

**Springfield Street School
Complex
February 2010 Quarterly
Monitoring Report**



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

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Subject:

February 2010 Quarterly Monitoring Report for Springfield Street School Complex

SER-1

Dear Mr. Crawford:

Date:

March 25, 2010

ARCADIS Inc. (ARCADIS, formerly LFR, Inc.) conducted quarterly monitoring of soil gas, indoor air, the cap, and the sub-slab ventilation system between February 24 and March 2, 2010. The monitoring was scheduled for the week of February 22, 2010, but the soil gas monitoring and groundwater sampling were postponed to the following week due to the severe weather conditions (heavy rain) during the week of February 22. 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.

Contact:

Donna H. Pallister, PE

Phone:

401-738-3887

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Our ref:

WK012152.0006

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

COVER MONITORING

ARCADIS conducted a visual survey of the site on March 2, 2010 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. Some small holes were observed adjacent to the Middle School in the following locations: near the boiler room, in the courtyard on the north end of building; near the gas main, on the southwest side of the building, and; next to the concrete berm around the transformer located southwest of the school building.

Imagine the result

In addition, some tire damage to the lawn adjacent to the elementary school driveway was observed. The Providence School Department will repair these areas and documentation of the repairs will be submitted.

SUB-SLAB VENTILATION SYSTEM

The sub-slab ventilation system was inspected by ARCADIS during the quarterly monitoring on February 24, 2010. All of the sub-slab ventilation system blowers were operating at the time of the inspection. Some water was observed in the knockout tank for the blower in the front shed at the Middle School. The tank was drained on February 26, 2010.

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, a MiniRae 2000, and a Q-Rae multigas meter. Results of screening are provided on Table 1. Methane, carbon monoxide, and hydrogen sulfide were not detected in any of the samples. Carbon dioxide was detected in all samples, at concentrations of 0.1% to 0.3%, which is equal to or greater than the RAWP Action Level of 1000 ppm.

Organic vapors were detected at concentrations of 0.6 to 0.9 ppm, however, the meter, despite calibration appeared to be reading at this level all day. The organic vapor meter tends to be sensitive to moisture, and a heavy rain was falling throughout the day that the measurements were conducted. The National Weather Service records indicate that Providence received between 1.5 and 2.0 inches of rain on the day the measurements were performed.

INDOOR AIR MONITORING

Indoor air monitoring was conducted on February 24, 2010 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). The schools were occupied by students 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.

All readings were below the RAWP Action Levels except for the carbon dioxide reading in the cafeterias of both schools. Carbon dioxide was measured at 1011 ppm

in the Elementary School cafeteria, and 1004 ppm in the middle school cafeteria. Both of these measurements were made when the cafeterias were fully occupied. The outside temperature on February 24 was 47°F, so the heating system was operating. Carbon dioxide was measured outside in the school parking lot at 407 to 422 ppm.

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 October 22, 2009 and November 17, 2009. 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

Three of five groundwater monitoring wells were sampled by ARCADIS on March 1, 2010. Two monitoring wells, ATC-2 and ATC-3, were not able to be sampled because they were obstructed. Prior to sampling, the depth to water was gauged, and a volume of water equivalent to approximately three well volumes was removed from each well. Groundwater samples were collected in laboratory prepared sample jars and delivered under chain-of-custody protocol to Contest Laboratory in East Longmeadow, Massachusetts for analysis for volatile organic compounds by EPA method 8260. The laboratory report is provided as Attachment B. Results of analysis of groundwater samples are summarized in Table 3.

No target analytes were detected in the three groundwater samples.

SOIL GAS MONITORING

Soil gas monitoring was conducted at 28 locations on March 1 and 2, 2010. The sampling was conducted by placing an air sampling gripper cap on each well and attaching a piece of tubing. A volume of air equivalent to approximately 3 well volumes was removed from each well using a Sensidyne BDXII air sampling pump. Soil gas was then screened using a Landtec GEM 2000 Plus Landfill Gas Analyzer, a QRAE 4-gas meter 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. Hydrogen sulfide was not detected in any samples. Organic vapor readings ranged from 0.0 to 0.4, well below the RAWP Action Level of 5 ppm. Methane was detected in 13 wells; the concentration was 0.1% methane in 12 of the wells, and 0.3% methane in well MPL7. The concentrations of methane detected were low and were at the instrument detection limit of 0.1%.

Carbon monoxide was detected at levels ranging from 0 to 11 ppm. Two locations exceeded the RAWP Action Level of 9 ppm for carbon monoxide: MPL-6 at 11 ppm, and MPL-7 at 10 ppm.

Carbon dioxide was detected in soil gas at concentrations ranging from 0.0% to 5.0%. The carbon dioxide Remedial Action Work Plan Action Level is 0.1% and 24 readings exceeded the action level. The maximum concentration detected during this round, 5.0%, is significantly lower than the maximum detected during the November 2009 monitoring round when the maximum concentration detected was 12.3%. This is consistent with the pattern shown during previous rounds of declining carbon dioxide concentrations in the winter, and increasing concentrations in the summer. Graphs presenting carbon dioxide, oxygen, and methane concentrations over time for seven representative wells are presented in Attachment C.

The presence of carbon dioxide in soil gas is an indicator of subsurface bacterial activity and does not represent a threat to users of the property. The highest concentration of carbon dioxide was found in well MPL-6, located on the northern end of the property adjacent to the parking lot. 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.

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 B. 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

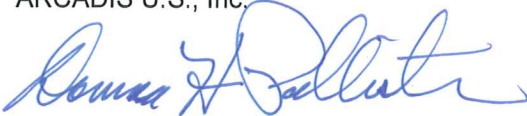
Methane, hydrogen sulfide, and organic vapor concentrations did not exceed RAWP action levels in any soil gas samples, or indoor air samples. Carbon dioxide concentrations exceeded the action level at many soil gas locations. The detection of carbon dioxide in soil gas is typical of what has been detected during previous monitoring events and appears to be a result of naturally occurring bacterial activity in the subsurface.

Inspection of the cap detected some small areas requiring repairs. Documentation of the repairs will be submitted under separately.

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:

S. Tremblay, 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
February 24, 2010

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	0.2	20.9	0	0	0.7
Elementary School inlet 2	0	0.2	20.8	0	0	0.6
Elementary School Outlet	0	0.3	20.8	0	0	0.9
Middle School front shed inlet	0	0.1	20.9	0	0	0.6
Middle School front shed after 2 nd carbon	0	0.1	20.9	0	0	0.8
Middle School back shed inlet	0	0.3	20.9	0	0	0.6
Middle School back shed after 2 nd carbon	0	0.1	21.1	0	0	0.7
Remedial Action Work Plan Action Levels	0.5	1,000 ppm (0.1%)	NA	9 ppm	10 ppm	5 ppm

Measurements made with: Landtec GEM2000 Plus, a MiniRae 2000, and a Q-Rae multigas meter

Sampling date: February 24, 2010

Measured by: D.H. Pallister

Table 2
Indoor Air Monitoring Results
Springfield Street School Complex
Providence, Rhode Island
February 24, 2010

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	707	20.9	0	0	1.0
E.S. Elevator	0	675	20.9	0	0	1.2
E.S. Faculty Work Room	0	679	20.9	0	0	1.2
E.S. Gym	0	649	20.9	0	0	1.1
E.S. Stairway B	0	620	20.9	0	0	1.3
E.S. Stairway C	0	771	20.9	0	0	1.2
E.S. Library	0	782	20.9	0	0	1.1
E.S. Room 113 Music Room	0	720	20.9	0	0	1.0
E.S. Cafeteria	0	1011	20.9	0	0	1.7
E.S. Mechanical Room	0	624	20.9	0	0	0.8

Table 2
Indoor Air Monitoring Notes
Springfield Street School Complex
February 24, 2010

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	705	20.9	0	0	0.8
M.S. Elevator	0	581	21.1	0	0	0.5
M.S. Stairway near Elem. School GS-01	0	646	20.9	0	0	0.7
M.S. Near sensor #16 in hall outside cafeteria	0	640	20.9	0	0	0.6
M.S. Faculty Work Room	0	585	20.9	0	0	0.5
M.S. Music Room	0	642	20.9	0	0	0.6
M.S. GS-03 Across from Boys Bathroom	0	745	20.9	0	0	0.8

Table 2
Indoor Air Monitoring Notes
Springfield Street School Complex
February 24, 2010

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
M.S. Cafeteria	0	1004	20.9	0	0	0.7
M.S. Front Hall near sensor #4	0	706	20.9	0	0	0.6
M.S. Hallway across from elevator near sensor #9	0	610	20.9	0	0	0.6
M.S. Near sensor GS 06 – hallway right end	0	538	20.9	0	0	0.5
Remedial Action Work Plan Action Levels	0.5	1,000 ppm (0.1%)	NA	9 ppm	10 ppm	5 ppm

Notes:

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

Measurements made with:

PPM = Parts per million

Outdoor conditions: Middle School Parking Lot

Carbon Dioxide: 407 (MS parking lot), 422 (ES parking lot)
Temperature: 47° F

Table 3
 Summary of Ground Water Sampling Results
 Springfield Street School Complex
 Springfield Street
 Providence, Rhode Island

Monitoring Wells	Detected Compounds	Sampling Dates and Results in µg/L																												RIDEM GB Groundwater Objective					
		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	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	6.1	ND	18.9	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140
	n-butylbenzene	1.7	ND	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	sec-Butylbenzene	1.1	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	
	tert-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	
	Ethylbenzene	4.5	ND	12.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1600	
	Isopropylbenzene	ND	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	
	n-Propylbenzene	ND	ND	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	
	MTBE	12.4	7.0	28.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5000		
	Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	1.27	ND	ND	ND	ND	ND	1.10	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	540	
	Toluene	2.5	ND	8.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1700		
	1,2,4-Trimethylbenzene	2.2	ND	8.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA		
	1,3,5-Trimethylbenzene	3.4	ND	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA		
	Xylenes	14.6	ND	37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA		
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	
ATC-2	Chloroform	0.9	ND	ND	1.0	ND	ND	ND	ND	ND	NS	1.1	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	
ATC-3	Toluene	ND	ND	ND	ND	NS	ND	ND	ND	ND	3.03	ND	ND	ND	ND	ND	ND	3.0	ND	4.5	13.1	ND	2.3	1.3	ND	ND	NS	NS	NS	NS	NS	NS	NS	1700	
ATC-4	Benzene	ND	ND	2.5	0.6	ND	ND	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140		
	Chlorobenzene	2.6	ND	57.3	2.7	5.18	ND	ND	ND	ND	ND	ND	0.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.80	1.90	ND	ND	ND	ND	ND	ND	70			
	1,4-dichlorobenzene	4.2	ND	9.2	3.4	3.36	ND	ND	ND	ND	ND	0.80	1.6	2.1	ND	ND	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	5000		
	MTBE	ND	ND	ND	ND	ND	ND	ND	1.19	9.55	1.06	2.90	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5000		
	1,2,4-Trimethylbenzene	ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA		
ATC-5	MTBE	ND	ND	2.2	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5000		
	Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA		
Sampled By:		ATC	ATC	ATC	ATC	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	ARCADIS	

*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 4
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
March 1-2, 2010

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	0.9	20.1	0	0	0.1
WB-2	0.0	0.3	21.2	0	0	0.1
WB-3	0.0	0.1	21.2	0	0	0.1
WB-4	0.0	0.1	21.3	0	0	0.0
WB-5	0.0	0.1	21.1	0	0	0.0
WB-6	0.0	0.2	21.0	0	0	0.0
WB-7	Casing full of water – not sampled					
WB-8	0.1	0.1	21.2	0	0	0.0
WB-12	0.1	0.8	20.6	0	0	0.1
WB-13	0.0	0.4	20.9	0	0	0.1
WB-14	0.0	0.2	20.9	0	0	0.0
WB-15	0.1	2.6	18.8	1	0	0.2
EPL-1	0.0	0.2	21.0	0	0	0.1
EPL-2	0.0	0.1	21.2	0	0	0.1
EPL-3	0.0	0.3	20.8	0	0	0.1
EPL-4	0.0	0.7	20.2	0	0	0.2
EPL-5	0.0	1.7	19.1	0	0	0.2
ENE-1	0.1	0.4	20.7	0	0	0.1

Table 4
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
March 1-2, 2010

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MG1	0.0	3.5	18.2	6	0	0.2
MG2	0.1	0.7	20.5	0	0	0.1
MG3	0.0	1.1	20.0	0	0	0.1
MG4	0.1	0.7	20.4	0	0	0.1
MG5	0.1	0.4	20.6	0	0	0.0
MPL2	0.1	1.3	19.1	0	0	0.0
MPL3	0.1	3.4	17.6	1	0	0.2
MPL5	0.1	4.8	16.8	1	0	0.2
MPL6	0.1	5.0	11.3	11	0	0.4
MPL7	0.3	4.4	11.7	10	0	0.3
MPL8	0.1	0.9	20.5	0	0	0.1
Remedial Action Work Plan Action Levels	0.5%	1,000 PPM	NA	9 PPM	10 PPM	5 PPM

Sampled by: Chris Jamison

Weather Conditions: Clear, Temperature mid-40's F

Sampling Equipment: Landtec GEM 2000 Plus, MiniRae 2000 PID, QRae 4 gas meter

Table 5
Results of Laboratory Analysis of Soil Gas
Springfield Street School Complex
Providence, Rhode Island

Parameter	OSHA PELs (PPBv)	Results of Analysis in parts per billion by volume (PPBv)																										
		MPL-6													WB-2													
		Date Collected:	2/20/2007	5/17/2007	8/22/2007	11/14/2007	2/12/2008	5/21/2008	8/26/2008	11/26/2008	2/10/2009	5/7/2009	8/25/2009	11/19/2009	3/1/2010	2/20/2007	5/17/2007	8/22/2007	11/14/2007	2/12/2008	5/21/2008	8/26/2008	11/26/2008	2/26/2009	5/12/2009	8/25/2009	11/18/2009	3/1/2010
Benzene	1,000	ND	0.36	0.74	ND	ND	0.51	1.0	0.3	0.31	0.31	2.40	0.29	0.18	ND	0.29	ND	ND	ND	ND	0.21	0.46	0.23	0.24	ND	2.1	0.39	0.16
Carbon Tetrachloride	10,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.093	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06	ND	0.062
Chlorobenzene	75,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.058	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.053	ND	0.073	
Chloroethane	1,000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	50,000	ND	3.2	0.48	ND	ND	0.25	ND	0.10	ND	ND	0.15	0.12	0.12	ND	ND	ND	ND	ND	ND	ND	0.06	ND	ND	0.22	0.38	0.07	
Chloromethane	100,000	ND	0.24	0.36	ND	ND	0.28	0.88	0.36	0.39	0.16	0.77	0.13	0.26	ND	0.11	ND	ND	ND	0.2	0.56	0.23	0.54	ND	0.28	0.2	0.22	
Dichlorodifluoromethane (Freon 12)	1,000,000	ND	ND	0.28	ND	ND	0.53	0.78	0.31	0.44	0.44	0.43	0.28	0.61	ND	0.5	0.57	0.66	0.57	0.49	0.66	0.4	0.51	0.55	0.57	0.44	0.66	
1,3-Dichlorobenzene	None	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30	1.70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31	0.74	ND	
1,4-Dichlorobenzene	75,000	ND	ND	0.54	ND	ND	0.65	ND	0.13	ND	0.27	0.44	0.051	ND	0.16	0.37	ND	ND	ND	ND	ND	0.15	ND	0.3	0.25	0.056		
1,1-Dichloroethane	100,000	ND	ND	0.28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	None	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethylene	200,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	1,000,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.36	ND	ND
Ethylbenzene	100,000	ND	0.75	0.7	2.3	0.65	1.3	3.9	0.4	0.36	3.8	5.6	1.1	0.14	ND	0.55	0.46	3.2	0.78	0.41	1.3	0.33	0.42	2.0	4.6	0.6	0.16	
Methylene Chloride	100,000	ND	0.84	3.5	2	2.6	3.8	2.9	1.7	2.2	3.8	1.9	1.5	1.7	ND	0.53	1.7	4.9	2.5	3.4	3.0	2.3	1.1	2.0	1.8	1.8	1.9	
Styrene	100,000	ND	1.6	1.5	1.4	ND	1.1	3.0	0.3	0.36	2.8	3.2	1.0	0.26	ND	1	1.1	0.69	ND	0.5	1.5	0.1	0.47	1.3	3.1	0.51	0.33	
Tetrachloroethylene	100,000	ND	0.19	0.27	4.6	1.9	0.99	4.1	0.6	0.33	0.65	4.0	0.76	0.19	ND	0.16	0.81	3.2	2.7	0.64	1.6	0.8	0.32	16	3.2	0.43	0.13	
Toluene	200,000	4.9	17	7.2	15	6.9	7.7	64	4	4.1	30	21	5	0.84	4.6	12	5.3	10	9.3	3	30	4.8	2.3	12	21	2.6	1.4	
1,1,1-Trichloroethane	350,000	ND	ND	0.36	ND	ND	ND	0.27	ND	ND	ND	ND	ND	ND	ND	ND	38	ND	1.3	ND	ND	ND	ND	ND	ND	0.052	ND	
Trichloroethylene	100,000	ND	ND	0.25	0.53	1	4.1	3.6	1.7	ND	0.26	0.098	0.91	0.067	ND	ND	4.6	ND	ND	3	2.8	0.97	0.32	ND	0.095	0.26	ND	
Trichlorofluoromethane (Freon 11)	1,000,000	ND	ND	0.7	0.65	ND	0.27	1.3	0.5	0.28	0.72	0.96	0.60	0.44	ND	0.41	0.43	ND	ND	0.26	0.54	0.3	0.41	2.8	2	0.51	0.47	
1,1,2-Trichloro-1,2,2,-Trifluoroethane (Freon 113)	1,000,000	ND	ND	0.27	ND	ND	ND	ND	0.06	ND	ND	0.06	0.083	0.069	ND	ND	ND	ND	ND	ND	ND	0.07	ND	ND	0.06	0.11	0.076	
1,3,5-Trimethylbenzene	None	ND	0.12	ND	ND	ND	0.28	3.7	0.1	ND	8.1	0.5	0.31	0.057	ND	ND	ND	0.57	ND	ND	0.67	0.2	0.13	1.4	0.41	0.18	0.071	
1,2,4-Trimethylbenzene	None	ND	ND	0.44	1.6	1.3	1.3	9.1	0.3	0.24	15	1.6	1.3	0.23	ND	1	0.26	1.7	1.1	0.66	1.6	0.66	0.52	3.2	1.2	0.9	0.28	
Vinyl chloride	1,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.087	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
M/p-Xylene	100,000	1.4	3.1	2.4	5.3	2.2	3.7	11	1	0.95	11	15	3	0.41	1.2	2.5	1.8	10	2.6	1.3	3.7	0.94	1.4	6.1	13	1.5	0.52	
o-Xylene	100,000	ND	0.61	0.68	1.8	0.69	1.6	5.0	0.4	0.32	8.0	4.3	1.2	0.15	ND	0.56	0.48	3.5	0.8	0.64	1.5	0.43	0.45	2.3	3.3	0.6	0.18	

Notes:
 ND = Not detected
 Only detected compounds are listed, see laboratory report for complete list on analytes.

Appendix A

Limitations and Service Constraints

LIMITATIONS AND SERVICE CONSTRAINTS

GENERAL REPORTS/DOCUMENT

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

Results of any investigations or testing and any findings presented in this report apply solely to conditions existing at the time when ARCADIS'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

March 9, 2010

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

Project Location: Springfield St.
Client Job Number:
Project Number: WK012152.0000
Laboratory Work Order Number: 10C0096

Enclosed are results of analyses for samples received by the laboratory on March 2, 2010. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom
Project Manager

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

REPORT DATE: 3/9/2010

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0000

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 10C0096

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

PROJECT LOCATION: Springfield St.

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
WB-2	10C0096-01	Air		EPA TO-14A	
MPL-6	10C0096-02	Air		EPA TO-14A	
ATC-5	10C0096-03	Ground Water		SW-846 8260B	
ATC-4	10C0096-04	Ground Water		SW-846 8260B	
ATC-1	10C0096-05	Ground Water		SW-846 8260B	
Trip Blank	10C0096-06	Trip Blank Water		SW-846 8260B	

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:

10C0096-01[WB-2], 10C0096-02[MPL-6]

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:

Hexachlorobutadiene

B011202-BS1

SW-846 8260B

Qualifications:

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

Analyte & Samples(s) Qualified:

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

10C0096-03[ATC-5], 10C0096-04[ATC-4], 10C0096-05[ATC-1], 10C0096-06[Trip Blank], B011046-BLK1, B011046-BS1, B011046-BSD1

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

Analyte & Samples(s) Qualified:

1,1,1,2-Tetrachloroethane, Methylene Chloride, trans-1,4-Dichloro-2-butene

B011046-BS1, B011046-BSD1

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

Analyte & Samples(s) Qualified:

1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Naphthalene, tert-Butyl Alcohol (TBA), trans-1,3-Dichloropropene

10C0096-03[ATC-5], 10C0096-04[ATC-4], 10C0096-05[ATC-1], 10C0096-06[Trip Blank], B011046-BLK1, B011046-BS1, B011046-BSD1

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

Analyte & Samples(s) Qualified:

Bromomethane

B011046-BS1, B011046-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

10C0096-03[ATC-5], 10C0096-04[ATC-4], 10C0096-05[ATC-1], 10C0096-06[Trip Blank], B011046-BLK1, B011046-BS1, B011046-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.

A handwritten signature in black ink, appearing to read "M. Erickson", is written in a cursive style.

Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 3/2/2010
Field Sample #: WB-2
Sample ID: 10C0096-01
 Sample Matrix: Air
 Sampled: 3/1/2010 15:30

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

Work Order: 10C0096
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Benzene	0.16	0.050		0.52	0.16	1	3/4/10	8:47	WSD
Bromomethane	ND	0.050		ND	0.19	1	3/4/10	8:47	WSD
Carbon Tetrachloride	0.062	0.050		0.39	0.31	1	3/4/10	8:47	WSD
Chlorobenzene	0.073	0.050		0.34	0.23	1	3/4/10	8:47	WSD
Chloroethane	ND	0.050		ND	0.13	1	3/4/10	8:47	WSD
Chloroform	0.065	0.050		0.32	0.24	1	3/4/10	8:47	WSD
Chloromethane	0.22	0.050		0.46	0.10	1	3/4/10	8:47	WSD
1,2-Dibromoethane (EDB)	ND	0.050		ND	0.38	1	3/4/10	8:47	WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	3/4/10	8:47	WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	3/4/10	8:47	WSD
1,4-Dichlorobenzene	0.056	0.050		0.34	0.30	1	3/4/10	8:47	WSD
Dichlorodifluoromethane (Freon 12)	0.66	0.050		3.2	0.25	1	3/4/10	8:47	WSD
1,1-Dichloroethane	ND	0.050		ND	0.20	1	3/4/10	8:47	WSD
1,2-Dichloroethane	ND	0.050		ND	0.20	1	3/4/10	8:47	WSD
1,1-Dichloroethylene	ND	0.050		ND	0.20	1	3/4/10	8:47	WSD
cis-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	3/4/10	8:47	WSD
1,2-Dichloropropane	ND	0.050		ND	0.23	1	3/4/10	8:47	WSD
cis-1,3-Dichloropropene	ND	0.050		ND	0.23	1	3/4/10	8:47	WSD
trans-1,3-Dichloropropene	ND	0.050		ND	0.23	1	3/4/10	8:47	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	3/4/10	8:47	WSD
Ethylbenzene	0.16	0.050		0.70	0.22	1	3/4/10	8:47	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	3/4/10	8:47	WSD
Methylene Chloride	1.9	0.20		6.6	0.69	1	3/4/10	8:47	WSD
Styrene	0.33	0.050		1.4	0.21	1	3/4/10	8:47	WSD
1,1,2,2-Tetrachloroethane	ND	0.050		ND	0.34	1	3/4/10	8:47	WSD
Tetrachloroethylene	0.13	0.050		0.87	0.34	1	3/4/10	8:47	WSD
Toluene	1.4	0.050		5.1	0.19	1	3/4/10	8:47	WSD
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	3/4/10	8:47	WSD
1,1,1-Trichloroethane	ND	0.050		ND	0.27	1	3/4/10	8:47	WSD
1,1,2-Trichloroethane	ND	0.050		ND	0.27	1	3/4/10	8:47	WSD
Trichloroethylene	ND	0.050		ND	0.27	1	3/4/10	8:47	WSD
Trichlorofluoromethane (Freon 11)	0.47	0.050		2.6	0.28	1	3/4/10	8:47	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.076	0.050		0.58	0.38	1	3/4/10	8:47	WSD
1,2,4-Trimethylbenzene	0.28	0.050		1.4	0.25	1	3/4/10	8:47	WSD
1,3,5-Trimethylbenzene	0.071	0.050		0.35	0.25	1	3/4/10	8:47	WSD
Vinyl Chloride	ND	0.050		ND	0.13	1	3/4/10	8:47	WSD
m&p-Xylene	0.52	0.10		2.3	0.43	1	3/4/10	8:47	WSD
o-Xylene	0.18	0.050		0.76	0.22	1	3/4/10	8:47	WSD

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 3/2/2010
Field Sample #: WB-2
Sample ID: 10C0096-01
 Sample Matrix: Air
 Sampled: 3/1/2010 15:30

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

Work Order: 10C0096
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (1)		111			70-130		3/4/10 8:47	

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 3/2/2010
Field Sample #: MPL-6
Sample ID: 10C0096-02
 Sample Matrix: Air
 Sampled: 3/1/2010 14:00

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

Work Order: 10C0096
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL		Results	RL		Analyzed		
Benzene	0.18	0.050		0.58	0.16	1	3/4/10	9:27	WSD
Bromomethane	ND	0.050		ND	0.19	1	3/4/10	9:27	WSD
Carbon Tetrachloride	ND	0.050		ND	0.31	1	3/4/10	9:27	WSD
Chlorobenzene	0.058	0.050		0.27	0.23	1	3/4/10	9:27	WSD
Chloroethane	ND	0.050		ND	0.13	1	3/4/10	9:27	WSD
Chloroform	0.12	0.050		0.58	0.24	1	3/4/10	9:27	WSD
Chloromethane	0.26	0.050		0.54	0.10	1	3/4/10	9:27	WSD
1,2-Dibromoethane (EDB)	ND	0.050		ND	0.38	1	3/4/10	9:27	WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	3/4/10	9:27	WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	3/4/10	9:27	WSD
1,4-Dichlorobenzene	0.051	0.050		0.31	0.30	1	3/4/10	9:27	WSD
Dichlorodifluoromethane (Freon 12)	0.61	0.050		3.0	0.25	1	3/4/10	9:27	WSD
1,1-Dichloroethane	ND	0.050		ND	0.20	1	3/4/10	9:27	WSD
1,2-Dichloroethane	ND	0.050		ND	0.20	1	3/4/10	9:27	WSD
1,1-Dichloroethylene	ND	0.050		ND	0.20	1	3/4/10	9:27	WSD
cis-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	3/4/10	9:27	WSD
1,2-Dichloropropane	ND	0.050		ND	0.23	1	3/4/10	9:27	WSD
cis-1,3-Dichloropropene	ND	0.050		ND	0.23	1	3/4/10	9:27	WSD
trans-1,3-Dichloropropene	ND	0.050		ND	0.23	1	3/4/10	9:27	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.050		ND	0.35	1	3/4/10	9:27	WSD
Ethylbenzene	0.14	0.050		0.59	0.22	1	3/4/10	9:27	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	3/4/10	9:27	WSD
Methylene Chloride	1.7	0.20		6.0	0.69	1	3/4/10	9:27	WSD
Styrene	0.26	0.050		1.1	0.21	1	3/4/10	9:27	WSD
1,1,2,2-Tetrachloroethane	ND	0.050		ND	0.34	1	3/4/10	9:27	WSD
Tetrachloroethylene	0.19	0.050		1.3	0.34	1	3/4/10	9:27	WSD
Toluene	0.84	0.050		3.2	0.19	1	3/4/10	9:27	WSD
1,2,4-Trichlorobenzene	ND	0.050		ND	0.37	1	3/4/10	9:27	WSD
1,1,1-Trichloroethane	ND	0.050		ND	0.27	1	3/4/10	9:27	WSD
1,1,2-Trichloroethane	ND	0.050		ND	0.27	1	3/4/10	9:27	WSD
Trichloroethylene	0.067	0.050		0.36	0.27	1	3/4/10	9:27	WSD
Trichlorofluoromethane (Freon 11)	0.44	0.050		2.5	0.28	1	3/4/10	9:27	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.069	0.050		0.53	0.38	1	3/4/10	9:27	WSD
1,2,4-Trimethylbenzene	0.23	0.050		1.1	0.25	1	3/4/10	9:27	WSD
1,3,5-Trimethylbenzene	0.057	0.050		0.28	0.25	1	3/4/10	9:27	WSD
Vinyl Chloride	ND	0.050		ND	0.13	1	3/4/10	9:27	WSD
m&p-Xylene	0.41	0.10		1.8	0.43	1	3/4/10	9:27	WSD
o-Xylene	0.15	0.050		0.65	0.22	1	3/4/10	9:27	WSD

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 3/2/2010
Field Sample #: MPL-6
Sample ID: 10C0096-02
 Sample Matrix: Air
 Sampled: 3/1/2010 14:00

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

Work Order: 10C0096
 Initial Vacuum(in Hg):
 Final Vacuum(in Hg):
 Receipt Vacuum(in Hg):
 Flow Controller Type:
 Flow Controller Calibration
 RPD Pre and Post-Sampling:

EPA TO-14A

Sample Flags: A-09

Analyte	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL		Results	RL			
Surrogates	% Recovery			% REC Limits				
4-Bromofluorobenzene (1)		110			70-130		3/4/10 9:27	

Project Location: Springfield St.

Sample Description:

Work Order: 10C0096

Date Received: 3/2/2010

Field Sample #: ATC-5

Sampled: 3/1/2010 16:30

Sample ID: 10C0096-03

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 8260B	3/4/10	3/4/10 14:14	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Bromoform	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Bromomethane	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 14:14	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Chlorodibromomethane	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
trans-1,4-Dichloro-2-butene	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH

Project Location: Springfield St.

Sample Description:

Work Order: 10C0096

Date Received: 3/2/2010

Field Sample #: ATC-5

Sampled: 3/1/2010 16:30

Sample ID: 10C0096-03

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 8260B	3/4/10	3/4/10 14:14	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Hexachlorobutadiene	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Methylene Chloride	ND	20	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Naphthalene	ND	5.0	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 14:14	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:14	EEH

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	117	70-130	3/4/10 14:14
Toluene-d8	100	70-130	3/4/10 14:14
4-Bromofluorobenzene	91.8	70-130	3/4/10 14:14

Project Location: Springfield St.

Sample Description:

Work Order: 10C0096

Date Received: 3/2/2010

Field Sample #: ATC-4

Sampled: 3/1/2010 17:00

Sample ID: 10C0096-04

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 8260B	3/4/10	3/4/10 14:42	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Bromoform	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Bromomethane	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 14:42	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Chlorodibromomethane	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
trans-1,4-Dichloro-2-butene	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH

Project Location: Springfield St.

Sample Description:

Work Order: 10C0096

Date Received: 3/2/2010

Field Sample #: ATC-4

Sampled: 3/1/2010 17:00

Sample ID: 10C0096-04

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 8260B	3/4/10	3/4/10 14:42	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Hexachlorobutadiene	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Methylene Chloride	ND	20	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Naphthalene	ND	5.0	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 14:42	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 14:42	EEH

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	117	70-130	3/4/10 14:42
Toluene-d8	101	70-130	3/4/10 14:42
4-Bromofluorobenzene	91.8	70-130	3/4/10 14:42

Project Location: Springfield St.

Sample Description:

Work Order: 10C0096

Date Received: 3/2/2010

Field Sample #: ATC-1

Sampled: 3/1/2010 17:30

Sample ID: 10C0096-05

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 8260B	3/4/10	3/4/10 15:10	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Bromoform	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Bromomethane	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 15:10	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Chlorodibromomethane	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
trans-1,4-Dichloro-2-butene	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH

Project Location: Springfield St.

Sample Description:

Work Order: 10C0096

Date Received: 3/2/2010

Field Sample #: ATC-1

Sampled: 3/1/2010 17:30

Sample ID: 10C0096-05

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 8260B	3/4/10	3/4/10 15:10	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Hexachlorobutadiene	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Methylene Chloride	ND	20	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Naphthalene	ND	5.0	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 15:10	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 15:10	EEH

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	117	70-130	3/4/10 15:10
Toluene-d8	97.6	70-130	3/4/10 15:10
4-Bromofluorobenzene	92.3	70-130	3/4/10 15:10

Project Location: Springfield St.

Sample Description:

Work Order: 10C0096

Date Received: 3/2/2010

Field Sample #: Trip Blank

Sampled: 3/1/2010 00:00

Sample ID: 10C0096-06

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 8260B	3/4/10	3/4/10 10:30	EEH
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Benzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Bromoform	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Bromomethane	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 10:30	EEH
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Chlorodibromomethane	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Chloroethane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Chloroform	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Chloromethane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
trans-1,4-Dichloro-2-butene	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH

Project Location: Springfield St.

Sample Description:

Work Order: 10C0096

Date Received: 3/2/2010

Field Sample #: Trip Blank

Sampled: 3/1/2010 00:00

Sample ID: 10C0096-06

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 8260B	3/4/10	3/4/10 10:30	EEH
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Hexachlorobutadiene	ND	5.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Methylene Chloride	ND	20	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Naphthalene	ND	5.0	µg/L	1	V-05	SW-846 8260B	3/4/10	3/4/10 10:30	EEH
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Styrene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Toluene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2,4-Trichlorobenzene	ND	5.0	µg/L	1	L-04, V-05	SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH
o-Xylene	ND	1.0	µg/L	1		SW-846 8260B	3/4/10	3/4/10 10:30	EEH

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	114	70-130	3/4/10 10:30
Toluene-d8	101	70-130	3/4/10 10:30
4-Bromofluorobenzene	91.0	70-130	3/4/10 10:30

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
10C0096-01 [WB-2]	B011202	1	1	N/A	1000	400	400	03/03/10
10C0096-02 [MPL-6]	B011202	1	1	N/A	1000	400	400	03/03/10

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
10C0096-03 [ATC-5]	B011046	5	5	03/04/10
10C0096-04 [ATC-4]	B011046	5	5	03/04/10
10C0096-05 [ATC-1]	B011046	5	5	03/04/10
10C0096-06 [Trip Blank]	B011046	5	5	03/04/10

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	Limit	
Batch B011202 - TO-15 Prep										
Blank (B011202-BLK1)					Prepared & Analyzed: 03/03/10					
Benzene	ND	0.035								
Bromomethane	ND	0.035								
Carbon Tetrachloride	ND	0.035								
Chlorobenzene	ND	0.035								
Chloroethane	ND	0.035								
Chloroform	ND	0.035								
Chloromethane	ND	0.035								
1,2-Dibromoethane (EDB)	ND	0.035								
1,2-Dichlorobenzene	ND	0.035								
1,3-Dichlorobenzene	ND	0.035								
1,4-Dichlorobenzene	ND	0.035								
Dichlorodifluoromethane (Freon 12)	ND	0.035								
1,1-Dichloroethane	ND	0.035								
1,2-Dichloroethane	ND	0.035								
1,1-Dichloroethylene	ND	0.035								
cis-1,2-Dichloroethylene	ND	0.035								
1,2-Dichloropropane	ND	0.035								
cis-1,3-Dichloropropene	ND	0.035								
trans-1,3-Dichloropropene	ND	0.035								
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035								
Ethylbenzene	ND	0.035								
Hexachlorobutadiene	ND	0.035								
Methylene Chloride	ND	0.14								
Styrene	ND	0.035								
1,1,2,2-Tetrachloroethane	ND	0.035								
Tetrachloroethylene	ND	0.035								
Toluene	ND	0.035								
1,2,4-Trichlorobenzene	ND	0.035								
1,1,1-Trichloroethane	ND	0.035								
1,1,2-Trichloroethane	ND	0.035								
Trichloroethylene	ND	0.035								
Trichlorofluoromethane (Freon 11)	ND	0.035								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.035								
1,2,4-Trimethylbenzene	ND	0.035								
1,3,5-Trimethylbenzene	ND	0.035								
Vinyl Chloride	ND	0.035								
m&p-Xylene	ND	0.070								
o-Xylene	ND	0.035								
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>8.51</i>				<i>8.00</i>		<i>106</i>	<i>70-130</i>		

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 B011202 - TO-15 Prep											
LCS (B011202-BS1)											
						Prepared & Analyzed: 03/03/10					
Benzene	4.62				5.00		92.4	70-130			
Bromomethane	5.69				5.00		114	70-130			
Carbon Tetrachloride	5.02				5.00		100	70-130			
Chlorobenzene	4.88				5.00		97.6	70-130			
Chloroethane	5.86				5.00		117	70-130			
Chloroform	6.04				5.00		121	70-130			
Chloromethane	5.20				5.00		104	70-130			
1,2-Dibromoethane (EDB)	4.90				5.00		98.1	70-130			
1,2-Dichlorobenzene	4.77				5.00		95.3	70-130			
1,3-Dichlorobenzene	4.76				5.00		95.3	70-130			
1,4-Dichlorobenzene	4.78				5.00		95.7	70-130			
Dichlorodifluoromethane (Freon 12)	5.95				5.00		119	70-130			
1,1-Dichloroethane	5.60				5.00		112	70-130			
1,2-Dichloroethane	6.01				5.00		120	70-130			
1,1-Dichloroethylene	5.25				5.00		105	70-130			
cis-1,2-Dichloroethylene	5.66				5.00		113	70-130			
1,2-Dichloropropane	4.53				5.00		90.6	70-130			
cis-1,3-Dichloropropene	5.32				5.00		106	70-130			
trans-1,3-Dichloropropene	5.45				5.00		109	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	5.66				5.00		113	70-130			
Ethylbenzene	5.11				5.00		102	70-130			
Hexachlorobutadiene	6.46				5.00		129	70-130			V-20
Methylene Chloride	5.93				5.00		119	70-130			
Styrene	5.10				5.00		102	70-130			
1,1,2,2-Tetrachloroethane	5.00				5.00		100	70-130			
Tetrachloroethylene	4.87				5.00		97.4	70-130			
Toluene	4.88				5.00		97.6	70-130			
1,2,4-Trichlorobenzene	5.13				5.00		103	70-130			
1,1,1-Trichloroethane	4.97				5.00		99.5	70-130			
1,1,2-Trichloroethane	4.80				5.00		95.9	70-130			
Trichloroethylene	4.70				5.00		94.1	70-130			
Trichlorofluoromethane (Freon 11)	6.12				5.00		122	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.09				5.00		102	70-130			
1,2,4-Trimethylbenzene	5.24				5.00		105	70-130			
1,3,5-Trimethylbenzene	5.10				5.00		102	70-130			
Vinyl Chloride	5.54				5.00		111	70-130			
m&p-Xylene	9.86				10.0		98.6	70-130			
o-Xylene	5.17				5.00		103	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.41				8.00		105	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
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Batch B011046 - SW-846 5030B

Blank (B011046-BLK1)

Prepared & Analyzed: 03/04/10

Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	10	µg/L							
Bromomethane	ND	5.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							V-05
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	2.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	5.0	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	5.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							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	5.0	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
Batch B011046 - SW-846 5030B										
Blank (B011046-BLK1)										
Prepared & Analyzed: 03/04/10										
Methylene Chloride	ND	20	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	5.0	µg/L							V-05
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	10	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							L-04, V-05
1,2,4-Trichlorobenzene	ND	5.0	µg/L							L-04, V-05
1,3,5-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	1.0	µg/L							
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L							
1,2,3-Trichloropropane	ND	2.0	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
1,3,5-Trimethylbenzene	ND	1.0	µg/L							
Vinyl Chloride	ND	2.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 1,2-Dichloroethane-d4	28.4		µg/L	25.0		113	70-130			
Surrogate: Toluene-d8	24.7		µg/L	25.0		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	23.6		µg/L	25.0		94.6	70-130			
LCS (B011046-BS1)										
Prepared & Analyzed: 03/04/10										
Acetone	85.0	50	µg/L	100		85.0	70-160			†
Acrylonitrile	9.18	5.0	µg/L	10.0		91.8	70-130			
tert-Amyl Methyl Ether (TAME)	8.39	0.50	µg/L	10.0		83.9	70-130			
Benzene	9.35	1.0	µg/L	10.0		93.5	70-130			
Bromobenzene	8.69	1.0	µg/L	10.0		86.9	70-130			
Bromochloromethane	8.82	1.0	µg/L	10.0		88.2	70-130			
Bromodichloromethane	9.02	0.50	µg/L	10.0		90.2	70-130			
Bromoform	11.3	10	µg/L	10.0		113	70-130			
Bromomethane	7.19	5.0	µg/L	10.0		71.9	40-160			V-06 †
2-Butanone (MEK)	87.2	20	µg/L	100		87.2	40-160			†
tert-Butyl Alcohol (TBA)	47.6	20	µg/L	100		47.6	40-160			V-05 †
n-Butylbenzene	8.34	1.0	µg/L	10.0		83.4	70-130			
sec-Butylbenzene	8.75	1.0	µg/L	10.0		87.5	70-130			
tert-Butylbenzene	8.79	1.0	µg/L	10.0		87.9	70-130			
tert-Butyl Ethyl Ether (TBEE)	8.75	0.50	µg/L	10.0		87.5	70-130			
Carbon Disulfide	10.1	2.0	µg/L	10.0		101	70-130			
Carbon Tetrachloride	7.32	1.0	µg/L	10.0		73.2	70-130			
Chlorobenzene	8.70	1.0	µg/L	10.0		87.0	70-130			
Chlorodibromomethane	10.0	5.0	µg/L	10.0		100	70-130			
Chloroethane	9.87	2.0	µg/L	10.0		98.7	70-130			
Chloroform	9.68	2.0	µg/L	10.0		96.8	70-130			
Chloromethane	8.31	2.0	µg/L	10.0		83.1	40-160			†
2-Chlorotoluene	8.44	1.0	µg/L	10.0		84.4	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 B011046 - SW-846 5030B										
LCS (B011046-BS1)										
				Prepared & Analyzed: 03/04/10						
4-Chlorotoluene	8.74	1.0	µg/L	10.0		87.4	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	8.02	5.0	µg/L	10.0		80.2	70-130			
1,2-Dibromoethane (EDB)	8.13	0.50	µg/L	10.0		81.3	70-130			
Dibromomethane	9.09	1.0	µg/L	10.0		90.9	70-130			
1,2-Dichlorobenzene	8.84	1.0	µg/L	10.0		88.4	70-130			
1,3-Dichlorobenzene	8.36	1.0	µg/L	10.0		83.6	70-130			
1,4-Dichlorobenzene	8.53	1.0	µg/L	10.0		85.3	70-130			
trans-1,4-Dichloro-2-butene	7.26	5.0	µg/L	10.0		72.6	70-130			
Dichlorodifluoromethane (Freon 12)	6.98	2.0	µg/L	10.0		69.8	40-160			†
1,1-Dichloroethane	9.61	1.0	µg/L	10.0		96.1	70-130			
1,2-Dichloroethane	9.86	1.0	µg/L	10.0		98.6	70-130			
1,1-Dichloroethylene	10.2	1.0	µg/L	10.0		102	70-130			
cis-1,2-Dichloroethylene	9.58	1.0	µg/L	10.0		95.8	70-130			
trans-1,2-Dichloroethylene	9.67	1.0	µg/L	10.0		96.7	70-130			
1,2-Dichloropropane	9.00	1.0	µg/L	10.0		90.0	70-130			
1,3-Dichloropropane	9.27	0.50	µg/L	10.0		92.7	70-130			
2,2-Dichloropropane	6.63	1.0	µg/L	10.0		66.3	40-130			†
1,1-Dichloropropene	9.87	2.0	µg/L	10.0		98.7	70-130			
cis-1,3-Dichloropropene	7.72	0.50	µg/L	10.0		77.2	70-130			
trans-1,3-Dichloropropene	7.03	0.50	µg/L	10.0		70.3	70-130			V-05
Diethyl Ether	10.7	2.0	µg/L	10.0		107	70-130			
Diisopropyl Ether (DIPE)	9.78	0.50	µg/L	10.0		97.8	70-130			
1,4-Dioxane	75.5	50	µg/L	100		75.5	40-130			V-16 †
Ethylbenzene	8.67	1.0	µg/L	10.0		86.7	70-130			
Hexachlorobutadiene	8.20	5.0	µg/L	10.0		82.0	70-130			
2-Hexanone (MBK)	76.8	10	µg/L	100		76.8	70-160			†
Isopropylbenzene (Cumene)	9.68	1.0	µg/L	10.0		96.8	70-130			
p-Isopropyltoluene (p-Cymene)	8.72	1.0	µg/L	10.0		87.2	70-130			
Methyl tert-Butyl Ether (MTBE)	9.48	1.0	µg/L	10.0		94.8	70-130			
Methylene Chloride	6.17	20	µg/L	10.0		61.7 *	70-130			L-07
4-Methyl-2-pentanone (MIBK)	82.7	10	µg/L	100		82.7	70-160			†
Naphthalene	5.80	5.0	µg/L	10.0		58.0	40-130			V-05 †
n-Propylbenzene	8.62	1.0	µg/L	10.0		86.2	70-130			
Styrene	8.07	1.0	µg/L	10.0		80.7	70-130			
1,1,1,2-Tetrachloroethane	6.89	1.0	µg/L	10.0		68.9 *	70-130			L-07
1,1,2,2-Tetrachloroethane	8.86	0.50	µg/L	10.0		88.6	70-130			
Tetrachloroethylene	8.07	1.0	µg/L	10.0		80.7	70-130			
Tetrahydrofuran	8.22	10	µg/L	10.0		82.2	70-130			
Toluene	9.00	1.0	µg/L	10.0		90.0	70-130			
1,2,3-Trichlorobenzene	5.93	5.0	µg/L	10.0		59.3 *	70-130			L-04, V-05
1,2,4-Trichlorobenzene	5.89	5.0	µg/L	10.0		58.9 *	70-130			L-04, V-05
1,3,5-Trichlorobenzene	7.55	1.0	µg/L	10.0		75.5	70-130			
1,1,1-Trichloroethane	8.32	1.0	µg/L	10.0		83.2	70-130			
1,1,2-Trichloroethane	8.59	1.0	µg/L	10.0		85.9	70-130			
Trichloroethylene	8.74	1.0	µg/L	10.0		87.4	70-130			
Trichlorofluoromethane (Freon 11)	11.0	2.0	µg/L	10.0		110	70-130			
1,2,3-Trichloropropane	8.55	2.0	µg/L	10.0		85.5	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.7	1.0	µg/L	10.0		107	70-130			
1,2,4-Trimethylbenzene	9.00	1.0	µg/L	10.0		90.0	70-130			
1,3,5-Trimethylbenzene	8.55	1.0	µg/L	10.0		85.5	70-130			
Vinyl Chloride	9.27	2.0	µg/L	10.0		92.7	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 B011046 - SW-846 5030B										
LCS (B011046-BS1)										
Prepared & Analyzed: 03/04/10										
m+p Xylene	17.3	2.0	µg/L	20.0		86.7	70-130			
o-Xylene	8.74	1.0	µg/L	10.0		87.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	29.0		µg/L	25.0		116	70-130			
Surrogate: Toluene-d8	25.5		µg/L	25.0		102	70-130			
Surrogate: 4-Bromofluorobenzene	23.6		µg/L	25.0		94.6	70-130			
LCS Dup (B011046-BSD1)										
Prepared & Analyzed: 03/04/10										
Acetone	81.3	50	µg/L	100		81.3	70-160	4.46	25	†
Acrylonitrile	9.31	5.0	µg/L	10.0		93.1	70-130	1.41	25	
tert-Amyl Methyl Ether (TAME)	8.93	0.50	µg/L	10.0		89.3	70-130	6.24	25	
Benzene	10.2	1.0	µg/L	10.0		102	70-130	8.70	25	
Bromobenzene	9.86	1.0	µg/L	10.0		98.6	70-130	12.6	25	
Bromochloromethane	9.77	1.0	µg/L	10.0		97.7	70-130	10.2	25	
Bromodichloromethane	10.1	0.50	µg/L	10.0		101	70-130	11.7	25	
Bromoform	11.8	10	µg/L	10.0		118	70-130	4.24	25	
Bromomethane	9.01	5.0	µg/L	10.0		90.1	40-160	22.5	25	V-06 †
2-Butanone (MEK)	80.8	20	µg/L	100		80.8	40-160	7.66	25	†
tert-Butyl Alcohol (TBA)	42.6	20	µg/L	100		42.6	40-160	11.1	25	V-05 †
n-Butylbenzene	9.70	1.0	µg/L	10.0		97.0	70-130	15.1	25	
sec-Butylbenzene	10.2	1.0	µg/L	10.0		102	70-130	15.0	25	
tert-Butylbenzene	10.0	1.0	µg/L	10.0		100	70-130	13.3	25	
tert-Butyl Ethyl Ether (TBEE)	9.66	0.50	µg/L	10.0		96.6	70-130	9.89	25	
Carbon Disulfide	11.3	2.0	µg/L	10.0		113	70-130	11.4	25	
Carbon Tetrachloride	8.25	1.0	µg/L	10.0		82.5	70-130	11.9	25	
Chlorobenzene	9.79	1.0	µg/L	10.0		97.9	70-130	11.8	25	
Chlorodibromomethane	10.8	5.0	µg/L	10.0		108	70-130	7.86	25	
Chloroethane	11.8	2.0	µg/L	10.0		118	70-130	18.0	25	
Chloroform	10.6	2.0	µg/L	10.0		106	70-130	9.26	25	
Chloromethane	10.2	2.0	µg/L	10.0		102	40-160	20.2	25	†
2-Chlorotoluene	9.73	1.0	µg/L	10.0		97.3	70-130	14.2	25	
4-Chlorotoluene	9.68	1.0	µg/L	10.0		96.8	70-130	10.2	25	
1,2-Dibromo-3-chloropropane (DBCP)	7.87	5.0	µg/L	10.0		78.7	70-130	1.89	25	
1,2-Dibromoethane (EDB)	8.77	0.50	µg/L	10.0		87.7	70-130	7.57	25	
Dibromomethane	9.89	1.0	µg/L	10.0		98.9	70-130	8.43	25	
1,2-Dichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130	13.7	25	
1,3-Dichlorobenzene	9.36	1.0	µg/L	10.0		93.6	70-130	11.3	25	
1,4-Dichlorobenzene	9.45	1.0	µg/L	10.0		94.5	70-130	10.2	25	
trans-1,4-Dichloro-2-butene	6.71	5.0	µg/L	10.0		67.1 *	70-130	7.87	25	L-07
Dichlorodifluoromethane (Freon 12)	8.34	2.0	µg/L	10.0		83.4	40-160	17.8	25	†
1,1-Dichloroethane	10.4	1.0	µg/L	10.0		104	70-130	7.80	25	
1,2-Dichloroethane	10.6	1.0	µg/L	10.0		106	70-130	7.52	25	
1,1-Dichloroethylene	12.1	1.0	µg/L	10.0		121	70-130	16.9	25	
cis-1,2-Dichloroethylene	10.5	1.0	µg/L	10.0		105	70-130	9.45	25	
trans-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130	11.3	25	
1,2-Dichloropropane	9.85	1.0	µg/L	10.0		98.5	70-130	9.02	25	
1,3-Dichloropropane	10.3	0.50	µg/L	10.0		103	70-130	10.6	25	
2,2-Dichloropropane	7.47	1.0	µg/L	10.0		74.7	40-130	11.9	25	†
1,1-Dichloropropene	10.5	2.0	µg/L	10.0		105	70-130	6.19	25	
cis-1,3-Dichloropropene	8.93	0.50	µg/L	10.0		89.3	70-130	14.5	25	
trans-1,3-Dichloropropene	7.91	0.50	µg/L	10.0		79.1	70-130	11.8	25	V-05
Diethyl Ether	11.7	2.0	µg/L	10.0		117	70-130	9.18	25	
Diisopropyl Ether (DIPE)	10.6	0.50	µg/L	10.0		106	70-130	8.05	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 B011046 - SW-846 5030B										
LCS Dup (B011046-BSD1)										
				Prepared & Analyzed: 03/04/10						
1,4-Dioxane	73.0	50	µg/L	100		73.0	40-130	3.37	50	V-16 † ‡
Ethylbenzene	9.74	1.0	µg/L	10.0		97.4	70-130	11.6	25	
Hexachlorobutadiene	9.14	5.0	µg/L	10.0		91.4	70-130	10.8	25	
2-Hexanone (MBK)	70.4	10	µg/L	100		70.4	70-160	8.70	25	†
Isopropylbenzene (Cumene)	11.1	1.0	µg/L	10.0		111	70-130	13.9	25	
p-Isopropyltoluene (p-Cymene)	10.1	1.0	µg/L	10.0		101	70-130	14.6	25	
Methyl tert-Butyl Ether (MTBE)	9.85	1.0	µg/L	10.0		98.5	70-130	3.83	25	
Methylene Chloride	7.14	20	µg/L	10.0		71.4	70-130	14.6	25	
4-Methyl-2-pentanone (MIBK)	78.1	10	µg/L	100		78.1	70-160	5.77	25	†
Naphthalene	5.63	5.0	µg/L	10.0		56.3	40-130	2.97	25	V-05 †
n-Propylbenzene	9.64	1.0	µg/L	10.0		96.4	70-130	11.2	25	
Styrene	9.20	1.0	µg/L	10.0		92.0	70-130	13.1	25	
1,1,1,2-Tetrachloroethane	8.21	1.0	µg/L	10.0		82.1	70-130	17.5	25	
1,1,2,2-Tetrachloroethane	9.05	0.50	µg/L	10.0		90.5	70-130	2.12	25	
Tetrachloroethylene	9.44	1.0	µg/L	10.0		94.4	70-130	15.6	25	
Tetrahydrofuran	7.49	10	µg/L	10.0		74.9	70-130	9.29	25	
Toluene	10.2	1.0	µg/L	10.0		102	70-130	12.0	25	
1,2,3-Trichlorobenzene	5.85	5.0	µg/L	10.0		58.5 *	70-130	1.36	25	L-04, V-05
1,2,4-Trichlorobenzene	6.02	5.0	µg/L	10.0		60.2 *	70-130	2.18	25	L-04, V-05
1,3,5-Trichlorobenzene	8.79	1.0	µg/L	10.0		87.9	70-130	15.2	25	
1,1,1-Trichloroethane	9.03	1.0	µg/L	10.0		90.3	70-130	8.18	25	
1,1,2-Trichloroethane	9.28	1.0	µg/L	10.0		92.8	70-130	7.72	25	
Trichloroethylene	9.87	1.0	µg/L	10.0		98.7	70-130	12.1	25	
Trichlorofluoromethane (Freon 11)	12.6	2.0	µg/L	10.0		126	70-130	13.8	25	
1,2,3-Trichloropropane	8.17	2.0	µg/L	10.0		81.7	70-130	4.55	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	12.4	1.0	µg/L	10.0		124	70-130	14.6	25	
1,2,4-Trimethylbenzene	10.2	1.0	µg/L	10.0		102	70-130	13.0	25	
1,3,5-Trimethylbenzene	9.60	1.0	µg/L	10.0		96.0	70-130	11.6	25	
Vinyl Chloride	10.7	2.0	µg/L	10.0		107	40-160	13.9	25	†
m+p Xylene	19.8	2.0	µg/L	20.0		98.8	70-130	13.1	25	
o-Xylene	9.98	1.0	µg/L	10.0		99.8	70-130	13.2	25	
Surrogate: 1,2-Dichloroethane-d4	27.8		µg/L	25.0		111	70-130			
Surrogate: Toluene-d8	25.4		µg/L	25.0		102	70-130			
Surrogate: 4-Bromofluorobenzene	24.3		µg/L	25.0		97.1	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-04 Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
 - L-07 Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
 - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Significant uncertainty is associated with the reported value which is likely to be biased on the low side.
 - V-06 Continuing calibration did not meet method specifications and was biased on the high side for this compound. Significant uncertainty is associated with the reported value which is likely to be biased on the high 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>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-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
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
1,2,4-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
<i>SW-846 8260B in Water</i>	
Acetone	CT,NH,NY
Acrylonitrile	CT,NY,RI
tert-Amyl Methyl Ether (TAME)	NH,NY
Benzene	CT,NH,NY,RI
Bromochloromethane	NH,NY
Bromodichloromethane	CT,NH,NY,RI
Bromoform	CT,NH,NY,RI
Bromomethane	CT,NH,NY,RI
2-Butanone (MEK)	CT,NH,NY
tert-Butyl Alcohol (TBA)	NH,NY

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260B in Water</i>	
n-Butylbenzene	NY
sec-Butylbenzene	NY
tert-Butylbenzene	NY
tert-Butyl Ethyl Ether (TBEE)	NH, NY
Carbon Disulfide	CT, NH, NY
Carbon Tetrachloride	CT, NH, NY, RI
Chlorobenzene	CT, NH, NY, RI
Chlorodibromomethane	CT, NH, NY, RI
Chloroethane	CT, NH, NY, RI
Chloroform	CT, NH, NY, RI
Chloromethane	CT, NH, NY, RI
Dibromomethane	NH, NY
1,2-Dichlorobenzene	CT, NY, RI
1,3-Dichlorobenzene	CT, NH, NY, RI
1,4-Dichlorobenzene	CT, NH, NY, RI
trans-1,4-Dichloro-2-butene	NH, NY
Dichlorodifluoromethane (Freon 12)	NH, NY, RI
1,1-Dichloroethane	CT, NH, NY, RI
1,2-Dichloroethane	CT, NH, NY, RI
1,1-Dichloroethylene	CT, NH, NY, RI
trans-1,2-Dichloroethylene	CT, NH, NY, RI
1,2-Dichloropropane	CT, NH, NY, RI
2,2-Dichloropropane	NH, NY
1,1-Dichloropropene	NH, NY
cis-1,3-Dichloropropene	CT, NH, NY, RI
trans-1,3-Dichloropropene	CT, NH, NY, RI
Diisopropyl Ether (DIPE)	NH, NY
Ethylbenzene	CT, NH, NY, RI
Hexachlorobutadiene	CT, NH, NY
2-Hexanone (MBK)	CT, NH, NY
Isopropylbenzene (Cumene)	NY
p-Isopropyltoluene (p-Cymene)	CT, NH, NY
Methyl tert-Butyl Ether (MTBE)	CT, NH, NY
Methylene Chloride	CT, NH, NY, RI
4-Methyl-2-pentanone (MIBK)	CT, NH, NY
Naphthalene	NH, NY
n-Propylbenzene	CT, NH, NY
Styrene	CT, NH, NY
1,1,1,2-Tetrachloroethane	CT, NH, NY
1,1,2,2-Tetrachloroethane	CT, NH, NY, RI
Tetrachloroethylene	CT, NH, NY, RI
Toluene	CT, NH, NY, RI
1,2,3-Trichlorobenzene	NH, NY
1,2,4-Trichlorobenzene	CT, NH, NY
1,1,1-Trichloroethane	CT, NH, NY, RI
1,1,2-Trichloroethane	CT, NH, NY, RI
Trichloroethylene	CT, NH, NY, RI

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260B in Water</i>	
Trichlorofluoromethane (Freon 11)	CT,NH,NY,RI
1,2,3-Trichloropropane	NH,NY
1,2,4-Trimethylbenzene	NY
1,3,5-Trimethylbenzene	NY
Vinyl Chloride	CT,NH,NY,RI
m+p Xylene	CT,NH,NY,RI
o-Xylene	CT,NH,NY,RI

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

Code	Description	Number	Expires
AIHA	American Industrial Hygiene Association	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2010
CT	Connecticut Department of Public Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2010
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2011
RI	Rhode Island Department of Health	LAO00112	12/30/2010
NC	North Carolina Div. of Water Quality	652	12/31/2010
NJ	New Jersey DEP	MA007 NELAP	06/30/2010
FL	Florida Department of Health	E871027 NELAP	06/30/2010
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2010
WA	State of Washington Department of Ecology	C2065	02/23/2011



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www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 SPRUCE ST, 2ND FLOOR
EAST LONGMEADOW, MA 01028

Company Name: RECORDS

Address: 300 METRO CENTER BLVD

WARREN RI 02986

Attention: DAVID POLLITZER

Project Location: SPRINGFIELD ST

Sampled By: CHRIS VANISSON

Proposal Provided? (For Billing purposes)
 yes no

State Form Required?
 yes no

Telephone: (401) 738-3882

Project # W1602157.0000

Client PO #

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT

Fax #:

Email:

Format: EXCEL PDF GIS KEY

OTHER

TO-14
8260

ANALYSIS REQUESTED

Field ID	Sample Description	Lab #	Start Date/Time	Stop Date/Time	Comp-site	Grab	Matrix Code	Conc. Code	Matrix/Conc. Code	Analysis Requested	# of containers
WR-2		10C0046	3/1/10	15:30			A		X		
MP-6			3/1/10	14:00			A		X		
ATC-5			3/1/10	16:30			GW		X		
ATC-4			3/1/10	17:00			GW		X		
ATC-1			3/1/10	17:30			GW		X		
TRSP	BLANK								X		

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

Turnaround **

7-Day
 10-Day
 Other RUSH

*24-Hr *48-Hr
 *72-Hr *4-Day

Detection Limit Requirements

Regulations? RI CR

Data Enhancement Project/RCP? Y N

Special Requirements or DL's:

*Matrix Code:

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

**Preservation Codes:

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

Relinquished by (signature) [Signature] Date/Time: 3/1/10 14:00

Received by (signature) [Signature] Date/Time: 3/1/10 13:55

Relinquished by (signature) [Signature] Date/Time: 3/1/10 17:26

Received by (signature) [Signature] Date/Time: 3/1/10 17:25

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



Sample Receipt Checklist

CLIENT NAME: Arcahis RECEIVED BY: CEC DATE: 3/2/10

- 1) Was the chain(s) of custody relinquished and signed? Yes No
- 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
Temperature °C by Temp blank 6.0 Temperature °C by Temp gun _____

5) Are there Dissolved samples for the lab to filter? Yes No
Who was notified _____ Date _____ Time _____

6) Are there any samples "On Hold"? Yes No Stored where:

7) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
Who was notified _____ Date _____ Time _____

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

Containers sent in to Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz clear jar	
500 mL Amber		4 oz clear jar	
250 mL Amber (8oz amber)		2 oz clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below	11	Brass Sleeves	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Summa Cans	
Flashpoint bottle		Regulators	
Encore		Other	2 Tedlar Bags

Laboratory Comments:

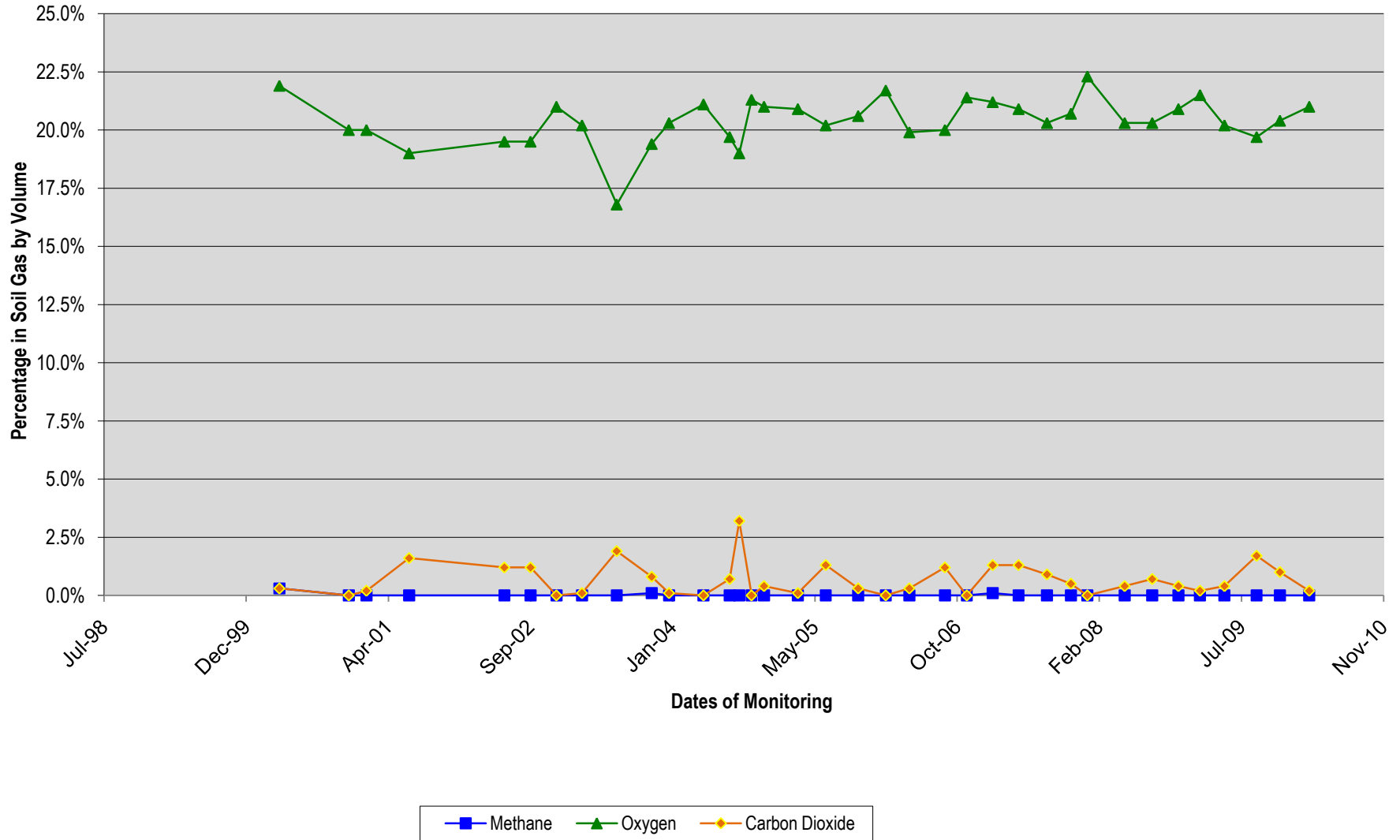
40 mL vials: # HCl _____ # Methanol _____
Bisulfate _____ # DI Water _____ Time and Date Frozen: _____
Thiosulfate _____ • Unpreserved _____

ARCADIS

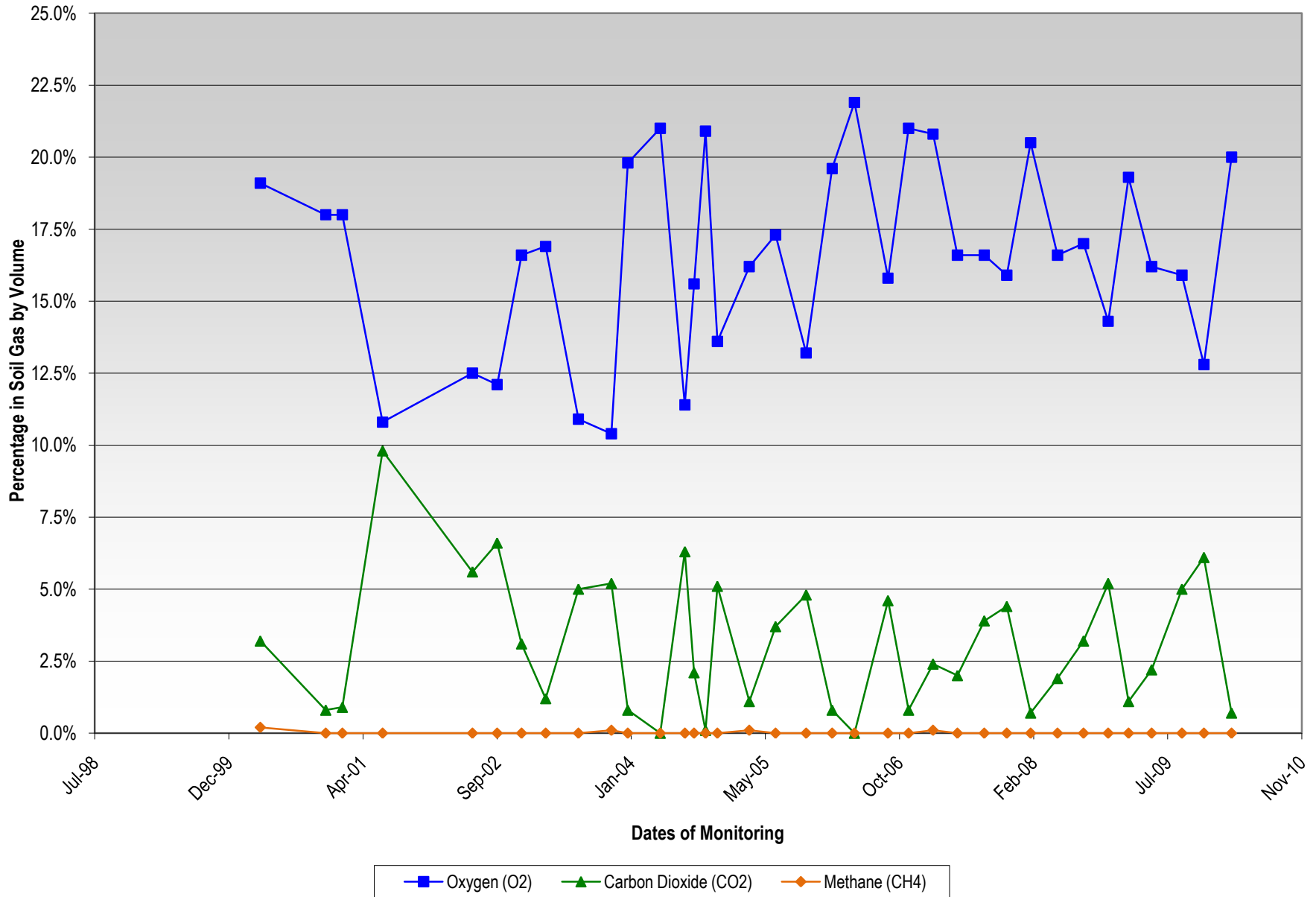
Appendix C

Soil Gas Parameter Graphs

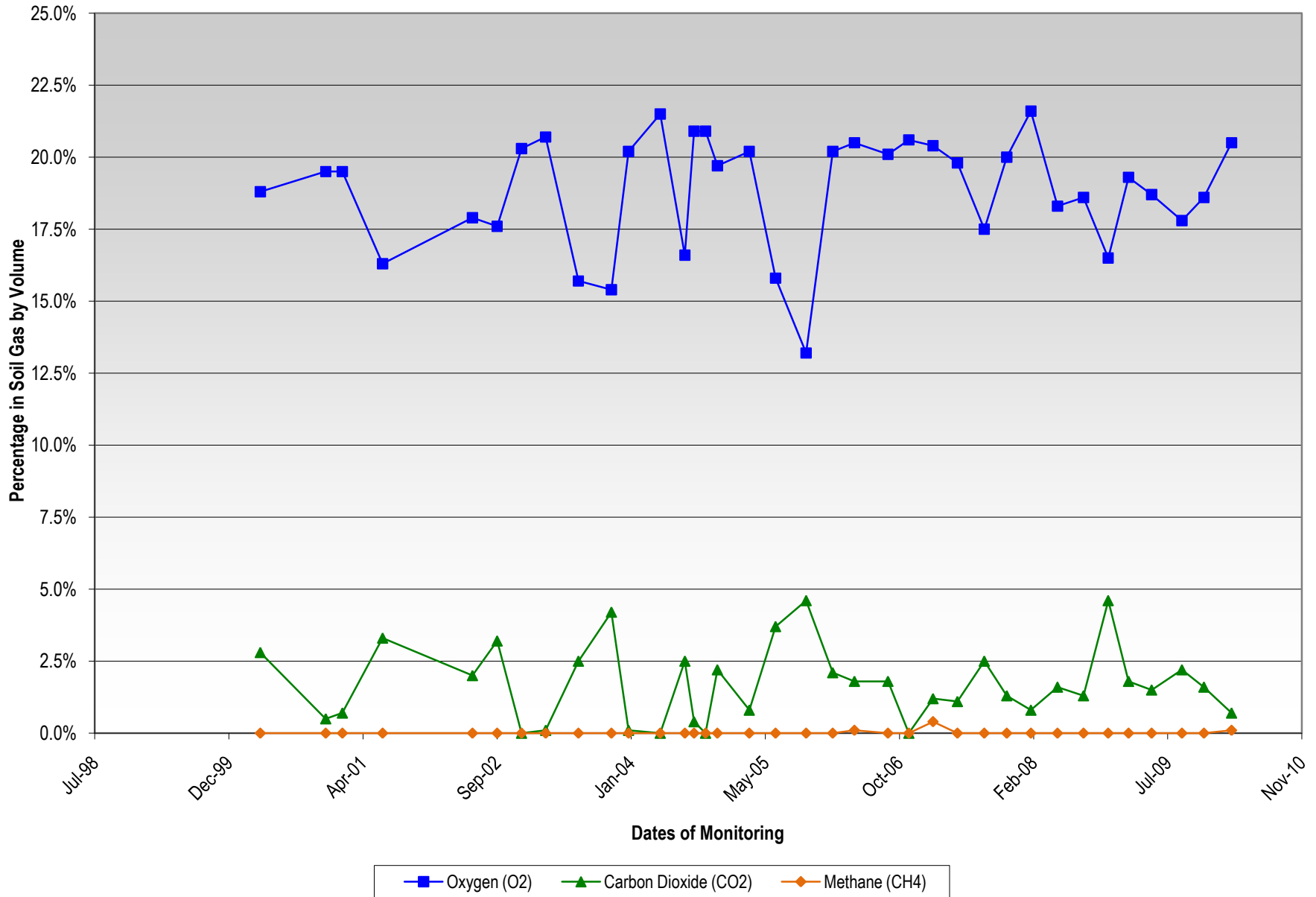
Soil Gas Well EPL1
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



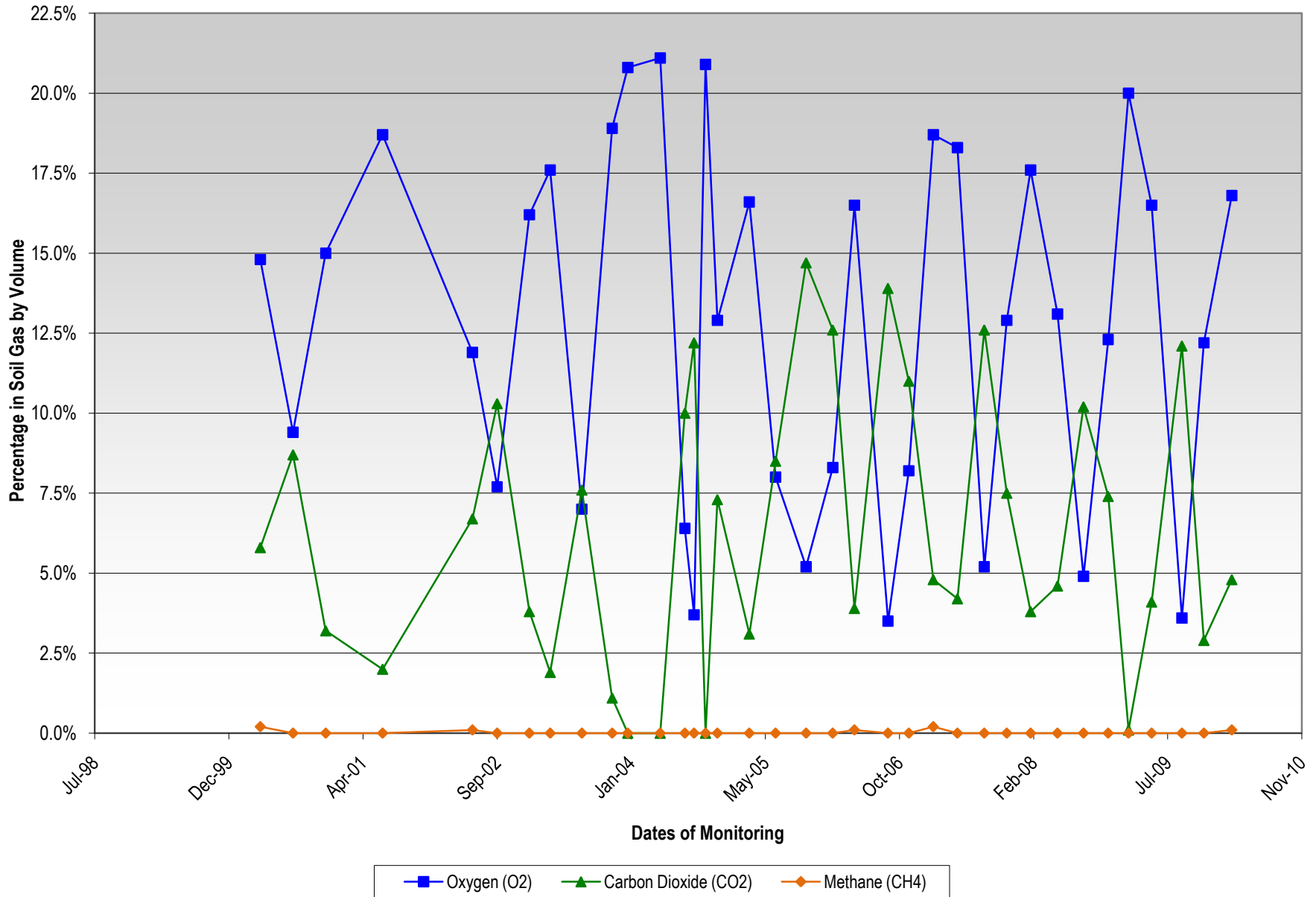
Soil Gas Well EPL4
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



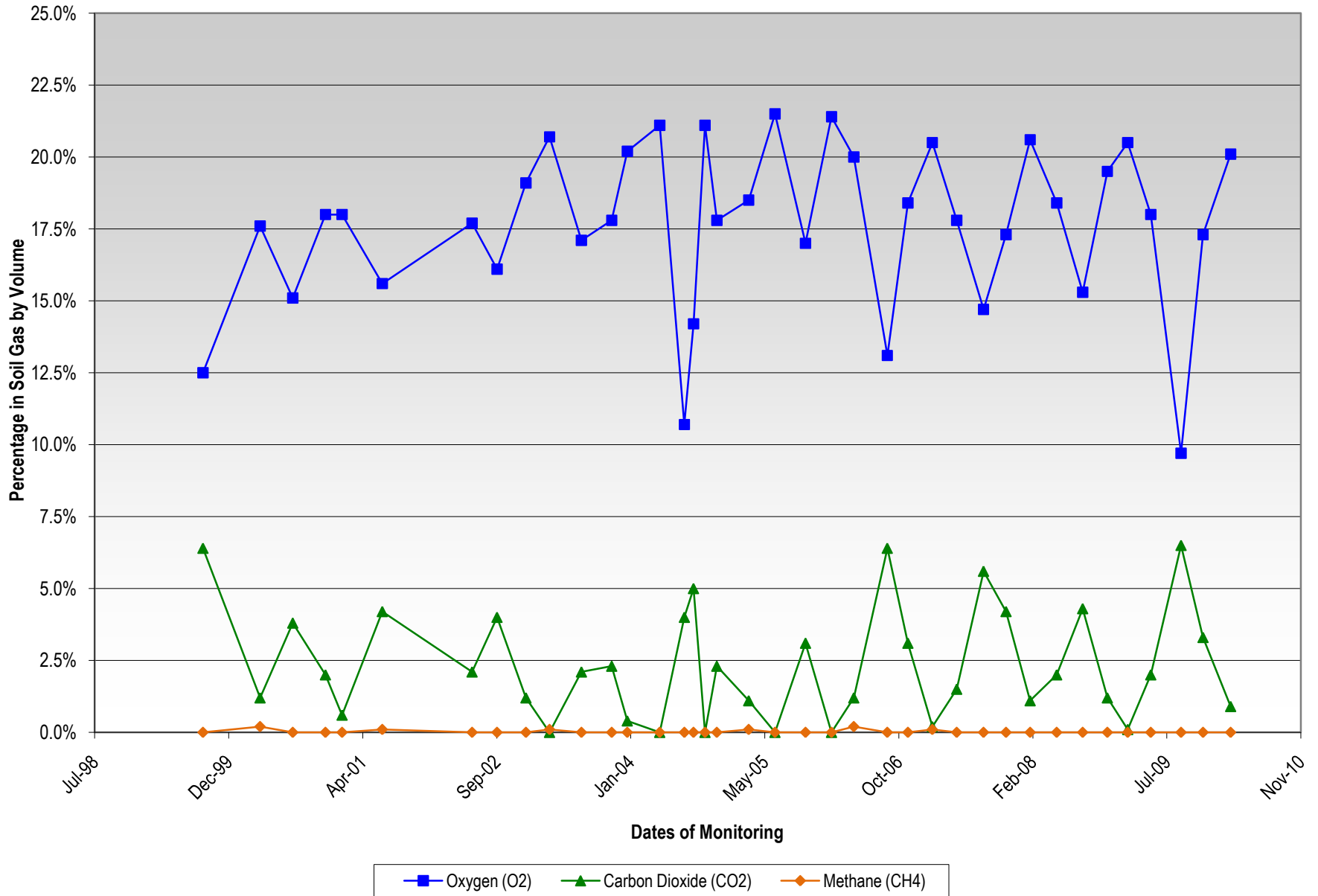
Soil Gas Well MG2
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



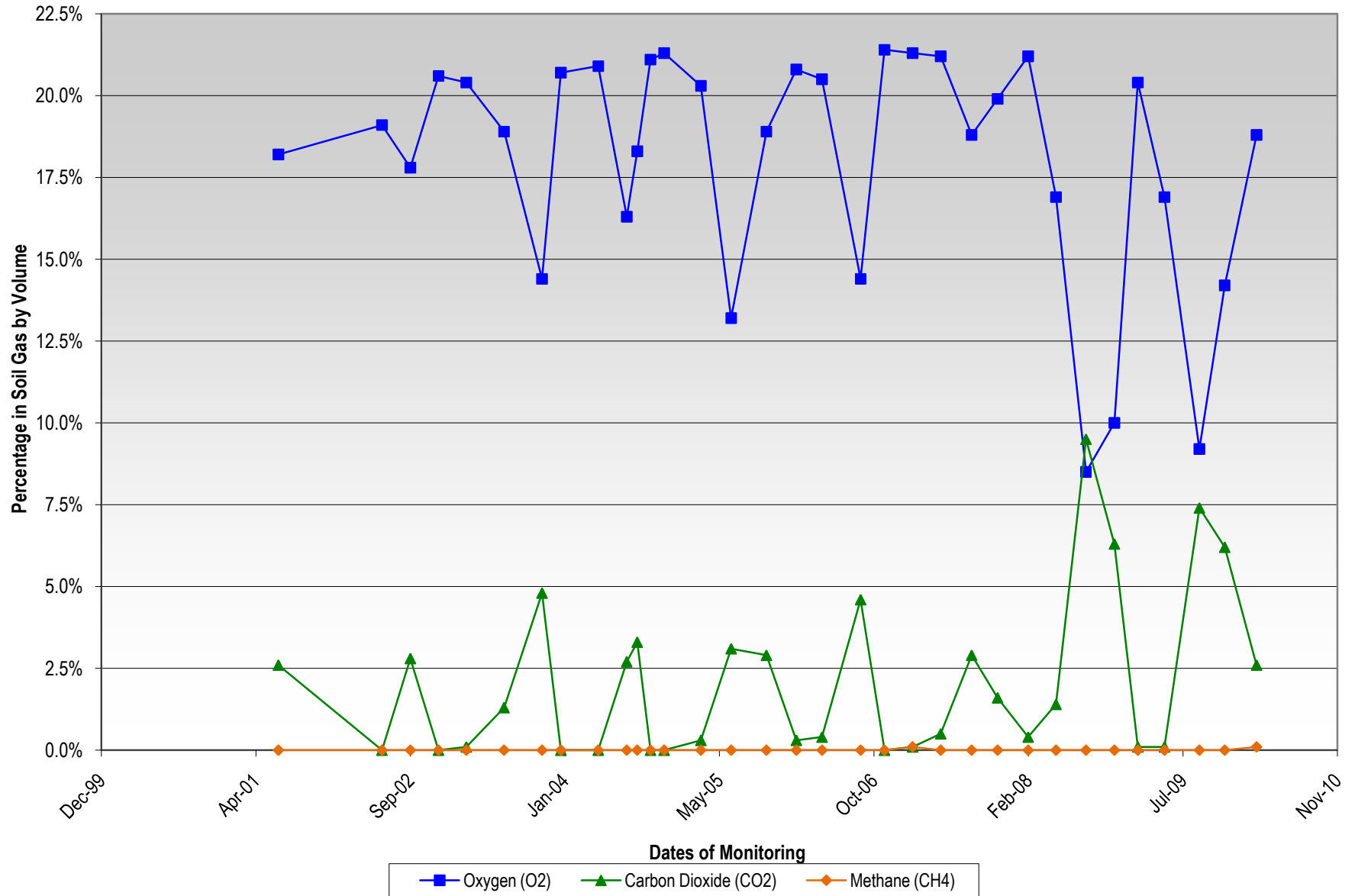
Soil Gas Well MPL5
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



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



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



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

