



Mr. Jeffrey Crawford
Rhode Island Department of Environmental Management
Office of Waste Management
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Subject:

February 2011 Quarterly Monitoring Report for Springfield Street School Complex

SER-1

Dear Mr. Crawford:

Date:

March 22, 2011

ARCADIS Inc. (ARCADIS, formerly LFR, Inc.) conducted quarterly monitoring of soil gas, indoor air, the cap, and the sub-slab ventilation system between February 14, 2011 and March 14, 2011. 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

Email:

Donna.pallister@arcadis-us.com

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

Our ref:

WK012152.0007

COVER MONITORING

ARCADIS conducted a visual survey of the site on February 17, 2011 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 holes, apparently due to erosion from stormwater runoff and settling, were observed along the middle school building foundation in the courtyard adjacent to the cafeteria and along the back wall near the electrical transformer. These holes will be repaired and the repairs will be documented.

Imagine the result

SUB-SLAB VENTILATION SYSTEM

The sub-slab ventilation system was inspected by ARCADIS during the quarterly monitoring on February 17, 2011. The two elementary school blowers and the blower in the back shed at the middle school were operating normally upon arrival. The blower in the front shed was not operating because the knockout tank had filled with water, then the water froze in the tank. This condition was observed during a routine inspection prior to the quarterly inspection and reported to RIDEM. The tank was thawed and drained during the week of February 21, 2011, and the system was restarted. The tank was drained again on March 4 and March 7, 2011.

Samples of influent and effluent (before and after the carbon canisters) air were collected at each operating blower and screened for methane, carbon dioxide, oxygen, carbon monoxide, hydrogen sulfide, and organic vapors using a Landtec GEM2000, a MiniRae 2000, and a Q-Rae multigas meter. Results of screening are provided on Table 1. Methane, carbon monoxide, hydrogen sulfide and organic vapors were not detected in any of the samples. Carbon dioxide was detected at a concentration of 0.2% at each location; all of the sample concentrations were greater than the RAWP Action Level of 1000 ppm.

INDOOR AIR MONITORING

Indoor air monitoring was conducted on February 17, 2011 using a QRAE plus multi-gas meter (methane, hydrogen sulfide, oxygen), a Mini Rae photoionization detector (organic vapors), and a Fluke 975 Airmeter (carbon dioxide, carbon monoxide). School was in session during the monitoring event. Results of monitoring are provided in the Table 2. Carbon dioxide measurements were made with a Fluke 975 Airmeter indoor air quality meter. The Fluke 975 has a range of 0 to 5,000 ppm, with a resolution of 1 ppm.

The outside temperature on February 17, 2011 was 56 °F. Carbon dioxide was measured outside in the school parking lot at 540 ppm.

All readings were below the RAWP Action Levels, except for two carbon dioxide readings. A concentration of 1223 ppm carbon dioxide was recorded in the fully occupied middle school cafeteria, and of 1175 ppm was recorded in the fully occupied elementary school gymnasium where an assembly had been conducted just before the measurement was made.

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 February 17, 2011. 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

One groundwater monitoring well was sampled by ARCADIS on February 24, 2011. Three monitoring wells, ATC-2, ATC-3, and ATC-5 were not able to be sampled because they were damaged. Monitoring well ATC-4 was not able to be sampled

because it was buried under a snow bank. Plans are being made to replace the damaged wells before the next quarterly sampling round.

Prior to sampling, the depth to water was gauged, and a volume of water equivalent to approximately three well volumes was removed from the well. Groundwater samples were collected in laboratory prepared sample jars and delivered under chain-of-custody protocol to Contest Laboratory in East Longmeadow, Massachusetts for analysis for volatile organic compounds by EPA method 8260. The laboratory report is provided as Attachment B. Results of analysis of groundwater samples are summarized in Table 3.

Analysis of groundwater from monitoring well ATC-1 did not detect any target analytes.

SOIL GAS MONITORING

Soil gas monitoring was conducted at 20 locations on November 18 and 19, 2010. Nine other soil gas monitoring wells were not sampled because they were buried under snowbanks and ice. The sampling was conducted by placing an air sampling gripper cap on each well and attaching a piece of tubing. A volume of air equivalent to approximately 3 well volumes was removed from each well using a Sensidyne BD XII air sampling pump. Soil gas was then screened using a Landtec GEM 2000 Plus Landfill Gas Analyzer and a MiniRae Photoionization Detector (PID).

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

Soil Gas Field Monitoring Results

Soil gas samples were screened for methane, carbon monoxide, hydrogen sulfide, carbon dioxide, oxygen, and total VOCs. Soil gas survey results are provided in Table 4. Carbon monoxide, hydrogen sulfide and organic vapors were not detected in any samples. Methane was detected in one well, MPL7, at 1.0%, which is above the RAWP action level of 0.5%. This finding was reported to RIDEM on February 23 when it was discovered.

MPL7 is located near the northeastern corner of the property, near the intersection of Hartford Avenue and Springfield Street. ARCADIS personnel noted that a contractor

appeared to cleaning or repairing the sewer line in the Hartford Avenue adjacent to the area where the soil gas monitoring wells were located. Therefore, it is possible that the elevated reading was due to sewer gas migrating into the well from the sewer line.

Soil gas well MPL7 was rescreened on March 14, 2011, along with several near by wells. The concentration of methane detected at this time was 0.4% which was below the RAWP action level of 0.5%. Methane was not detected in any of the other nearby wells. These results are also included in Table 4.

Carbon dioxide was detected in soil gas at concentrations ranging from 0.0% to 6.5% during the February monitoring event. The carbon dioxide Remedial Action Work Plan Action Level is 0.1% and 14 readings exceeded the action level. The maximum concentration detected during the February round was 6.5%. This is consistent with the pattern shown during previous rounds of declining carbon dioxide concentrations in the winter, and increasing concentrations in the summer. Graphs presenting carbon dioxide, oxygen, and methane concentrations over time for selected representative wells are presented in Attachment C.

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

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

Hydrogen sulfide, carbon monoxide and organic vapor concentrations did not exceed RAWP action levels in any soil gas or indoor air samples. Carbon dioxide concentrations exceeded the action level at many soil gas locations and two interior 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. The elevated concentrations of carbon dioxide inside Site buildings corresponded to high occupancy, is not considered to be related to the soil gas concentrations.

The elevated concentration of methane detected in soil gas well MPL7 located on the northern end of the property near Hartford Avenue appeared to be related to sewer repair work being conducted at the time of monitoring in February. Retesting in March 2011 found a lower concentration of methane of 0.4%, which was less than the RAWP action level.

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 17, 2011

Monitoring Location	Methane % by volume Landtec	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Elementary School inlet 1	0.0	0.2	20.8	0	0	0.0
Elementary School inlet 2	0.0	0.2	20.9	0	0	0.0
Elementary School Outlet	0.0	0.2	20.9	0	0	0.0
Middle School front shed inlet	OFF – Ice in knockout tank					
Middle School front shed after 2 nd carbon	OFF – Ice in knockout tank					
Middle School back shed inlet	0.0	0.2	20.6	0	0	0.0
Middle School back shed after 2 nd carbon	0.0	0.2	20.5	0	0	0.0
Remedial Action Work Plan Action Levels	0.5	1,000 ppm (0.1%)	NA	9 ppm	10 ppm	5 ppm

Measurements made with: Land tee GEM2000, MiniRAE 2000, Q-RAE multigas meter

Sampling date: February 17, 2011

Measured by: D. Pallister

Table 2
Indoor Air Monitoring Results
Springfield Street School Complex
Providence, Rhode Island
February 17, 2011

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	620	19.7	0	0	0.0
E.S. Elevator	0	512	19.7	0	0	0.0
E.S. Faculty Work Room	0	596	19.8	0	0	0.0
E.S. Gym	0	1,175	20.7	0	0	0.0
E.S. Stairway B	0	467	20.1	0	0	0.0
E.S. Room 102	0	862	20.3	0	0	0.0
E.S. Library	0	518	20.5	0	0	0.0
E.S. Room 111 Music/Art Room	0	748	20.9	0	0	0.0
E.S. Cafeteria	0	497	21.2	0	0	0.0
E.S. Mechanical Room	0	862	20.0	0	0	0.0
Stairway C	0	521	20.9	0	0	0.0

Table 2
Indoor Air Monitoring Notes
Springfield Street School Complex
February 17, 2011

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	646	21.8	0	0	0.0
M.S. Elevator	0	621	22.1	0	0	0.0
M.S. Stairway near Hartford Ave. GS-07	0	669	23.4	0	0	0.0
M.S. Near sensor #16 in hall outside cafeteria	0	948	23.1	0	0	0.0
M.S. Faculty Work Room	0	944	23.1	0	0	0.0
M.S. Music/Art Room	0	924	22.5	1	0	0.0
M.S. GS-03 Across from Boys Bathroom	0	728	22.1	0	0	0.0
M.S. Second Floor - Library	0	783	23.4	0	0	0.0
M.S. Cafeteria	0	1,223	23.0	0	0	0.0

Table 2
Indoor Air Monitoring Notes
Springfield Street School Complex
February 17, 2011

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
M.S. Front Hall near sensor #4	0	869	23.3	0	0	0.0
M.S. Hallway across from elevator near sensor #9	0	781	22.4	0	0	0.0
M.S. Near sensor GS 06 hallway right end	0	936	23.3	0	0	0.0
M.S. stairway near Elem. sensor GS-1	0	956	22.3	0	0	0.0
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: MiniRAE 2000, Q-RAE Multigas Meter, Fluke 975 Airmeter

PPM = Parts per million

Outdoor conditions: carbon monoxide = 1 ppm, carbon dioxide = 540 ppm, temperature = 56.3 °F.

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

Well	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	5/20/2010	8/25/2010	11/19/2010	2/24/2011	
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	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	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	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	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	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	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	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	ND	ND	ND	5000				
	Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	1.27	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	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	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	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	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	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	ND	ND	NA				
ATC-2	Chloroform	0.9	ND	ND	1.0	ND	ND	ND	NS	1.1	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA			
ATC-3	Toluene	ND	ND	ND	NS	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	NS	NS	NS	NS	1700				
ATC-4	Benzene	ND	ND	2.5	0.6	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	ND	ND	ND	NS	140				
	Chlorobenzene	2.6	ND	57.3	2.7	5.18	ND	ND	ND	ND	ND	0.60	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	70					
	1,4-dichlorobenzene	4.2	ND	9.2	3.4	3.36	ND	ND	ND	ND	0.80	1.6	2.1	ND	ND	ND	ND	1.2	1.1	ND	1.2	2.1	2.1	ND	ND	2.1	1.4	ND	1.7	1.5	ND	ND	ND	1.5	NS	NA				
	MTBE	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	ND	ND	ND	NS	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	ND	ND	NS	NA				
	tert-Amyl Methyl Ether (TAME)	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	0.5	ND	NS	NA				
ATC-5	MTBE	ND	ND	2.2	NS	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	ND	ND	ND	NS	5000					
	Chloroform	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	ND	ND	NS	NS	NS	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	LFR	LFR	ARCADIS	ARCADIS	ARCADIS	ARCADIS	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
February 23 & 24, 2011

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
WB-1	Unable to locate due to snow					
WB-2	0	0.2	20.9	0	0	0.0
WB-3	Unable to locate due to snow					
WB-4	0	0.1	21.3	0	0	0.0
WB-5	Unable to locate due to snow					
WB-6	0	0.1	21.2	0	0	0.0
WB-7	Unable to locate due to snow					
WB-8	0	0.1	21.3	0	0	0.0
WB-12	0	0.8	20.6	0	0	0.0
WB-13	0	0.3	20.9	0	0	0.0
WB-14	0	0.1	20.8	0	0	0.0
WB-15	Unable to locate due to snow					
EPL-1	0	0.1	21.0	0	0	0.0
EPL-2	0	0.1	20.9	0	0	0.0
EPL-3	0	2.0	18.7	0	0	0.0
EPL-4	0	1.3	18.7	0	0	0.0
EPL-5	Unable to locate due to snow					
ENE-1	0	2.0	19.3	0	0	0.0

Table 4
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
February 23 & 24, 2011

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MG1	Unable to locate due to snow					
MG2	0	0.2	20.9	0	0	0.0
MG3	0	0.9	20.7	0	0	0.0
MG4	0	0.6	21.7	0	0	0.0
MG5	0	1.1	20.7	0	0	0.0
MPL2	Unable to locate due to snow					
MPL3	Unable to locate due to snow					
MPL5	0	4.7	16.9	0	0	0.0
MPL6	0	6.5	2.9	0	0	0.0
MPL7	1.0	4.9	9.8	0	0	0.0
MPL8	0	1.2	20.3	0	0	0.0
Remedial Action Work Plan Action Levels	0.5%	1,000 PPM	NA	9 PPM	10 PPM	5 PPM

Sampled by: Chris Jamison

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

Table 4
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
March 14, 2011

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MPL3	0	2.0	18.5	0	0	0.0
MPL5	0	2.3	18.9	0	0	0.0
MPL6	0	5.2	4.3	0	0	0.0
MPL7	0.4	6.7	3.5	0	0	0.0
Remedial Action Work Plan Action Levels	0.5%	1,000 PPM	NA	9 PPM	10 PPM	5 PPM

Appendix A
Limitations & Service Constraints

LIMITATIONS AND SERVICE CONSTRAINTS

GENERAL REPORTS/DOCUMENT

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

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

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

Appendix B
Laboratory Results

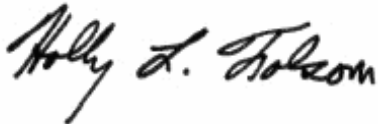
March 4, 2011

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: WK012152.07
Laboratory Work Order Number: 11B0576

Enclosed are results of analyses for samples received by the laboratory on February 25, 2011. 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: 3/4/2011

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.07

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11B0576

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

PROJECT LOCATION: Springfield St

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ATC-1	11B0576-01	Ground Water		SW-846 8260B	
Trip Blank	11B0576-02	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.

SW-846 8260B

Qualifications:

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

Analyte & Samples(s) Qualified:

Dichlorodifluoromethane (Freon 12)

11B0576-01[ATC-1], 11B0576-02[Trip Blank], B026604-BLK1, B026604-BS1, B026604-BSD1

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

Analyte & Samples(s) Qualified:

1,4-Dioxane, tert-Butyl Alcohol (TBA)

11B0576-01[ATC-1], 11B0576-02[Trip Blank], B026604-BLK1, B026604-BS1, B026604-BSD1

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

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



Daren J. Damboragian
Laboratory Manager

Project Location: Springfield St

Sample Description:

Work Order: 11B0576

Date Received: 2/25/2011

Field Sample #: ATC-1

Sampled: 2/24/2011 17:30

Sample ID: 11B0576-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Benzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Bromoform	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-16	SW-846 8260B	2/28/11	2/28/11 10:45	MFF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Chloroform	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1	V-05	SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF

Project Location: Springfield St

Sample Description:

Work Order: 11B0576

Date Received: 2/25/2011

Field Sample #: ATC-1

Sampled: 2/24/2011 17:30

Sample ID: 11B0576-01

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Hexachlorobutadiene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Naphthalene	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Styrene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Toluene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2,4-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Trichloroethylene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,2,4-Trimethylbenzene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:45	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	92.6	70-130	2/28/11 10:45
Toluene-d8	96.7	70-130	2/28/11 10:45
4-Bromofluorobenzene	99.6	70-130	2/28/11 10:45

Project Location: Springfield St

Sample Description:

Work Order: 11B0576

Date Received: 2/25/2011

Field Sample #: Trip Blank

Sampled: 2/24/2011 00:00

Sample ID: 11B0576-02

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	2/28/11	2/28/11 10:15	MFF
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Benzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Bromoform	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Bromomethane	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1	V-16	SW-846 8260B	2/28/11	2/28/11 10:15	MFF
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Carbon Disulfide	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Carbon Tetrachloride	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Chloroethane	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Chloroform	2.6	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Chloromethane	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1	V-05	SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF

Project Location: Springfield St

Sample Description:

Work Order: 11B0576

Date Received: 2/25/2011

Field Sample #: Trip Blank

Sampled: 2/24/2011 00:00

Sample ID: 11B0576-02

Sample Matrix: Trip Blank Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,4-Dioxane	ND	50	µg/L	1	V-16	SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Hexachlorobutadiene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Naphthalene	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Styrene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Tetrachloroethylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Toluene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2,4-Trichlorobenzene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Trichloroethylene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF
o-Xylene	ND	1.0	µg/L	1		SW-846 8260B	2/28/11	2/28/11 10:15	MFF

Surrogates	% Recovery	Recovery Limits	Flag
1,2-Dichloroethane-d4	92.1	70-130	2/28/11 10:15
Toluene-d8	94.8	70-130	2/28/11 10:15
4-Bromofluorobenzene	99.6	70-130	2/28/11 10:15

Sample Extraction Data

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11B0576-01 [ATC-1]	B026604	5	5.00	02/28/11
11B0576-02 [Trip Blank]	B026604	5	5.00	02/28/11

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 B026604 - SW-846 5030B

Blank (B026604-BLK1)

Prepared & Analyzed: 02/28/11

Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							V-16
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	2.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							V-05
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							V-16
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	1.0	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
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Batch B026604 - SW-846 5030B

Blank (B026604-BLK1)

Prepared & Analyzed: 02/28/11

Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	5.0	µg/L							
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	10	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	2.0	µg/L							
1,3,5-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							
1,1,2-Trichloroethane	ND	1.0	µg/L							
Trichloroethylene	ND	2.0	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	22.5		µg/L	25.0		89.9	70-130			
Surrogate: Toluene-d8	24.3		µg/L	25.0		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	25.1		µg/L	25.0		100	70-130			

LCS (B026604-BS1)

Prepared & Analyzed: 02/28/11

Acetone	129	50	µg/L	100		129	70-160			†
Acrylonitrile	8.96	5.0	µg/L	10.0		89.6	70-130			
tert-Amyl Methyl Ether (TAME)	10.7	0.50	µg/L	10.0		107	70-130			
Benzene	9.98	1.0	µg/L	10.0		99.8	70-130			
Bromobenzene	9.97	1.0	µg/L	10.0		99.7	70-130			
Bromochloromethane	9.68	1.0	µg/L	10.0		96.8	70-130			
Bromodichloromethane	10.1	0.50	µg/L	10.0		101	70-130			
Bromoform	10.8	1.0	µg/L	10.0		108	70-130			
Bromomethane	7.13	2.0	µg/L	10.0		71.3	40-160			†
2-Butanone (MEK)	107	20	µg/L	100		107	40-160			†
tert-Butyl Alcohol (TBA)	83.3	20	µg/L	200		41.7	40-160		V-16	†
n-Butylbenzene	10.6	1.0	µg/L	10.0		106	70-130			
sec-Butylbenzene	10.6	1.0	µg/L	10.0		106	70-130			
tert-Butylbenzene	10.5	1.0	µg/L	10.0		105	70-130			
tert-Butyl Ethyl Ether (TBEE)	9.52	0.50	µg/L	10.0		95.2	70-130			
Carbon Disulfide	10.8	2.0	µg/L	10.0		108	70-130			
Carbon Tetrachloride	9.88	1.0	µg/L	10.0		98.8	70-130			
Chlorobenzene	11.1	1.0	µg/L	10.0		111	70-130			
Chlorodibromomethane	10.6	0.50	µg/L	10.0		106	70-130			
Chloroethane	8.65	2.0	µg/L	10.0		86.5	70-130			
Chloroform	10.2	2.0	µg/L	10.0		102	70-130			
Chloromethane	8.26	2.0	µg/L	10.0		82.6	40-160			†
2-Chlorotoluene	10.4	1.0	µg/L	10.0		104	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 B026604 - SW-846 5030B

LCS (B026604-BS1)

Prepared & Analyzed: 02/28/11

4-Chlorotoluene	10.8	1.0	µg/L	10.0		108	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	9.72	5.0	µg/L	10.0		97.2	70-130			
1,2-Dibromoethane (EDB)	10.8	0.50	µg/L	10.0		108	70-130			
Dibromomethane	9.62	1.0	µg/L	10.0		96.2	70-130			
1,2-Dichlorobenzene	10.8	1.0	µg/L	10.0		108	70-130			
1,3-Dichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130			
1,4-Dichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130			
trans-1,4-Dichloro-2-butene	8.49	2.0	µg/L	10.0		84.9	70-130			
Dichlorodifluoromethane (Freon 12)	5.99	2.0	µg/L	10.0		59.9	40-160			V-05 †
1,1-Dichloroethane	9.89	1.0	µg/L	10.0		98.9	70-130			
1,2-Dichloroethane	9.66	1.0	µg/L	10.0		96.6	70-130			
1,1-Dichloroethylene	9.66	1.0	µg/L	10.0		96.6	70-130			
cis-1,2-Dichloroethylene	9.77	1.0	µg/L	10.0		97.7	70-130			
trans-1,2-Dichloroethylene	10.7	1.0	µg/L	10.0		107	70-130			
1,2-Dichloropropane	9.33	1.0	µg/L	10.0		93.3	70-130			
1,3-Dichloropropane	10.0	0.50	µg/L	10.0		100	70-130			
2,2-Dichloropropane	10.5	1.0	µg/L	10.0		105	40-130			†
1,1-Dichloropropene	9.82	2.0	µg/L	10.0		98.2	70-130			
cis-1,3-Dichloropropene	9.90	0.50	µg/L	10.0		99.0	70-130			
trans-1,3-Dichloropropene	10.6	0.50	µg/L	10.0		106	70-130			
Diethyl Ether	10.4	2.0	µg/L	10.0		104	70-130			
Diisopropyl Ether (DIPE)	10.2	0.50	µg/L	10.0		102	70-130			
1,4-Dioxane	92.1	50	µg/L	100		92.1	40-130			V-16 †
Ethylbenzene	10.5	1.0	µg/L	10.0		105	70-130			
Hexachlorobutadiene	10.2	1.0	µg/L	10.0		102	70-130			
2-Hexanone (MBK)	101	10	µg/L	100		101	70-160			†
Isopropylbenzene (Cumene)	12.7	1.0	µg/L	10.0		127	70-130			
p-Isopropyltoluene (p-Cymene)	10.9	1.0	µg/L	10.0		109	70-130			
Methyl tert-Butyl Ether (MTBE)	10.5	1.0	µg/L	10.0		105	70-130			
Methylene Chloride	9.14	5.0	µg/L	10.0		91.4	70-130			
4-Methyl-2-pentanone (MIBK)	94.3	10	µg/L	100		94.3	70-160			†
Naphthalene	8.61	5.0	µg/L	10.0		86.1	40-130			†
n-Propylbenzene	10.7	1.0	µg/L	10.0		107	70-130			
Styrene	10.3	1.0	µg/L	10.0		103	70-130			
1,1,1,2-Tetrachloroethane	10.2	1.0	µg/L	10.0		102	70-130			
1,1,2,2-Tetrachloroethane	10.3	0.50	µg/L	10.0		103	70-130			
Tetrachloroethylene	10.3	1.0	µg/L	10.0		103	70-130			
Tetrahydrofuran	9.83	10	µg/L	10.0		98.3	70-130			
Toluene	10.3	1.0	µg/L	10.0		103	70-130			
1,2,3-Trichlorobenzene	8.37	5.0	µg/L	10.0		83.7	70-130			
1,2,4-Trichlorobenzene	8.25	2.0	µg/L	10.0		82.5	70-130			
1,3,5-Trichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130			
1,1,1-Trichloroethane	9.97	1.0	µg/L	10.0		99.7	70-130			
1,1,2-Trichloroethane	9.74	1.0	µg/L	10.0		97.4	70-130			
Trichloroethylene	9.70	2.0	µg/L	10.0		97.0	70-130			
Trichlorofluoromethane (Freon 11)	9.61	2.0	µg/L	10.0		96.1	70-130			
1,2,3-Trichloropropane	8.99	2.0	µg/L	10.0		89.9	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.6	1.0	µg/L	10.0		106	70-130			
1,2,4-Trimethylbenzene	10.2	1.0	µg/L	10.0		102	70-130			
1,3,5-Trimethylbenzene	10.5	1.0	µg/L	10.0		105	70-130			
Vinyl Chloride	8.76	2.0	µg/L	10.0		87.6	40-160			†

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B026604 - SW-846 5030B

LCS (B026604-BS1)

Prepared & Analyzed: 02/28/11

m+p Xylene	21.4	2.0	µg/L	20.0		107	70-130			
o-Xylene	10.6	1.0	µg/L	10.0		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	22.6		µg/L	25.0		90.2	70-130			
Surrogate: Toluene-d8	24.3		µg/L	25.0		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	25.6		µg/L	25.0		102	70-130			

LCS Dup (B026604-BSD1)

Prepared & Analyzed: 02/28/11

Acetone	134	50	µg/L	100		134	70-160	4.48	25	†
Acrylonitrile	9.65	5.0	µg/L	10.0		96.5	70-130	7.42	25	
tert-Amyl Methyl Ether (TAME)	10.7	0.50	µg/L	10.0		107	70-130	0.187	25	
Benzene	9.70	1.0	µg/L	10.0		97.0	70-130	2.85	25	
Bromobenzene	9.87	1.0	µg/L	10.0		98.7	70-130	1.01	25	
Bromochloromethane	9.77	1.0	µg/L	10.0		97.7	70-130	0.925	25	
Bromodichloromethane	9.36	0.50	µg/L	10.0		93.6	70-130	7.41	25	
Bromoform	11.2	1.0	µg/L	10.0		112	70-130	2.82	25	
Bromomethane	7.69	2.0	µg/L	10.0		76.9	40-160	7.56	25	†
2-Butanone (MEK)	111	20	µg/L	100		111	40-160	3.82	25	†
tert-Butyl Alcohol (TBA)	87.1	20	µg/L	200		43.6	40-160	4.46	25	V-16 †
n-Butylbenzene	9.76	1.0	µg/L	10.0		97.6	70-130	7.97	25	
sec-Butylbenzene	10.1	1.0	µg/L	10.0		101	70-130	4.63	25	
tert-Butylbenzene	10.1	1.0	µg/L	10.0		101	70-130	3.78	25	
tert-Butyl Ethyl Ether (TBEE)	9.34	0.50	µg/L	10.0		93.4	70-130	1.91	25	
Carbon Disulfide	9.79	2.0	µg/L	10.0		97.9	70-130	9.81	25	
Carbon Tetrachloride	9.30	1.0	µg/L	10.0		93.0	70-130	6.05	25	
Chlorobenzene	10.8	1.0	µg/L	10.0		108	70-130	2.92	25	
Chlorodibromomethane	10.4	0.50	µg/L	10.0		104	70-130	1.62	25	
Chloroethane	8.63	2.0	µg/L	10.0		86.3	70-130	0.231	25	
Chloroform	9.93	2.0	µg/L	10.0		99.3	70-130	2.19	25	
Chloromethane	8.14	2.0	µg/L	10.0		81.4	40-160	1.46	25	†
2-Chlorotoluene	10.2	1.0	µg/L	10.0		102	70-130	2.14	25	
4-Chlorotoluene	10.5	1.0	µg/L	10.0		105	70-130	2.73	25	
1,2-Dibromo-3-chloropropane (DBCP)	9.48	5.0	µg/L	10.0		94.8	70-130	2.50	25	
1,2-Dibromoethane (EDB)	10.3	0.50	µg/L	10.0		103	70-130	4.57	25	
Dibromomethane	10.1	1.0	µg/L	10.0		101	70-130	5.26	25	
1,2-Dichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130	4.18	25	
1,3-Dichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130	0.00	25	
1,4-Dichlorobenzene	9.94	1.0	µg/L	10.0		99.4	70-130	3.56	25	
trans-1,4-Dichloro-2-butene	9.21	2.0	µg/L	10.0		92.1	70-130	8.14	25	
Dichlorodifluoromethane (Freon 12)	5.82	2.0	µg/L	10.0		58.2	40-160	2.88	25	V-05 †
1,1-Dichloroethane	9.60	1.0	µg/L	10.0		96.0	70-130	2.98	25	
1,2-Dichloroethane	9.45	1.0	µg/L	10.0		94.5	70-130	2.20	25	
1,1-Dichloroethylene	9.13	1.0	µg/L	10.0		91.3	70-130	5.64	25	
cis-1,2-Dichloroethylene	9.34	1.0	µg/L	10.0		93.4	70-130	4.50	25	
trans-1,2-Dichloroethylene	10.3	1.0	µg/L	10.0		103	70-130	4.38	25	
1,2-Dichloropropane	8.74	1.0	µg/L	10.0		87.4	70-130	6.53	25	
1,3-Dichloropropane	9.99	0.50	µg/L	10.0		99.9	70-130	0.100	25	
2,2-Dichloropropane	9.82	1.0	µg/L	10.0		98.2	40-130	6.69	25	†
1,1-Dichloropropene	9.30	2.0	µg/L	10.0		93.0	70-130	5.44	25	
cis-1,3-Dichloropropene	9.35	0.50	µg/L	10.0		93.5	70-130	5.71	25	
trans-1,3-Dichloropropene	10.4	0.50	µg/L	10.0		104	70-130	2.38	25	
Diethyl Ether	10.2	2.0	µg/L	10.0		102	70-130	2.03	25	
Diisopropyl Ether (DIPE)	9.91	0.50	µg/L	10.0		99.1	70-130	2.59	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
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Batch B026604 - SW-846 5030B

LCS Dup (B026604-BSD1)

Prepared & Analyzed: 02/28/11

1,4-Dioxane	104	50	µg/L	100		104	40-130	12.4	50	V-16 † ‡
Ethylbenzene	10.2	1.0	µg/L	10.0		102	70-130	2.81	25	
Hexachlorobutadiene	10.1	1.0	µg/L	10.0		101	70-130	0.691	25	
2-Hexanone (MBK)	103	10	µg/L	100		103	70-160	2.41	25	†
Isopropylbenzene (Cumene)	12.3	1.0	µg/L	10.0		123	70-130	2.64	25	
p-Isopropyltoluene (p-Cymene)	10.1	1.0	µg/L	10.0		101	70-130	7.05	25	
Methyl tert-Butyl Ether (MTBE)	10.3	1.0	µg/L	10.0		103	70-130	1.73	25	
Methylene Chloride	9.12	5.0	µg/L	10.0		91.2	70-130	0.219	25	
4-Methyl-2-pentanone (MIBK)	96.0	10	µg/L	100		96.0	70-160	1.79	25	†
Naphthalene	8.52	5.0	µg/L	10.0		85.2	40-130	1.05	25	†
n-Propylbenzene	10.5	1.0	µg/L	10.0		105	70-130	2.17	25	
Styrene	10.6	1.0	µg/L	10.0		106	70-130	2.59	25	
1,1,1,2-Tetrachloroethane	10.4	1.0	µg/L	10.0		104	70-130	1.55	25	
1,1,2,2-Tetrachloroethane	10.8	0.50	µg/L	10.0		108	70-130	5.12	25	
Tetrachloroethylene	9.78	1.0	µg/L	10.0		97.8	70-130	5.37	25	
Tetrahydrofuran	9.63	10	µg/L	10.0		96.3	70-130	2.06	25	
Toluene	9.51	1.0	µg/L	10.0		95.1	70-130	8.36	25	
1,2,3-Trichlorobenzene	8.37	5.0	µg/L	10.0		83.7	70-130	0.00	25	
1,2,4-Trichlorobenzene	8.37	2.0	µg/L	10.0		83.7	70-130	1.44	25	
1,3,5-Trichlorobenzene	10.1	1.0	µg/L	10.0		101	70-130	5.02	25	
1,1,1-Trichloroethane	9.66	1.0	µg/L	10.0		96.6	70-130	3.16	25	
1,1,2-Trichloroethane	9.54	1.0	µg/L	10.0		95.4	70-130	2.07	25	
Trichloroethylene	8.89	2.0	µg/L	10.0		88.9	70-130	8.71	25	
Trichlorofluoromethane (Freon 11)	9.12	2.0	µg/L	10.0		91.2	70-130	5.23	25	
1,2,3-Trichloropropane	9.87	2.0	µg/L	10.0		98.7	70-130	9.33	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.1	1.0	µg/L	10.0		101	70-130	4.26	25	
1,2,4-Trimethylbenzene	9.63	1.0	µg/L	10.0		96.3	70-130	5.75	25	
1,3,5-Trimethylbenzene	10.3	1.0	µg/L	10.0		103	70-130	2.41	25	
Vinyl Chloride	8.30	2.0	µg/L	10.0		83.0	40-160	5.39	25	†
m+p Xylene	21.0	2.0	µg/L	20.0		105	70-130	1.94	25	
o-Xylene	10.4	1.0	µg/L	10.0		104	70-130	2.19	25	
Surrogate: 1,2-Dichloroethane-d4	23.4		µg/L	25.0		93.5	70-130			
Surrogate: Toluene-d8	23.8		µg/L	25.0		95.0	70-130			
Surrogate: 4-Bromofluorobenzene	25.5		µg/L	25.0		102	70-130			

FLAG/QUALIFIER SUMMARY

- * QC result is outside of established limits.
 - † Wide recovery limits established for difficult compound.
 - ‡ Wide RPD limits established for difficult compound.
 - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
- V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
 - V-16 Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy are associated with reported result.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260B in Water</i>	
Acetone	CT,NH,NY,NC
Acrylonitrile	CT,NY,NC,RI
tert-Amyl Methyl Ether (TAME)	NH,NY,NC
Benzene	CT,NH,NY,NC,RI
Bromobenzene	NC
Bromochloromethane	NH,NY,NC
Bromodichloromethane	CT,NH,NY,NC,RI
Bromoform	CT,NH,NY,NC,RI
Bromomethane	CT,NH,NY,NC,RI
2-Butanone (MEK)	CT,NH,NY,NC
tert-Butyl Alcohol (TBA)	NH,NY,NC
n-Butylbenzene	NY,NC
sec-Butylbenzene	NY,NC
tert-Butylbenzene	NY,NC
tert-Butyl Ethyl Ether (TBEE)	NH,NY,NC
Carbon Disulfide	CT,NH,NY,NC
Carbon Tetrachloride	CT,NH,NY,NC,RI
Chlorobenzene	CT,NH,NY,NC,RI
Chlorodibromomethane	CT,NH,NY,NC,RI
Chloroethane	CT,NH,NY,NC,RI
Chloroform	CT,NH,NY,NC,RI
Chloromethane	CT,NH,NY,NC,RI
2-Chlorotoluene	NY,NC
4-Chlorotoluene	NY,NC
1,2-Dibromo-3-chloropropane (DBCP)	NC
1,2-Dibromoethane (EDB)	NC
Dibromomethane	NH,NY,NC
1,2-Dichlorobenzene	CT,NY,NC,RI
1,3-Dichlorobenzene	CT,NH,NY,NC,RI
1,4-Dichlorobenzene	CT,NH,NY,NC,RI
trans-1,4-Dichloro-2-butene	NH,NY,NC
Dichlorodifluoromethane (Freon 12)	NH,NY,NC,RI
1,1-Dichloroethane	CT,NH,NY,NC,RI
1,2-Dichloroethane	CT,NH,NY,NC,RI
1,1-Dichloroethylene	CT,NH,NY,NC,RI
cis-1,2-Dichloroethylene	NC
trans-1,2-Dichloroethylene	CT,NH,NY,NC,RI
1,2-Dichloropropane	CT,NH,NY,NC,RI
1,3-Dichloropropane	NY,NC
2,2-Dichloropropane	NH,NY,NC
1,1-Dichloropropene	NH,NY,NC
cis-1,3-Dichloropropene	CT,NH,NY,NC,RI
trans-1,3-Dichloropropene	CT,NH,NY,NC,RI
Diethyl Ether	NC
Diisopropyl Ether (DIPE)	NH,NY,NC
1,4-Dioxane	NC
Ethylbenzene	CT,NH,NY,NC,RI

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
<i>SW-846 8260B in Water</i>	
Hexachlorobutadiene	CT,NH,NY,NC
2-Hexanone (MBK)	CT,NH,NY,NC
Isopropylbenzene (Cumene)	NY,NC
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,NC
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,NC
Methylene Chloride	CT,NH,NY,NC,RI
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,NC
Naphthalene	NH,NY,NC
n-Propylbenzene	CT,NH,NY,NC
Styrene	CT,NH,NY,NC
1,1,1,2-Tetrachloroethane	CT,NH,NY,NC
1,1,2,2-Tetrachloroethane	CT,NH,NY,NC,RI
Tetrachloroethylene	CT,NH,NY,NC,RI
Tetrahydrofuran	NC
Toluene	CT,NH,NY,NC,RI
1,2,3-Trichlorobenzene	NH,NY,NC
1,2,4-Trichlorobenzene	CT,NH,NY,NC
1,3,5-Trichlorobenzene	NC
1,1,1-Trichloroethane	CT,NH,NY,NC,RI
1,1,2-Trichloroethane	CT,NH,NY,NC,RI
Trichloroethylene	CT,NH,NY,NC,RI
Trichlorofluoromethane (Freon 11)	CT,NH,NY,NC,RI
1,2,3-Trichloropropane	NH,NY,NC
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NC
1,2,4-Trimethylbenzene	NY,NC
1,3,5-Trimethylbenzene	NY,NC
Vinyl Chloride	CT,NH,NY,NC,RI
m+p Xylene	CT,NH,NY,NC,RI
o-Xylene	CT,NH,NY,NC,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	06/30/2011
CT	Connecticut Department of Public Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2011
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012



Phone: 413-525-2332
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www.contestlabs.com

CHAIN OF CUSTODY RECORD

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

Page 2 of 2

Company Name: ARCADIS
Address: 300 METRO CENTER BLDG
WARWICK RI 02886

Attention: DAVID PALLESTER
Project Location: SPRINGFIELD ST
Sampled By: CHRIS LAWSON

Telephone: 401 738-3887
Project # 01115207
Client PO # WLC012052.07

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT
Fax #:
Email: down.pal@arcadis-us.com
Format: EXCEL PDF GIS KEY

Proposal Provided? (For Billing purposes)
 yes no
State Form Required?
 yes no

Field ID	Sample Description	Lab #	Date Sampled		Comp. site	Grab	*Matrix Conc. Code	ANALYSIS REQUESTED	# of containers	*Preser	-Cont. Code
			Start Date/Time	Stop Date/Time							
MP1-6		01	2/24/11	17:20	L	A	L	X			
WRB-2			2/24/11	15:30	X	A	L	X			
ATC-1			2/24/11	17:30	X	GW	L	X			
TRTP 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

Signature: [Signature] Date/Time: 2/24/11 18:00
 Turnaround: 7-Day 10-Day Other RUSH
 Detection Limit Requirements: RT-613
 Matrix Code: GW (Groundwater)
 Preservation Codes: I (Iced) X (Na hydroxide) H (HCL) T (Na thiosulfate)
 Special Requirements or DL's: _____

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.

www.contestlabs.com



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

Sample Receipt Checklist

CLIENT NAME: Arcaulis RECEIVED BY: CVB DATE: 2/23/11

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 N/A

Temperature °C by Temp blank 4.5°C 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: 19/Arr Lab

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

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below	<u>4</u>	SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		Other <u>Tecator Bag</u>	<u>2</u>
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments: _____

40 mL vials: # HCl 4 # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen: _____

Do all samples have the proper Acid pH: Yes No N/A

Do all samples have the proper Base pH: Yes No N/A

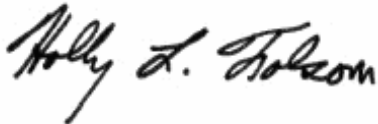
March 4, 2011

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: WK012152.07
Laboratory Work Order Number: 11B0571

Enclosed are results of analyses for samples received by the laboratory on February 25, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Holly L. Folsom". The signature is written in a cursive, flowing style.

Holly L. Folsom
Project Manager

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

REPORT DATE: 3/4/2011

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.07

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11B0571

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
MPL-6	11B0571-01	Air		EPA TO-14A	
WB-2	11B0571-02	Air		EPA TO-14A	

CASE NARRATIVE SUMMARY

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

EPA TO-14A

Qualifications:

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

Analyte & Samples(s) Qualified:

11B0571-01[MPL-6], 11B0571-02[WB-2]

Analyte is found in the associated blank as well as in the sample.

Analyte & Samples(s) Qualified:

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113), Dichlorodifluoromethane (Freon 12)
B026638-BLK1, B026638-BS1, 11B0571-01[MPL-6], 11B0571-02[WB-2]

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

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



Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 2/25/2011
Field Sample #: MPL-6
Sample ID: 11B0571-01
 Sample Matrix: Air
 Sampled: 2/24/2011 17:00

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

Work Order: 11B0571
 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	ND	0.10		ND	0.32	2	2/26/11	6:51	WSD
Bromomethane	ND	0.10		ND	0.39	2	2/26/11	6:51	WSD
Carbon Tetrachloride	ND	0.10		ND	0.63	2	2/26/11	6:51	WSD
Chlorobenzene	ND	0.10		ND	0.46	2	2/26/11	6:51	WSD
Chloroethane	ND	0.10		ND	0.26	2	2/26/11	6:51	WSD
Chloroform	ND	0.10		ND	0.49	2	2/26/11	6:51	WSD
Chloromethane	ND	0.10		ND	0.21	2	2/26/11	6:51	WSD
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	2/26/11	6:51	WSD
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	2/26/11	6:51	WSD
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	2/26/11	6:51	WSD
1,4-Dichlorobenzene	0.23	0.10		1.4	0.60	2	2/26/11	6:51	WSD
Dichlorodifluoromethane (Freon 12)	0.51	0.10	B	2.5	0.49	2	2/26/11	6:51	WSD
1,1-Dichloroethane	ND	0.10		ND	0.40	2	2/26/11	6:51	WSD
1,2-Dichloroethane	ND	0.10		ND	0.40	2	2/26/11	6:51	WSD
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	2/26/11	6:51	WSD
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	2/26/11	6:51	WSD
1,2-Dichloropropane	ND	0.10		ND	0.46	2	2/26/11	6:51	WSD
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	2/26/11	6:51	WSD
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	2/26/11	6:51	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	2/26/11	6:51	WSD
Ethylbenzene	1.8	0.10		7.6	0.43	2	2/26/11	6:51	WSD
Hexachlorobutadiene	ND	0.10		ND	1.1	2	2/26/11	6:51	WSD
Methylene Chloride	1.7	0.20		6.1	0.69	2	2/26/11	6:51	WSD
Styrene	0.51	0.10		2.2	0.43	2	2/26/11	6:51	WSD
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	2/26/11	6:51	WSD
Tetrachloroethylene	0.34	0.10		2.3	0.68	2	2/26/11	6:51	WSD
Toluene	2.4	0.10		9.2	0.38	2	2/26/11	6:51	WSD
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	2/26/11	6:51	WSD
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	2/26/11	6:51	WSD
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	2/26/11	6:51	WSD
Trichloroethylene	ND	0.10		ND	0.54	2	2/26/11	6:51	WSD
Trichlorofluoromethane (Freon 11)	0.31	0.10		1.7	0.56	2	2/26/11	6:51	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	2/26/11	6:51	WSD
1,2,4-Trimethylbenzene	3.1	0.10		15	0.49	2	2/26/11	6:51	WSD
1,3,5-Trimethylbenzene	1.0	0.10		5.1	0.49	2	2/26/11	6:51	WSD
Vinyl Chloride	ND	0.10		ND	0.26	2	2/26/11	6:51	WSD
m&p-Xylene	5.1	0.20		22	0.87	2	2/26/11	6:51	WSD
o-Xylene	2.3	0.10		9.9	0.43	2	2/26/11	6:51	WSD

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 2/25/2011
Field Sample #: MPL-6
Sample ID: 11B0571-01
 Sample Matrix: Air
 Sampled: 2/24/2011 17:00

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

Work Order: 11B0571
 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)		114			70-130		2/26/11 6:51	

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 2/25/2011
Field Sample #: WB-2
Sample ID: 11B0571-02
 Sample Matrix: Air
 Sampled: 2/24/2011 15:30

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

Work Order: 11B0571
 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		Analized		
Benzene	0.15	0.10		0.47	0.32	2	2/26/11	8:04	WSD
Bromomethane	ND	0.10		ND	0.39	2	2/26/11	8:04	WSD
Carbon Tetrachloride	ND	0.10		ND	0.63	2	2/26/11	8:04	WSD
Chlorobenzene	ND	0.10		ND	0.46	2	2/26/11	8:04	WSD
Chloroethane	ND	0.10		ND	0.26	2	2/26/11	8:04	WSD
Chloroform	ND	0.10		ND	0.49	2	2/26/11	8:04	WSD
Chloromethane	0.17	0.10		0.35	0.21	2	2/26/11	8:04	WSD
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	2/26/11	8:04	WSD
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	2/26/11	8:04	WSD
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	2/26/11	8:04	WSD
1,4-Dichlorobenzene	0.39	0.10		2.3	0.60	2	2/26/11	8:04	WSD
Dichlorodifluoromethane (Freon 12)	0.55	0.10	B	2.7	0.49	2	2/26/11	8:04	WSD
1,1-Dichloroethane	ND	0.10		ND	0.40	2	2/26/11	8:04	WSD
1,2-Dichloroethane	ND	0.10		ND	0.40	2	2/26/11	8:04	WSD
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	2/26/11	8:04	WSD
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	2/26/11	8:04	WSD
1,2-Dichloropropane	ND	0.10		ND	0.46	2	2/26/11	8:04	WSD
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	2/26/11	8:04	WSD
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	2/26/11	8:04	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	2/26/11	8:04	WSD
Ethylbenzene	2.7	0.10		12	0.43	2	2/26/11	8:04	WSD
Hexachlorobutadiene	ND	0.10		ND	1.1	2	2/26/11	8:04	WSD
Methylene Chloride	0.21	0.20		0.74	0.69	2	2/26/11	8:04	WSD
Styrene	1.4	0.10		5.9	0.43	2	2/26/11	8:04	WSD
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	2/26/11	8:04	WSD
Tetrachloroethylene	0.63	0.10		4.3	0.68	2	2/26/11	8:04	WSD
Toluene	5.3	0.10		20	0.38	2	2/26/11	8:04	WSD
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	2/26/11	8:04	WSD
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	2/26/11	8:04	WSD
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	2/26/11	8:04	WSD
Trichloroethylene	0.12	0.10		0.64	0.54	2	2/26/11	8:04	WSD
Trichlorofluoromethane (Freon 11)	0.52	0.10		2.9	0.56	2	2/26/11	8:04	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	2/26/11	8:04	WSD
1,2,4-Trimethylbenzene	4.7	0.10		23	0.49	2	2/26/11	8:04	WSD
1,3,5-Trimethylbenzene	1.6	0.10		7.9	0.49	2	2/26/11	8:04	WSD
Vinyl Chloride	ND	0.10		ND	0.26	2	2/26/11	8:04	WSD
m&p-Xylene	7.5	0.20		33	0.87	2	2/26/11	8:04	WSD
o-Xylene	3.4	0.10		15	0.43	2	2/26/11	8:04	WSD

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 2/25/2011
Field Sample #: WB-2
Sample ID: 11B0571-02
 Sample Matrix: Air
 Sampled: 2/24/2011 15:30

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

Work Order: 11B0571
 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		2/26/11 8:04	

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
11B0571-01 [MPL-6]	B026638	1	1	N/A	1000	400	200	02/25/11
11B0571-02 [WB-2]	B026638	1	1	N/A	1000	400	200	02/25/11

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	
Batch B026638 - TO-15 Prep											
Blank (B026638-BLK1)											
						Prepared: 02/25/11 Analyzed: 02/26/11					
Benzene	ND	0.025									
Bromomethane	ND	0.025									
Carbon Tetrachloride	ND	0.025									
Chlorobenzene	ND	0.025									
Chloroethane	ND	0.025									
Chloroform	ND	0.025									
Chloromethane	ND	0.025									
1,2-Dibromoethane (EDB)	ND	0.025									
1,2-Dichlorobenzene	ND	0.025									
1,3-Dichlorobenzene	ND	0.025									
1,4-Dichlorobenzene	ND	0.025									
Dichlorodifluoromethane (Freon 12)	0.15	0.025									B
1,1-Dichloroethane	ND	0.025									
1,2-Dichloroethane	ND	0.025									
1,1-Dichloroethylene	ND	0.025									
cis-1,2-Dichloroethylene	ND	0.025									
1,2-Dichloropropane	ND	0.025									
cis-1,3-Dichloropropene	ND	0.025									
trans-1,3-Dichloropropene	ND	0.025									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025									
Ethylbenzene	ND	0.025									
Hexachlorobutadiene	ND	0.025									
Methylene Chloride	ND	0.050									
Styrene	ND	0.025									
1,1,1,2-Tetrachloroethane	ND	0.025									
Tetrachloroethylene	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.025									
1,1,2-Trichloroethane	ND	0.025									
Trichloroethylene	ND	0.025									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.026	0.025									B
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Chloride	ND	0.025									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
Surrogate: 4-Bromofluorobenzene (1)	8.75				8.00		109	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B026638 - TO-15 Prep											
LCS (B026638-BS1)											
						Prepared & Analyzed: 02/25/11					
Benzene	4.04				5.00		80.7	70-130			
Bromomethane	4.73				5.00		94.6	70-130			
Carbon Tetrachloride	4.76				5.00		95.2	70-130			
Chlorobenzene	4.18				5.00		83.5	70-130			
Chloroethane	4.43				5.00		88.5	70-130			
Chloroform	5.02				5.00		100	70-130			
Chloromethane	4.31				5.00		86.1	70-130			
1,2-Dibromoethane (EDB)	4.28				5.00		85.5	70-130			
1,2-Dichlorobenzene	4.64				5.00		92.7	70-130			
1,3-Dichlorobenzene	4.70				5.00		94.1	70-130			
1,4-Dichlorobenzene	4.60				5.00		92.1	70-130			
Dichlorodifluoromethane (Freon 12)	5.14				5.00		103	70-130			B
1,1-Dichloroethane	4.62				5.00		92.3	70-130			
1,2-Dichloroethane	5.08				5.00		102	70-130			
1,1-Dichloroethylene	4.81				5.00		96.2	70-130			
cis-1,2-Dichloroethylene	4.78				5.00		95.6	70-130			
1,2-Dichloropropane	3.92				5.00		78.5	70-130			
cis-1,3-Dichloropropene	4.48				5.00		89.5	70-130			
trans-1,3-Dichloropropene	3.97				5.00		79.5	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.40				5.00		87.9	70-130			
Ethylbenzene	4.10				5.00		81.9	70-130			
Hexachlorobutadiene	4.71				5.00		94.3	70-130			
Methylene Chloride	4.24				5.00		84.8	70-130			
Styrene	4.14				5.00		82.8	70-130			
1,1,2,2-Tetrachloroethane	4.27				5.00		85.3	70-130			
Tetrachloroethylene	4.42				5.00		88.4	70-130			
Toluene	4.00				5.00		80.0	70-130			
1,2,4-Trichlorobenzene	4.84				5.00		96.9	70-130			
1,1,1-Trichloroethane	4.61				5.00		92.2	70-130			
1,1,2-Trichloroethane	4.12				5.00		82.5	70-130			
Trichloroethylene	4.41				5.00		88.1	70-130			
Trichlorofluoromethane (Freon 11)	5.19				5.00		104	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.10				5.00		102	70-130			B
1,2,4-Trimethylbenzene	4.27				5.00		85.4	70-130			
1,3,5-Trimethylbenzene	4.27				5.00		85.5	70-130			
Vinyl Chloride	4.54				5.00		90.8	70-130			
m&p-Xylene	8.43				10.0		84.3	70-130			
o-Xylene	4.18				5.00		83.6	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.95				8.00		112	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
 - B Analyte is found in the associated blank as well as in the sample.

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

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	06/30/2011
CT	Connecticut Department of Public Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2011
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012



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

CHAIN OF CUSTODY RECORD
 11B 0571

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

Company Name: ARCADIS
 Address: 303 METRO CENTER BLVD
WARWICK RI 02886

Telephone: (401) 738-3887
 Project # 081151-02
 Client PO # WLC01252.07

Attention: DANIEL PALLESTER

Project Location: SPRINGFIELD ST
 Sampled By: CHRIS JAMESON

Proposal Provided? (For Billing purposes) yes no
 State Form Required? yes no

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT
 Fax #:
 Email: daniel.palvester@arcadis-us.com
 Format: EXCEL PDF GIS KEY
 OTHER

Field ID	Sample Description	Lab #	Start Date/Time	Stop Date/Time	Comp-site	Grab	Matrix Code	Conc. Code	Matrix/Conc. Code
	MPL-6	-01	2/24/11	17:20	X		A	L	X
	WRB-2	-02	2/24/11	15:30	X		A	L	X
	ATC-1		2/24/11	17:30	X		A	L	X
	TRIP 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

Reinquinshed by (signature) _____ Date/Time: _____

Received by (signature) _____ Date/Time: _____

Reinquinshed by (signature) _____ Date/Time: _____

Received by (signature) _____ Date/Time: _____

Turnaround **
 7-Day
 10-Day
 Other RUSH*

Detection Limit Requirements
PT-613

Regulations? PT-613

Data Enhancement Project/RCP? Y N

Special Requirements or D.L.s: _____

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

Preservation Codes:
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium bisulfate
 O = Other

Client _____
 Comments _____

*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.

www.contestlabs.com



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

Sample Receipt Checklist

CLIENT NAME: Arcadis RECEIVED BY: CVB DATE: 2/25/11

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 N/A

Temperature °C by Temp blank 4.50c 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: 19/Air Lab
Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below	<u>4</u>	SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		Other <u>Tedlar bag</u>	<u>2</u>
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments:

40 mL vials: # HCl 4 # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen: _____

Do all samples have the proper Acid pH: Yes No N/A

Do all samples have the proper Base pH: Yes No N/A

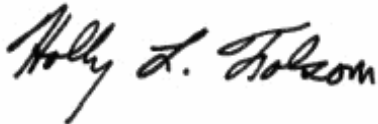
March 4, 2011

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: WK012152.07
Laboratory Work Order Number: 11B0571

Enclosed are results of analyses for samples received by the laboratory on February 25, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Holly L. Folsom". The signature is written in a cursive, flowing style.

Holly L. Folsom
Project Manager

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

REPORT DATE: 3/4/2011

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.07

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11B0571

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
MPL-6	11B0571-01	Air		EPA TO-14A	
WB-2	11B0571-02	Air		EPA TO-14A	

CASE NARRATIVE SUMMARY

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

EPA TO-14A

Qualifications:

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

Analyte & Samples(s) Qualified:

11B0571-01[MPL-6], 11B0571-02[WB-2]

Analyte is found in the associated blank as well as in the sample.

Analyte & Samples(s) Qualified:

1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113), Dichlorodifluoromethane (Freon 12)
B026638-BLK1, B026638-BS1, 11B0571-01[MPL-6], 11B0571-02[WB-2]

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

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



Michael A. Erickson
Laboratory Director

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 2/25/2011
Field Sample #: MPL-6
Sample ID: 11B0571-01
 Sample Matrix: Air
 Sampled: 2/24/2011 17:00

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

Work Order: 11B0571
 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	ND	0.10		ND	0.32	2	2/26/11	6:51	WSD
Bromomethane	ND	0.10		ND	0.39	2	2/26/11	6:51	WSD
Carbon Tetrachloride	ND	0.10		ND	0.63	2	2/26/11	6:51	WSD
Chlorobenzene	ND	0.10		ND	0.46	2	2/26/11	6:51	WSD
Chloroethane	ND	0.10		ND	0.26	2	2/26/11	6:51	WSD
Chloroform	ND	0.10		ND	0.49	2	2/26/11	6:51	WSD
Chloromethane	ND	0.10		ND	0.21	2	2/26/11	6:51	WSD
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	2/26/11	6:51	WSD
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	2/26/11	6:51	WSD
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	2/26/11	6:51	WSD
1,4-Dichlorobenzene	0.23	0.10		1.4	0.60	2	2/26/11	6:51	WSD
Dichlorodifluoromethane (Freon 12)	0.51	0.10	B	2.5	0.49	2	2/26/11	6:51	WSD
1,1-Dichloroethane	ND	0.10		ND	0.40	2	2/26/11	6:51	WSD
1,2-Dichloroethane	ND	0.10		ND	0.40	2	2/26/11	6:51	WSD
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	2/26/11	6:51	WSD
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	2/26/11	6:51	WSD
1,2-Dichloropropane	ND	0.10		ND	0.46	2	2/26/11	6:51	WSD
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	2/26/11	6:51	WSD
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	2/26/11	6:51	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	2/26/11	6:51	WSD
Ethylbenzene	1.8	0.10		7.6	0.43	2	2/26/11	6:51	WSD
Hexachlorobutadiene	ND	0.10		ND	1.1	2	2/26/11	6:51	WSD
Methylene Chloride	1.7	0.20		6.1	0.69	2	2/26/11	6:51	WSD
Styrene	0.51	0.10		2.2	0.43	2	2/26/11	6:51	WSD
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	2/26/11	6:51	WSD
Tetrachloroethylene	0.34	0.10		2.3	0.68	2	2/26/11	6:51	WSD
Toluene	2.4	0.10		9.2	0.38	2	2/26/11	6:51	WSD
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	2/26/11	6:51	WSD
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	2/26/11	6:51	WSD
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	2/26/11	6:51	WSD
Trichloroethylene	ND	0.10		ND	0.54	2	2/26/11	6:51	WSD
Trichlorofluoromethane (Freon 11)	0.31	0.10		1.7	0.56	2	2/26/11	6:51	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	2/26/11	6:51	WSD
1,2,4-Trimethylbenzene	3.1	0.10		15	0.49	2	2/26/11	6:51	WSD
1,3,5-Trimethylbenzene	1.0	0.10		5.1	0.49	2	2/26/11	6:51	WSD
Vinyl Chloride	ND	0.10		ND	0.26	2	2/26/11	6:51	WSD
m&p-Xylene	5.1	0.20		22	0.87	2	2/26/11	6:51	WSD
o-Xylene	2.3	0.10		9.9	0.43	2	2/26/11	6:51	WSD

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 2/25/2011
Field Sample #: MPL-6
Sample ID: 11B0571-01
 Sample Matrix: Air
 Sampled: 2/24/2011 17:00

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

Work Order: 11B0571
 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)		114			70-130		2/26/11 6:51	

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 2/25/2011
Field Sample #: WB-2
Sample ID: 11B0571-02
 Sample Matrix: Air
 Sampled: 2/24/2011 15:30

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

Work Order: 11B0571
 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	0.15	0.10		0.47	0.32	2	2/26/11	8:04	WSD
Bromomethane	ND	0.10		ND	0.39	2	2/26/11	8:04	WSD
Carbon Tetrachloride	ND	0.10		ND	0.63	2	2/26/11	8:04	WSD
Chlorobenzene	ND	0.10		ND	0.46	2	2/26/11	8:04	WSD
Chloroethane	ND	0.10		ND	0.26	2	2/26/11	8:04	WSD
Chloroform	ND	0.10		ND	0.49	2	2/26/11	8:04	WSD
Chloromethane	0.17	0.10		0.35	0.21	2	2/26/11	8:04	WSD
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	2/26/11	8:04	WSD
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	2/26/11	8:04	WSD
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	2/26/11	8:04	WSD
1,4-Dichlorobenzene	0.39	0.10		2.3	0.60	2	2/26/11	8:04	WSD
Dichlorodifluoromethane (Freon 12)	0.55	0.10	B	2.7	0.49	2	2/26/11	8:04	WSD
1,1-Dichloroethane	ND	0.10		ND	0.40	2	2/26/11	8:04	WSD
1,2-Dichloroethane	ND	0.10		ND	0.40	2	2/26/11	8:04	WSD
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	2/26/11	8:04	WSD
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	2/26/11	8:04	WSD
1,2-Dichloropropane	ND	0.10		ND	0.46	2	2/26/11	8:04	WSD
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	2/26/11	8:04	WSD
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	2/26/11	8:04	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10		ND	0.70	2	2/26/11	8:04	WSD
Ethylbenzene	2.7	0.10		12	0.43	2	2/26/11	8:04	WSD
Hexachlorobutadiene	ND	0.10		ND	1.1	2	2/26/11	8:04	WSD
Methylene Chloride	0.21	0.20		0.74	0.69	2	2/26/11	8:04	WSD
Styrene	1.4	0.10		5.9	0.43	2	2/26/11	8:04	WSD
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	2/26/11	8:04	WSD
Tetrachloroethylene	0.63	0.10		4.3	0.68	2	2/26/11	8:04	WSD
Toluene	5.3	0.10		20	0.38	2	2/26/11	8:04	WSD
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	2	2/26/11	8:04	WSD
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	2/26/11	8:04	WSD
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	2/26/11	8:04	WSD
Trichloroethylene	0.12	0.10		0.64	0.54	2	2/26/11	8:04	WSD
Trichlorofluoromethane (Freon 11)	0.52	0.10		2.9	0.56	2	2/26/11	8:04	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10		ND	0.77	2	2/26/11	8:04	WSD
1,2,4-Trimethylbenzene	4.7	0.10		23	0.49	2	2/26/11	8:04	WSD
1,3,5-Trimethylbenzene	1.6	0.10		7.9	0.49	2	2/26/11	8:04	WSD
Vinyl Chloride	ND	0.10		ND	0.26	2	2/26/11	8:04	WSD
m&p-Xylene	7.5	0.20		33	0.87	2	2/26/11	8:04	WSD
o-Xylene	3.4	0.10		15	0.43	2	2/26/11	8:04	WSD

ANALYTICAL RESULTS

Project Location: Springfield St.
 Date Received: 2/25/2011
Field Sample #: WB-2
Sample ID: 11B0571-02
 Sample Matrix: Air
 Sampled: 2/24/2011 15:30

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

Work Order: 11B0571
 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		2/26/11 8:04	

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
11B0571-01 [MPL-6]	B026638	1	1	N/A	1000	400	200	02/25/11
11B0571-02 [WB-2]	B026638	1	1	N/A	1000	400	200	02/25/11

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	
Batch B026638 - TO-15 Prep											
Blank (B026638-BLK1)											
						Prepared: 02/25/11 Analyzed: 02/26/11					
Benzene	ND	0.025									
Bromomethane	ND	0.025									
Carbon Tetrachloride	ND	0.025									
Chlorobenzene	ND	0.025									
Chloroethane	ND	0.025									
Chloroform	ND	0.025									
Chloromethane	ND	0.025									
1,2-Dibromoethane (EDB)	ND	0.025									
1,2-Dichlorobenzene	ND	0.025									
1,3-Dichlorobenzene	ND	0.025									
1,4-Dichlorobenzene	ND	0.025									
Dichlorodifluoromethane (Freon 12)	0.15	0.025									B
1,1-Dichloroethane	ND	0.025									
1,2-Dichloroethane	ND	0.025									
1,1-Dichloroethylene	ND	0.025									
cis-1,2-Dichloroethylene	ND	0.025									
1,2-Dichloropropane	ND	0.025									
cis-1,3-Dichloropropene	ND	0.025									
trans-1,3-Dichloropropene	ND	0.025									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025									
Ethylbenzene	ND	0.025									
Hexachlorobutadiene	ND	0.025									
Methylene Chloride	ND	0.050									
Styrene	ND	0.025									
1,1,1,2-Tetrachloroethane	ND	0.025									
Tetrachloroethylene	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.025									
1,1,2-Trichloroethane	ND	0.025									
Trichloroethylene	ND	0.025									
Trichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.026	0.025									B
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Chloride	ND	0.025									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
Surrogate: 4-Bromofluorobenzene (1)	8.75				8.00		109	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
Batch B026638 - TO-15 Prep											
LCS (B026638-BS1)											
						Prepared & Analyzed: 02/25/11					
Benzene	4.04				5.00		80.7	70-130			
Bromomethane	4.73				5.00		94.6	70-130			
Carbon Tetrachloride	4.76				5.00		95.2	70-130			
Chlorobenzene	4.18				5.00		83.5	70-130			
Chloroethane	4.43				5.00		88.5	70-130			
Chloroform	5.02				5.00		100	70-130			
Chloromethane	4.31				5.00		86.1	70-130			
1,2-Dibromoethane (EDB)	4.28				5.00		85.5	70-130			
1,2-Dichlorobenzene	4.64				5.00		92.7	70-130			
1,3-Dichlorobenzene	4.70				5.00		94.1	70-130			
1,4-Dichlorobenzene	4.60				5.00		92.1	70-130			
Dichlorodifluoromethane (Freon 12)	5.14				5.00		103	70-130			B
1,1-Dichloroethane	4.62				5.00		92.3	70-130			
1,2-Dichloroethane	5.08				5.00		102	70-130			
1,1-Dichloroethylene	4.81				5.00		96.2	70-130			
cis-1,2-Dichloroethylene	4.78				5.00		95.6	70-130			
1,2-Dichloropropane	3.92				5.00		78.5	70-130			
cis-1,3-Dichloropropene	4.48				5.00		89.5	70-130			
trans-1,3-Dichloropropene	3.97				5.00		79.5	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.40				5.00		87.9	70-130			
Ethylbenzene	4.10				5.00		81.9	70-130			
Hexachlorobutadiene	4.71				5.00		94.3	70-130			
Methylene Chloride	4.24				5.00		84.8	70-130			
Styrene	4.14				5.00		82.8	70-130			
1,1,2,2-Tetrachloroethane	4.27				5.00		85.3	70-130			
Tetrachloroethylene	4.42				5.00		88.4	70-130			
Toluene	4.00				5.00		80.0	70-130			
1,2,4-Trichlorobenzene	4.84				5.00		96.9	70-130			
1,1,1-Trichloroethane	4.61				5.00		92.2	70-130			
1,1,2-Trichloroethane	4.12				5.00		82.5	70-130			
Trichloroethylene	4.41				5.00		88.1	70-130			
Trichlorofluoromethane (Freon 11)	5.19				5.00		104	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.10				5.00		102	70-130			B
1,2,4-Trimethylbenzene	4.27				5.00		85.4	70-130			
1,3,5-Trimethylbenzene	4.27				5.00		85.5	70-130			
Vinyl Chloride	4.54				5.00		90.8	70-130			
m&p-Xylene	8.43				10.0		84.3	70-130			
o-Xylene	4.18				5.00		83.6	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.95				8.00		112	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
 - B Analyte is found in the associated blank as well as in the sample.

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

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	06/30/2011
CT	Connecticut Department of Public Health	PH-0567	09/30/2011
NY	New York State Department of Health	10899 NELAP	04/1/2011
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2011
FL	Florida Department of Health	E871027 NELAP	06/30/2011
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2011
WA	State of Washington Department of Ecology	C2065	02/23/2012



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 Email: info@conestlabs.com
 www.conestlabs.com

CHAIN OF CUSTODY RECORD
 11B 0571

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

Company Name: ARCADIS
 Address: 303 METRO CENTER BLVD
WARWICK RI 02886

Telephone: (401) 738-3887
 Project # 081151-02
 Client PO # WLC01252.07

Attention: DAWA PALLESTER

Project Location: SPRINGFIELD ST

Sampled By: CHRIS JAMESON

Proposal Provided? (For Billing purposes) yes no
 State Form Required? yes no

DATA DELIVERY (check one):
 FAX EMAIL WEBSITE CLIENT
 Fax #:
 Email: dawa.paltester@arcadis-us.com
 Format: EXCEL PDF GIS KEY
 OTHER

Field ID	Sample Description	Lab #	Start Date/Time	Stop Date/Time	Comp-site	Grab	Matrix Code	Conc. Code	ANALYSIS REQUESTED	
MPL-6		-01	2/24/11 17:20		X	A	L	X		
WRB-2		-02	2/24/11 15:30		X	A	L	X		
ATC-1			2/24/11 17:30		X	GW	L	X		
TRIP	BLANK									

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

Reinquinished by: (signature) [Signature] Date/Time: 2/24/11 18:00

Received by: (signature) [Signature] Date/Time: 2/25/11 09:50

Reinquinished by: (signature) [Signature] Date/Time: 2/25/11 16:30

Received by: (signature) [Signature] Date/Time: 2/25/11 16:30

Turnaround **
 7-Day
 10-Day
 Other RUSH*

Detection Limit Requirements
 Regulations? RI-613

Data Enhancement Project/RCP? Y N

Special Requirements or D.L.s:

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

Preservation Codes:
 I = Iced
 H = HCL
 M = Methanol
 N = Nitric Acid
 S = Sulfuric Acid
 B = Sodium bisulfate
 O = Other

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

Client Comments

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.

AIHA, NELAP & WBE/DRE Certified

www.contestlabs.com



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

Sample Receipt Checklist

CLIENT NAME: Arcadis RECEIVED BY: CVB DATE: 2/25/11

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 N/A

Temperature °C by Temp blank 4.50c 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: 19/Air Lab
Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Other glass jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		Air Cassette	
40 mL Vial - type listed below	<u>4</u>	SOC Kit	
Colisure / bacteria bottle		Tubes	
Dissolved Oxygen bottle		Non-ConTest Container	
Flashpoint bottle		Other <u>Tedlar bag</u>	<u>2</u>
Encore		PM 2.5 / PM 10	
Perchlorate Kit		PUF Cartridge	

Laboratory Comments:

40 mL vials: # HCl 4 # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

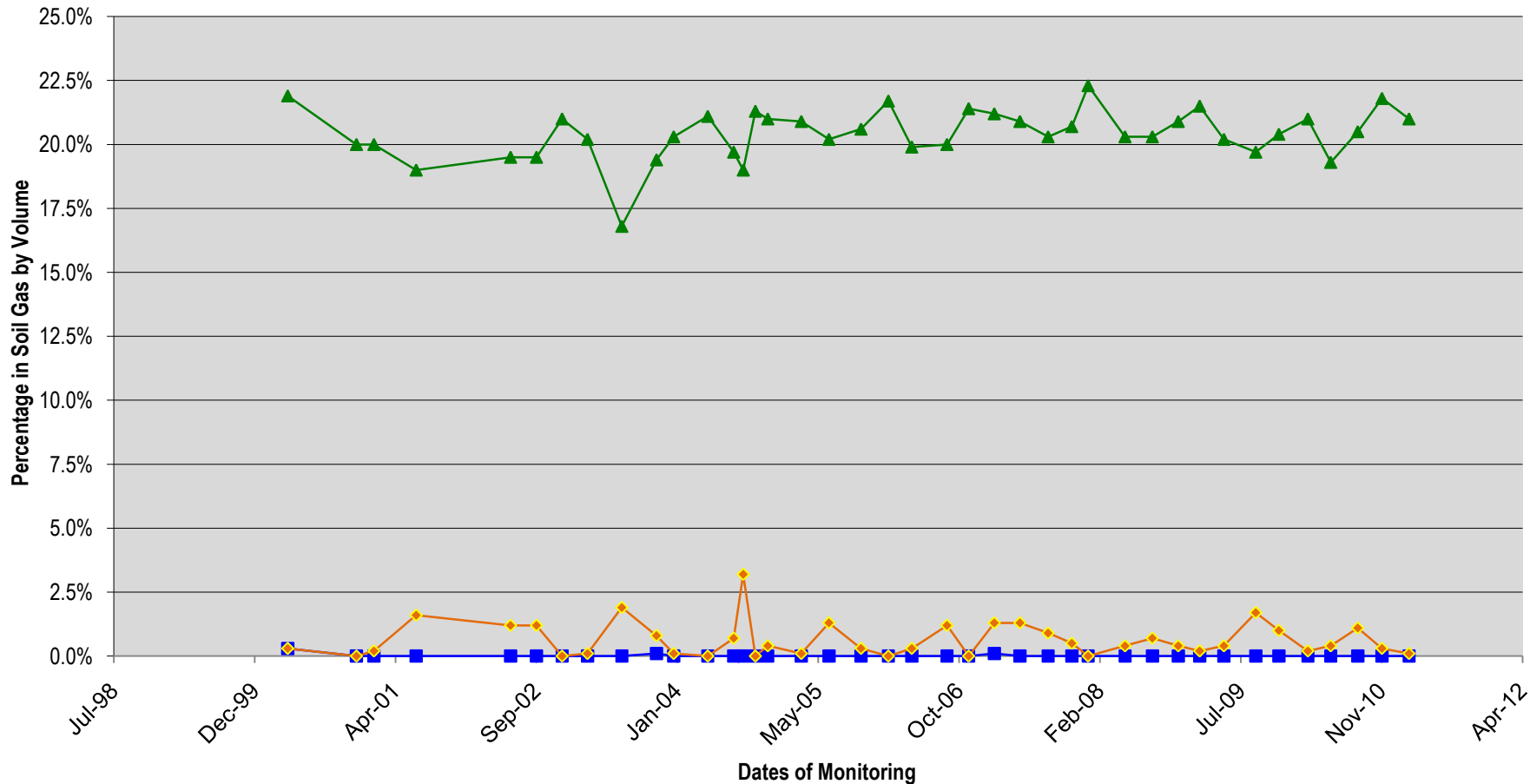
Time and Date Frozen: _____

Do all samples have the proper Acid pH: Yes No N/A

Do all samples have the proper Base pH: Yes No N/A

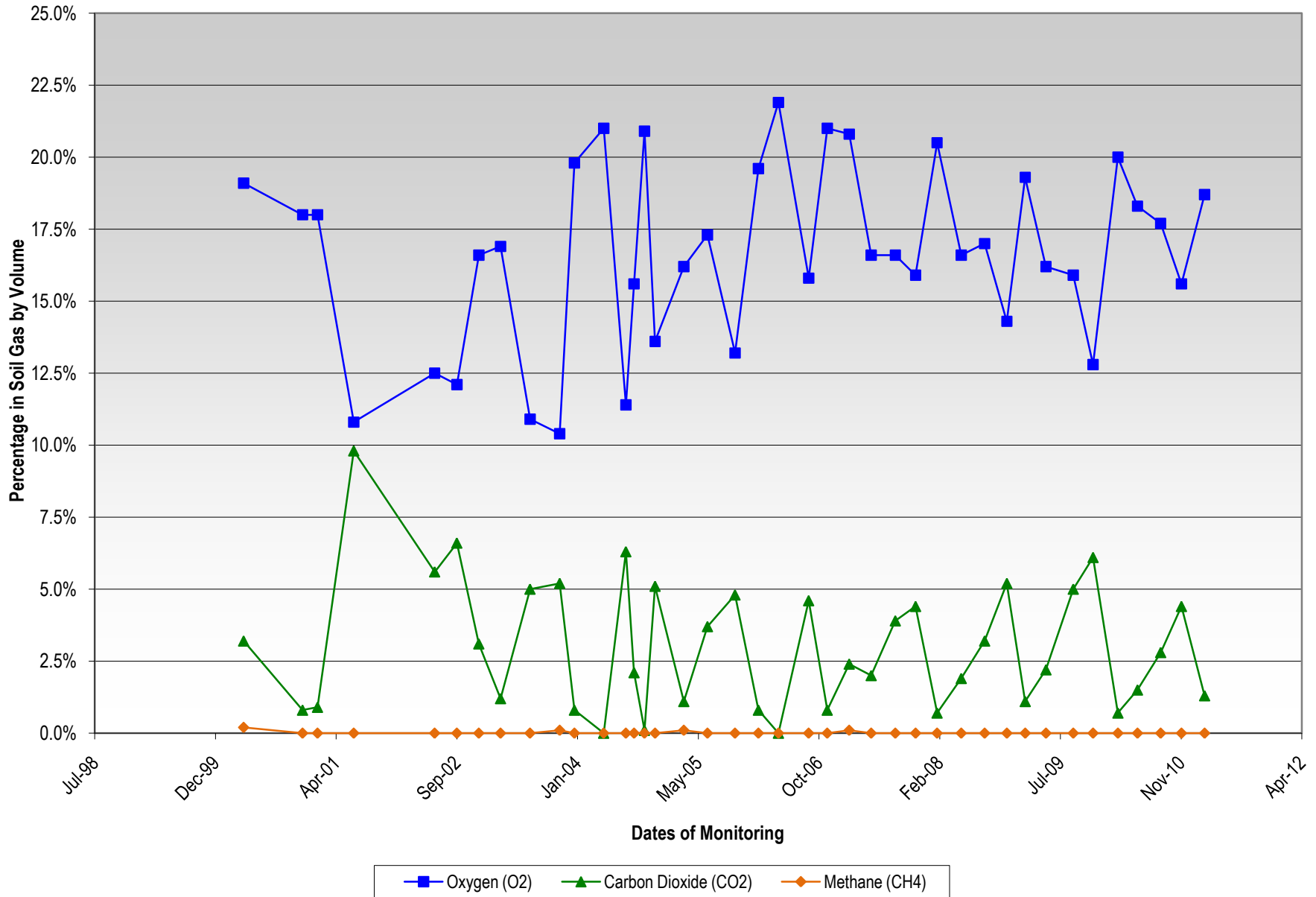
Appendix C
Soil Gas Parameter Graphs

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

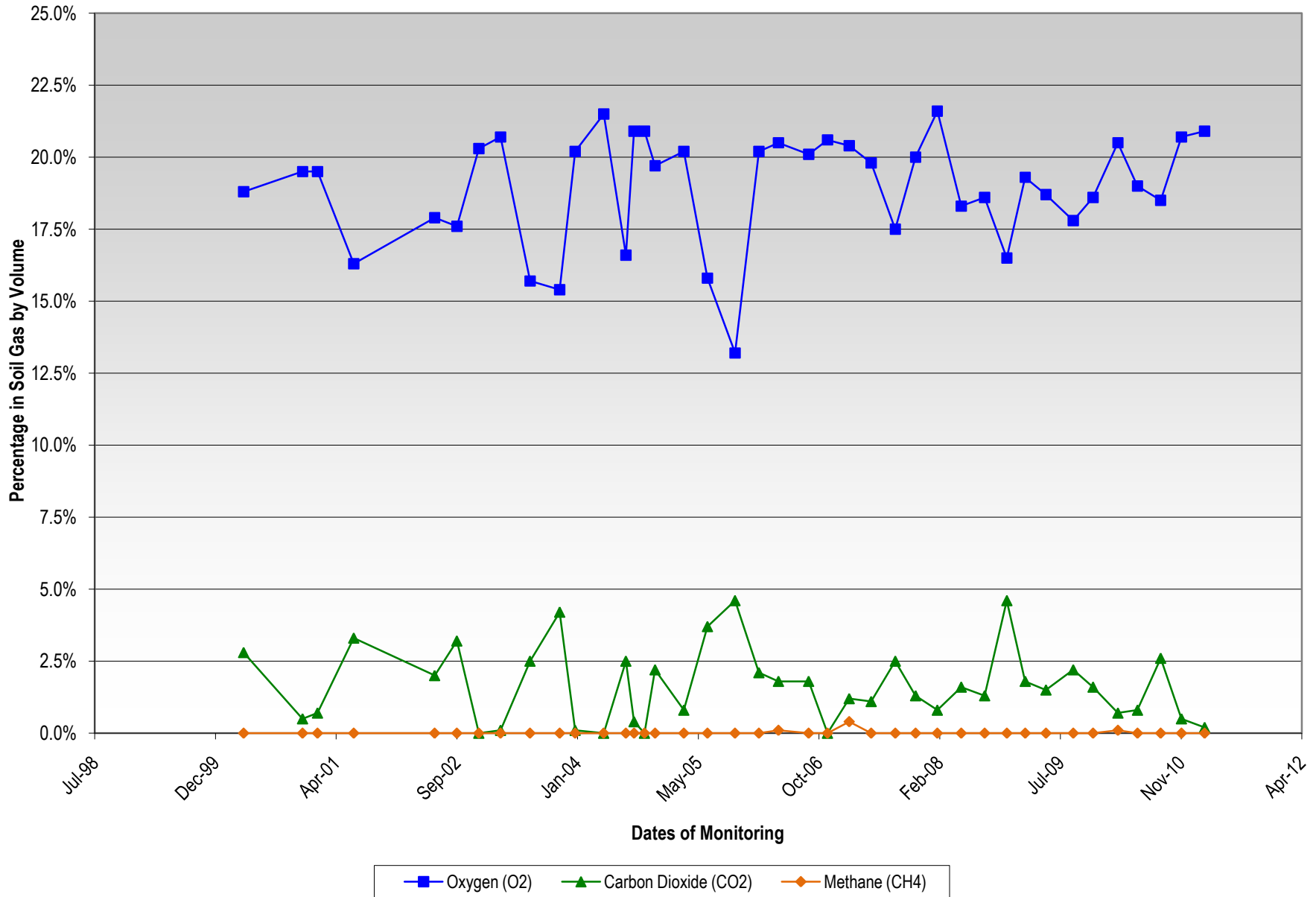


■ Methane ▲ Oxygen ◆ Carbon Dioxide

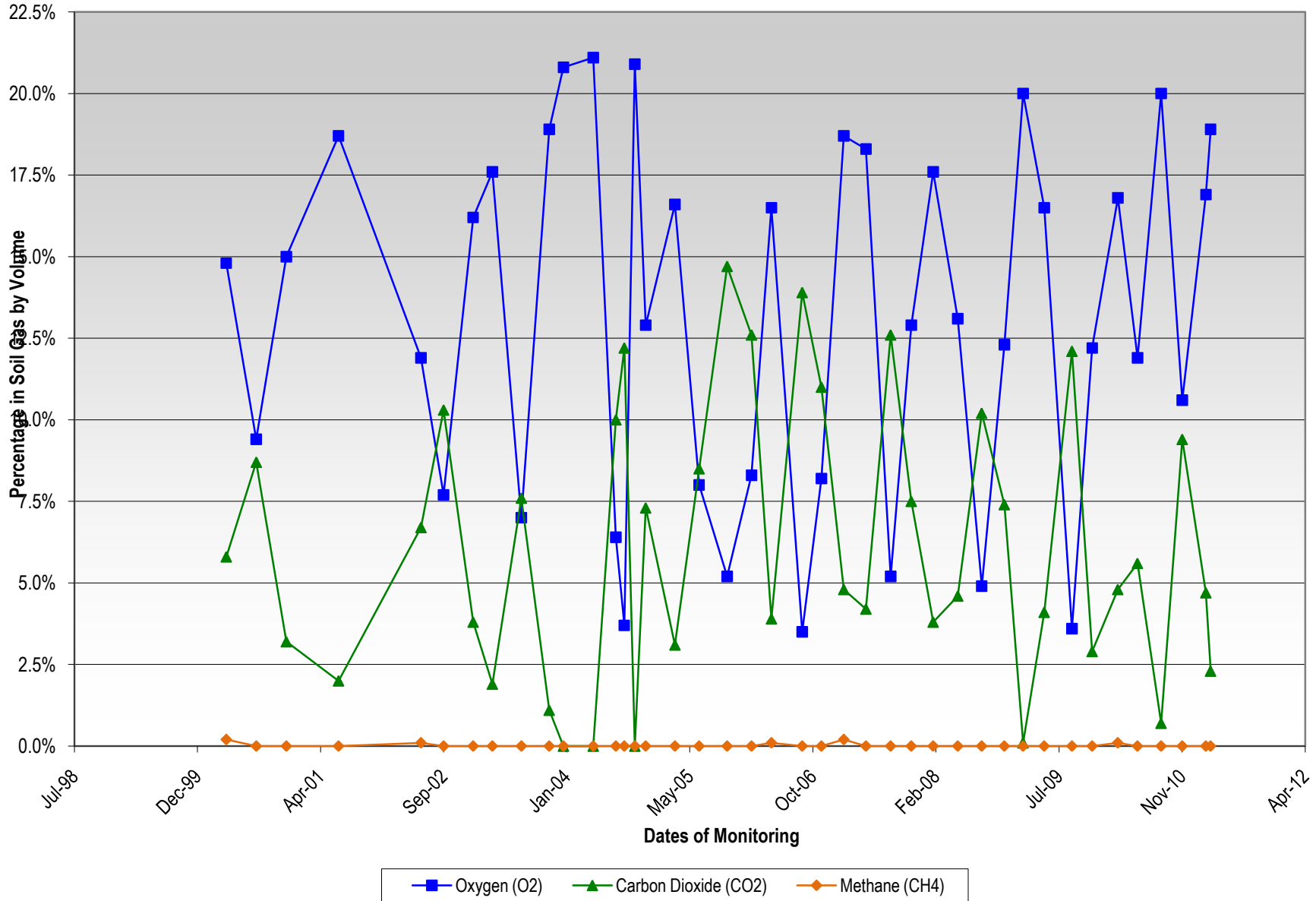
Soil Gas Well EPL4
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



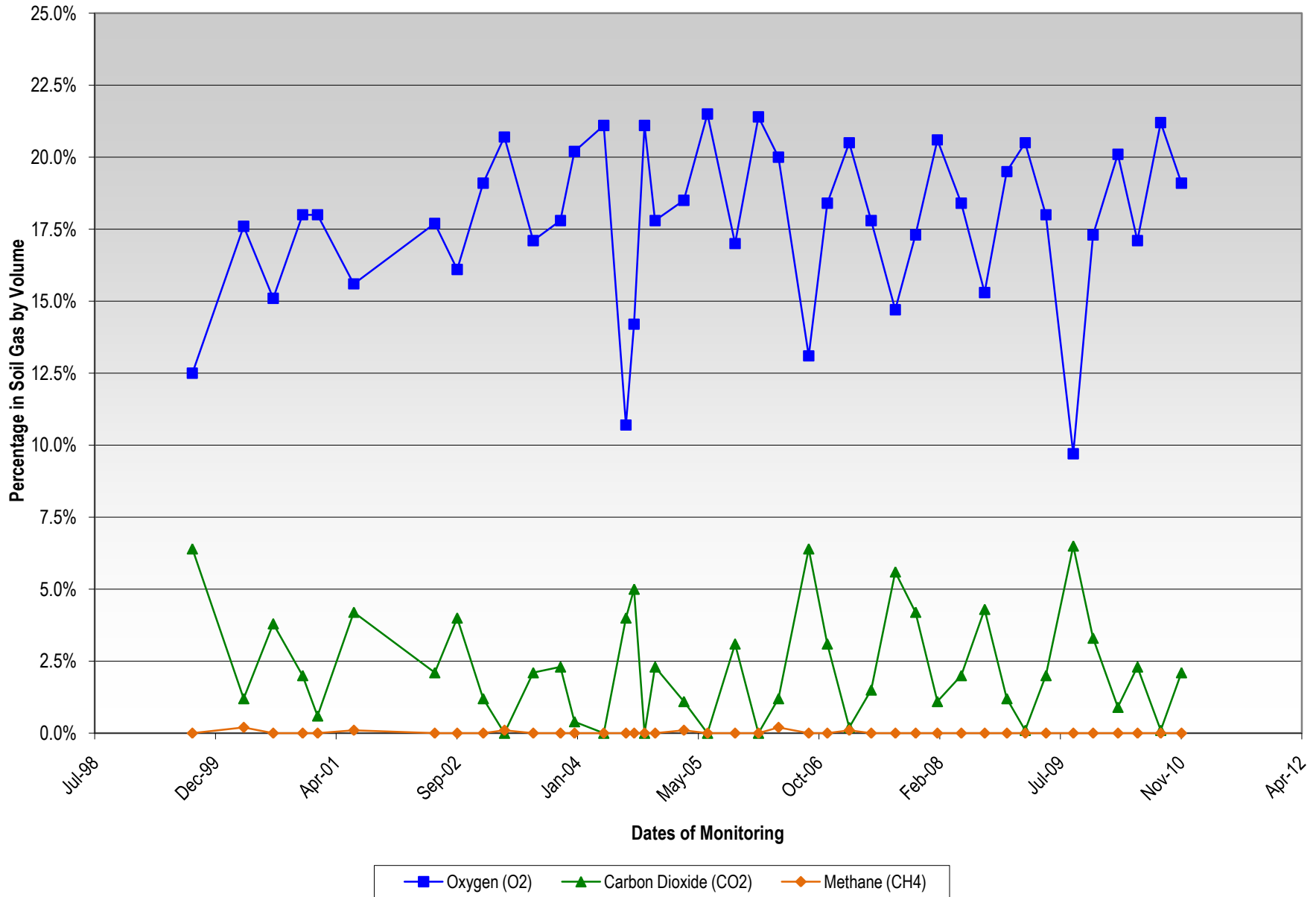
Soil Gas Well MG2
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



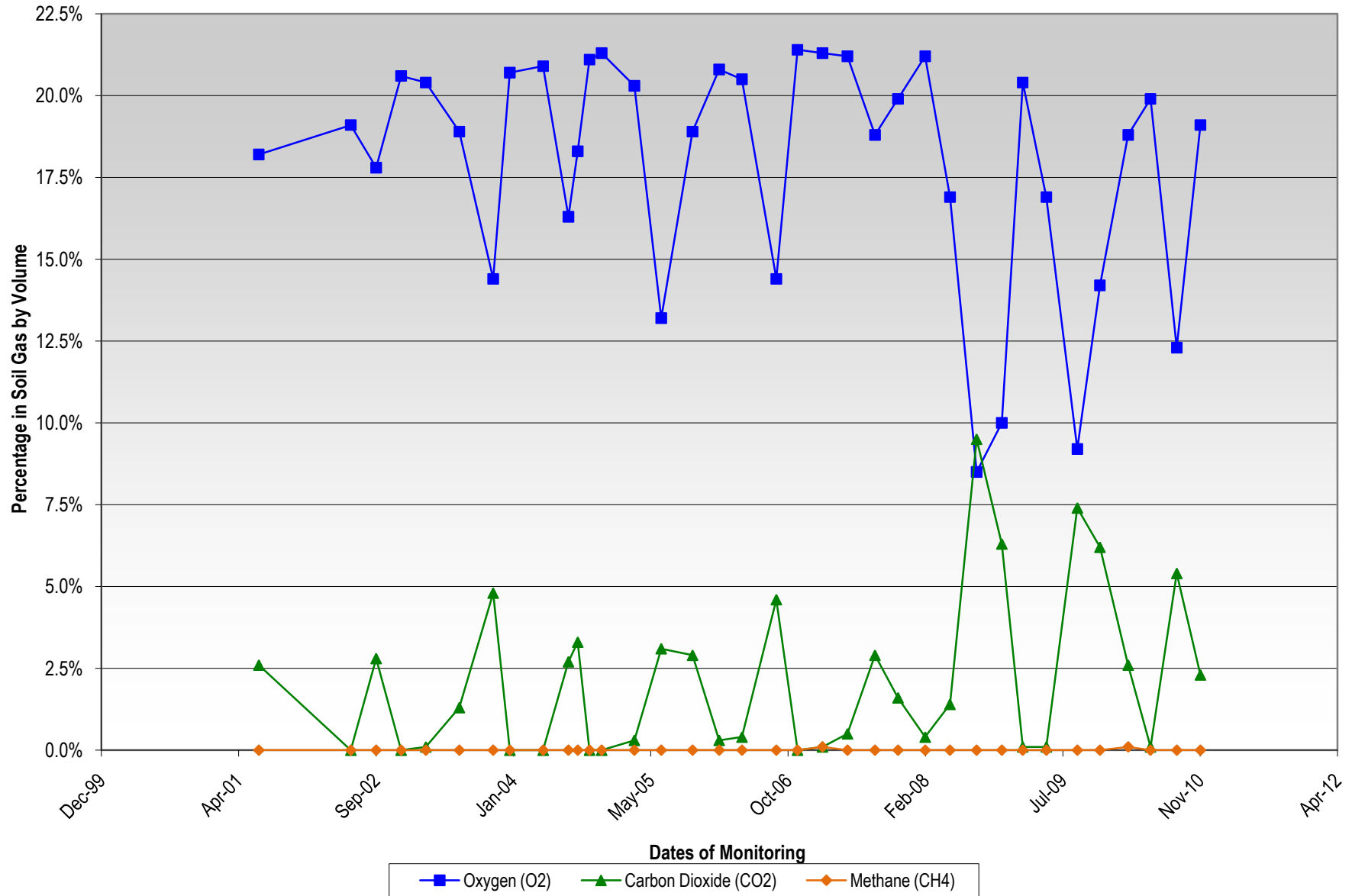
Soil Gas Well MPL5
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



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

