/17/13					
1,4-Dioxane	90.6	50	µg/L	100		90.6	40-130	3.27	50	V-16 † ‡
Ethylbenzene	10.2	1.0	µg/L	10.0		102	70-130	0.0977	25	
Hexachlorobutadiene	9.99	0.50	µg/L	10.0		99.9	70-130	4.02	25	
2-Hexanone (MBK)	123	10	µg/L	100		123	70-160	10.6	25	†
Isopropylbenzene (Cumene)	10.3	1.0	µg/L	10.0		103	70-130	0.484	25	
p-Isopropyltoluene (p-Cymene)	10.5	1.0	µg/L	10.0		105	70-130	2.08	25	
Methyl tert-Butyl Ether (MTBE)	10.8	1.0	µg/L	10.0		108	70-130	1.01	25	
Methylene Chloride	12.6	5.0	µg/L	10.0		126	70-130	0.558	25	
4-Methyl-2-pentanone (MIBK)	95.9	10	µg/L	100		95.9	70-160	10.6	25	†
Naphthalene	5.99	2.0	µg/L	10.0		59.9	40-130	11.9	25	V-05 †
n-Propylbenzene	10.5	1.0	µg/L	10.0		105	70-130	1.61	25	
Styrene	10.3	1.0	µg/L	10.0		103	70-130	1.25	25	
1,1,1,2-Tetrachloroethane	10.1	1.0	µg/L	10.0		101	70-130	0.396	25	
1,1,2,2-Tetrachloroethane	8.59	0.50	µg/L	10.0		85.9	70-130	6.97	25	
Tetrachloroethylene	10.0	1.0	µg/L	10.0		100	70-130	5.91	25	
Tetrahydrofuran	9.09	10	µg/L	10.0		90.9	70-130	4.52	25	V-05
Toluene	9.66	1.0	µg/L	10.0		96.6	70-130	3.16	25	
1,2,3-Trichlorobenzene	5.64	5.0	µg/L	10.0		56.4 *	70-130	18.4	25	L-04, V-05
1,2,4-Trichlorobenzene	5.97	1.0	µg/L	10.0		59.7 *	70-130	11.4	25	L-04, V-05
1,3,5-Trichlorobenzene	9.57	1.0	µg/L	10.0		95.7	70-130	4.79	25	
1,1,1-Trichloroethane	10.1	1.0	µg/L	10.0		101	70-130	0.595	25	
1,1,2-Trichloroethane	9.50	1.0	µg/L	10.0		95.0	70-130	4.73	25	
Trichloroethylene	9.88	1.0	µg/L	10.0		98.8	70-130	2.20	25	
Trichlorofluoromethane (Freon 11)	10.5	2.0	µg/L	10.0		105	70-130	4.01	25	
1,2,3-Trichloropropane	9.33	2.0	µg/L	10.0		93.3	70-130	4.20	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.9	1.0	µg/L	10.0		109	70-130	2.00	25	
1,2,4-Trimethylbenzene	11.0	1.0	µg/L	10.0		110	70-130	1.17	25	
1,3,5-Trimethylbenzene	10.6	1.0	µg/L	10.0		106	70-130	0.00	25	
Vinyl Chloride	8.85	2.0	µg/L	10.0		88.5	40-160	4.85	25	†
m+p Xylene	21.2	2.0	µg/L	20.0		106	70-130	2.05	25	
o-Xylene	10.5	1.0	µg/L	10.0		105	70-130	0.379	25	
Surrogate: 1,2-Dichloroethane-d4	26.4		µg/L	25.0		105	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		99.0	70-130			
Surrogate: 4-Bromofluorobenzene	24.7		µg/L	25.0		98.6	70-130			

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
- 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-02 Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
 - L-04 Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low 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-16 Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260C in Water</i>	
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	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2014



CON-test
ANALYTICAL LABORATORY

Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

1310428

39 Spruce Street
East Longmeadow, MA 01028

Page 1 of 1

Company Name: ARCADIS Telephone: 401-738-3887

Address: 300 Metro Center Blvd. Warwick, RI 02886 Project # WK012152.0009

Attention: Donna Pallister Client PO# _____

Project Location: Springfield St. Providence, RI

Sampled By: A. Dasilva Email: donna.pallister@arcadis-us.com

Project Proposal Provided? (for billing purposes)
 Yes No proposal date _____

Con-Test Lab ID _____ Client Sample ID / Description _____

Con-Test Lab ID <small>(Reference use only)</small>	Client Sample ID / Description	Collection		Composite	Grab	*Matrix Code	*Matrix Conc.	*Matrix Units	# of Containers	** Preservation	*** Container Co	Dissolved Metals <input type="radio"/> Field Filtered <input type="radio"/> Lab to Filter
		Beginning Date/Time	Ending Date/Time									
O1	ATC-1	9/11/13	8:1000		X	GW			X			
O2	MU-7		10:30		X	GW			X			
O3	MU-6		11:00		X	GW			X			
O4	ATC-4		12:00		X	GW			X			
O5	MU-8		13:10		X	GW			X			
O6	Trip Blank					GW						

Comments: _____

Relinquished by (signature) (to ref) 9.11.13 Date/Time: 1600

Received by (signature) W. Valya 9.19.13 Date/Time: 1835

Relinquished by (signature) S. Gyl 9.2.13 Date/Time: 1800

Received by (signature) S. Gyl 9.12.13 Date/Time: 1800

Turnaround 7-Day 10-Day Other STP

DATA DELIVERY (check all that apply)
 FAX EMAIL WEBSITE

Format: PDF EXCEL OGIS
 OTHER

Detection Limit Requirements: _____

ANALYSIS REQUESTED

8260 VOL'S

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

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

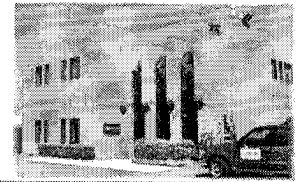
Preservation:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulf
X = Na hydroxide
T = Na thiosulfate
O = Other

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

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

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

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



Sample Receipt Checklist

CLIENT NAME: Arcadis RECEIVED BY: KOB DATE: 9-12-13

- 1) Was the chain(s) of custody relinquished and signed? (Yes) No No CoC Included
- 2) Does the chain agree with the samples? (Yes) No
 If not, explain: _____
- 3) Are all the samples in good condition? (Yes) No
 If not, explain: _____

4) How were the samples received:
 On Ice Direct from Sampling Ambient In Cooler(s)
 Were the samples received in Temperature Compliance of (2-6°C)? (Yes) No N/A
 Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.4°

- 5) Are there Dissolved samples for the lab to filter? Yes (No)
 Who was notified _____ Date _____ Time _____
- 6) Are there any RUSH or SHORT HOLDING TIME samples? Yes (No)
 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)
- 9) Do all samples have the proper Base pH: Yes No (N/A)
- 10) Was the PC notified of any discrepancies with the CoC vs the samples: Yes No (N/A)

Containers received at Con-Test			
	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below	<u>18</u>	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments: _____

40 mL vials: # HCl 18 # Methanol _____
 # Bisulfate _____ # DI Water _____
 # Thiosulfate _____

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**

<u>Question</u>	<u>Answer (True/False)</u>		<u>Comment</u>
	T/F/NA		
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 requested analyses, including any requested MS/MSDs.	T		
19) Trip blanks provided if applicable.	T		
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		

Doc #277 Rev. 4 August 2013

Who notified of False statements?

Log-In Technician Initials: **KOB**

Date/Time:

Date/Time: **9-12-13 1800**

September 19, 2013

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: WK012152.0009
Laboratory Work Order Number: 13I0457

Enclosed are results of analyses for samples received by the laboratory on September 13, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager



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: 9/19/2013

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0009

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 1310457

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	1310457-01	Sub Slab		EPA TO-14A	
ES #2	1310457-02	Sub Slab		EPA TO-14A	
MS Back	1310457-03	Sub Slab		EPA TO-14A	
MS Front	1310457-04	Sub Slab		EPA TO-14A	

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:

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

Analyte & Samples(s) Qualified:

1310457-01[ES #1], 1310457-02[ES #2], 1310457-03[MS Back], 1310457-04[MS Front]

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.



Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 9/13/2013
Field Sample #: ES #1
Sample ID: 1310457-01
 Sample Matrix: Sub Slab
 Sampled: 9/11/2013 13:45

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

Work Order: 1310457
 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		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Benzene	0.15	0.10		0.49	0.32	2	9/14/13	10:12	TPH
Bromomethane	ND	0.10		ND	0.39	2	9/14/13	10:12	TPH
Carbon Tetrachloride	ND	0.10		ND	0.63	2	9/14/13	10:12	TPH
Chlorobenzene	ND	0.10		ND	0.46	2	9/14/13	10:12	TPH
Chloroethane	ND	0.10		ND	0.26	2	9/14/13	10:12	TPH
Chloroform	0.40	0.10		1.9	0.49	2	9/14/13	10:12	TPH
Chloromethane	ND	0.20		ND	0.41	2	9/14/13	10:12	TPH
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	9/14/13	10:12	TPH
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13	10:12	TPH
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13	10:12	TPH
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13	10:12	TPH
Dichlorodifluoromethane (Freon 12)	0.74	0.10		3.6	0.49	2	9/14/13	10:12	TPH
1,1-Dichloroethane	ND	0.10		ND	0.40	2	9/14/13	10:12	TPH
1,2-Dichloroethane	ND	0.10		ND	0.40	2	9/14/13	10:12	TPH
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	9/14/13	10:12	TPH
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	9/14/13	10:12	TPH
1,2-Dichloropropane	ND	0.10		ND	0.46	2	9/14/13	10:12	TPH
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	9/14/13	10:12	TPH
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	9/14/13	10:12	TPH
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.29	0.10		2.0	0.70	2	9/14/13	10:12	TPH
Ethylbenzene	ND	0.10		ND	0.43	2	9/14/13	10:12	TPH
Hexachlorobutadiene	ND	0.10		ND	1.1	2	9/14/13	10:12	TPH
Methylene Chloride	10	1.0		35	3.5	2	9/14/13	10:12	TPH
Styrene	0.21	0.10		0.89	0.43	2	9/14/13	10:12	TPH
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	9/14/13	10:12	TPH
Tetrachloroethylene	1.2	0.10		7.9	0.68	2	9/14/13	10:12	TPH
Toluene	1.1	0.10		4.1	0.38	2	9/14/13	10:12	TPH
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	9/14/13	10:12	TPH
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	9/14/13	10:12	TPH
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	9/14/13	10:12	TPH
Trichloroethylene	0.35	0.10		1.9	0.54	2	9/14/13	10:12	TPH
Trichlorofluoromethane (Freon 11)	1.5	0.10		8.3	0.56	2	9/14/13	10:12	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	9/14/13	10:12	TPH
1,2,4-Trimethylbenzene	0.14	0.10		0.71	0.49	2	9/14/13	10:12	TPH
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	9/14/13	10:12	TPH
Vinyl Chloride	ND	0.10		ND	0.26	2	9/14/13	10:12	TPH
m&p-Xylene	0.26	0.20		1.1	0.87	2	9/14/13	10:12	TPH

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 9/13/2013
Field Sample #: ES #1
Sample ID: 1310457-01
 Sample Matrix: Sub Slab
 Sampled: 9/11/2013 13:45

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

Work Order: 1310457
 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		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	0.10	0.10		0.45	0.43	2	9/14/13	10:12	TPH

Surrogates	% Recovery		% REC Limits		Date/Time	
4-Bromofluorobenzene (1)	88.3		70-130		9/14/13	10:12

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 9/13/2013
Field Sample #: ES #2
Sample ID: 1310457-02
 Sample Matrix: Sub Slab
 Sampled: 9/11/2013 13:45

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

Work Order: 1310457
 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		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Benzene	0.14	0.10		0.43	0.32	2	9/14/13 10:51	TPH	
Bromomethane	ND	0.10		ND	0.39	2	9/14/13 10:51	TPH	
Carbon Tetrachloride	ND	0.10		ND	0.63	2	9/14/13 10:51	TPH	
Chlorobenzene	ND	0.10		ND	0.46	2	9/14/13 10:51	TPH	
Chloroethane	ND	0.10		ND	0.26	2	9/14/13 10:51	TPH	
Chloroform	0.44	0.10		2.1	0.49	2	9/14/13 10:51	TPH	
Chloromethane	ND	0.20		ND	0.41	2	9/14/13 10:51	TPH	
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	9/14/13 10:51	TPH	
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 10:51	TPH	
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 10:51	TPH	
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 10:51	TPH	
Dichlorodifluoromethane (Freon 12)	0.78	0.10		3.9	0.49	2	9/14/13 10:51	TPH	
1,1-Dichloroethane	ND	0.10		ND	0.40	2	9/14/13 10:51	TPH	
1,2-Dichloroethane	ND	0.10		ND	0.40	2	9/14/13 10:51	TPH	
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	9/14/13 10:51	TPH	
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	9/14/13 10:51	TPH	
1,2-Dichloropropane	ND	0.10		ND	0.46	2	9/14/13 10:51	TPH	
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	9/14/13 10:51	TPH	
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	9/14/13 10:51	TPH	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.31	0.10		2.2	0.70	2	9/14/13 10:51	TPH	
Ethylbenzene	ND	0.10		ND	0.43	2	9/14/13 10:51	TPH	
Hexachlorobutadiene	ND	0.10		ND	1.1	2	9/14/13 10:51	TPH	
Methylene Chloride	8.4	1.0		29	3.5	2	9/14/13 10:51	TPH	
Styrene	0.23	0.10		0.97	0.43	2	9/14/13 10:51	TPH	
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	9/14/13 10:51	TPH	
Tetrachloroethylene	1.1	0.10		7.4	0.68	2	9/14/13 10:51	TPH	
Toluene	1.0	0.10		3.9	0.38	2	9/14/13 10:51	TPH	
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	9/14/13 10:51	TPH	
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	9/14/13 10:51	TPH	
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	9/14/13 10:51	TPH	
Trichloroethylene	0.31	0.10		1.6	0.54	2	9/14/13 10:51	TPH	
Trichlorofluoromethane (Freon 11)	1.3	0.10		7.3	0.56	2	9/14/13 10:51	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	9/14/13 10:51	TPH	
1,2,4-Trimethylbenzene	0.13	0.10		0.63	0.49	2	9/14/13 10:51	TPH	
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	9/14/13 10:51	TPH	
Vinyl Chloride	ND	0.10		ND	0.26	2	9/14/13 10:51	TPH	
m&p-Xylene	0.24	0.20		1.1	0.87	2	9/14/13 10:51	TPH	

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 9/13/2013
Field Sample #: ES #2
Sample ID: 1310457-02
 Sample Matrix: Sub Slab
 Sampled: 9/11/2013 13:45

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

Work Order: 1310457
 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		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	ND	0.10		ND	0.43	2	9/14/13	10:51	TPH

Surrogates	% Recovery		% REC Limits		Date/Time	
4-Bromofluorobenzene (1)	91.1		70-130		9/14/13	10:51

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 9/13/2013
Field Sample #: MS Back
Sample ID: 1310457-03
 Sample Matrix: Sub Slab
 Sampled: 9/11/2013 14:10

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

Work Order: 1310457
 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		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Benzene	0.16	0.10		0.51	0.32	2	9/14/13 11:29	TPH	
Bromomethane	ND	0.10		ND	0.39	2	9/14/13 11:29	TPH	
Carbon Tetrachloride	ND	0.10		ND	0.63	2	9/14/13 11:29	TPH	
Chlorobenzene	ND	0.10		ND	0.46	2	9/14/13 11:29	TPH	
Chloroethane	ND	0.10		ND	0.26	2	9/14/13 11:29	TPH	
Chloroform	0.26	0.10		1.3	0.49	2	9/14/13 11:29	TPH	
Chloromethane	ND	0.20		ND	0.41	2	9/14/13 11:29	TPH	
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	9/14/13 11:29	TPH	
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 11:29	TPH	
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 11:29	TPH	
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 11:29	TPH	
Dichlorodifluoromethane (Freon 12)	2.1	0.10		10	0.49	2	9/14/13 11:29	TPH	
1,1-Dichloroethane	ND	0.10		ND	0.40	2	9/14/13 11:29	TPH	
1,2-Dichloroethane	ND	0.10		ND	0.40	2	9/14/13 11:29	TPH	
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	9/14/13 11:29	TPH	
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	9/14/13 11:29	TPH	
1,2-Dichloropropane	ND	0.10		ND	0.46	2	9/14/13 11:29	TPH	
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	9/14/13 11:29	TPH	
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	9/14/13 11:29	TPH	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	2.3	0.10		16	0.70	2	9/14/13 11:29	TPH	
Ethylbenzene	ND	0.10		ND	0.43	2	9/14/13 11:29	TPH	
Hexachlorobutadiene	ND	0.10		ND	1.1	2	9/14/13 11:29	TPH	
Methylene Chloride	9.8	1.0		34	3.5	2	9/14/13 11:29	TPH	
Styrene	0.19	0.10		0.82	0.43	2	9/14/13 11:29	TPH	
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	9/14/13 11:29	TPH	
Tetrachloroethylene	1.2	0.10		8.2	0.68	2	9/14/13 11:29	TPH	
Toluene	1.0	0.10		3.8	0.38	2	9/14/13 11:29	TPH	
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	9/14/13 11:29	TPH	
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	9/14/13 11:29	TPH	
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	9/14/13 11:29	TPH	
Trichloroethylene	0.38	0.10		2.1	0.54	2	9/14/13 11:29	TPH	
Trichlorofluoromethane (Freon 11)	1.8	0.10		10	0.56	2	9/14/13 11:29	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	9/14/13 11:29	TPH	
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	9/14/13 11:29	TPH	
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	9/14/13 11:29	TPH	
Vinyl Chloride	ND	0.10		ND	0.26	2	9/14/13 11:29	TPH	
m&p-Xylene	0.26	0.20		1.1	0.87	2	9/14/13 11:29	TPH	

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 9/13/2013
Field Sample #: MS Back
Sample ID: 1310457-03
 Sample Matrix: Sub Slab
 Sampled: 9/11/2013 14:10

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

Work Order: 1310457
 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		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	ND	0.10		ND	0.43	2	9/14/13	11:29	TPH
Surrogates	% Recovery			% REC Limits					
4-Bromofluorobenzene (1)		93.1			70-130		9/14/13	11:29	

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 9/13/2013
Field Sample #: MS Front
Sample ID: 1310457-04
 Sample Matrix: Sub Slab
 Sampled: 9/11/2013 14:30

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

Work Order: 1310457
 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		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Benzene	0.15	0.10		0.47	0.32	2	9/14/13 12:07	TPH	
Bromomethane	ND	0.10		ND	0.39	2	9/14/13 12:07	TPH	
Carbon Tetrachloride	ND	0.10		ND	0.63	2	9/14/13 12:07	TPH	
Chlorobenzene	ND	0.10		ND	0.46	2	9/14/13 12:07	TPH	
Chloroethane	ND	0.10		ND	0.26	2	9/14/13 12:07	TPH	
Chloroform	ND	0.10		ND	0.49	2	9/14/13 12:07	TPH	
Chloromethane	ND	0.20		ND	0.41	2	9/14/13 12:07	TPH	
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	9/14/13 12:07	TPH	
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 12:07	TPH	
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 12:07	TPH	
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	9/14/13 12:07	TPH	
Dichlorodifluoromethane (Freon 12)	0.93	0.10		4.6	0.49	2	9/14/13 12:07	TPH	
1,1-Dichloroethane	ND	0.10		ND	0.40	2	9/14/13 12:07	TPH	
1,2-Dichloroethane	ND	0.10		ND	0.40	2	9/14/13 12:07	TPH	
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	9/14/13 12:07	TPH	
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	9/14/13 12:07	TPH	
1,2-Dichloropropane	ND	0.10		ND	0.46	2	9/14/13 12:07	TPH	
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	9/14/13 12:07	TPH	
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	9/14/13 12:07	TPH	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.87	0.10		6.1	0.70	2	9/14/13 12:07	TPH	
Ethylbenzene	ND	0.10		ND	0.43	2	9/14/13 12:07	TPH	
Hexachlorobutadiene	ND	0.10		ND	1.1	2	9/14/13 12:07	TPH	
Methylene Chloride	9.2	1.0		32	3.5	2	9/14/13 12:07	TPH	
Styrene	0.22	0.10		0.95	0.43	2	9/14/13 12:07	TPH	
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	9/14/13 12:07	TPH	
Tetrachloroethylene	0.81	0.10		5.5	0.68	2	9/14/13 12:07	TPH	
Toluene	1.1	0.10		4.3	0.38	2	9/14/13 12:07	TPH	
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	9/14/13 12:07	TPH	
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	9/14/13 12:07	TPH	
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	9/14/13 12:07	TPH	
Trichloroethylene	0.26	0.10		1.4	0.54	2	9/14/13 12:07	TPH	
Trichlorofluoromethane (Freon 11)	1.9	0.10		11	0.56	2	9/14/13 12:07	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	9/14/13 12:07	TPH	
1,2,4-Trimethylbenzene	ND	0.10		ND	0.49	2	9/14/13 12:07	TPH	
1,3,5-Trimethylbenzene	ND	0.10		ND	0.49	2	9/14/13 12:07	TPH	
Vinyl Chloride	ND	0.10		ND	0.26	2	9/14/13 12:07	TPH	
m&p-Xylene	0.25	0.20		1.1	0.87	2	9/14/13 12:07	TPH	

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 9/13/2013
Field Sample #: MS Front
Sample ID: 1310457-04
 Sample Matrix: Sub Slab
 Sampled: 9/11/2013 14:30

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

Work Order: 1310457
 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		Flag/Qual	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	0.11	0.10		0.46	0.43	2	9/14/13	12:07	TPH

Surrogates	% Recovery		% REC Limits		Date/Time	
4-Bromofluorobenzene (1)	96.3		70-130		9/14/13 12:07	

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
1310457-01 [ES #1]	B080895	1	1	N/A	1000	400	200	09/13/13
1310457-02 [ES #2]	B080895	1	1	N/A	1000	400	200	09/13/13
1310457-03 [MS Back]	B080895	1	1	N/A	1000	400	200	09/13/13
1310457-04 [MS Front]	B080895	1	1	N/A	1000	400	200	09/13/13

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	
Batch B080895 - TO-15 Prep											
Blank (B080895-BLK1)						Prepared & Analyzed: 09/13/13					
Benzene	ND	0.025									
Bromomethane	ND	0.025									
Carbon Tetrachloride	ND	0.025									
Chlorobenzene	ND	0.025									
Chloroethane	ND	0.025									
Chloroform	ND	0.025									
Chloromethane	ND	0.050									
1,2-Dibromoethane (EDB)	ND	0.025									
1,2-Dichlorobenzene	ND	0.025									
1,3-Dichlorobenzene	ND	0.025									
1,4-Dichlorobenzene	ND	0.025									
Dichlorodifluoromethane (Freon 12)	ND	0.025									
1,1-Dichloroethane	ND	0.025									
1,2-Dichloroethane	ND	0.025									
1,1-Dichloroethylene	ND	0.025									
cis-1,2-Dichloroethylene	ND	0.025									
1,2-Dichloropropane	ND	0.025									
cis-1,3-Dichloropropene	ND	0.025									
trans-1,3-Dichloropropene	ND	0.025									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025									
Ethylbenzene	ND	0.025									
Hexachlorobutadiene	ND	0.025									
Methylene Chloride	ND	0.25									
Styrene	ND	0.025									
1,1,1,2-Tetrachloroethane	ND	0.025									
Tetrachloroethylene	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.025									
1,1,2-Trichloroethane	ND	0.025									
Trichloroethylene	ND	0.025									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Chloride	ND	0.025									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
Surrogate: 4-Bromofluorobenzene (1)	7.19				8.00		89.9	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag/Qual
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B080895 - TO-15 Prep											
LCS (B080895-BS1)											
Prepared & Analyzed: 09/13/13											
Benzene	4.81				5.00		96.2	70-130			
Bromomethane	5.10				5.00		102	70-130			
Carbon Tetrachloride	4.99				5.00		99.8	70-130			
Chlorobenzene	5.17				5.00		103	70-130			
Chloroethane	4.88				5.00		97.6	70-130			
Chloroform	5.17				5.00		103	70-130			
Chloromethane	4.58				5.00		91.5	70-130			
1,2-Dibromoethane (EDB)	5.21				5.00		104	70-130			
1,2-Dichlorobenzene	4.86				5.00		97.3	70-130			
1,3-Dichlorobenzene	5.03				5.00		101	70-130			
1,4-Dichlorobenzene	4.87				5.00		97.3	70-130			
Dichlorodifluoromethane (Freon 12)	4.93				5.00		98.6	70-130			
1,1-Dichloroethane	4.97				5.00		99.4	70-130			
1,2-Dichloroethane	5.09				5.00		102	70-130			
1,1-Dichloroethylene	4.50				5.00		90.0	70-130			
cis-1,2-Dichloroethylene	5.18				5.00		104	70-130			
1,2-Dichloropropane	4.92				5.00		98.3	70-130			
cis-1,3-Dichloropropene	4.92				5.00		98.3	70-130			
trans-1,3-Dichloropropene	4.99				5.00		99.8	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	5.01				5.00		100	70-130			
Ethylbenzene	5.06				5.00		101	70-130			
Hexachlorobutadiene	4.04				5.00		80.8	70-130			
Methylene Chloride	4.35				5.00		87.0	70-130			
Styrene	5.06				5.00		101	70-130			
1,1,1,2-Tetrachloroethane	5.17				5.00		103	70-130			
Tetrachloroethylene	5.08				5.00		102	70-130			
Toluene	5.18				5.00		104	70-130			
1,2,4-Trichlorobenzene	4.32				5.00		86.5	70-130			
1,1,1-Trichloroethane	4.82				5.00		96.3	70-130			
1,1,2-Trichloroethane	5.29				5.00		106	70-130			
Trichloroethylene	5.09				5.00		102	70-130			
Trichlorofluoromethane (Freon 11)	5.00				5.00		99.9	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.55				5.00		90.9	70-130			
1,2,4-Trimethylbenzene	4.90				5.00		98.1	70-130			
1,3,5-Trimethylbenzene	5.02				5.00		100	70-130			
Vinyl Chloride	4.92				5.00		98.4	70-130			
m&p-Xylene	10.4				10.0		104	70-130			
o-Xylene	5.20				5.00		104	70-130			
Surrogate: 4-Bromofluorobenzene (1)	7.58				8.00		94.8	70-130			

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
- 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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>EPA TO-14A in Air</i>	
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

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2014
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2014
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2014
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2014



Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com

AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST
EAST LONGMEADOW, MA 01028

Company Name: ARCADIS

Address: 300 Metro Center Blvd, Warwick, RI 02886

Attention: Donna Pallister

Project Location: Springfield St., Providence, RI

Sampled By: A. Dasilva

Telephone: (401) 738 3887

Project # WK012152.0009

Client PO #

www.contestlabs.com

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #:

Email: donna.pallister@arcadis-us.com

Format: EXCEL PDF GIS KEY OTHER

Field ID	Sample Description	Media	Lab #	Date	Beta Time	Total Minutes Sampled	Flow Rate M ³ /Min. or L/Min.	Volume Liters or M ³	Matrix Code*
	ES #1	TB	-01	9/11/13	1345	-			SS X
	ES #2	TB	-02	9/11/13	1345	-			SS X
	MS Back	TB	-03	9/11/13	1410	-			SS X
	MS Front	TB	-04	9/11/13	1430	-			SS X

Proposal Provided? (For Billing purposes)
 yes no

Turnaround **
 7-Day
 10-Day
 Other: SRP
 RUSH *
 *24-Hr *48-Hr
 *72-Hr *4-Day
 *Approval Required

Regulations:
 Data Enhancement/RCP? Y N
 Enhanced Data Package Y N
 (Surcharge Applies)
 Required Detection Limits: _____
 Other: _____

*Matrix Code:
 SG= SOIL GAS
 IA= INDOOR AIR
 AMB= AMBIENT
 SS= SUB SLAB
 D= DUP
 BL= BLANK
 O= other

**Media Codes:
 S= summa can
 TB= tedar bag
 P= PUF
 T= tube
 F= filter
 C= cassette
 O= Other

CLIENT COMMENTS:

Special Requirements

ANALYSIS REQUESTED

Hg

PLEASE FILL OUT COMPLETELY, SIGN, DATE and retain the yellow copy for your record. Summa canisters are returned within 14 days of receipt or rental will apply. Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.

Summa Canister ID: _____

Flow Control ID: _____



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

AIR Only Receipt Checklist

CLIENT NAME: Arcadis RECEIVED BY: KOB DATE: 9-12-13

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 2) Does the chain agree with the samples?
 If not, explain: Yes No
- 3) Are all the samples in good condition?
 If not, explain: Yes No
- 4) Are there any samples "On Hold"? Yes No Stored where:
- 5) Are there any RUSH or SHORT HOLDING TIME samples?
 Who was notified _____ Date _____ Time _____ Yes No

6) Location where samples are stored: Air Lab
 Permission to subcontract samples? Yes No
 (Walk-in clients only) if not already approved
 Client Signature: _____

7) Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.4°

Containers received at Con-Test		
	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)		
Tedlar Bags	4	
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)		Comment
	T	F/NA	
1) The cooler's custody seal, if present, is intact.	T		
2) The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	F	NA	
4) Cooler Temperature is acceptable.	F	NA	
5) Cooler Temperature is recorded.	F	NA	
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.	F	NA	
18) There is sufficient volume for all requested 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.		NA	
21) Samples do not require splitting or compositing.	T		

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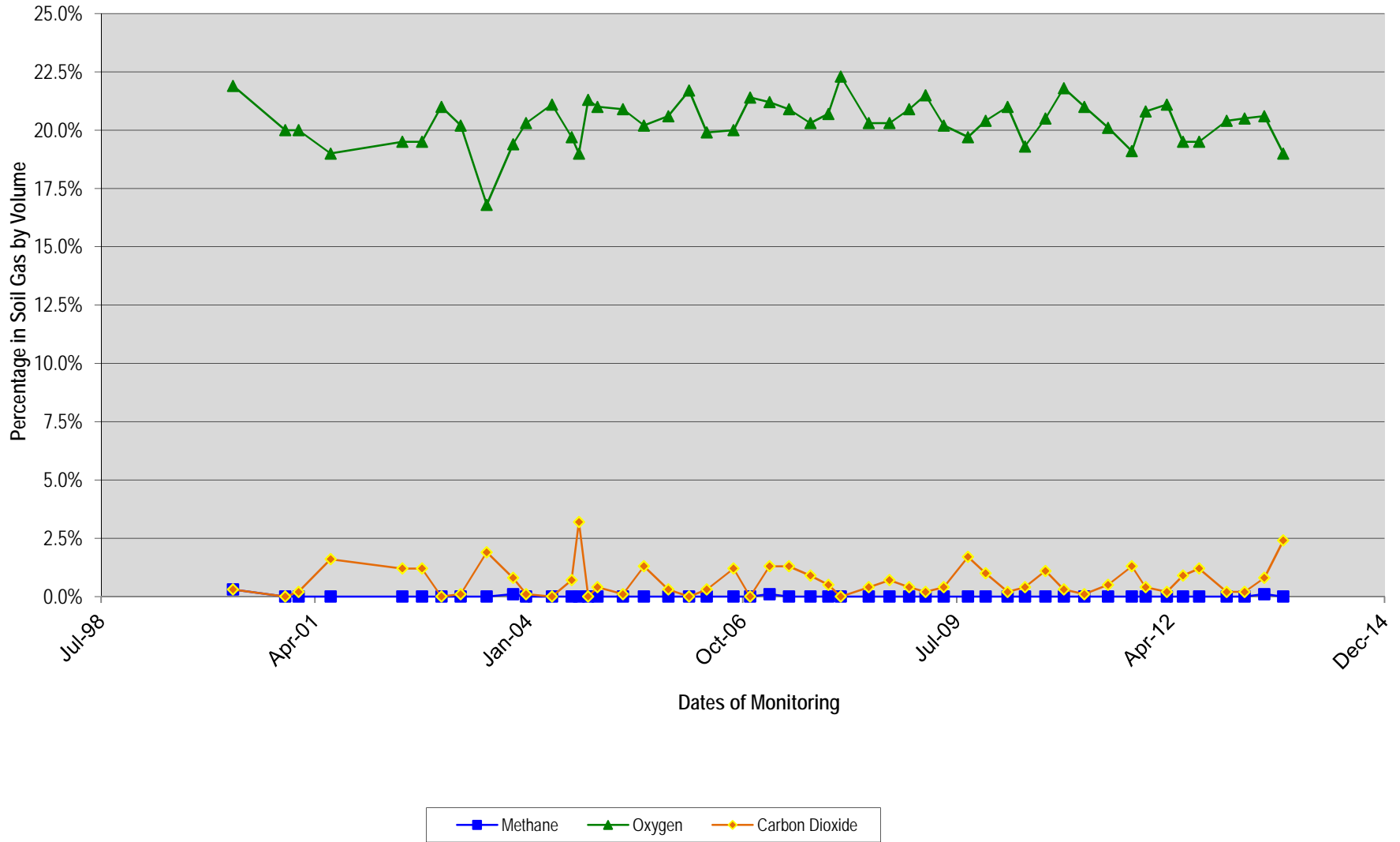
 Who notified of False statements?
 Log-In Technician Initials: **MOB**

 Date/Time:
 Date/Time: **9-12-13**
1500

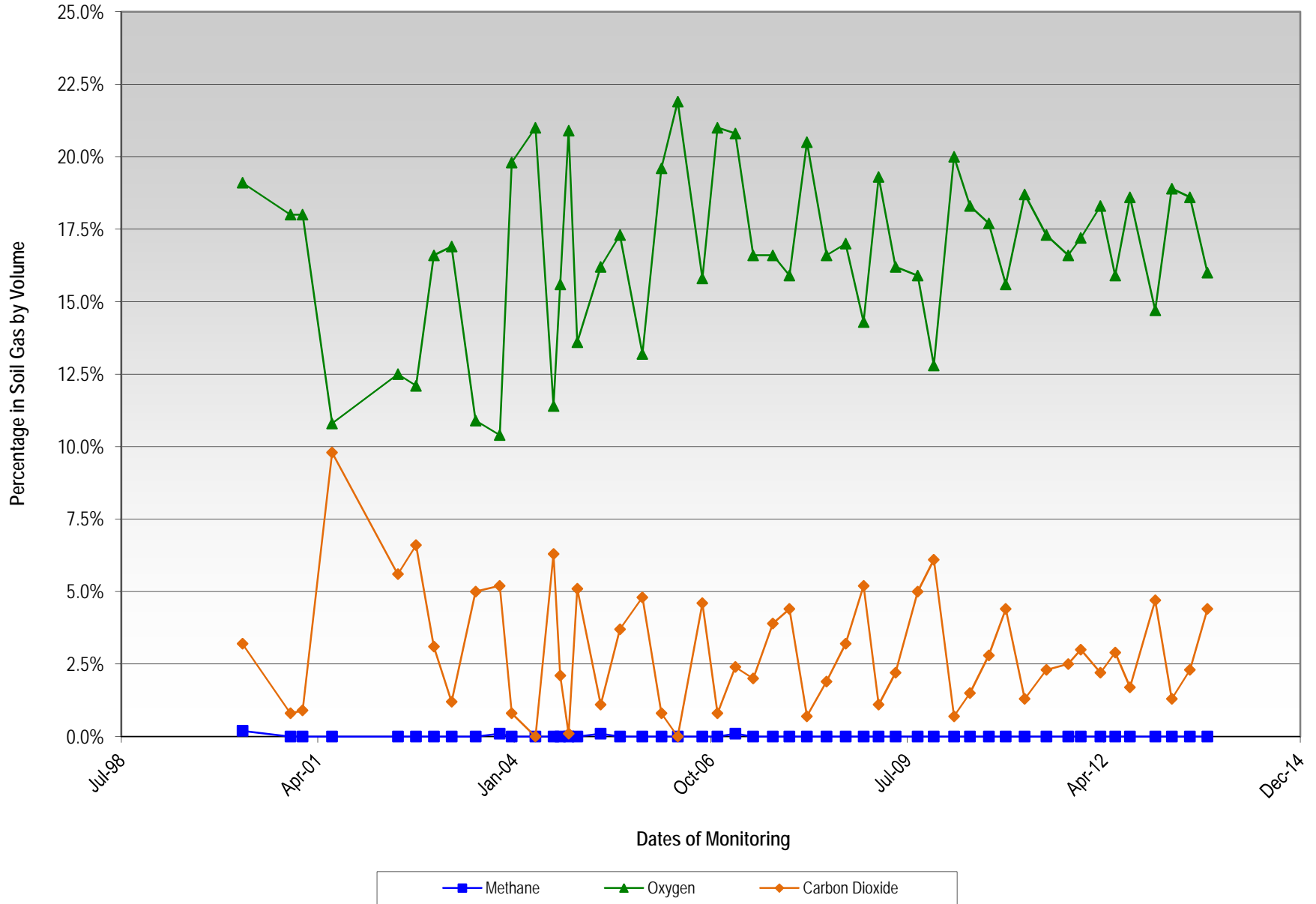
Appendix C

Soil Gas Parameter Graphs

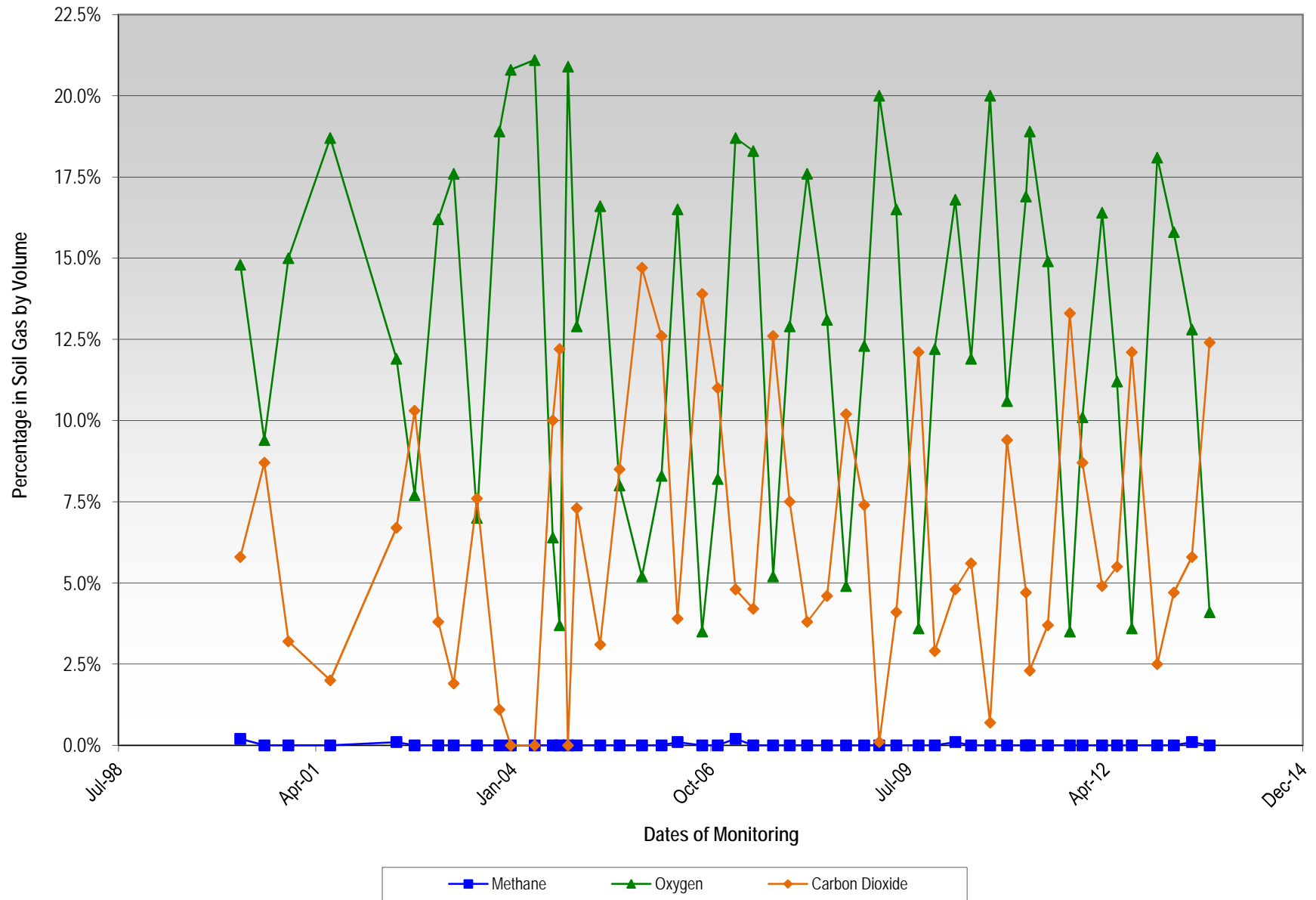
Soil Gas Well EPL1
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



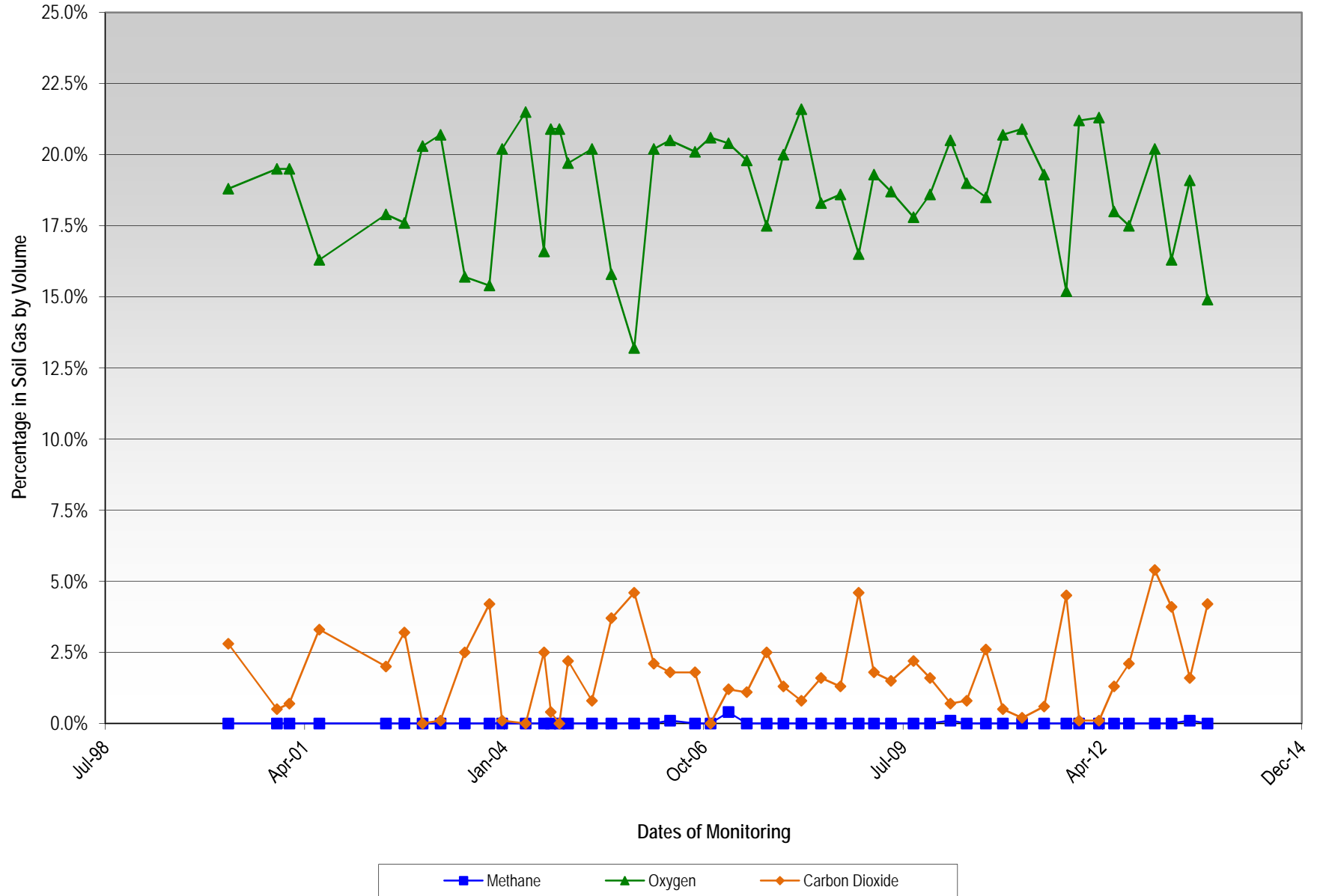
Soil Gas Well EPL4
 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
 Springfield Street School Complex
 Providence, Rhode Island



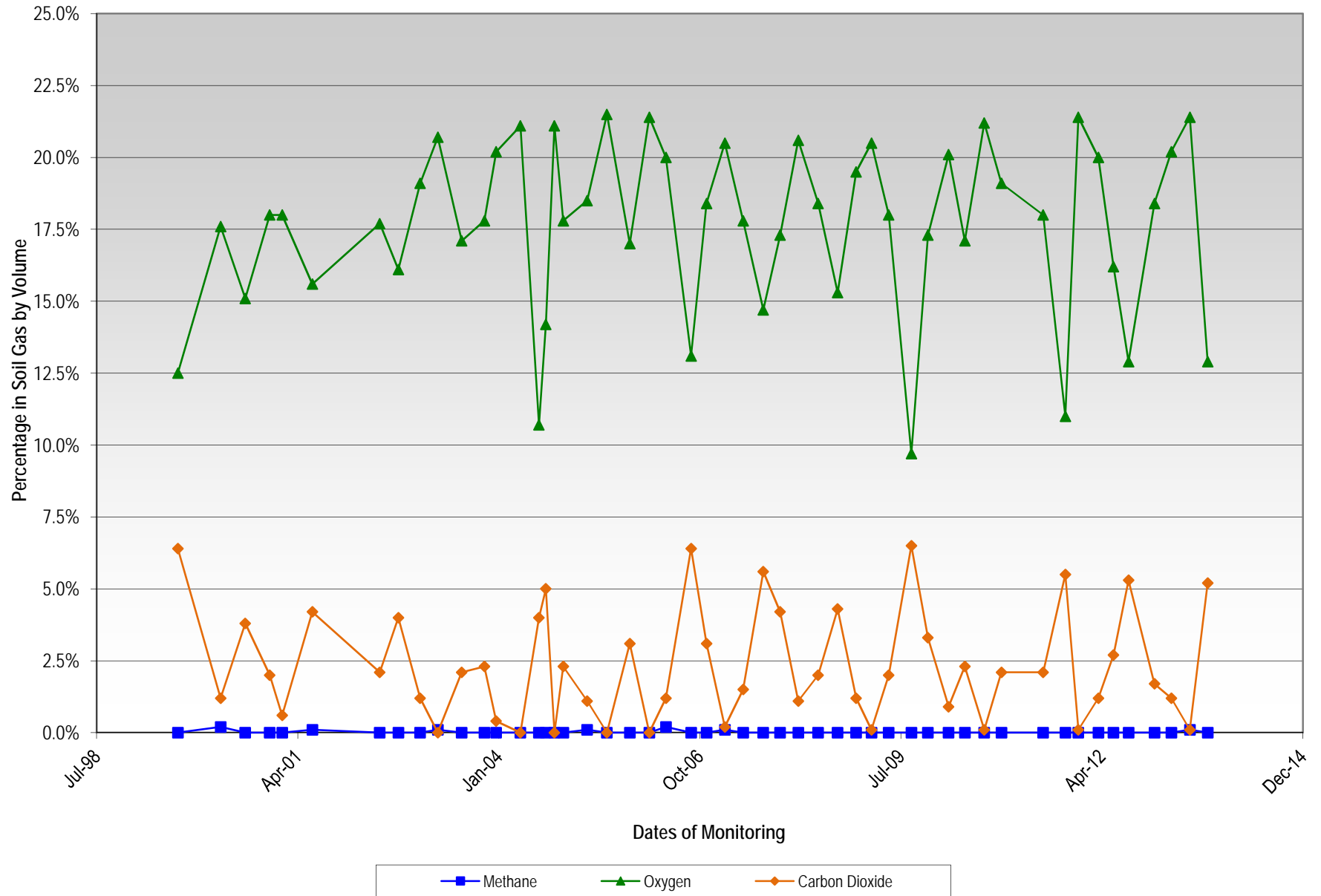
Soil Gas Well MPL5
 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
 Springfield Street School Complex
 Providence, Rhode Island



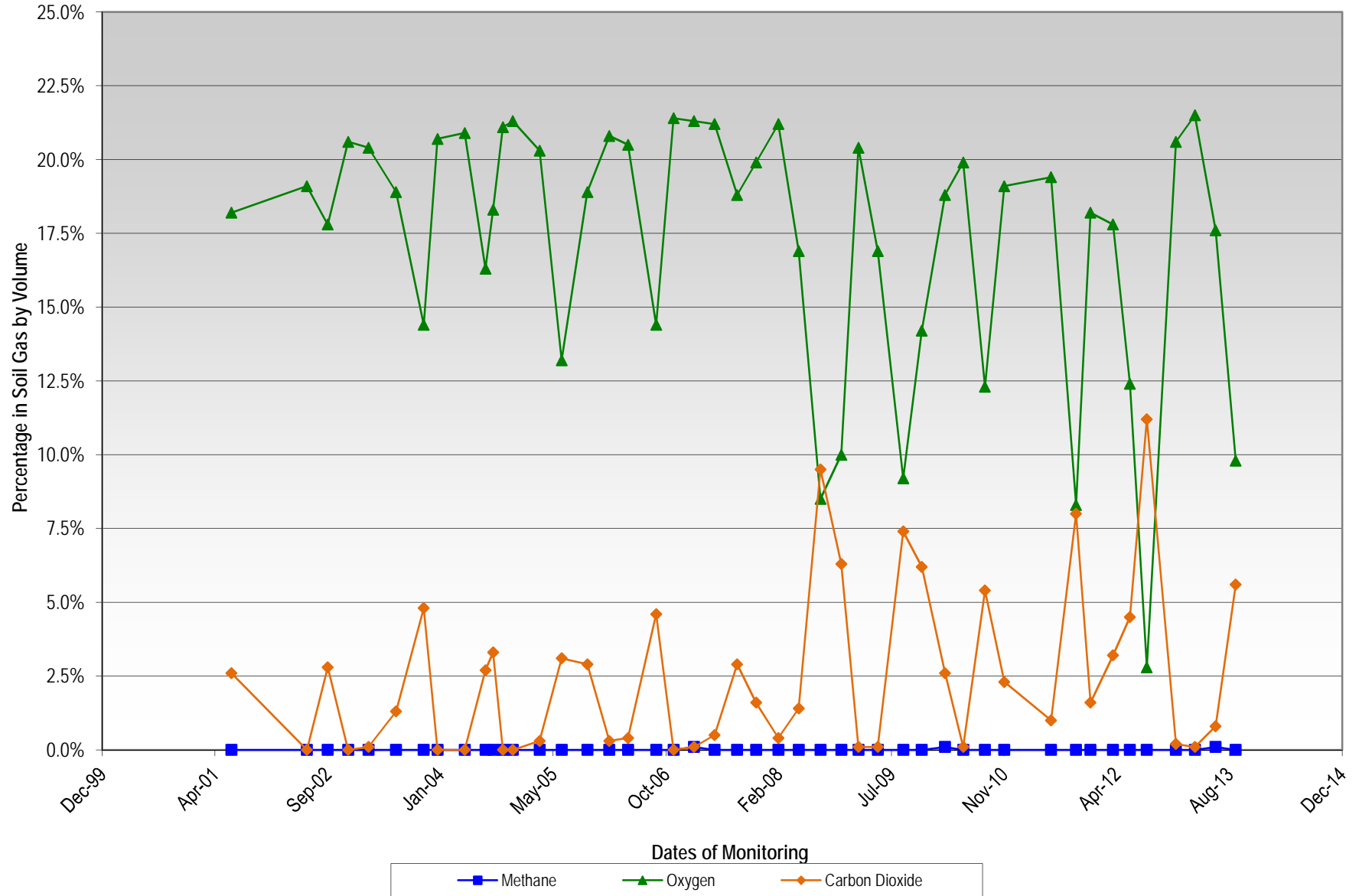
Soil Gas Well MG2
 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
 Springfield Street School Complex
 Providence, Rhode Island



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 Well MPL-7 Fluctuations in Methane, Oxygen and Carbon Dioxide

