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

SER-1

Subject:
May 2012 Quarterly Monitoring Report for Springfield Street School Complex

Date:
June 25, 2012

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 May 29 and 31, 2012. 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.

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401.738.3887

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

Our ref:
WK012152.0007

COVER MONITORING

ARCADIS conducted a visual survey of the site on May 31, 2012 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. Holes observed during the previous inspection had been repaired.

SUB-SLAB VENTILATION SYSTEM

The sub-slab ventilation system was inspected by ARCADIS during the quarterly monitoring on May 29 and 31, 2012. 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 and organic vapors were not detected in any of the samples. Carbon Monoxide was detected at a concentration of 1 to 2 ppm in all but one location; all locations were below the RAWP Action Level of 9 ppm. Carbon dioxide was detected at a concentration of 0.1 to 0.2% at each location; all seven of the sample concentrations were greater than the RAWP Action Level of 1000 ppm (0.1%).

INDOOR AIR MONITORING

Indoor air monitoring was conducted on May 31, 2012 using a QRAE plus multi-gas 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 2. 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 May 31 was 82 °F. Carbon dioxide was measured outside in the school parking lot at 630 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 May 31, 2012. 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 new and existing groundwater monitoring wells were sampled by ARCADIS on May 29, 2012. 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 C. Results of analysis of groundwater samples are summarized in Table 3.

1,4-Dichloroethane was detected in a sample collected from monitoring well ATC-4 at a concentration of 1.9 µg/L. There is no GB groundwater standard for this compound. This compound has been detected occasionally during previous sampling events in this well at similar concentrations. No other target analytes were detected in any of the groundwater samples collected on May 29, 2012.

SOIL GAS MONITORING

Soil gas monitoring was conducted at 29 locations on May 29, 2012. 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 BD XII air sampling pump. Soil gas was

then screened using a Landtec GEM 2000 Plus Landfill Gas Analyzer and a MiniRae Photoionization Detector (PID).

Air samples were also collected in Tedlar bags from wells WB-2 and MPL-6. The Tedlar bags were submitted to Con-test Analytical Laboratory for analysis for VOC via EPA method TO-14.

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 4. Methane, hydrogen sulfide, and organic vapors were not detected in any samples.

Carbon dioxide was detected in soil gas at concentrations ranging from 0.1% to 9.8% during the May 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 March round was 7.9%, which was lower than the maximum during the current round. 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 D.

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.

Carbon monoxide was detected in 14 samples at concentrations ranging from 0 to 5 ppm during the May monitoring event. The RAWP action level for carbon monoxide is 9 ppm and all of the samples were below the action level.

Soil Gas Laboratory Results

Soil gas samples were collected from soil gas wells MPL-6 and WB-2 in Tedlar bags and submitted to Con-Test Analytical Laboratories for analysis by method TO-14. Results of the analysis are summarized in Table 5, and the laboratory report is provided in Attachment C. The results of analysis were generally consistent with the

concentrations and compounds which have been detected in previous monitoring events.

The Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs) are provided in Table 5 for comparison purposes even though they are not 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.

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 subslab 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.



Donna H. Pallister, PE, LSP
Senior Environmental Engineer

Copies:

C. Jones, Providence Schools
A. Sepe, City of Providence
Providence Public Building Authority

ARCADIS

Tables

Table 1
System Monitoring Notes
Springfield Street School Complex
Providence, Rhode Island
May 31, 2012

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	0.1	20.3	1	0	0.0
Elementary School inlet 2	0.0	0.1	20.4	2	0	0.0
Elementary School Outlet	0.0	0.0	20.7	1	0	0.0
Middle School front shed inlet	0.0	0.0	20.6	0	0	0.0
Middle School front shed after 2 nd carbon	0.0	0.2	20.4	1	0	0.0
Middle School back shed inlet	0.0	0.2	20.4	2	0	0.0
Middle School back shed after 2 nd carbon	0.0	0.2	20.5	2	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, , MiniRAE 2000

Sampling date: May 31, 2012

Measured by: D. Pallister

Table 2
Indoor Air Monitoring Results
Springfield Street School Complex
Providence, Rhode Island
May 31, 2012

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	622	20.5	0	0	0.0
E.S. Elevator	0.0	620	20.6	0	0	0.0
E.S. Faculty Work Room	0.0	635	20.6	0	0	0.0
E.S. Gym	0.0	641	20.6	0	0	0.0
E.S. Stairway B	0.0	657	20.6	0	0	0.0
E.S. Stairway C	0.0	647	20.7	0	0	0.0
E.S. Library	0.0	713	20.7	0	0	0.0
E.S. Room 111 Music/Art Room	0.0	587	20.7	0	0	0.0
E.S. Cafeteria	0.0	741	20.6	0	0	0.0
E.S. Room 107	0.0	624	20.7	0	0	0.0

Table 2
Indoor Air Monitoring Notes
Springfield Street School Complex
May 31, 2012

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	680	20.6	0	0	0.0
M.S. Elevator	0	643	20.5	0	0	0.0
M.S. Stairway near Hartford Ave. GS-01	0	753	20.5	0	0	0.0
M.S. Near sensor #16 in hall outside cafeteria	0	633	20.6	0	0	0.0
M.S. Faculty Work Room	0	560	20.4	0	0	0.0
M.S. Sensor #15	0	646	20.7	0	0	0.0
M.S. GS-03 Across from Boys Bathroom	0	694	20.5	0	0	0.0
M.S. Second Floor - Library	0	745	20.6	0	0	0.0
M.S. Cafeteria	0	650	20.6	0	0	0.0

Table 2
Indoor Air Monitoring Notes
Springfield Street School Complex
May 31, 2012

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	676	20.6	0	0	0.0
M.S. Hallway across from elevator near sensor #9	0	585	20.5	0	0	0.0
M.S. Near sensor GS 06 hallway right end	0	664	20.3	0	0	0.0
M.S. stairway near Hartford Ave. sensor GS-7	0	680	20.5	0	0	0.0
Remedial Action Work Plan Action Levels	0.05	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: Landtec GEM2000, Fluke 975 Airmeter, MiniRAE 2000

PPM = Parts per million

Outdoor conditions: carbon monoxide = 0 ppm, carbon dioxide = 630 ppm, temperature = 82 °F.

Table 3
Groundwater Monitoring Results
Springfield Street School
Providence, Rhode Island

Well	Detected Compounds	Sampling Dates and Results in µg/L															
		2/28/2001	7/20/2001	*9- 12/2001	8/1/2002	8/28/2002	12/19/2002	3/18/2003	7/17/2003	11/5/2003	1/22/2004	5/21/2004	8/17/2004	12/2/2004	4/6/2005	7/27/2005	10/27&28/ 2005
ATC-1	Benzene	6.1	ND	18.9	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	n-butylbenzene	1.7	ND	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	sec-Butylbenzene	1.1	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Ethylbenzene	4.5	ND	12.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Isopropylbenzene	ND	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	n-Propylbenzene	ND	ND	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	MTBE	12.4	7.0	28.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	1.27	ND	ND	ND	ND	ND	1.10	ND	ND
	Toluene	2.5	ND	8.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2,4-Trimethylbenzene	2.2	ND	8.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,3,5-Trimethylbenzene	3.4	ND	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Xylenes	14.6	ND	37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ATC-2	Chloroform	0.9	ND	ND	1.0	ND	ND	ND	ND	ND	NS	1.1	1.0	ND	ND	ND	ND
MW-6	Chloroform																
	Installed 4/2011																
ATC-3	Toluene	ND	ND	ND	ND	NS	ND	ND	ND	ND	3.03	ND	ND	ND	ND	ND	ND
MW-7																	
	Installed 4/2011																
ATC-4	Benzene	ND	ND	2.5	0.6	ND	ND	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND
	Chlorobenzene	2.6	ND	57.3	2.7	5.18	ND	ND	ND	ND	ND	ND	ND	0.60	ND	ND	ND
	1,4-dichlorobenzene	4.2	ND	9.2	3.4	3.36	ND	ND	ND	ND	0.80	1.6	2.1	ND	ND	ND	ND
	MTBE	ND	ND	ND	ND	ND	ND	ND	1.19	9.55	1.06	2.90	0.6	ND	ND	ND	ND
	1,2,4-Trimethylbenzene	ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	tert-Amyl Methyl Ether (TAME)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethylene																
ATC-5	MTBE	ND	ND	2.2	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND
	Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	0.6	ND	ND	ND	ND
MW-8																	
	Installed 4/2011																
	Sampled By:	ATC	ATC	ATC	ATC	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR

*ATC Monitoring Report for September through December 2001 did not list date samples were collected.

ND is not detected above method detection limit

NS is not sampled

NA= No applicable standard published

MTBE is Methyl tert-Butyl Ether

µg/L = micrograms per liter

Table 3
Groundwater Monitoring Results
Springfield Street School
Providence, Rhode Island

Well	Detected Compounds	Sampling Dates and Results in ug/L																
		2/2/2006	4/27/2006	8/31/2006	11/15/2006	3/27/2007	5/21/2007	8/20/2007	11/13/2007	2/12/2008	5/21/2008	8/26/2008	11/18/2008	2/17/2009	5/7/2009	8/25/2009	11/18/2009	3/1/2010
ATC-1	Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	n-butylbenzene	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	tert-Butylbenzene	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND
	Trichloroethylene	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ATC-2	Chloroform	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	Chloroform																	
	Installed 4/2011																	
ATC-3	Toluene	3.0	ND	4.5	13.1	ND	2.3	1.3	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS
MW-7																		
	Installed 4/2011																	
ATC-4	Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Chlorobenzene	ND	ND	ND	ND	ND	ND	1.80	1.90	ND	ND	1.2	ND	ND	ND	1	ND	ND
	1,4-dichlorobenzene	ND	ND	1.2	1.1	ND	1.2	2.1	2.1	ND	ND	2.1	1.4	ND	1.7	1.5	ND	ND
	MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	tert-Amyl Methyl Ether (TAME)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethylene													ND	ND	ND	ND	ND
ATC-5	MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-8																		
	Installed 4/2011																	
	Sampled By:	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	ARCADIS

*ATC Monitoring Report for September
 ND is not detected above method detection limit
 NS is not sampled
 NA= No applicable standard published
 MTBE is Methyl tert-Butyl Ether
 µg/L = micrograms per liter

**Table 3
Groundwater Monitoring Results
Springfield Street School
Providence, Rhode Island**

Well	Detected Compounds	Sampling Dates and Results in ug/L									RIDEM GB Groundwater Objective
		5/20/2010	8/25/2010	11/19/2010	2/24/2011	6/16/2011	10/3/2011	12/6/2011	3/15/2012	5/29/2012	
ATC-1											
	Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	140
	n-butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	1600
	Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	5000
	Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	540
	Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	1700
	1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
ATC-2											
	Chloroform	NS	NS	NS	NS	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	NA
MW-6						ND					
	Chloroform					ND	2.0	ND	ND	ND	NA
	Installed 4/2011										
ATC-3											
	Toluene	NS	NS	NS	NS	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	1700
MW-7						ND	ND	ND	ND	ND	NA
	Installed 4/2011										
ATC-4											
	Benzene	ND	ND	ND	NS	NS	ND	ND	ND	ND	140
	Chlorobenzene	ND	ND	ND	NS	NS	ND	ND	ND	ND	70
	1,4-dichlorobenzene	ND	ND	1.5	NS	NS	ND	ND	ND	1.9	NA
	MTBE	ND	ND	ND	NS	NS	ND	ND	ND	ND	5000
	1,2,4-Trimethylbenzene	ND	ND	ND	NS	NS	ND	ND	ND	ND	NA
	tert-Amyl Methyl Ether (TAME)	ND	0.5	ND	NS	NS	ND	ND	ND	ND	NA
	Trichloroethylene	ND	ND	ND	NS	NS	1.1	1.3	ND	ND	540
ATC-5											
	MTBE	ND	NS	NS	NS	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	5000
	Chloroform	ND	NS	NS	NS	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	Closed 4/2011	NA
MW-8						ND	ND	ND	ND	ND	NA
	Installed 4/2011										
	Sampled By:	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	

*ATC Monitoring Report for September
 ND is not detected above method detection limit
 NS is not sampled
 NA= No applicable standard published
 MTBE is Methyl tert-Butyl Ether
 ug/L = micrograms per liter

Table 4
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
May 29, 2012

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	2.7	16.2	001	0.0	0.0
WB-2	0.0	0.7	20.1	0.0	0.0	0.0
WB-3	0.0	0.0	21.1	002	0.0	0.0
WB-4	0.0	0.0	21.3	001	0.0	0.1
WB-5	0.0	0.0	21.0	001	0.0	0.0
WB-6	0.0	0.8	20.2	005	0.0	0.0
WB-7R	0.0	0.4	20.2	0.0	0.0	0.0
WB-8	0.0	0.0	20.9	0.0	0.0	0.0
WB-12	0.0	2.0	18.0	0.0	0.0	0.0
WB-13	0.0	.5	19.3	0.0	0.0	0.0
WB-14	0.0	2.0	16.1	0.0	0.0	0.0
WB-15	0.0	4.5	12.4	003	0.0	0.0
EPL-1	0.0	0.9	19.5	0.0	0.0	0.0
EPL-2	0.0	1.5	17.4	001	0.0	0.0
EPL-3	0.0	3.6	12.3	002	0.0	0.0
EPL-4	0.0	2.9	15.9	0.0	0.0	0.0
EPL-5	0.0	1.6	17.8	0.0	0.0	0.0
ENE-1	0.0	0.1	20.4	0.0	0.0	0.0

Table 4
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
May 29, 2012

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MG1	0.0	1.5	17.0	0.0	0.0	0.0
MG2	0.0	1.3	18.0	0.0	0.0	0.0
MG3	0.0	2.5	15.6	0.0	0.0	0.0
MG4	0.0	0.7	18.5	002	0.0	0.0
MG5	0.0	1.4	18.0	0.0	0.0	0.0
MPL2	0.0	0.1	20.0	003	0.0	0.0
MPL3	0.0	4.5	10.5	003	0.0	0.0
MPL5	0.0	5.5	11.2	0.0	0.0	0.0
MPL6	0.0	9.8	6.3	001	0.0	0.0
MPL7	0.1	4.6	13.4	001	0.0	0.0
MPL8	0.0	3.9	14.1	003	0.0	0.0
Remedial Action Work Plan Action Levels	0.5%	1,000 PPM	NA	9 PPM	10 PPM	5 PPM

Sampled by: Andrew DaSilva

Weather Conditions: 80 Degrees Fahrenheit, Sunny

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's 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

June 6, 2012

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

Project Location: Providence, RI
Client Job Number:
Project Number: WK012152.0007
Laboratory Work Order Number: 12E1060

Enclosed are results of analyses for samples received by the laboratory on May 30, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager

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

REPORT DATE: 6/6/2012

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0007

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12E1060

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

PROJECT LOCATION: Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ATC-1	12E1060-01	Ground Water		SW-846 8260C	
MW-7	12E1060-02	Ground Water		SW-846 8260C	
ATC-4	12E1060-03	Ground Water		SW-846 8260C	
MW-8	12E1060-04	Ground Water		SW-846 8260C	
Trip Blank	12E1060-05	Trip Blank Water		SW-846 8260C	
MW-6	12E1060-06	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:

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-Dibromo-3-chloropropane (DBCP), 2,2-Dichloropropane, tert-Amyl Methyl Ether (TAME), tert-Butyl Alcohol (TBA), trans-1,3-Dichloropropene
12E1060-01[ATC-1], 12E1060-02[MW-7], 12E1060-03[ATC-4], 12E1060-04[MW-8], 12E1060-05[Trip Blank], 12E1060-06[MW-6], B052501-BLK1, B052501-BS1, B052501-BSD1

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

Analyte & Samples(s) Qualified:

1,4-Dioxane, tert-Butyl Alcohol (TBA), Tetrahydrofuran
12E1060-01[ATC-1], 12E1060-02[MW-7], 12E1060-03[ATC-4], 12E1060-04[MW-8], 12E1060-05[Trip Blank], 12E1060-06[MW-6], B052501-BLK1, B052501-BS1, B052501-BSD1

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

Analyte & Samples(s) Qualified:

Bromomethane
B052501-BS1, B052501-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.



Daren J. Damboragian
Laboratory Manager

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: ATC-1

Sampled: 5/29/2012 16:15

Sample ID: 12E1060-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Benzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05, V-16	SW-846 8260C	5/31/12	5/31/12 15:30	MFF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: ATC-1

Sampled: 5/29/2012 16:15

Sample ID: 12E1060-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Styrene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Tetrahydrofuran	ND	10	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Toluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 15:30	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	98.1	70-130	5/31/12 15:30
Toluene-d8	99.3	70-130	5/31/12 15:30
4-Bromofluorobenzene	95.8	70-130	5/31/12 15:30

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: MW-7

Sampled: 5/29/2012 09:35

Sample ID: 12E1060-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Benzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05, V-16	SW-846 8260C	5/31/12	5/31/12 16:01	MFF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: MW-7

Sampled: 5/29/2012 09:35

Sample ID: 12E1060-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Styrene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Tetrahydrofuran	ND	10	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Toluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:01	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	97.7	70-130	5/31/12 16:01
Toluene-d8	98.1	70-130	5/31/12 16:01
4-Bromofluorobenzene	96.4	70-130	5/31/12 16:01

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: ATC-4

Sampled: 5/29/2012 11:20

Sample ID: 12E1060-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Benzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05, V-16	SW-846 8260C	5/31/12	5/31/12 16:32	MFF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,4-Dichlorobenzene	1.9	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: ATC-4

Sampled: 5/29/2012 11:20

Sample ID: 12E1060-03

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Styrene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Tetrahydrofuran	ND	10	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Toluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 16:32	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	98.3	70-130	5/31/12 16:32
Toluene-d8	99.2	70-130	5/31/12 16:32
4-Bromofluorobenzene	97.3	70-130	5/31/12 16:32

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: MW-8

Sampled: 5/29/2012 11:55

Sample ID: 12E1060-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Benzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05, V-16	SW-846 8260C	5/31/12	5/31/12 17:33	MFF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: MW-8

Sampled: 5/29/2012 11:55

Sample ID: 12E1060-04

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Styrene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Tetrahydrofuran	ND	10	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Toluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:33	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	99.0	70-130	5/31/12 17:33
Toluene-d8	99.0	70-130	5/31/12 17:33
4-Bromofluorobenzene	96.3	70-130	5/31/12 17:33

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: Trip Blank

Sampled: 5/29/2012 00:00

Sample ID: 12E1060-05

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Benzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05, V-16	SW-846 8260C	5/31/12	5/31/12 13:27	MFF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: Trip Blank

Sampled: 5/29/2012 00:00

Sample ID: 12E1060-05

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Styrene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Tetrahydrofuran	ND	10	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Toluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 13:27	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	97.1	70-130	5/31/12 13:27
Toluene-d8	99.5	70-130	5/31/12 13:27
4-Bromofluorobenzene	95.3	70-130	5/31/12 13:27

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: MW-6

Sampled: 5/29/2012 10:15

Sample ID: 12E1060-06

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Benzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05, V-16	SW-846 8260C	5/31/12	5/31/12 17:02	MFF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
2,2-Dichloropropane	ND	1.0	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF

Project Location: Providence, RI

Sample Description:

Work Order: 12E1060

Date Received: 5/30/2012

Field Sample #: MW-6

Sampled: 5/29/2012 10:15

Sample ID: 12E1060-06

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Naphthalene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Styrene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Tetrahydrofuran	ND	10	µg/L	1	V-16	SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Toluene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	5/31/12	5/31/12 17:02	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	98.0	70-130	5/31/12 17:02
Toluene-d8	98.7	70-130	5/31/12 17:02
4-Bromofluorobenzene	95.3	70-130	5/31/12 17:02

Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
12E1060-01 [ATC-1]	B052501	5	5.00	05/31/12
12E1060-02 [MW-7]	B052501	5	5.00	05/31/12
12E1060-03 [ATC-4]	B052501	5	5.00	05/31/12
12E1060-04 [MW-8]	B052501	5	5.00	05/31/12
12E1060-05 [Trip Blank]	B052501	5	5.00	05/31/12
12E1060-06 [MW-6]	B052501	5	5.00	05/31/12

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 B052501 - SW-846 5030B

Blank (B052501-BLK1)

Prepared & Analyzed: 05/31/12

Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							V-05
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							V-05, V-16
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	2.0	µg/L							
Carbon Tetrachloride	ND	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							V-05
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							V-05
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 B052501 - SW-846 5030B

Blank (B052501-BLK1)

Prepared & Analyzed: 05/31/12

Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	10	µg/L							V-16
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,3,5-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							

Surrogate: 1,2-Dichloroethane-d4	24.1		µg/L	25.0		96.6	70-130			
Surrogate: Toluene-d8	24.6		µg/L	25.0		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	24.0		µg/L	25.0		96.1	70-130			

LCS (B052501-BS1)

Prepared & Analyzed: 05/31/12

Acetone	109	50	µg/L	100		109	70-160			†
Acrylonitrile	10.3	5.0	µg/L	10.0		103	70-130			
tert-Amyl Methyl Ether (TAME)	8.81	0.50	µg/L	10.0		88.1	70-130			V-05
Benzene	10.5	1.0	µg/L	10.0		105	70-130			
Bromobenzene	11.4	1.0	µg/L	10.0		114	70-130			
Bromochloromethane	10.7	1.0	µg/L	10.0		107	70-130			
Bromodichloromethane	8.97	0.50	µg/L	10.0		89.7	70-130			
Bromoform	10.6	1.0	µg/L	10.0		106	70-130			
Bromomethane	7.82	2.0	µg/L	10.0		78.2	40-160			V-20 †
2-Butanone (MEK)	97.9	20	µg/L	100		97.9	40-160			†
tert-Butyl Alcohol (TBA)	86.2	20	µg/L	100		86.2	40-160			V-05, V-16 †
n-Butylbenzene	10.8	1.0	µg/L	10.0		108	70-130			
sec-Butylbenzene	11.7	1.0	µg/L	10.0		117	70-130			
tert-Butylbenzene	11.9	1.0	µg/L	10.0		119	70-130			
tert-Butyl Ethyl Ether (TBEE)	9.30	0.50	µg/L	10.0		93.0	70-130			
Carbon Disulfide	9.11	2.0	µg/L	10.0		91.1	70-130			
Carbon Tetrachloride	9.13	5.0	µg/L	10.0		91.3	70-130			
Chlorobenzene	12.8	1.0	µg/L	10.0		128	70-130			
Chlorodibromomethane	9.13	0.50	µg/L	10.0		91.3	70-130			
Chloroethane	9.92	2.0	µg/L	10.0		99.2	70-130			
Chloroform	11.0	2.0	µg/L	10.0		110	70-130			
Chloromethane	8.81	2.0	µg/L	10.0		88.1	40-160			†
2-Chlorotoluene	12.4	1.0	µg/L	10.0		124	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 B052501 - SW-846 5030B										
LCS (B052501-BS1)										
Prepared & Analyzed: 05/31/12										
4-Chlorotoluene	12.7	1.0	µg/L	10.0		127	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	8.81	5.0	µg/L	10.0		88.1	70-130			V-05
1,2-Dibromoethane (EDB)	11.9	0.50	µg/L	10.0		119	70-130			
Dibromomethane	11.3	1.0	µg/L	10.0		113	70-130			
1,2-Dichlorobenzene	12.5	1.0	µg/L	10.0		125	70-130			
1,3-Dichlorobenzene	12.5	1.0	µg/L	10.0		125	70-130			
1,4-Dichlorobenzene	11.7	1.0	µg/L	10.0		117	70-130			
trans-1,4-Dichloro-2-butene	8.58	2.0	µg/L	10.0		85.8	70-130			
Dichlorodifluoromethane (Freon 12)	8.27	2.0	µg/L	10.0		82.7	40-160			†
1,1-Dichloroethane	10.7	1.0	µg/L	10.0		107	70-130			
1,2-Dichloroethane	11.7	1.0	µg/L	10.0		117	70-130			
1,1-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130			
cis-1,2-Dichloroethylene	9.85	1.0	µg/L	10.0		98.5	70-130			
trans-1,2-Dichloroethylene	10.7	1.0	µg/L	10.0		107	70-130			
1,2-Dichloropropane	10.4	1.0	µg/L	10.0		104	70-130			
1,3-Dichloropropane	11.3	0.50	µg/L	10.0		113	70-130			
2,2-Dichloropropane	7.73	1.0	µg/L	10.0		77.3	40-130			V-05 †
1,1-Dichloropropene	10.7	2.0	µg/L	10.0		107	70-130			
cis-1,3-Dichloropropene	8.74	0.50	µg/L	10.0		87.4	70-130			
trans-1,3-Dichloropropene	8.88	0.50	µg/L	10.0		88.8	70-130			V-05
Diethyl Ether	11.8	2.0	µg/L	10.0		118	70-130			
Diisopropyl Ether (DIPE)	11.6	0.50	µg/L	10.0		116	70-130			
1,4-Dioxane	111	50	µg/L	100		111	40-130			V-16 †
Ethylbenzene	11.5	1.0	µg/L	10.0		115	70-130			
Hexachlorobutadiene	11.1	0.50	µg/L	10.0		111	70-130			
2-Hexanone (MBK)	102	10	µg/L	100		102	70-160			†
Isopropylbenzene (Cumene)	12.5	1.0	µg/L	10.0		125	70-130			
p-Isopropyltoluene (p-Cymene)	11.7	1.0	µg/L	10.0		117	70-130			
Methyl tert-Butyl Ether (MTBE)	11.1	1.0	µg/L	10.0		111	70-130			
Methylene Chloride	10.2	5.0	µg/L	10.0		102	70-130			
4-Methyl-2-pentanone (MIBK)	104	10	µg/L	100		104	70-160			†
Naphthalene	10.5	2.0	µg/L	10.0		105	40-130			†
n-Propylbenzene	12.2	1.0	µg/L	10.0		122	70-130			
Styrene	12.3	1.0	µg/L	10.0		123	70-130			
1,1,1,2-Tetrachloroethane	10.5	1.0	µg/L	10.0		105	70-130			
1,1,2,2-Tetrachloroethane	11.7	0.50	µg/L	10.0		117	70-130			
Tetrachloroethylene	11.8	1.0	µg/L	10.0		118	70-130			
Tetrahydrofuran	10.2	10	µg/L	10.0		102	70-130			V-16
Toluene	11.3	1.0	µg/L	10.0		113	70-130			
1,2,3-Trichlorobenzene	11.3	5.0	µg/L	10.0		113	70-130			
1,2,4-Trichlorobenzene	11.0	1.0	µg/L	10.0		110	70-130			
1,3,5-Trichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130			
1,1,1-Trichloroethane	9.54	1.0	µg/L	10.0		95.4	70-130			
1,1,2-Trichloroethane	11.7	1.0	µg/L	10.0		117	70-130			
Trichloroethylene	11.2	1.0	µg/L	10.0		112	70-130			
Trichlorofluoromethane (Freon 11)	10.6	2.0	µg/L	10.0		106	70-130			
1,2,3-Trichloropropane	13.0	2.0	µg/L	10.0		130	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	12.8	1.0	µg/L	10.0		128	70-130			
1,2,4-Trimethylbenzene	11.0	1.0	µg/L	10.0		110	70-130			
1,3,5-Trimethylbenzene	11.7	1.0	µg/L	10.0		117	70-130			
Vinyl Chloride	9.48	2.0	µg/L	10.0		94.8	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
Batch B052501 - SW-846 5030B										
LCS (B052501-BS1)										
Prepared & Analyzed: 05/31/12										
m+p Xylene	24.6	2.0	µg/L	20.0		123	70-130			
o-Xylene	12.6	1.0	µg/L	10.0		126	70-130			
Surrogate: 1,2-Dichloroethane-d4	24.2		µg/L	25.0		97.0	70-130			
Surrogate: Toluene-d8	24.9		µg/L	25.0		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	24.5		µg/L	25.0		98.0	70-130			
LCS Dup (B052501-BSD1)										
Prepared & Analyzed: 05/31/12										
Acetone	98.0	50	µg/L	100		98.0	70-160	10.4	25	†
Acrylonitrile	9.98	5.0	µg/L	10.0		99.8	70-130	3.06	25	
tert-Amyl Methyl Ether (TAME)	8.51	0.50	µg/L	10.0		85.1	70-130	3.46	25	V-05
Benzene	10.3	1.0	µg/L	10.0		103	70-130	2.31	25	
Bromobenzene	11.6	1.0	µg/L	10.0		116	70-130	1.65	25	
Bromochloromethane	10.5	1.0	µg/L	10.0		105	70-130	1.88	25	
Bromodichloromethane	8.67	0.50	µg/L	10.0		86.7	70-130	3.40	25	
Bromoform	10.1	1.0	µg/L	10.0		101	70-130	4.34	25	
Bromomethane	9.83	2.0	µg/L	10.0		98.3	40-160	22.8	25	V-20 †
2-Butanone (MEK)	86.4	20	µg/L	100		86.4	40-160	12.5	25	†
tert-Butyl Alcohol (TBA)	73.3	20	µg/L	100		73.3	40-160	16.2	25	V-05, V-16 †
n-Butylbenzene	10.8	1.0	µg/L	10.0		108	70-130	0.557	25	
sec-Butylbenzene	12.1	1.0	µg/L	10.0		121	70-130	2.94	25	
tert-Butylbenzene	11.8	1.0	µg/L	10.0		118	70-130	0.589	25	
tert-Butyl Ethyl Ether (TBEE)	9.22	0.50	µg/L	10.0		92.2	70-130	0.864	25	
Carbon Disulfide	8.97	2.0	µg/L	10.0		89.7	70-130	1.55	25	
Carbon Tetrachloride	9.03	5.0	µg/L	10.0		90.3	70-130	1.10	25	
Chlorobenzene	12.8	1.0	µg/L	10.0		128	70-130	0.156	25	
Chlorodibromomethane	9.12	0.50	µg/L	10.0		91.2	70-130	0.110	25	
Chloroethane	10.2	2.0	µg/L	10.0		102	70-130	2.69	25	
Chloroform	10.7	2.0	µg/L	10.0		107	70-130	2.95	25	
Chloromethane	8.78	2.0	µg/L	10.0		87.8	40-160	0.341	25	†
2-Chlorotoluene	12.2	1.0	µg/L	10.0		122	70-130	1.22	25	
4-Chlorotoluene	12.7	1.0	µg/L	10.0		127	70-130	0.314	25	
1,2-Dibromo-3-chloropropane (DBCP)	8.05	5.0	µg/L	10.0		80.5	70-130	9.02	25	V-05
1,2-Dibromoethane (EDB)	11.4	0.50	µg/L	10.0		114	70-130	4.12	25	
Dibromomethane	11.0	1.0	µg/L	10.0		110	70-130	2.42	25	
1,2-Dichlorobenzene	12.4	1.0	µg/L	10.0		124	70-130	0.401	25	
1,3-Dichlorobenzene	12.5	1.0	µg/L	10.0		125	70-130	0.00	25	
1,4-Dichlorobenzene	11.6	1.0	µg/L	10.0		116	70-130	0.944	25	
trans-1,4-Dichloro-2-butene	7.83	2.0	µg/L	10.0		78.3	70-130	9.14	25	
Dichlorodifluoromethane (Freon 12)	8.05	2.0	µg/L	10.0		80.5	40-160	2.70	25	†
1,1-Dichloroethane	10.5	1.0	µg/L	10.0		105	70-130	1.70	25	
1,2-Dichloroethane	11.6	1.0	µg/L	10.0		116	70-130	0.857	25	
1,1-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130	0.00	25	
cis-1,2-Dichloroethylene	9.52	1.0	µg/L	10.0		95.2	70-130	3.41	25	
trans-1,2-Dichloroethylene	10.6	1.0	µg/L	10.0		106	70-130	0.753	25	
1,2-Dichloropropane	10.4	1.0	µg/L	10.0		104	70-130	0.0963	25	
1,3-Dichloropropane	11.1	0.50	µg/L	10.0		111	70-130	2.32	25	
2,2-Dichloropropane	7.42	1.0	µg/L	10.0		74.2	40-130	4.09	25	V-05 †
1,1-Dichloropropene	10.4	2.0	µg/L	10.0		104	70-130	2.85	25	
cis-1,3-Dichloropropene	8.51	0.50	µg/L	10.0		85.1	70-130	2.67	25	
trans-1,3-Dichloropropene	8.66	0.50	µg/L	10.0		86.6	70-130	2.51	25	V-05
Diethyl Ether	11.7	2.0	µg/L	10.0		117	70-130	0.933	25	
Diisopropyl Ether (DIPE)	11.5	0.50	µg/L	10.0		115	70-130	1.13	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 B052501 - SW-846 5030B										
LCS Dup (B052501-BSD1)										
					Prepared & Analyzed: 05/31/12					
1,4-Dioxane	92.6	50	µg/L	100		92.6	40-130	17.6	50	V-16 † ‡
Ethylbenzene	11.5	1.0	µg/L	10.0		115	70-130	0.174	25	
Hexachlorobutadiene	11.3	0.50	µg/L	10.0		113	70-130	1.34	25	
2-Hexanone (MBK)	91.3	10	µg/L	100		91.3	70-160	11.5	25	†
Isopropylbenzene (Cumene)	12.5	1.0	µg/L	10.0		125	70-130	0.00	25	
p-Isopropyltoluene (p-Cymene)	11.8	1.0	µg/L	10.0		118	70-130	0.595	25	
Methyl tert-Butyl Ether (MTBE)	10.8	1.0	µg/L	10.0		108	70-130	2.28	25	
Methylene Chloride	10.3	5.0	µg/L	10.0		103	70-130	0.390	25	
4-Methyl-2-pentanone (MIBK)	95.7	10	µg/L	100		95.7	70-160	8.76	25	†
Naphthalene	8.92	2.0	µg/L	10.0		89.2	40-130	16.0	25	†
n-Propylbenzene	12.2	1.0	µg/L	10.0		122	70-130	0.492	25	
Styrene	12.1	1.0	µg/L	10.0		121	70-130	0.984	25	
1,1,1,2-Tetrachloroethane	10.5	1.0	µg/L	10.0		105	70-130	0.285	25	
1,1,2,2-Tetrachloroethane	11.0	0.50	µg/L	10.0		110	70-130	5.99	25	
Tetrachloroethylene	11.7	1.0	µg/L	10.0		117	70-130	0.255	25	
Tetrahydrofuran	8.85	10	µg/L	10.0		88.5	70-130	13.8	25	V-16
Toluene	11.2	1.0	µg/L	10.0		112	70-130	1.33	25	
1,2,3-Trichlorobenzene	9.77	5.0	µg/L	10.0		97.7	70-130	14.3	25	
1,2,4-Trichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130	7.64	25	
1,3,5-Trichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130	2.49	25	
1,1,1-Trichloroethane	9.25	1.0	µg/L	10.0		92.5	70-130	3.09	25	
1,1,2-Trichloroethane	11.4	1.0	µg/L	10.0		114	70-130	2.25	25	
Trichloroethylene	11.0	1.0	µg/L	10.0		110	70-130	0.901	25	
Trichlorofluoromethane (Freon 11)	10.6	2.0	µg/L	10.0		106	70-130	0.0946	25	
1,2,3-Trichloropropane	12.3	2.0	µg/L	10.0		123	70-130	5.70	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	12.9	1.0	µg/L	10.0		129	70-130	0.156	25	
1,2,4-Trimethylbenzene	11.1	1.0	µg/L	10.0		111	70-130	0.721	25	
1,3,5-Trimethylbenzene	11.6	1.0	µg/L	10.0		116	70-130	1.12	25	
Vinyl Chloride	9.57	2.0	µg/L	10.0		95.7	40-160	0.945	25	†
m+p Xylene	24.5	2.0	µg/L	20.0		122	70-130	0.692	25	
o-Xylene	12.6	1.0	µg/L	10.0		126	70-130	0.159	25	
Surrogate: 1,2-Dichloroethane-d4	23.7		µg/L	25.0		94.9	70-130			
Surrogate: Toluene-d8	25.0		µg/L	25.0		99.8	70-130			
Surrogate: 4-Bromofluorobenzene	25.0		µg/L	25.0		99.9	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.
- 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 are associated with reported result.
 - V-20 Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

CERTIFICATIONS

Certified Analyses included in this Report

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

CERTIFICATIONS

Certified Analyses included in this Report

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

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	06/30/2012
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2013
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2013
RI	Rhode Island Department of Health	LAO00112	12/30/2012
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2013
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	1381	12/14/2012



CON-test[®]
ANALYTICAL LABORATORY

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

12E 1060

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Page ____ of ____

Company Name: ARCADIS Telephone: 401-738-3887

Address: 300 Neko Center Blvd. Project # WK012152.0007

Attention: Donna Pallister Client PO# _____

Project Location: Providence, RI Springfield St.

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

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

Con-Test Lab ID (laboratory use only) Client Sample ID / Description

Con-Test Lab ID	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	*Matrix Code	Turn Code													
01	MPL-6	5/29/12	16:38	X	X	A	A													
02	WB-2	5/29/12	14:11	X	X	A	A													
03	ATC-1	5/29/12	16:15	X	X	GW	GW													
04	MW-7	5/29/12	9:35	X	X	GW	GW													
05	ATC-4	5/29/12	11:20	X	X	GW	GW													
06	MW-8	5/29/12	11:55	X	X	GW	GW													
07	Tip Blank	5/29/12	-	X	X	GW	GW													
08	MW-6	5/29/12	10:15	X	X	GW	GW													

Comments: _____

Relinquished by (signature) (To Recv) _____ Date/Time: 5/29/12 18:35

Received by (signature) _____ Date/Time: 5:30:12 10:15

Relinquished by (signature) _____ Date/Time: 5:30:12 16:35

Received by (signature) _____ Date/Time: 5/30/12 16:35

TURNAROUND TIME (business days) STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED. PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

# of Containers	** Preservation	*** Container Cod
2	18	
1	14	
1	14	

ANALYSIS REQUESTED

TO-14
VOC 8260

Disolved Metals
 Field Filtered
 Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial

S=Summa can
T=tiedlar bag
O=Other

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

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

Is your project MCP or RCP ?

- MCP Analytical Certification Form Required
- RCP Analysis Certification Form Required
- MA State DW Form Required PWSID # _____



NELAC & AIHA Certified
WB/DBE Certified

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

Detection Limit Requirements
Massachusetts: _____

Other: Node Island

Turnaround TT
 7-Day
 10-Day
 Other STP
RUSH †
 124-Hr 148-Hr
 172-Hr 14-Day
† Require lab approval

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: C. C-S DATE: 5/30/12

- 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 5.8°C

- 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 _____

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			Air Cassette	
500 mL Plastic			Hg/Hopcalite Tube	
250 mL plastic			Plastic Bag / Ziploc	
40 mL Vial - type listed below	18		PM 2.5 / PM 10	
Colisure / bacteria bottle			PUF Cartridge	
Dissolved Oxygen bottle			SOC Kit	
Encore			TO-17 Tubes	
Flashpoint bottle			Non-ConTest Container	
Perchlorate Kit			Other glass jar	
Other			Other	

Laboratory Comments: _____

40 mL vials: # HCl <u>18</u> # Methanol _____ # Bisulfate _____ # DI Water _____ # Thiosulfate _____ Unpreserved _____	Time and Date Frozen: _____
--	-----------------------------

June 6, 2012

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

Project Location: Providence RI, Springfield, St
Client Job Number:
Project Number: WK012152.0007
Laboratory Work Order Number: 12E1069

Enclosed are results of analyses for samples received by the laboratory on May 30, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lisa A. Worthington
Project Manager

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

REPORT DATE: 6/6/2012

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0007

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12E1069

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

PROJECT LOCATION: Providence RI, Springfield, St

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MPL-6	12E1069-01	Air		EPA TO-14A	
WB-2	12E1069-02	Air		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:

12E1069-01[MPL-6], 12E1069-02[WB-2]

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

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene, Hexachlorobutadiene

B052719-BS1

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

Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene, Hexachlorobutadiene

B052719-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Daren J. Damboragian
Laboratory Manager

ANALYTICAL RESULTS

Project Location: Providence RI, Springfield, St
 Date Received: 5/30/2012
Field Sample #: MPL-6
Sample ID: 12E1069-01
 Sample Matrix: Air
 Sampled: 5/29/2012 16:38

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size: 6 liter
 Flow Controller ID:
 Sample Type: Grab

Work Order: 12E1069
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Benzene	0.55	0.10		1.8	0.32	2	5/31/12 22:02	TPH	
Bromomethane	ND	0.10		ND	0.39	2	5/31/12 22:02	TPH	
Carbon Tetrachloride	ND	0.10		ND	0.63	2	5/31/12 22:02	TPH	
Chlorobenzene	ND	0.10		ND	0.46	2	5/31/12 22:02	TPH	
Chloroethane	ND	0.10		ND	0.26	2	5/31/12 22:02	TPH	
Chloroform	0.15	0.10		0.74	0.49	2	5/31/12 22:02	TPH	
Chloromethane	0.31	0.10		0.64	0.21	2	5/31/12 22:02	TPH	
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	5/31/12 22:02	TPH	
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	5/31/12 22:02	TPH	
1,3-Dichlorobenzene	0.11	0.10		0.65	0.60	2	5/31/12 22:02	TPH	
1,4-Dichlorobenzene	0.53	0.10		3.2	0.60	2	5/31/12 22:02	TPH	
Dichlorodifluoromethane (Freon 12)	0.54	0.10		2.7	0.49	2	5/31/12 22:02	TPH	
1,1-Dichloroethane	ND	0.10		ND	0.40	2	5/31/12 22:02	TPH	
1,2-Dichloroethane	ND	0.10		ND	0.40	2	5/31/12 22:02	TPH	
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	5/31/12 22:02	TPH	
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	5/31/12 22:02	TPH	
1,2-Dichloropropane	ND	0.10		ND	0.46	2	5/31/12 22:02	TPH	
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	5/31/12 22:02	TPH	
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	5/31/12 22:02	TPH	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	5/31/12 22:02	TPH	
Ethylbenzene	0.27	0.10		1.2	0.43	2	5/31/12 22:02	TPH	
Hexachlorobutadiene	ND	0.10		ND	1.1	2	5/31/12 22:02	TPH	
Methylene Chloride	5.8	1.0		20	3.5	2	5/31/12 22:02	TPH	
Styrene	5.9	0.10		25	0.43	2	5/31/12 22:02	TPH	
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	5/31/12 22:02	TPH	
Tetrachloroethylene	0.21	0.10		1.4	0.68	2	5/31/12 22:02	TPH	
Toluene	20	0.10		77	0.38	2	5/31/12 22:02	TPH	
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	5/31/12 22:02	TPH	
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	5/31/12 22:02	TPH	
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	5/31/12 22:02	TPH	
Trichloroethylene	0.23	0.10		1.2	0.54	2	5/31/12 22:02	TPH	
Trichlorofluoromethane (Freon 11)	3.3	0.10		19	0.56	2	5/31/12 22:02	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	5/31/12 22:02	TPH	
1,2,4-Trimethylbenzene	0.47	0.10		2.3	0.49	2	5/31/12 22:02	TPH	
1,3,5-Trimethylbenzene	0.16	0.10		0.81	0.49	2	5/31/12 22:02	TPH	
Vinyl Chloride	ND	0.10		ND	0.26	2	5/31/12 22:02	TPH	
m&p-Xylene	0.65	0.20		2.8	0.87	2	5/31/12 22:02	TPH	

ANALYTICAL RESULTS

Project Location: Providence RI, Springfield, St
 Date Received: 5/30/2012
Field Sample #: MPL-6
Sample ID: 12E1069-01
 Sample Matrix: Air
 Sampled: 5/29/2012 16:38

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size: 6 liter
 Flow Controller ID:
 Sample Type: Grab

Work Order: 12E1069
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	0.31	0.10		1.4	0.43	2	5/31/12 22:02		TPH

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	113	70-130	5/31/12 22:02

ANALYTICAL RESULTS

Project Location: Providence RI, Springfield, St
 Date Received: 5/30/2012
Field Sample #: WB-2
Sample ID: 12E1069-02
 Sample Matrix: Air
 Sampled: 5/29/2012 14:11

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size: 6 liter
 Flow Controller ID:
 Sample Type: Grab

Work Order: 12E1069
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analized		
Benzene	0.45	0.10		1.5	0.32	2	5/31/12 23:18	TPH	
Bromomethane	ND	0.10		ND	0.39	2	5/31/12 23:18	TPH	
Carbon Tetrachloride	ND	0.10		ND	0.63	2	5/31/12 23:18	TPH	
Chlorobenzene	ND	0.10		ND	0.46	2	5/31/12 23:18	TPH	
Chloroethane	ND	0.10		ND	0.26	2	5/31/12 23:18	TPH	
Chloroform	0.24	0.10		1.2	0.49	2	5/31/12 23:18	TPH	
Chloromethane	0.36	0.10		0.75	0.21	2	5/31/12 23:18	TPH	
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	5/31/12 23:18	TPH	
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	5/31/12 23:18	TPH	
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	5/31/12 23:18	TPH	
1,4-Dichlorobenzene	0.50	0.10		3.0	0.60	2	5/31/12 23:18	TPH	
Dichlorodifluoromethane (Freon 12)	0.61	0.10		3.0	0.49	2	5/31/12 23:18	TPH	
1,1-Dichloroethane	ND	0.10		ND	0.40	2	5/31/12 23:18	TPH	
1,2-Dichloroethane	ND	0.10		ND	0.40	2	5/31/12 23:18	TPH	
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	5/31/12 23:18	TPH	
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	5/31/12 23:18	TPH	
1,2-Dichloropropane	ND	0.10		ND	0.46	2	5/31/12 23:18	TPH	
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	5/31/12 23:18	TPH	
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	5/31/12 23:18	TPH	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	5/31/12 23:18	TPH	
Ethylbenzene	0.41	0.10		1.8	0.43	2	5/31/12 23:18	TPH	
Hexachlorobutadiene	ND	0.10		ND	1.1	2	5/31/12 23:18	TPH	
Methylene Chloride	6.4	1.0		22	3.5	2	5/31/12 23:18	TPH	
Styrene	5.6	0.10		24	0.43	2	5/31/12 23:18	TPH	
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	5/31/12 23:18	TPH	
Tetrachloroethylene	0.24	0.10		1.6	0.68	2	5/31/12 23:18	TPH	
Toluene	22	0.10		81	0.38	2	5/31/12 23:18	TPH	
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	5/31/12 23:18	TPH	
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	5/31/12 23:18	TPH	
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	5/31/12 23:18	TPH	
Trichloroethylene	0.12	0.10		0.63	0.54	2	5/31/12 23:18	TPH	
Trichlorofluoromethane (Freon 11)	1.2	0.10		6.9	0.56	2	5/31/12 23:18	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	5/31/12 23:18	TPH	
1,2,4-Trimethylbenzene	0.63	0.10		3.1	0.49	2	5/31/12 23:18	TPH	
1,3,5-Trimethylbenzene	0.23	0.10		1.2	0.49	2	5/31/12 23:18	TPH	
Vinyl Chloride	ND	0.10		ND	0.26	2	5/31/12 23:18	TPH	
m&p-Xylene	1.1	0.20		4.6	0.87	2	5/31/12 23:18	TPH	

ANALYTICAL RESULTS

Project Location: Providence RI, Springfield, St
 Date Received: 5/30/2012
Field Sample #: WB-2
Sample ID: 12E1069-02
 Sample Matrix: Air
 Sampled: 5/29/2012 14:11

Sample Description/Location:
 Sub Description/Location:
 Canister ID:
 Canister Size: 6 liter
 Flow Controller ID:
 Sample Type: Grab

Work Order: 12E1069
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type: Fixed-Orifice
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
o-Xylene	0.46	0.10		2.0	0.43	2	5/31/12	23:18	TPH

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	115	70-130	5/31/12 23:18

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
12E1069-01 [MPL-6]	B052719	1	1	N/A	1000	400	200	05/31/12
12E1069-02 [WB-2]	B052719	1	1	N/A	1000	400	200	05/31/12

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	
Batch B052719 - TO-15 Prep											
Blank (B052719-BLK1)						Prepared & Analyzed: 05/31/12					
Benzene	ND	0.020									
Bromomethane	ND	0.020									
Carbon Tetrachloride	ND	0.020									
Chlorobenzene	ND	0.020									
Chloroethane	ND	0.020									
Chloroform	ND	0.020									
Chloromethane	ND	0.020									
1,2-Dibromoethane (EDB)	ND	0.020									
1,2-Dichlorobenzene	ND	0.020									
1,3-Dichlorobenzene	ND	0.020									
1,4-Dichlorobenzene	ND	0.020									
Dichlorodifluoromethane (Freon 12)	ND	0.020									
1,1-Dichloroethane	ND	0.020									
1,2-Dichloroethane	ND	0.020									
1,1-Dichloroethylene	ND	0.020									
cis-1,2-Dichloroethylene	ND	0.020									
1,2-Dichloropropane	ND	0.020									
cis-1,3-Dichloropropene	ND	0.020									
trans-1,3-Dichloropropene	ND	0.020									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.020									
Ethylbenzene	ND	0.020									
Hexachlorobutadiene	ND	0.020									
Methylene Chloride	ND	0.20									
Styrene	ND	0.020									
1,1,1,2-Tetrachloroethane	ND	0.020									
Tetrachloroethylene	ND	0.020									
Toluene	ND	0.020									
1,2,4-Trichlorobenzene	ND	0.020									
1,1,1-Trichloroethane	ND	0.020									
1,1,2-Trichloroethane	ND	0.020									
Trichloroethylene	ND	0.020									
Trichlorofluoromethane (Freon 11)	ND	0.020									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.020									
1,2,4-Trimethylbenzene	ND	0.020									
1,3,5-Trimethylbenzene	ND	0.020									
Vinyl Chloride	ND	0.020									
m&p-Xylene	ND	0.040									
o-Xylene	ND	0.020									
Surrogate: 4-Bromofluorobenzene (1)	8.95				8.00		112		70-130		

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B052719 - TO-15 Prep											
LCS (B052719-BS1)					Prepared & Analyzed: 05/31/12						
Benzene	4.08				5.00		81.6	70-130			
Bromomethane	5.32				5.00		106	70-130			
Carbon Tetrachloride	4.74				5.00		94.8	70-130			
Chlorobenzene	4.82				5.00		96.3	70-130			
Chloroethane	6.19				5.00		124	70-130			
Chloroform	5.87				5.00		117	70-130			
Chloromethane	5.27				5.00		105	70-130			
1,2-Dibromoethane (EDB)	4.55				5.00		91.0	70-130			
1,2-Dichlorobenzene	5.88				5.00		118	70-130			
1,3-Dichlorobenzene	5.76				5.00		115	70-130			
1,4-Dichlorobenzene	5.63				5.00		113	70-130			
Dichlorodifluoromethane (Freon 12)	5.89				5.00		118	70-130			
1,1-Dichloroethane	5.36				5.00		107	70-130			
1,2-Dichloroethane	5.18				5.00		104	70-130			
1,1-Dichloroethylene	4.94				5.00		98.8	70-130			
cis-1,2-Dichloroethylene	5.31				5.00		106	70-130			
1,2-Dichloropropane	4.08				5.00		81.6	70-130			
cis-1,3-Dichloropropene	4.61				5.00		92.3	70-130			
trans-1,3-Dichloropropene	4.35				5.00		87.1	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	5.81				5.00		116	70-130			
Ethylbenzene	4.69				5.00		93.8	70-130			
Hexachlorobutadiene	6.99				5.00		140 *	70-130			L-01, V-06
Methylene Chloride	4.70				5.00		94.1	70-130			
Styrene	4.49				5.00		89.8	70-130			
1,1,2,2-Tetrachloroethane	4.74				5.00		94.8	70-130			
Tetrachloroethylene	5.76				5.00		115	70-130			
Toluene	4.63				5.00		92.5	70-130			
1,2,4-Trichlorobenzene	6.71				5.00		134 *	70-130			L-01, V-06
1,1,1-Trichloroethane	4.49				5.00		89.8	70-130			
1,1,2-Trichloroethane	4.80				5.00		96.0	70-130			
Trichloroethylene	4.54				5.00		90.9	70-130			
Trichlorofluoromethane (Freon 11)	5.96				5.00		119	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6.03				5.00		121	70-130			
1,2,4-Trimethylbenzene	4.85				5.00		97.0	70-130			
1,3,5-Trimethylbenzene	4.78				5.00		95.6	70-130			
Vinyl Chloride	5.67				5.00		113	70-130			
m&p-Xylene	9.18				10.0		91.8	70-130			
o-Xylene	4.71				5.00		94.3	70-130			
Surrogate: 4-Bromofluorobenzene (1)	9.16				8.00		115	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.
- A-09 Holding times and stability of samples taken in tedlar bags have not been determined
 - L-01 Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
 - V-06 Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

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	06/30/2012
CT	Connecticut Department of Public Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2013
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2013
RI	Rhode Island Department of Health	LAO00112	12/30/2012
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2013
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	1381	12/14/2012



con-test

ANALYTICAL LABORATORY

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 Email: info@contestlabs.com
 www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
 East Longmeadow, MA 01028

12E1069

Company Name: ARCADIS

Telephone: 401-738-3887

Address: 300 NRG Center Blvd.

Project # WK612152.0007

Client PO# Wswick R1 02886

Attention: Donna Pallister

DATA DELIVERY (check all that apply)
 FAX EMAIL WEBSITE

Project Location: Providence, RI Springfield St.

Fax #

Sampled By: A. DaSilva

Email: donna.pallister@arcadis-us.com

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

Format: OPDF EXCEL OGIS

Collection "Enhanced Data Package"

Con-Test Lab ID <small>(laboratory use only)</small>	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Composite	Grab	*Matrix Code	Date Code	Collection		# of Containers	** Preservation	*** Container Code
								Matrix Code	Date Code			
O1	MPL-6	5/29/12	16:38	X	A							
O2	WB-2		14:11	X	A							
---	ATC-1		16:15	X	GW							
---	MW-7		9:35	X	GW							
---	ATC-4		11:20	X	GW							
---	MW-8		11:55	X	GW							
---	Tip Blank			X	GW							
---	MW-6	5/29/12	10:15	X	GW							

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by (signature) (To Rec)

Date/Time: 5/29/12 18:35

Turnaround ^{TT}
 7-Day
 10-Day
 Other STP

Detection Limit Requirements
 Massachusetts: _____
 Connecticut: _____

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

Received by: (signature) [Signature]

Date/Time: 5:30:12 10:15

Relinquished by: (signature) [Signature]

Date/Time: 5:30:12 16:35

Received by: (signature) [Signature]

Date/Time: 5/30/12 16:35

Other: E Made Island

***Cont. Code: Dissolved Metals
 Field Filtered
 Lab to Filter

***Cont. Code: Amber glass
 G=glass
 P=plastic
 ST=sterile
 V=vial

S=Summa can
 T=tetlar bag
 O=Other

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

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



NELAC & AIHA Certified
 WBE/DBE Certified

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: C.C-S. DATE: 5/30/12

- 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 5.8 °C

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 _____

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		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other <u>Tedlar</u>	<u>2</u>

Laboratory Comments:

bags

40 mL vials: # HCl _____ # Methanol _____

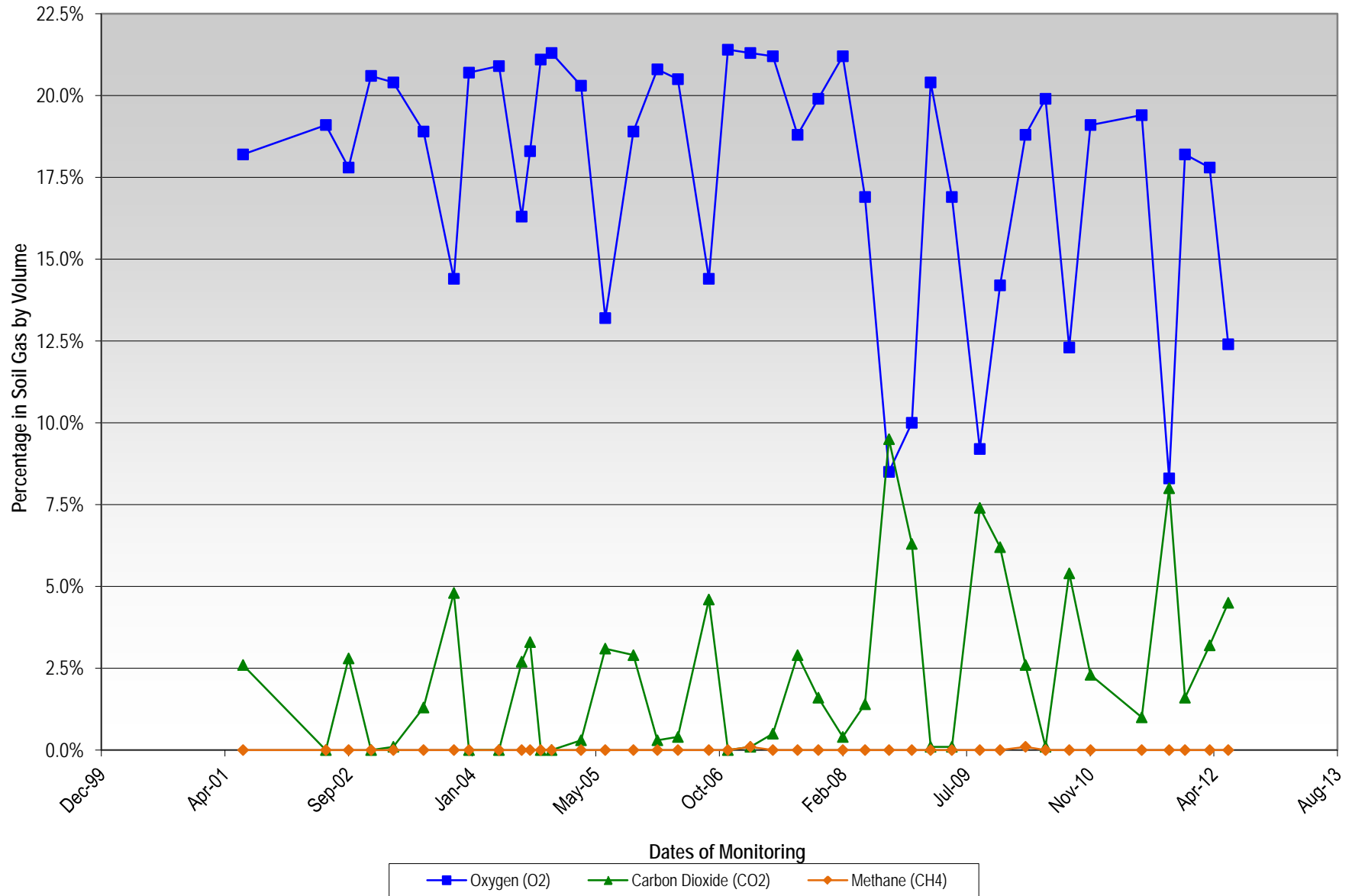
Doc# 277 # Bisulfate _____ # DI Water _____

Rev. 2 Sept 2011 # Thiosulfate _____ Unpreserved _____

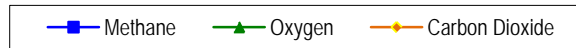
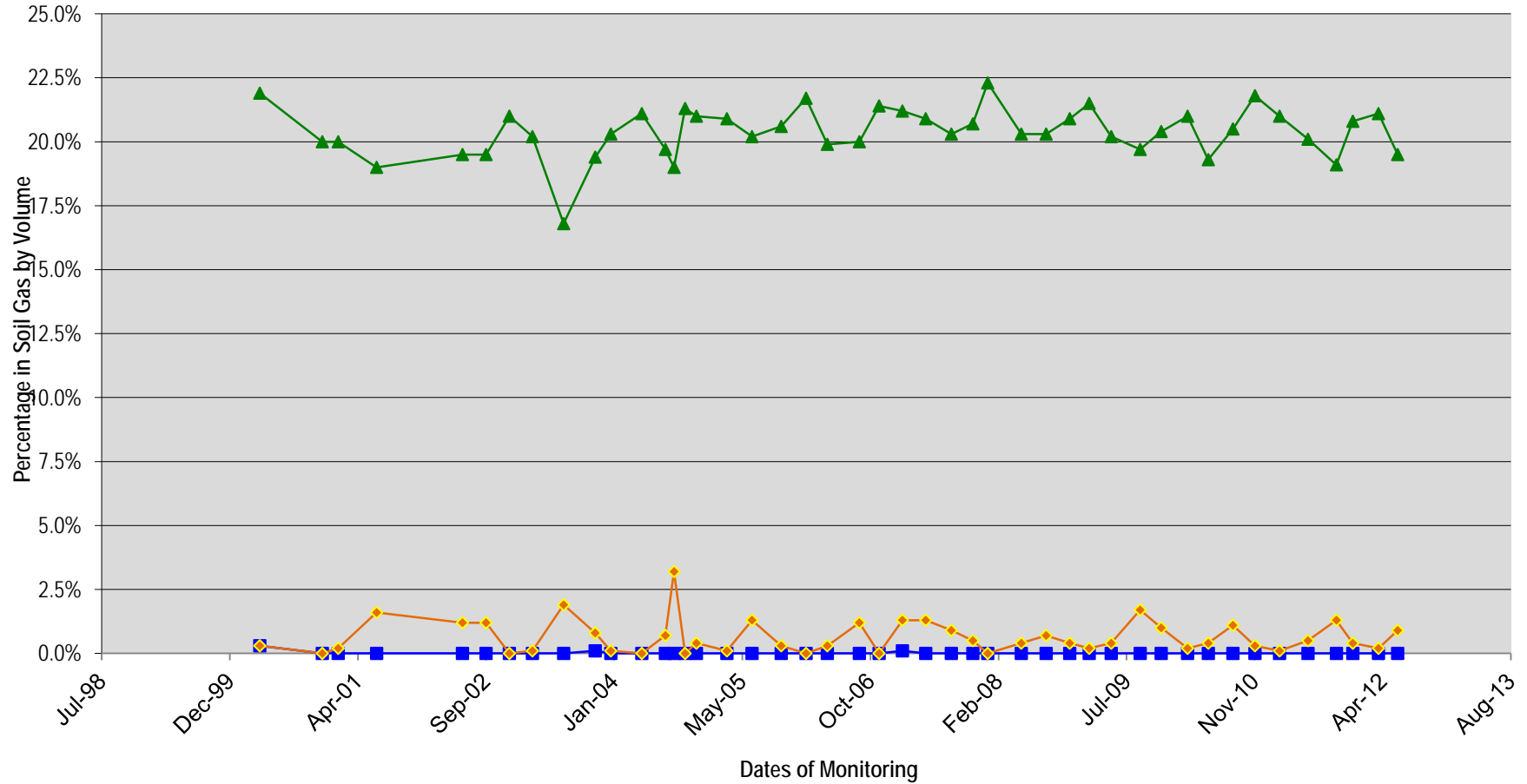
Time and Date Frozen:

Appendix C
Soil Gas Parameter Graphs

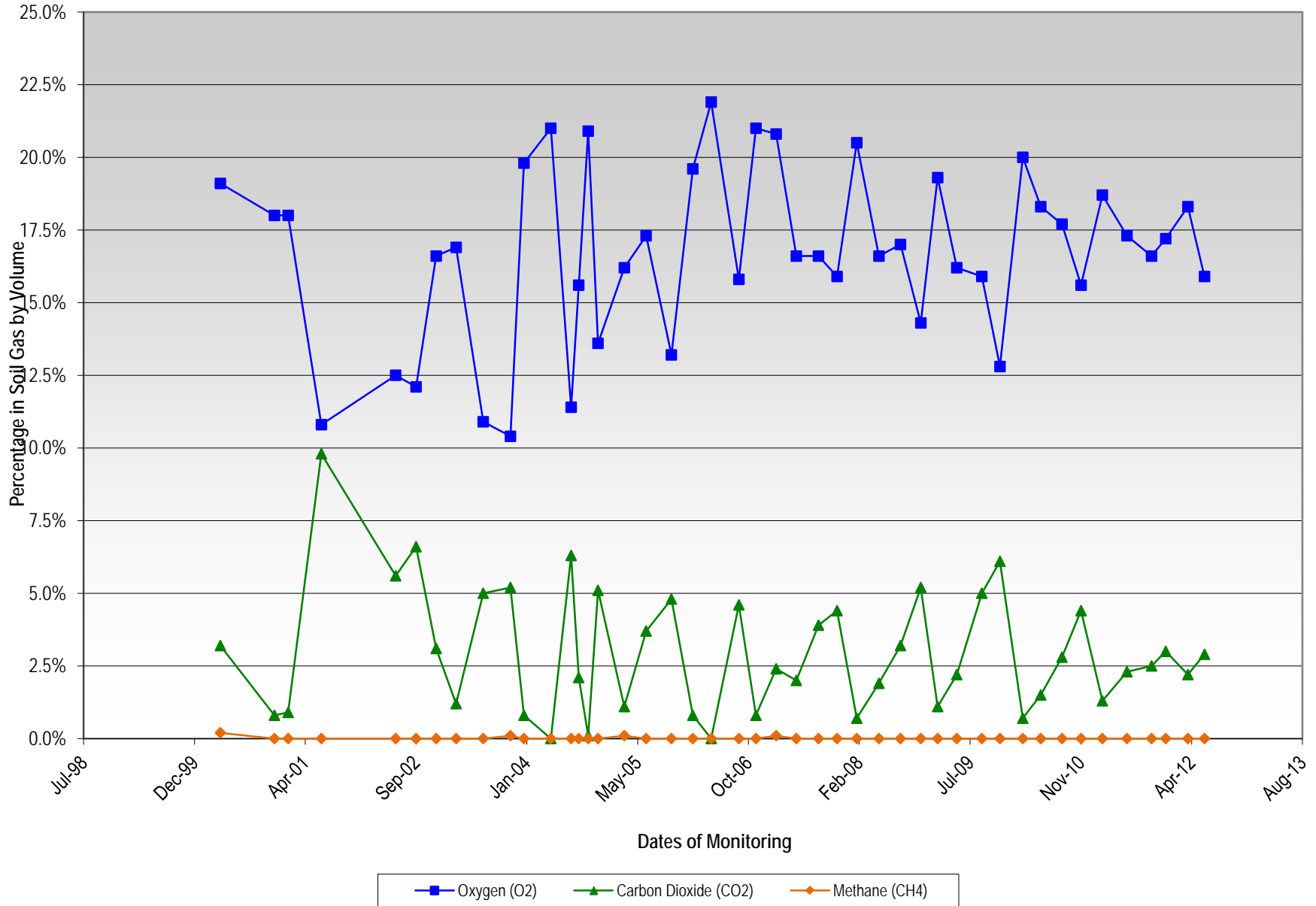
Soil Gas Well WB15
 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
 Springfield Street School Complex
 Providence, Rhode Island



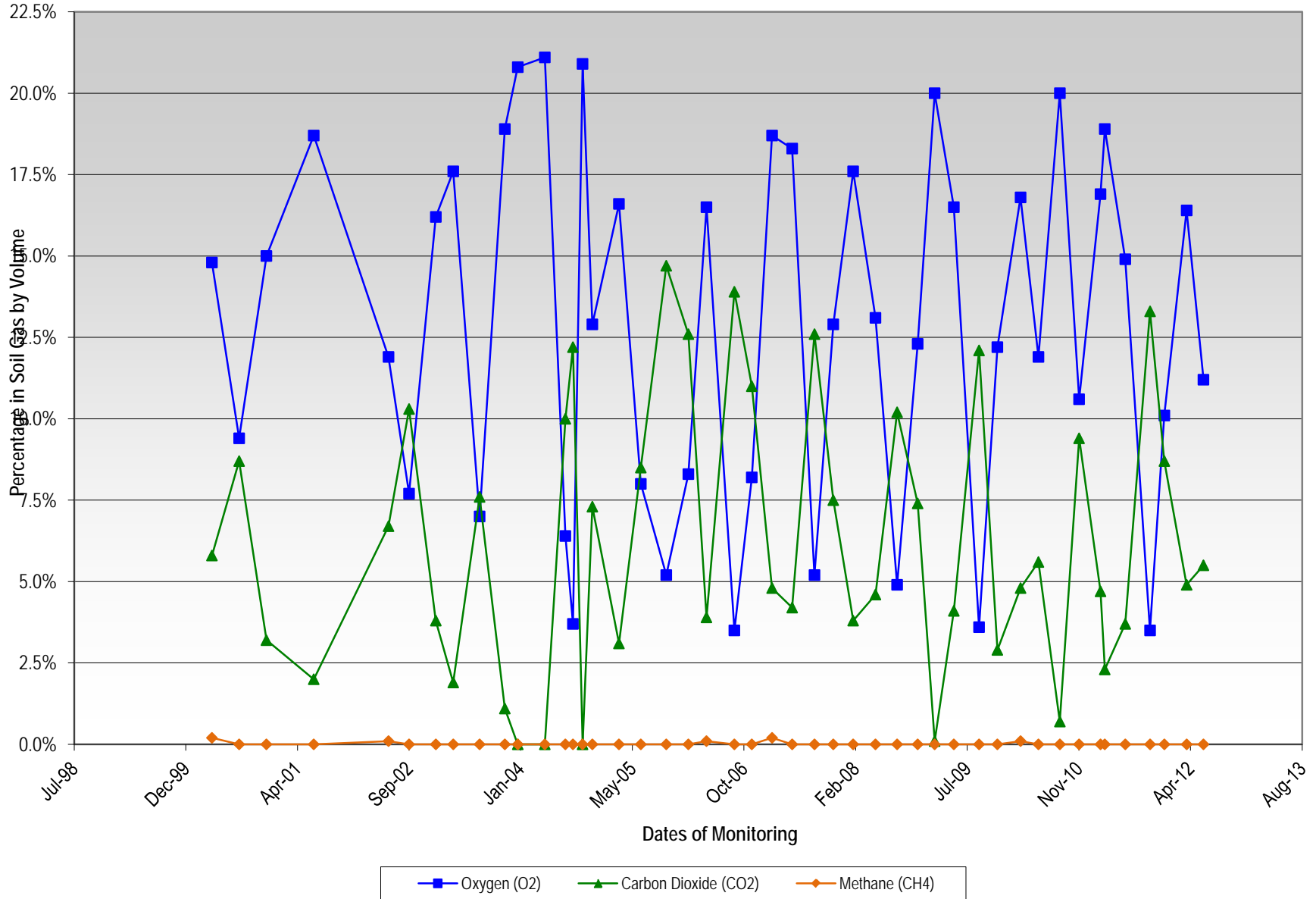
Soil Gas Well EPL1
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



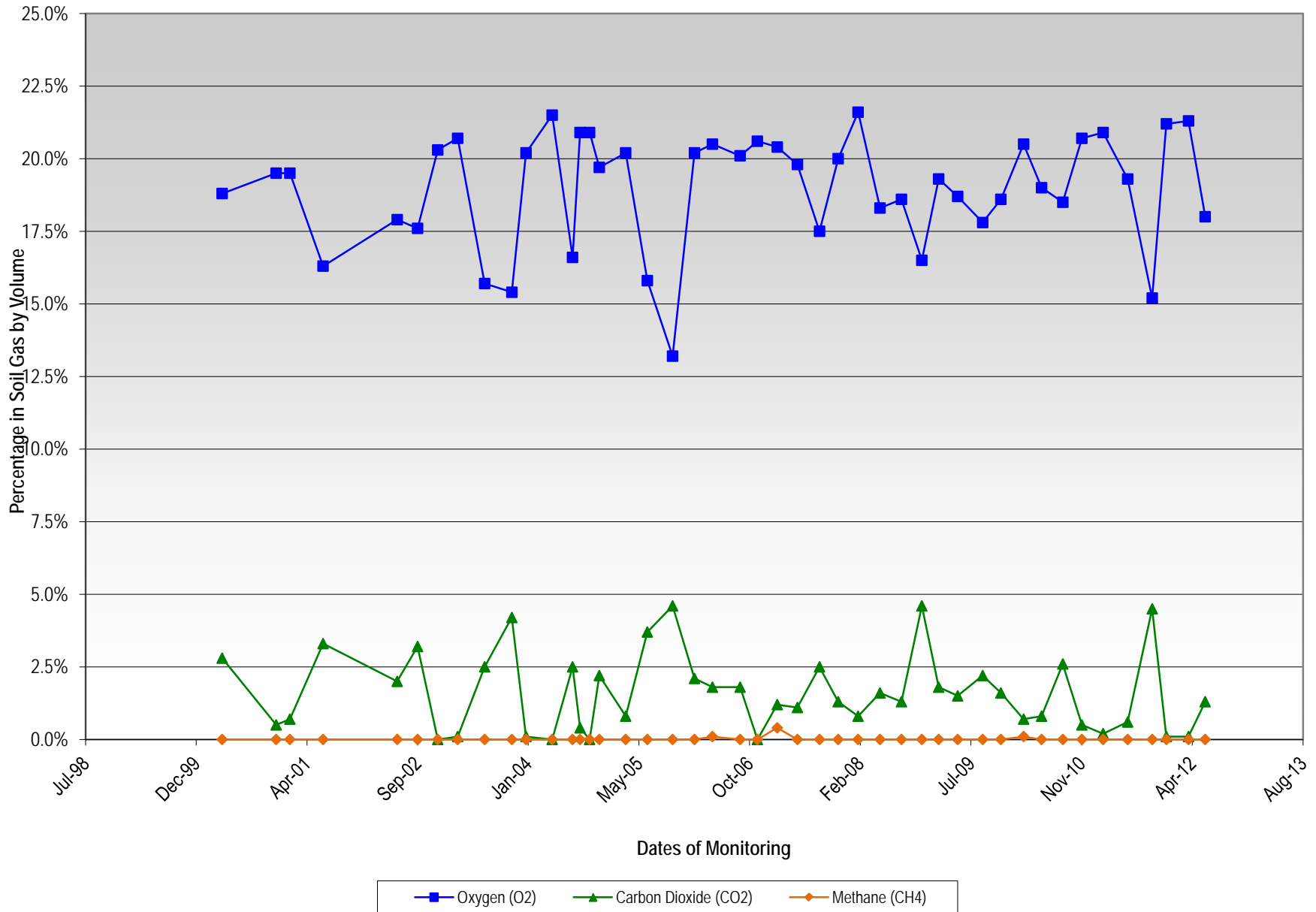
Soil Gas Well EPL4
 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
 Springfield Street School Complex
 Providence, Rhode Island



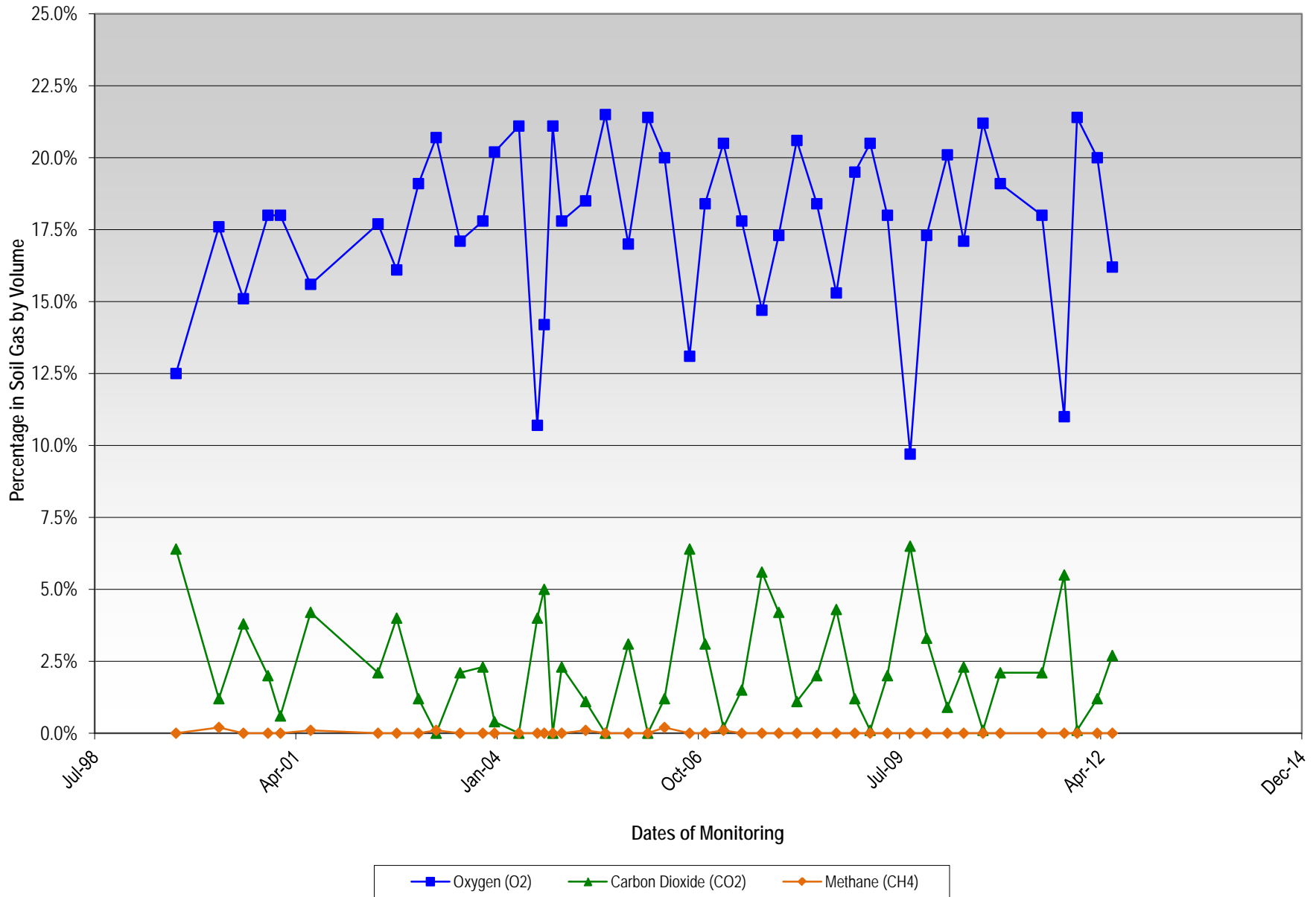
Soil Gas Well MPL5
 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
 Springfield Street School Complex
 Providence, Rhode Island



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 MPL-7 Fluctuations in Methane, Oxygen and Carbon Dioxide

