

Mr. Jeffrey Crawford Rhode Island Department of Environmental Management Office of Waste Management 235 Promenade Street Providence, RI 02908-5767 300 Metro Center Boulevard Suite 250 Warwick Rhode Island 02886 Tel 401.738.3887 Fax 401.732.1686

ARCADIS U.S., Inc.

**ENVIRONMENTAL** 

www.arcadis-us.com

Subject:

December 2012 Quarterly Monitoring Report for Springfield Street School Complex

Dear Mr. Crawford:

ARCADIS US, Inc. (ARCADIS) conducted quarterly monitoring of soil gas, indoor air, the cap, and the sub-slab ventilation system between December 14, 2012 and January 4, 2013. The monitoring was performed in accordance with the *Long-Term Operation and Maintenance Plan and Site Contingency Plan* (O&M Plan) contained in the *Remedial Action Work Plan* prepared by ATC dated April 2, 1999, revised May 3, 1999 and May 9, 1999. The *Remedial Action Work Plan* (RAWP) was approved by the Rhode Island Department of Environmental Management (RIDEM) in a letter dated June 4, 1999.

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

# **COVER MONITORING**

ARCADIS conducted a visual survey of the site on December 14, 2012 for evidence of significant soil cover erosion, or for any areas where the orange snow fencing indicator barrier was visible. ARCADIS did not observe any areas where the orange indicator barrier was visible during this monitoring event. No evidence of erosion or significant settling was observed.

#### **SUB-SLAB VENTILATION SYSTEM**

# **Field Monitoring**

The sub-slab ventilation system was inspected by ARCADIS during the quarterly monitoring on December 14, 2012. The two elementary school blowers and the two middle school blowers were operating normally upon arrival.

Date:

February 14, 2013

Contact:

Donna H. Pallister, PE

Phone:

401.738.3887

Email:

Donna.pallister@arcadisus.com

Our ref:

WK012152.0008

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

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

# **Soil Gas Laboratory Results**

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

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

# **INDOOR AIR MONITORING**

Indoor air monitoring was conducted on December 14, 2012 using a Landtec GEM 2000 Plus meter (methane, hydrogen sulfide, oxygen), a Mini Rae photoionization detector (organic vapors), and a Fluke 975 Airmeter (carbon dioxide, carbon monoxide). School was in session during the monitoring event. Results of monitoring are provided in the Table 3. Carbon dioxide measurements were made with a Fluke 975 Airmeter indoor air quality meter. The Fluke 975 has a range of 0 to 5,000 ppm, with a resolution of 1 ppm.

The outside temperature on December 14, 2012 was 46 °F. Carbon dioxide was measured outside in the school parking lot at 480 ppm.

All readings were below the RAWP Action Levels. Methane, carbon monoxide, hydrogen sulfide, and organic vapors were not detected, and carbon dioxide was within the expected range for an occupied building.

Concentrations of carbon dioxide inside occupied buildings are expected to be higher than the concentrations in outdoor air because the building occupants expel carbon dioxide. Therefore, in indoor air, the concentration of carbon dioxide is typically used as an indicator of the effectiveness of the heating, ventilating, and air conditioning (HVAC) system in circulating outdoor air into the building. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) have prepared ASHRAE Standard 62.1-2007 titled Ventilation for Acceptable Indoor Air Quality. The purpose of the Standard is to specify minimum ventilation rates and other measures to provide indoor air quality that is acceptable to human occupants and that minimize adverse health effects. A discussion regarding carbon dioxide concentrations in indoor air contained in Informative Appendix C of the Standard states: "... maintaining a steady-state CO2 concentration in a space of no greater than about 700 ppm above outdoor air levels will indicate that a substantial majority of visitors entering a space will be satisfied with respect to human bioeffluents (body odor)." This is the basis for ASHRAE's recommendations for concentrations of carbon dioxide in indoor air. The average concentrations measured inside the site buildings were less than 700 ppm above the ambient outdoor concentrations.

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

The control panels for the methane monitors at both schools were inspected on December 14, 2012. The methane monitor control panels had stickers that indicated that the monitors were calibrated by Diamond Technical Services within the month prior to the inspection. Diamond Technical Services calibrates the sensors on a monthly basis.

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

#### **GROUNDWATER MONITORING**

The groundwater monitoring wells were sampled by ARCADIS on December 19, 2012. Prior to sampling, the depth to water was gauged, and a volume of water equivalent to approximately three well volumes was removed from the well. Groundwater samples were collected in laboratory prepared sample jars and delivered under chain-of-custody protocol to Contest Laboratory in East Longmeadow, Massachusetts for analysis for volatile organic compounds by EPA method 8260. The laboratory report is provided as Attachment C. Results of analysis of groundwater samples are summarized in Table 4.

The only target analyte detected in any of the wells was 1,4-dichlorobenzene which was detected in a sample collected from monitoring well ATC-4 at a concentration of 2.1  $\mu$ g/L. There is no GB groundwater standard for this compound. This compound has been detected during a previous sampling event in this well at a similar concentration. No other target analytes were detected in any of the groundwater samples collected on December 19, 2012.

#### **SOIL GAS MONITORING**

Soil gas monitoring was conducted at 29 locations on December 19, 2012. The sampling was conducted by placing an air sampling gripper cap on each well and attaching a piece of tubing. A volume of air equivalent to approximately 3 well volumes was removed from each well using a Sensidyne BDXII air sampling pump. Soil gas was then screened using a Landtec GEM 2000 Plus Landfill Gas Analyzer and a MiniRae Photoionization Detector (PID).

# Soil Gas Field Monitoring Results

Soil gas samples were screened for methane, carbon monoxide, hydrogen sulfide, carbon dioxide, oxygen, and total VOCs. Soil gas survey results are provided in Table 5. Methane, carbon monoxide, hydrogen sulfide, and total VOCs were not detected in any samples.

Carbon dioxide was detected in soil gas at concentrations ranging from 0.1% to 9.4% during the December monitoring event. The carbon dioxide Remedial Action Work Plan Action Level is 0.1% and 23 readings exceeded the action level. The maximum concentration detected during the December 2012 monitoring round was 9.4%, which was lower than the maximum detected during the August 2012 round of 12.8%. This is consistent with the pattern shown during previous rounds of declining carbon dioxide concentrations in the winter, and increasing concentrations in the summer and early fall. Graphs presenting carbon dioxide, oxygen, and methane

concentrations over time for selected representative wells are presented in Attachment D.

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

# **ANNUAL ELUR INSPECTIONS**

After the Five Year Review of the Site was completed, RIDEM issued a letter dated August 17, 2012 which requires, among other things, that annual inspections be conducted for compliance with the Environmental Land Usage Restriction (ELUR). The Annual ELUR inspections was conducted during the November 2012 monitoring round. Annual monitoring of the monitoring of vacuum produced by the subslab ventilation system, as required by the August 17, 2012 letter, will be conducted during the next monitoring round since weather conditions were not favorable during the December 2012 monitoring round.

The Site was inspected for compliance with the restrictions contained in Section A of the ELUR. The restrictions specified in the ELUR are listed below along with the current status with respect to the restriction:

- No residential use beyond current RIDEM approved use as a school compliant, no change in use.
- No groundwater on the property to be used as potable water compliant, no drinking water wells have been installed.
- No soil shall be disturbed in any manner without written permission of the Office of Waste Management except as permitted in the Long Tern Operation and Maintenance Plan (LTOMP) – compliant, no evidence of disturbance of soils not in compliance with the LTOMP.
- Humans engaged in activities at the Property shall not be exposed to soils
  containing Hazardous Materials and/or petroleum in concentrations
  exceeding applicable Department approved Direct Exposure Criteria set forth
  in the Remediation Regulations compliant, no evidence of breaches of cap
  that would allow people at the site to come in contact with underlying
  impacted soil.
- No subsurface structures shall be constructed on the Property over groundwater containing Hazardous Materials and/or petroleum concentrations exceeding the applicable Department approved GB

Objectives – compliant, no Hazardous Materials or petroleum have been detected in groundwater at concentrations exceeding GB Objectives.

 The engineered controls described in the LTOMP must not be disturbed and shall be properly maintained to prevent humans engaged in residential activities from being exposed to soils containing Hazardous Materials and/or petroleum in concentrations exceeding the applicable Department approved residential Direct Exposure Criteria – compliant, engineered controls are in place and properly maintained.

#### **CONCLUSIONS**

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

The ELUR inspection did not reveal any evidence of non-compliance with the restrictions contained in the ELUR.

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

Donna H Pallett.

Copies:

A. Sepe, City of Providence Providence Public Building Authority

# **ARCADIS**

**Tables** 

Table 1
System Monitoring Notes
Springfield Street School Complex
Providence, Rhode Island
December 14, 2012

Monitoring Location	Methane % by volume Landtec	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Elementary School inlet 1	0.0	0.3	20.6	0	0	0.0
Elementary School inlet 2	0.0	0.2	20.6	0	0	0.0
Elementary School Outlet	0.0	0.3	20.5	0	0	0.0
Middle School front shed inlet	0.0	0.1	21.1	0	0	0.0
Middle School front shed after 2 <sup>nd</sup> carbon	0.0	0.1	21.0	0	0	0.0
Middle School back shed inlet	0.0	0.3	20.4	0	0	0.0
Middle School back shed after 2 <sup>nd</sup> carbon	0.0	0.3	20.3	0	0	0.0
Remedial Action Work Plan Action Levels	0.5	1,000 ppm (0.1%)	NA	9 ppm	10 ppm	5 ррт

Measurements made with: Landtec GEM2000 Plus, MiniRae 2000

Sampling date: December 14, 2012

Measured by: Donna Pallister

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

Parameter	Sample Date	CT DEP Proposed Residental Volatization Criteria For Soil Vapor (ug/m3)*	OSHA PEL's (ug/m3)	Middle School Back (ug/m3)	Middle School Front (ug/m3)	Elementary School #1 (ug/m3)	Elementary School # 2 (ug/m3)
Benzene	8/23/2012	3,000	3,000	0.87	1	0.7	0.7
Denzene	1/4/2013	3,000	3,000	0.2	0.26	0.37	0.33
Carbon Tetrachloride	8/23/2012	6,000	62,900	ND	ND	0.65	ND
Carbon retrachionde	1/4/2013	0,000	02,300	ND	ND	ND	ND
Chloroform	8/23/2012	22,000	240,000	ND	ND	1.7	1.7
Chlorolom	1/4/2013	22,000	240,000	0.26	ND	0.51	0.58
Chloromethane	8/23/2012	NA	207,000	ND	2	ND	ND
Chioromethane	1/4/2013	IVA	207,000	0.18	0.23	ND	ND
1.4-Dichlorobenzene	8/23/2012	5.712.000	450.000	1.9	ND	1.9	ND
1,4-Dictiloroberizerie	1/4/2013	3,7 12,000	430,000	ND	ND	ND	ND
Dichlorodifluoromethane	8/23/2012	NA	4.950.000	7	2.3	11	6.6
(Freon 12)	1/4/2013	INA	4,930,000	2.6	1.7	2.6	3.5
trans- 1,3- Dichloropopene	8/23/2012	5,000	5,000	ND	ND	ND	0.61
trans- 1,3- Dichioropopene	1/4/2013	3,000	3,000	ND	ND	ND	ND
1,2-Dichloro-1,1,2,2- tetrafluoroethane (Freon 114)	8/23/2012 1/4/2013	NA	7,000,000	17 2.7	0.78	20	0.83
Ethylbonzono	8/23/2012	7 165 000	425.000	0.49	ND	0.49	ND
Ethylbenzene	1/4/2013	7,165,000	435,000	1.2	1.3	1.6	1
Mathulana Chlasida	8/23/2012	4.400.400	00.750	19	52	18	46
Methylene Chloride	1/4/2013	4,168,100	86,750	5.8	6.8	10	5.9
Characa	8/23/2012	24.000	450,000	27	6.6	28	6.7
Styrene	1/4/2013	34,000	456,000	6.8	7.4	7.2	5.3
Tatas de la seculia de cas	8/23/2012	75.000	070.000	1.4	ND	29	3.6
Tetrachloroethylene -	1/4/2013	75,000	678,000	2.9	3.1	8.6	3.3
Talaaaa	8/23/2012	0.004.000	750,000	280	150	300	140
Toluene	1/4/2013	2,864,000	750,000	31	41	44	25
Triablese athedese	8/23/2012	20,000	F27 000	ND	ND	4.5	0.63
Trichloroethylene -	1/4/2013	38,000	537,000	1	1.3	3.7	1.3
Trichlorofluoromethane	8/23/2012	NIA	F COO 000	8.5	8	17	14
(Freon 11)	1/4/2013	NA	5,600,000	1.6	1.1	1.2	0.18
M/n William	8/23/2012	2.402.000	425.000	1.2	0.9	1.1	ND
M/p-Xylene	1/4/2013	2,192,000	435,000	6	6.3	7.1	4.3
- Wilson	8/23/2012	0.400.000	405.000	0.45	ND	0.45	ND
o-Xylene	1/4/2013	2,192,000	435,000	1.3	1.4	1.4	0.88

Samples collected in Tedlar bags and analyzed via EPA method TO-14
Only detected compounds are listed, see laboratory certificate for complete list of analyses
OSHA PEL's = Occupational Safety and Health Administration Permissable Exposure Limits

ug/m3 = micrograms per cubic meter

<sup>\*</sup> From Appendix F to Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies

# Table 3 Indoor Air Monitoring Results Springfield Street School Complex Providence, Rhode Island December 14, 2012

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
E.S. Front office	0.0	598	21.1	0	0	0.0
E.S. Elevator	0.0	691	21.1	0	0	0.0
E.S. Faculty Work Room	0.0	825	21.1	0	0	0.0
E.S. Gym	0.0	647	20.9	0	0	0.0
E.S. Stairway B	0.0	726	21.0	0	0	0.0
<b>E.S.</b> Stairway C	0.0	630	20.9	0	0	0.0
E.S. Library	0.0	931	20.9	0	0	0.0
E.S. Room 111 Music/Art Room	0.0	582	20.9	0	0	0.0
E.S. Cafeteria	0.0	544	20.8	0	0	0.0
<b>E.S.</b> Room 107	0.0	617	20.9	0	0	0.0

# Table 3 Indoor Air Monitoring Notes Springfield Street School Complex December 14, 2012

Monitoring Location	Methane as % LEL	Carbon Dioxide PPM	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
M.S. Front Office	0.0	821	20.7	0	0	0.0
M.S. Elevator	0.0	910	20.7	0	0	0.0
M.S. Stairway near Elem. School GS-01	0.0	847	20.8	0	0	0.0
M.S. Near sensor #16 in hall outside cafeteria	0.0	767	20.8	0	0	0.0
M.S. Faculty Work Room	0.0	707	20.8	0	0	0.0
M.S. Sensor #15 Outside Gym	0.0	735	20.7	0	0	0.0
M.S. GS-03 Across from Boys Bathroom	0.0	592	20.8	0	0	0.0
M.S. Second Floor - Library	0.0	940	20.7	0	0	0.0
M.S. Cafeteria	0.0	809	20.7	0	0	0.0

# Table 3 Indoor Air Monitoring Notes Springfield Street School Complex December 14, 2012

Monitoring Location	Methane as % LEL	Dioxide % by M		Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
M.S. Front Hall near sensor #4	0.0	848	20.8	0	0	0.0
M.S. Hallway across from elevator near sensor #9	0.0	751	20.7	0	0	0.0
M.S. Near sensor GS 06 hallway right end	0.0	925	20.8	0 0		0.0
M.S. stairway near Hartford Ave. sensor GS-7	0.0	966	20.7	0	0	0.0
Remedial Action Work Plan Action Levels	0.05	1,000 ppm (0.1%)	NA	9 ppm	5 ppm	5 ppm

# **Notes:**

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

Measurements made with: MiniRae photoionization detector, Fluke 975 Airmeter

PPM = Parts per million

Outdoor conditions: carbon dioxide = 480 ppm,

temperature = 46 °F.

# Table 4 Groundwater Monitoring Results Springfield Street School Providence, Rhode Island

		Sampling Dates and Results in μg/L															
																	10/27&28/
Well	Detected Compounds	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	2005
ATC-1																	
	Benzene	6.1	ND	18.9	0.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	n-butylbenzene	1.7	ND	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	sec-Butylbenzene	1.1	ND	4.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	tert-Butylbenzene	ND 4.5	ND	ND 40.0	ND	ND	ND	ND	ND ND	ND	ND	ND	ND	ND	ND	ND	ND
	Ethylbenzene Isopropylbenzene	4.5 ND	ND ND	12.6 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
	n-Propylbenzene	ND	ND	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND	ND
	MTBE	12.4	7.0	28.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND ND	ND
	Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	1.27	ND	ND	ND	ND	ND	1.10	ND	ND
	Toluene	2.5	ND	8.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2,4-Trimethylbenzene	2.2	ND	8.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,3,5-Trimethylbenzene	3.4	ND	5.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Xylenes	14.6	ND	37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ATC-2																	
	Chloroform	0.9	ND	ND	1.0	ND	ND	ND	ND	ND	NS	1.1	1.0	ND	ND	ND	ND
NAVA C																	
MW-6	Chloroform																
Inctalle	d 4/2011																
ATC-3	J 4/2011																
X10 5	Toluene	ND	ND	ND	ND	NS	ND	ND	ND	ND	3.03	ND	ND	ND	ND	ND	ND
	Toldono	140	110	110	110	110	112	110	110	110	0.00	115	110	110	110	110	110
MW-7																	
Installed	d 4/2011																
ATC-4																	
	Benzene	ND	ND	2.5	0.6	ND	ND	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND
	Chlorobenzene	2.6	ND	57.3	2.7	5.18	ND	ND	ND	ND	ND	ND	ND	0.60	ND	ND	ND
	1,4-dichlorobenzene	4.2	ND	9.2	3.4	3.36	ND	ND	ND	ND	ND	0.80	1.6	2.1	ND	ND	ND
	MTBE	ND	ND	ND	ND	ND	ND	ND	1.19	9.55	1.06	2.90	0.6	ND	ND	ND	ND
	1,2,4-Trimethylbenzene	ND	ND	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	tert-Amyl Methyl Ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	(TAME) Trichloroethylene	ND	ND	טא	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethylene																
ATC-5																	
	MTBE	ND	ND	2.2	NS	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	ND
	Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	0.6	ND	ND	ND	ND
MW-8																	
Installed	d 4/2011																
Sample	d By:	ATC	ATC	ATC	ATC	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR

<sup>\*</sup>ATC Monitoring Report for September through December 2001 did not list date samples were collected.

NA= No applicable standard published

MTBE is Methyl tert-Butyl Ether

μg/L = micrograms per liter

ND is not detected above method detection limit

NS is not sampled

Table 4
Groundwater Monitoring Results
Springfield Street School
Providence, Rhode Island

		Sampling Dates and Results in ug/L																
Well	Detected Compounds	2/2/2006	4/27/2006	8/31/2006	11/15/2006	3/27/2007	5/21/2007	8/20/2007	11/13/2007	2/12/2008	5/21/2008	8/26/2008	11/18/2008	2/17/2009	5/7/2009	8/25/2009	11/18/2009	3/1/2010
ATC-1																		
	Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	n-butylbenzene	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	sec-Butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	tert-Butylbenzene	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND
	Trichloroethylene	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1,2-Trichloroethane	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
ATC-2					-									-				+
ATC-2	Chlaveferm	ND	ND	ND	ND	ND	ND	ND	NC	NC	NC	NC	NC	NC	NS	NS	NS	NC
	Chloroform	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	INO	INS	INS	NS
MW-6																		++
-	Chloroform																	+
	d 4/2011																	-
ATC-3	3 4/2011																	$\vdash$
70	Toluene	3.0	ND	4.5	13.1	ND	2.3	1.3	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS
MW-7	1.4/0044																	
	d 4/2011			-										-				
ATC-4	Danmana	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Benzene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	1.80	1.90	ND	ND ND	ND 1.2	ND ND	ND ND	ND ND	1 1	ND ND	ND ND
	Chlorobenzene 1.4-dichlorobenzene	ND	ND ND	1.2	1.1	ND ND	1.2	2.1	2.1	ND ND	ND ND	2.1	1.4	ND ND	1.7	1.5	ND ND	ND
	MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	tert-Amyl Methyl Ether	IND	ND	ND	ND	ND	IND	ND	IND	ND	ND	ND	ND	ND	ND	ND	ND	IND
	(TAME)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Trichloroethylene	IND	ND	IND	IND	IND	ND	ND	ND	ND	IND	IND	IND	ND	ND	ND	ND	ND
	Thomorodaryiono													112	110	112	112	110
ATC-5					1						1	1					1	$\vdash$
	MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
				<u> </u>	1	·-	<u> </u>		-				-	<u> </u>				<del></del>
MW-8																		
Installed	d 4/2011				1													
Sample		LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	LFR	ARCADIS

\*ATC Monitoring Report for Septemb ND is not detected above method det NS is not sampled NA= No applicable standard publishe MTBE is Methyl tert-Butyl Ether µg/L = micrograms per liter

# Table 4 Groundwater Monitoring Results Springfield Street School Providence, Rhode Island

						Sampling D	ates and Re	sults in ug/L					RIDEM GB
						- Campining 2							Groundwater
Well	Detected Compounds	5/20/2010	8/25/2010	11/19/2010	2/24/2011	6/16/2011	10/3/2011	12/6/2011	3/15/2012	5/29/2012	8/21/2012	12/19/2012	Objective
ATC-1													
	Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	140
	n-butylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	sec-Butylbenzene	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	NA
	Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1600
	Isopropylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	n-Propylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5000
	Trichloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	540
	Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1700
	1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
	Xylenes	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	NA
ATC-2													
	Chloroform	NS	NS	NS	NS	Closed	Closed	Closed	Closed	Closed	Closed	Closed	NA
						4/2011	4/2011	4/2011	4/2011	4/2011	4/2011	4/2012	
MW-6						ND							
	Chloroform					ND	2.0	ND	ND	ND	2.2	ND	NA
Installed	d 4/2011												
ATC-3													
	Toluene	NS	NS	NS	NS	Closed	Closed	Closed	Closed	Closed	Closed	Closed	1700
						4/2011	4/2011	4/2011	4/2011	4/2011	4/2011	4/2012	
MW-7						ND	ND	ND	ND	ND	ND	ND	NA
Installed	d 4/2011												
ATC-4													
	Benzene	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	140
	Chlorobenzene	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	70
	1,4-dichlorobenzene	ND	ND	1.5	NS	NS	ND	ND	ND	1.9	ND	2.1	NA
	MTBE	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	5000
	1,2,4-Trimethylbenzene	ND	ND	ND	NS	NS	ND	ND	ND	ND	ND	ND	NA
	tert-Amyl Methyl Ether												
	(TAME)	ND	0.5	ND	NS	NS	ND	ND	ND	ND	ND	ND	NA
	Trichloroethylene	ND	ND	ND	NS	NS	1.1	1.3	ND	ND	ND	ND	540
	,												
ATC-5													
	MTBE	ND	NS	NS	NS	Closed	Closed	Closed	Closed	Closed	Closed	Closed	5000
	Chloroform	ND	NS	NS	NS	4/2011	4/2011	4/2011	4/2011	4/2011	4/2011	4/2012	NA
					-								
MW-8						ND	ND	ND	ND	ND	ND	ND	NA
	d 4/2011												
Sample		ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	ARCADIS	
. 1.4													

\*ATC Monitoring Report for Septembi ND is not detected above method det NS is not sampled NA= No applicable standard publishe MTBE is Methyl tert-Butyl Ether µg/L = micrograms per liter

Table 5
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
December 19, 2012

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
WB-1	0.0	1.7	18.4	0.0	0.0	0.0
WB-2	0.0	0.3	20.6	0.0	0.0	0.0
WB-3	0.0	0.2	20.6	0.0	0.0	0.0
WB-4	0.0	0.1	21.0	0.0	0.0	0.0
WB-5	0.0	0.0	20.4	0.0	0.0	0.0
WB-6	0.0	0.3	20.6	0.0	0.0	0.0
WB-7 R	0.0	0.1	20.6	0.0	0.0	0.0
WB-8	0.0	0.0	20.8	0.0	0.0	0.0
WB-12	0.0	0.7	20.4	0.0	0.0	0.0
WB-13	0.0	0.7	20.1	0.0	0.0	0.0
WB-14	0.0	2.5	18.0	0.0	0.0	0.0
WB-15	0.0	0.2	20.6	0.0	0.0	0.0
EPL-1	0.0	0.2	20.4	0.0	0.0	0.0
EPL-2	0.0	0.7	19.8	0.0	0.0	0.0
EPL-3	0.0	1.7	18.3	0.0	0.0	0.0
EPL-4	0.0	4.7	14.7	0.0	0.0	0.0
EPL-5	0.0	2.7	16.8	0.0	0.0	0.0
ENE-1	0.0	0.1	20.8	0.0	0.0	0.0

Table 5
Soil Gas Survey Field Notes
Springfield Street School Complex
Providence, Rhode Island
December 19, 2012

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MG1	0.0	5.4	14.7	0.0	0.0	0.0
MG2	0.0	0.6	20.2	0.0	0.0	0.0
MG3	0.0	0.2	20.6	0.0	0.0	0.0
MG4	0.0	0.5	20.2	0.0	0.0	0.0
MG5	0.0	0.1	20.9	0.0	0.0	0.0
MPL2	0.0	3.4	16.9	0.0	0.0	0.0
MPL3	0.0	7.7	11.8	0.0	0.0	0.0
MPL5	0.0	2.5	18.1	0.0	0.0	0.0
MPL6	0.0	9.4	5.7	0.0	0.0	0.0
MPL7	0.0	8.9	10.0	0.0	0.0	0.0
MPL8	0.0	4.9	15.6	0.0	0.0	0.0
Remedial Action Work Plan Action Levels	0.5%	0.1% (1,000 PPM)	NA	9 PPM	10 PPM	5 PPM

Sampled by: Andrew DaSilva

Weather Conditions: 43 F, Sunny

Sampling Equipment: Landtec GEM 2000 Plus, MiniRae 2000 PID

# **ARCADIS**

Appendix A
Limitations & Service Constraints

#### LIMITATIONS AND SERVICE CONSTRAINTS

#### **GENERAL REPORTS/DOCUMENT**

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

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

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

# **ARCADIS**

Appendix B Laboratory Results

December 28, 2012

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

Project Location: Springfield St., School, Providence

Client Job Number:

Project Number: WK012152.0008

Laboratory Work Order Number: 12L0663

Lua Watthington

Enclosed are results of analyses for samples received by the laboratory on December 20, 2012. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa A. Worthington Project Manager



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

Warwick, RI 02886 ATTN: Donna Pallister PURCHASE ORDER NUMBER:

REPORT DATE: 12/28/2012

PROJECT NUMBER:

WK012152.0008

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 12L0663

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., School, Providence

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-7	12L0663-01	Water		SW-846 8260C	
MW-6	12L0663-02	Water		SW-846 8260C	
ATC-4	12L0663-03	Water		SW-846 8260C	
ATC-1	12L0663-04	Water		SW-846 8260C	
MW-8	12L0663-05	Water		SW-846 8260C	



#### CASE NARRATIVE SUMMARY

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

#### SW-846 8260C

#### **Qualifications:**

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

#### Analyte & Samples(s) Qualified:

#### trans-1,3-Dichloropropene

12L0663-01[MW-7], 12L0663-02[MW-6], 12L0663-03[ATC-4], 12L0663-04[ATC-1], 12L0663-05[MW-8], B065154-BLK1, B065154-BSD1

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

#### Analyte & Samples(s) Qualified:

#### Carbon Disulfide

12L0663-01[MW-7], 12L0663-02[MW-6], 12L0663-03[ATC-4], 12L0663-04[ATC-1], 12L0663-05[MW-8], B065154-BLK1, B065154-BSD1

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

#### Analyte & Samples(s) Qualified:

1,4-Dioxane, Acetone, Chlorodibromomethane, cis-1,3-Dichloropropene, Dichlorodifluoromethane (Freon 12), tert-Butyl Alcohol (TBA), trans-1,3-Dichloropropene

12L0663-01[MW-7], 12L0663-02[MW-6], 12L0663-03[ATC-4], 12L0663-04[ATC-1], 12L0663-05[MW-8], B065154-BLK1, B065154-BS1, B065154-BSD1, B065155-BSD1, B065155-BSD1, B065155-BSD1, B065155-BSD1, B06515-BSD1, B06515-BSD1, B06515-BSD1, B06515-BSD

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

# Analyte & Samples(s) Qualified:

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

12L0663-01[MW-7], 12L0663-02[MW-6], 12L0663-03[ATC-4], 12L0663-04[ATC-1], 12L0663-05[MW-8], B065154-BLK1, B065154-BS1, B065154-BSD1

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

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

Michael A. Erickson Laboratory Director

Curlin



Project Location: Springfield St., School, Providen Sample Description: Work Order: 12L0663

Date Received: 12/20/2012

**Field Sample #: MW-7** Sampled: 12/19/2012 09:35

Sample ID: 12L0663-01
Sample Matrix: 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	V-05	SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Acrylonitrile	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Benzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Bromobenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Bromochloromethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Bromodichloromethane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Bromoform	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Bromomethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
2-Butanone (MEK)	ND	20	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
tert-Butyl Alcohol (TBA)	ND	20	$\mu g/L$	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 4:59	MFF
n-Butylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
sec-Butylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
tert-Butylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Carbon Disulfide	ND	2.0	μg/L	1	R-05	SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Carbon Tetrachloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Chlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Chlorodibromomethane	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Chloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Chloroform	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Chloromethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
2-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
4-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Dibromomethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,3-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,4-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,1-Dichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2-Dichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,1-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
cis-1,2-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
trans-1,2-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2-Dichloropropane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,3-Dichloropropane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
2,2-Dichloropropane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,1-Dichloropropene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
cis-1,3-Dichloropropene	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 4:59	MFF
trans-1,3-Dichloropropene	ND	0.50	μg/L	1	L-04, V-05	SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Diethyl Ether	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF

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Project Location: Springfield St., School, Providen Sample Description: Work Order: 12L0663

Date Received: 12/20/2012

**Field Sample #: MW-7** Sampled: 12/19/2012 09:35

Sample ID: 12L0663-01
Sample Matrix: Water

# Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,4-Dioxane	ND	50	μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Ethylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Hexachlorobutadiene	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
2-Hexanone (MBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Isopropylbenzene (Cumene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Methylene Chloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Naphthalene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
n-Propylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Styrene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Tetrachloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Tetrahydrofuran	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Toluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2,3-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2,4-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,3,5-Trichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,1,1-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,1,2-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Trichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2,3-Trichloropropane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
1,3,5-Trimethylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Vinyl Chloride	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
m+p Xylene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
o-Xylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 4:59	MFF
Surrogates		% Recovery	Recovery Limits	3	Flag				
1,2-Dichloroethane-d4		102	70-130					12/25/12 4:59	
Toluene-d8		98.0	70-130					12/25/12 4:59	
4-Bromofluorobenzene		98.8	70-130					12/25/12 4:59	



Project Location: Springfield St., School, Providen Sample Description: Work Order: 12L0663

Date Received: 12/20/2012

**Field Sample #: MW-6** Sampled: 12/19/2012 10:20

Sample ID: 12L0663-02
Sample Matrix: 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	V-05	SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Acrylonitrile	ND	5.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Benzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Bromobenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Bromochloromethane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Bromodichloromethane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Bromoform	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Bromomethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
2-Butanone (MEK)	ND	20	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
tert-Butyl Alcohol (TBA)	ND	20	μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 5:30	MFF
n-Butylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
sec-Butylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
tert-Butylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Carbon Disulfide	ND	2.0	μg/L	1	R-05	SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Carbon Tetrachloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Chlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Chlorodibromomethane	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Chloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Chloroform	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Chloromethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
2-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
4-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Dibromomethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,3-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,4-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,1-Dichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2-Dichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,1-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
cis-1,2-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
trans-1,2-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2-Dichloropropane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,3-Dichloropropane	ND	0.50	μg/L μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
2,2-Dichloropropane	ND	1.0	μg/L μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,1-Dichloropropene	ND	2.0	μg/L μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
cis-1,3-Dichloropropene	ND	0.50	μg/L μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 5:30	MFF
trans-1,3-Dichloropropene	ND ND	0.50	μg/L μg/L	1	L-04, V-05	SW-846 8260C	12/21/12	12/25/12 5:30	MFF
	ND	0.50	μg/L	1	L 07, ¥-03	5 11 -0-TO 0200C	14/41/14	12.30	1411.1.

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Project Location: Springfield St., School, Providen Sample Description: Work Order: 12L0663

Date Received: 12/20/2012

**Field Sample #: MW-6** Sampled: 12/19/2012 10:20

Sample ID: 12L0663-02
Sample Matrix: Water

# Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,4-Dioxane	ND	50	μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Ethylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Hexachlorobutadiene	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
2-Hexanone (MBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Isopropylbenzene (Cumene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Methylene Chloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Naphthalene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
n-Propylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Styrene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Tetrachloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Tetrahydrofuran	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Toluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2,3-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2,4-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,3,5-Trichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,1,1-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,1,2-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Trichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2,3-Trichloropropane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,2,4-Trimethylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
1,3,5-Trimethylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Vinyl Chloride	ND	2.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
m+p Xylene	ND	2.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
o-Xylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 5:30	MFF
Surrogates		% Recovery	Recovery Limits	5	Flag				
1,2-Dichloroethane-d4		101	70-130					12/25/12 5:30	
Toluene-d8		98.7	70-130					12/25/12 5:30	
4-Bromofluorobenzene		98.6	70-130					12/25/12 5:30	



Project Location: Springfield St., School, Providen Sample Description: Work Order: 12L0663

Date Received: 12/20/2012

**Field Sample #: ATC-4** Sampled: 12/19/2012 11:15

Sample ID: 12L0663-03
Sample Matrix: 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	V-05	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Acrylonitrile	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Benzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Bromobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Bromochloromethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Bromodichloromethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Bromoform	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Bromomethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
2-Butanone (MEK)	ND	20	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
tert-Butyl Alcohol (TBA)	ND	20	μg/L μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
n-Butylbenzene	ND	1.0	μg/L μg/L	1	v-03, v-10	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
sec-Butylbenzene	ND	1.0		1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
tert-Butylbenzene		1.0	μg/L	1					
•	ND		μg/L			SW-846 8260C	12/21/12	12/25/12 6:00	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	μg/L	1	D 05	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Carbon Disulfide	ND	2.0	μg/L	1	R-05	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Carbon Tetrachloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Chlorobenzene	ND	1.0	μg/L	1	** 0.*	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Chlorodibromomethane	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Chloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Chloroform	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Chloromethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
2-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
4-Chlorotoluene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2-Dibromoethane (EDB)	ND	0.50	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Dibromomethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,3-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,4-Dichlorobenzene	2.1	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	$\mu g/L$	1	V-05	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,1-Dichloroethane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2-Dichloroethane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,1-Dichloroethylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
cis-1,2-Dichloroethylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
trans-1,2-Dichloroethylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2-Dichloropropane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,3-Dichloropropane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
2,2-Dichloropropane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,1-Dichloropropene	ND	2.0	μ <b>g</b> /L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
cis-1,3-Dichloropropene	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
trans-1,3-Dichloropropene	ND	0.50	μg/L	1	L-04, V-05	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Diethyl Ether	ND	2.0	μg/L	1	. ,	SW-846 8260C	12/21/12	12/25/12 6:00	MFF

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Project Location: Springfield St., School, Providen Work Order: 12L0663 Sample Description:

Date Received: 12/20/2012

Sampled: 12/19/2012 11:15 Field Sample #: ATC-4

Sample ID: 12L0663-03 Sample Matrix: Water

# Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,4-Dioxane	ND	50	μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Ethylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Hexachlorobutadiene	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
2-Hexanone (MBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Isopropylbenzene (Cumene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Methylene Chloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Naphthalene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
n-Propylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Styrene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Tetrachloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Tetrahydrofuran	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Toluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2,3-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2,4-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,3,5-Trichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,1,1-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,1,2-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Trichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2,3-Trichloropropane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,2,4-Trimethylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
1,3,5-Trimethylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Vinyl Chloride	ND	2.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
m+p Xylene	ND	2.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
o-Xylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:00	MFF
Surrogates		% Recovery	Recovery Limits	3	Flag				
1,2-Dichloroethane-d4		102	70-130					12/25/12 6:00	
Toluene-d8		99.3	70-130					12/25/12 6:00	
4-Bromofluorobenzene		98.9	70-130					12/25/12 6:00	



Project Location: Springfield St., School, Providen Sample Description: Work Order: 12L0663

Date Received: 12/20/2012

**Field Sample #: ATC-1** Sampled: 12/19/2012 14:30

Sample ID: 12L0663-04
Sample Matrix: 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	V-05	SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Acrylonitrile	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Benzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Bromobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Bromochloromethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Bromodichloromethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Bromoform	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Bromomethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
2-Butanone (MEK)	ND	20	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
tert-Butyl Alcohol (TBA)	ND	20	μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 6:31	MFF
n-Butylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
sec-Butylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
tert-Butylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Carbon Disulfide	ND	2.0	μg/L	1	R-05	SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Carbon Tetrachloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Chlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Chlorodibromomethane	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Chloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Chloroform	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Chloromethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
2-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
4-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Dibromomethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,3-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,4-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,1-Dichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2-Dichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,1-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
cis-1,2-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
trans-1,2-Dichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2-Dichloropropane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,3-Dichloropropane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
2,2-Dichloropropane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,1-Dichloropropene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
cis-1,3-Dichloropropene	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 6:31	MFF
trans-1,3-Dichloropropene	ND	0.50	μg/L	1	L-04, V-05	SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Diethyl Ether	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF

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Project Location: Springfield St., School, Providen Work Order: 12L0663 Sample Description:

Date Received: 12/20/2012

Sampled: 12/19/2012 14:30 Field Sample #: ATC-1

Sample ID: 12L0663-04 Sample Matrix: Water

# Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,4-Dioxane	ND	50	μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Ethylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Hexachlorobutadiene	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
2-Hexanone (MBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Isopropylbenzene (Cumene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Methylene Chloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Naphthalene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
n-Propylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Styrene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Tetrachloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Tetrahydrofuran	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Toluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2,3-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2,4-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,3,5-Trichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,1,1-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,1,2-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Trichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2,3-Trichloropropane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,2,4-Trimethylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
1,3,5-Trimethylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Vinyl Chloride	ND	2.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
m+p Xylene	ND	2.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
o-Xylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 6:31	MFF
Surrogates		% Recovery	Recovery Limits	3	Flag				
1,2-Dichloroethane-d4		103	70-130					12/25/12 6:31	
Toluene-d8		98.4	70-130					12/25/12 6:31	
4-Bromofluorobenzene		98.4	70-130					12/25/12 6:31	



Project Location: Springfield St., School, Providen Sample Description: Work Order: 12L0663

Date Received: 12/20/2012

Field Sample #: MW-8 Sampled: 12/19/2012 12:45

Sample ID: 12L0663-05
Sample Matrix: 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	V-05	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Acrylonitrile	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Benzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Bromobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Bromochloromethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Bromodichloromethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Bromoform	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Bromomethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
2-Butanone (MEK)	ND	20	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
tert-Butyl Alcohol (TBA)	ND	20	μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
n-Butylbenzene	ND	1.0	μg/L	1	, 05, , 10	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
sec-Butylbenzene	ND	1.0	μg/L μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
tert-Butylbenzene	ND	1.0		1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
tert-Butyl Ethyl Ether (TBEE)	ND ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Carbon Disulfide			μg/L		D 05				
Carbon Tetrachloride	ND	2.0	μg/L	1	R-05	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Chlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
	ND	1.0	μg/L	1	11.05	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Chlorodibromomethane	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Chloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Chloroform	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Chloromethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
2-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
4-Chlorotoluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Dibromomethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2-Dichlorobenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,3-Dichlorobenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,4-Dichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
trans-1,4-Dichloro-2-butene	ND	2.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Dichlorodifluoromethane (Freon 12)	ND	2.0	$\mu g/L$	1	V-05	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,1-Dichloroethane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2-Dichloroethane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,1-Dichloroethylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
cis-1,2-Dichloroethylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
trans-1,2-Dichloroethylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2-Dichloropropane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,3-Dichloropropane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
2,2-Dichloropropane	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,1-Dichloropropene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
cis-1,3-Dichloropropene	ND	0.50	μg/L	1	V-05	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
trans-1,3-Dichloropropene	ND	0.50	μg/L	1	L-04, V-05	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Diethyl Ether	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF

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Project Location: Springfield St., School, Providen Work Order: 12L0663 Sample Description:

Date Received: 12/20/2012

Sampled: 12/19/2012 12:45 Field Sample #: MW-8

Sample ID: 12L0663-05 Sample Matrix: Water

# Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,4-Dioxane	ND	50	μg/L	1	V-05, V-16	SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Ethylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Hexachlorobutadiene	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
2-Hexanone (MBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Isopropylbenzene (Cumene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
p-Isopropyltoluene (p-Cymene)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Methyl tert-Butyl Ether (MTBE)	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Methylene Chloride	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
4-Methyl-2-pentanone (MIBK)	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Naphthalene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
n-Propylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Styrene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,1,1,2-Tetrachloroethane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Tetrachloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Tetrahydrofuran	ND	10	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Toluene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2,3-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2,4-Trichlorobenzene	ND	5.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,3,5-Trichlorobenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,1,1-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,1,2-Trichloroethane	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Trichloroethylene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Trichlorofluoromethane (Freon 11)	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2,3-Trichloropropane	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,2,4-Trimethylbenzene	ND	1.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
1,3,5-Trimethylbenzene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Vinyl Chloride	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
m+p Xylene	ND	2.0	μg/L	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
o-Xylene	ND	1.0	$\mu g/L$	1		SW-846 8260C	12/21/12	12/25/12 7:02	MFF
Surrogates		% Recovery	Recovery Limits	3	Flag				
1,2-Dichloroethane-d4		102	70-130					12/25/12 7:02	
Toluene-d8		98.7	70-130					12/25/12 7:02	
4-Bromofluorobenzene		98.4	70-130					12/25/12 7:02	



# **Sample Extraction Data**

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

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
12L0663-01 [MW-7]	B065154	5	5.00	12/21/12
12L0663-02 [MW-6]	B065154	5	5.00	12/21/12
12L0663-03 [ATC-4]	B065154	5	5.00	12/21/12
12L0663-04 [ATC-1]	B065154	5	5.00	12/21/12
12L0663-05 [MW-8]	B065154	5	5.00	12/21/12



# QUALITY CONTROL

Spike

Source

%REC

RPD

# Volatile Organic Compounds by GC/MS - Quality Control

Reporting

Analyte	Result	Limit	Units	Level	Result	%REC	%REC Limits	RPD	Limit	Notes
Batch B065154 - SW-846 5030B										
Blank (B065154-BLK1)				Prepared: 12	2/21/12 Anal	yzed: 12/25/1	12			
Acetone	ND	50	$\mu g \! / \! L$							V-05
Acrylonitrile	ND	5.0	$\mu g/L$							
tert-Amyl Methyl Ether (TAME)	ND	0.50	$\mu g/L$							
Benzene	ND	1.0	$\mu g/L$							
Bromobenzene	ND	1.0	$\mu g/L$							
Bromochloromethane	ND	1.0	$\mu g/L$							
Bromodichloromethane	ND	1.0	μg/L							
Bromoform	ND	1.0	μg/L							
Bromomethane	ND	2.0	μg/L							
2-Butanone (MEK)	ND	20	μg/L							
ert-Butyl Alcohol (TBA)	ND	20	μg/L							V-05, V-16
n-Butylbenzene	ND	1.0	μg/L							
sec-Butylbenzene	ND	1.0	μg/L							
tert-Butylbenzene	ND	1.0	μg/L							
ert-Butyl Ethyl Ether (TBEE)	ND	0.50	$\mu g/L$							
Carbon Disulfide	ND	2.0	$\mu g/L$							R-05
Carbon Tetrachloride	ND	5.0	$\mu g/L$							
Chlorobenzene	ND	1.0	$\mu g \! / \! L$							
Chlorodibromomethane	ND	0.50	μg/L							V-05
Chloroethane	ND	2.0	μg/L							
Chloroform	ND	2.0	μg/L							
Chloromethane	ND	2.0	μg/L							
-Chlorotoluene	ND	1.0	μg/L							
4-Chlorotoluene	ND	1.0	μg/L							
,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	μg/L							
,2-Dibromoethane (EDB)	ND	0.50	μg/L							
Dibromomethane	ND	1.0	μg/L							
,2-Dichlorobenzene	ND	1.0	$\mu g/L$							
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	$\mu g/L$							
1,1-Dichloroethylene	ND	1.0	$\mu g \! / \! L$							
cis-1,2-Dichloroethylene	ND	1.0	$\mu g\!/\!L$							
rans-1,2-Dichloroethylene	ND	1.0	$\mu g/L$							
,2-Dichloropropane	ND	1.0	$\mu g \! / \! L$							
,3-Dichloropropane	ND	0.50	$\mu g\!/\!L$							
2,2-Dichloropropane	ND	1.0	$\mu g \! / \! L$							
,1-Dichloropropene	ND	2.0	$\mu g\!/\!L$							
eis-1,3-Dichloropropene	ND	0.50	$\mu g \! / \! L$							V-05
rans-1,3-Dichloropropene	ND	0.50	$\mu g/L$							L-04, V-05
Diethyl Ether	ND	2.0	$\mu g/L$							
Diisopropyl Ether (DIPE)	ND	0.50	$\mu g \! / \! L$							
,4-Dioxane	ND	50	$\mu g/L$							V-05, V-16
Ethylbenzene	ND	1.0	$\mu g/L$							
Hexachlorobutadiene	ND	0.50	$\mu g/L$							
2-Hexanone (MBK)	ND	10	$\mu g/L$							
Isopropylbenzene (Cumene)	ND	1.0	$\mu g/L$							
p-Isopropyltoluene (p-Cymene)	ND	1.0	$\mu g\!/\!L$							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	μg/L							



# QUALITY CONTROL

# Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B065154 - SW-846 5030B										
Blank (B065154-BLK1)				Prepared: 12	2/21/12 Anal	yzed: 12/25/	12			
Methylene Chloride	ND	5.0	$\mu g \! / \! L$							
4-Methyl-2-pentanone (MIBK)	ND	10	μg/L							
Naphthalene	ND	2.0	$\mu g/L$							
-Propylbenzene	ND	1.0	$\mu g/L$							
tyrene	ND	1.0	$\mu g/L$							
,1,1,2-Tetrachloroethane	ND	2.0	$\mu g/L$							
,1,2,2-Tetrachloroethane	ND	0.50	$\mu g/L$							
etrachloroethylene	ND	1.0	μg/L							
etrahydrofuran	ND	10	μg/L							
oluene	ND	1.0	μg/L							
,2,3-Trichlorobenzene	ND	5.0	μg/L							
2,4-Trichlorobenzene	ND	5.0	μg/L							
,3,5-Trichlorobenzene	ND	1.0	μg/L							
,1,1-Trichloroethane	ND	1.0	μg/L							
1,2-Trichloroethane	ND	1.0	μg/L							
richloroethylene	ND	1.0	μg/L							
richlorofluoromethane (Freon 11)	ND	2.0	μg/L							
2,3-Trichloropropane	ND	2.0	μg/L							
1,2-Trichloro-1,2,2-trifluoroethane (Freon	ND	1.0	$\mu g/L$							
13) 2,4-Trimethylbenzene	ND	1.0	μg/L							
3,5-Trimethylbenzene	ND	1.0	μg/L μg/L							
inyl Chloride	ND	2.0	μg/L μg/L							
+p Xylene	ND	2.0	μg/L μg/L							
-Xylene	ND ND	1.0	μg/L μg/L							
urrogate: 1,2-Dichloroethane-d4	24.8		μg/L	25.0		99.3	70-130			
urrogate: Toluene-d8	24.7		μg/L μg/L	25.0		99.0	70-130			
urrogate: 4-Bromofluorobenzene	24.5		μg/L μg/L	25.0		98.0	70-130			
_			PO-		2/21/12 Anal					
CS (B065154-BS1) cetone	04.0	50	μg/L	100	721/12 Allai	94.0	70-160			V-05
crylonitrile	94.0	5.0	μg/L μg/L	10.0		99.3	70-100			V-03
rt-Amyl Methyl Ether (TAME)	9.93	0.50	μg/L μg/L	10.0		90.1	70-130			
enzene	9.01	1.0	μg/L μg/L	10.0		109	70-130			
romobenzene	10.9	1.0		10.0		109	70-130			
romochloromethane	11.1	1.0	μg/L μg/L	10.0		111	70-130			
romodichloromethane	11.3	1.0	μg/L μg/L	10.0		96.0	70-130			
romoform	9.60	1.0	μg/L μg/L	10.0		81.5	70-130			
romomethane	8.15	2.0	μg/L μg/L	10.0		55.6	40-160			
-Butanone (MEK)	5.56	20	μg/L μg/L	10.0		92.3	40-160			
rt-Butyl Alcohol (TBA)	92.3	20	μg/L μg/L	100		72.2	40-160			V-05, V-16
-Butylbenzene	72.2	1.0	μg/L μg/L	10.0		105	70-130			v-05, v-10
ec-Butylbenzene	10.5	1.0	μg/L μg/L	10.0		103	70-130			
rt-Butylbenzene	10.8	1.0	μg/L μg/L	10.0		108	70-130			
rt-Butyloenzene rt-Butyl Ethyl Ether (ТВЕЕ)	10.6	0.50	μg/L μg/L	10.0		99.2	70-130 70-130			
arbon Disulfide	9.92	2.0	μg/L μg/L	10.0		99.2 92.4	70-130 70-130			R-05
arbon Tetrachloride	9.24	5.0	μg/L μg/L	10.0		92.4 89.7	70-130			K-03
hlorobenzene	8.97	1.0	μg/L μg/L				70-130 70-130			
hlorodibromomethane	11.0	0.50	μg/L μg/L	10.0 10.0		110 75.8	70-130 70-130			V-05
hloroethane	7.58	2.0								v-05
hloroform	10.9	2.0	μg/L μg/I	10.0		109	70-130			
hloromethane	10.4	2.0	μg/L μg/I	10.0		104	70-130			
	8.03		μg/L μα/Ι	10.0		80.3	40-160			
-Chlorotoluene	10.6	1.0	μg/L	10.0	e 16 of 2	106	70-130			



#### QUALITY CONTROL

#### Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result %REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B065154 - SW-846 5030B										
LCS (B065154-BS1)				Prepared: 12	/21/12 Analyzed: 12/25	/12				
4-Chlorotoluene	11.0	1.0	μg/L	10.0	110	70-130				_
1,2-Dibromo-3-chloropropane (DBCP)	8.25	5.0	$\mu g/L$	10.0	82.5	70-130				
1,2-Dibromoethane (EDB)	10.4	0.50	$\mu g/L$	10.0	104	70-130				
Dibromomethane	10.7	1.0	$\mu g/L$	10.0	107	70-130				
1,2-Dichlorobenzene	10.7	1.0	$\mu g/L$	10.0	107	70-130				
1,3-Dichlorobenzene	10.7	1.0	$\mu g/L$	10.0	107	70-130				
1,4-Dichlorobenzene	11.0	1.0	$\mu g/L$	10.0	110	70-130				
trans-1,4-Dichloro-2-butene	8.77	2.0	$\mu g/L$	10.0	87.7	70-130				
Dichlorodifluoromethane (Freon 12)	4.86	2.0	$\mu g/L$	10.0	48.6	40-160			V-05	†
1,1-Dichloroethane	11.0	1.0	$\mu g/L$	10.0	110	70-130				
1,2-Dichloroethane	10.4	1.0	μg/L	10.0	104	70-130				
1,1-Dichloroethylene	10.7	1.0	μg/L	10.0	107	70-130				
cis-1,2-Dichloroethylene	10.1	1.0	μg/L	10.0	101	70-130				
trans-1,2-Dichloroethylene	9.70	1.0	μg/L	10.0	97.0	70-130				
1,2-Dichloropropane	10.9	1.0	μg/L	10.0	109	70-130				
1,3-Dichloropropane	10.7	0.50	μg/L	10.0	107	70-130				
2,2-Dichloropropane	6.06	1.0	μg/L	10.0	60.6	40-130				†
1,1-Dichloropropene	10.7	2.0	μg/L μg/L	10.0	107	70-130				'
cis-1,3-Dichloropropene	7.22	0.50	μg/L	10.0	72.2	70-130			V-05	
rans-1,3-Dichloropropene	6.99	0.50	μg/L μg/L	10.0		* 70-130			L-04, V-05	
Diethyl Ether		2.0	μg/L μg/L	10.0	110	70-130			L-04, V-03	
Disopropyl Ether (DIPE)	11.0	0.50	μg/L μg/L	10.0	126	70-130				
,4-Dioxane	12.6	50	μg/L μg/L	10.0	83.3	40-130			V-05, V-16	†
Ethylbenzene	83.3	1.0	μg/L μg/L		83.3 112	70-130			V-03, V-10	1
Hexachlorobutadiene	11.2	0.50		10.0	108	70-130				
2-Hexanone (MBK)	10.8	10	μg/L	10.0						
	96.6		μg/L	100	96.6	70-160				†
sopropylbenzene (Cumene)	10.9	1.0	μg/L	10.0	109	70-130				
p-Isopropyltoluene (p-Cymene)	11.5	1.0 1.0	μg/L	10.0	115	70-130				
Methyl tert-Butyl Ether (MTBE)	9.96		μg/L	10.0	99.6	70-130				
Methylene Chloride	9.16	5.0	μg/L	10.0	91.6	70-130				
4-Methyl-2-pentanone (MIBK)	100	10	μg/L	100	100	70-160				†
Naphthalene	8.33	2.0	μg/L	10.0	83.3	40-130				†
n-Propylbenzene	10.8	1.0	μg/L	10.0	108	70-130				
Styrene	10.8	1.0	μg/L	10.0	108	70-130				
,1,1,2-Tetrachloroethane	9.58	2.0	μg/L	10.0	95.8	70-130				
1,1,2,2-Tetrachloroethane	10.4	0.50	μg/L	10.0	104	70-130				
Tetrachloroethylene	10.6	1.0	μg/L	10.0	106	70-130				
Tetrahydrofuran	10.2	10	μg/L	10.0	102	70-130				
Toluene	10.8	1.0	μg/L	10.0	108	70-130				
,2,3-Trichlorobenzene	8.52	5.0	μg/L	10.0	85.2	70-130				
,2,4-Trichlorobenzene	8.87	5.0	μg/L	10.0	88.7	70-130				
,3,5-Trichlorobenzene	10.8	1.0	μg/L	10.0	108	70-130				
,1,1-Trichloroethane	9.50	1.0	$\mu \text{g/L}$	10.0	95.0	70-130				
,1,2-Trichloroethane	10.9	1.0	$\mu \text{g/L}$	10.0	109	70-130				
Γrichloroethylene	10.4	1.0	$\mu g \! / \! L$	10.0	104	70-130				
Trichlorofluoromethane (Freon 11)	10.0	2.0	$\mu g \! / \! L$	10.0	100	70-130				
,2,3-Trichloropropane	10.2	2.0	$\mu g \! / \! L$	10.0	102	70-130				
,1,2-Trichloro-1,2,2-trifluoroethane (Freon 13)	11.4	1.0	μg/L	10.0	114	70-130				
,2,4-Trimethylbenzene	11.0	1.0	$\mu g \! / \! L$	10.0	110	70-130				
,3,5-Trimethylbenzene	11.0	1.0	$\mu g \! / \! L$	10.0	110	70-130				
Vinyl Chloride	8.12	2.0	$\mu g/L$	10.0	81.2	40-160				†



#### QUALITY CONTROL

#### Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B065154 - SW-846 5030B											_
LCS (B065154-BS1)				Prepared: 12	/21/12 Analy	zed: 12/25/1	12				
n+p Xylene	22.6	2.0	μg/L	20.0		113	70-130				
o-Xylene	11.1	1.0	$\mu g/L$	10.0		111	70-130				
Surrogate: 1,2-Dichloroethane-d4	24.1		μg/L	25.0		96.4	70-130				_
Surrogate: Toluene-d8	25.2		μg/L	25.0		101	70-130				
Surrogate: 4-Bromofluorobenzene	25.5		μg/L	25.0		102	70-130				
LCS Dup (B065154-BSD1)				Prepared: 12	/21/12 Analy	zed: 12/25/1	12				
Acetone	75.2	50	μg/L	100	<u> </u>	75.2	70-160	22.3	25	V-05	_
Acrylonitrile	10.7	5.0	$\mu g/L$	10.0		107	70-130	7.28	25		
ert-Amyl Methyl Ether (TAME)	9.00	0.50	μg/L	10.0		90.0	70-130	0.111	25		
Benzene	10.7	1.0	μg/L	10.0		107	70-130	2.50	25		
Bromobenzene	10.8	1.0	μg/L	10.0		108	70-130	2.92	25		
Bromochloromethane	11.4	1.0	μg/L	10.0		114	70-130	0.530	25		
Bromodichloromethane	9.39	1.0	μg/L	10.0		93.9	70-130	2.21	25		
Bromoform	8.13	1.0	μg/L	10.0		81.3	70-130	0.246	25		
Bromomethane	6.10	2.0	μg/L	10.0		61.0	40-160	9.26	25		
2-Butanone (MEK)	89.8	20	μg/L	100		89.8	40-160	2.81	25		
ert-Butyl Alcohol (TBA)	57.4	20	μg/L	100		57.4	40-160	22.8	25	V-05, V-16	
-Butylbenzene	10.1	1.0	μg/L	10.0		101	70-130	3.60	25		
ec-Butylbenzene	10.3	1.0	μg/L	10.0		103	70-130	5.04	25		
ert-Butylbenzene	10.2	1.0	μg/L	10.0		102	70-130	3.37	25		
ert-Butyl Ethyl Ether (TBEE)	9.94	0.50	μg/L	10.0		99.4	70-130	0.201	25		
Carbon Disulfide	7.02	2.0	μg/L	10.0		70.2	70-130	27.3		R-05	
Carbon Tetrachloride	8.65	5.0	μg/L	10.0		86.5	70-130	3.63	25		
Chlorobenzene	10.8	1.0	μg/L	10.0		108	70-130	2.48	25		
Chlorodibromomethane	7.60	0.50	μg/L	10.0		76.0	70-130	0.264	25	V-05	
Chloroethane	9.12	2.0	μg/L	10.0		91.2	70-130	17.6	25		
Chloroform	10.2	2.0	μg/L	10.0		102	70-130	1.94	25		
Chloromethane	7.73	2.0	μg/L	10.0		77.3	40-160	3.81	25		
2-Chlorotoluene	10.2	1.0	μg/L	10.0		102	70-130	3.56	25		
1-Chlorotoluene	10.8	1.0	μg/L	10.0		108	70-130	2.48	25		
,2-Dibromo-3-chloropropane (DBCP)	8.23	5.0	μg/L	10.0		82.3	70-130	0.243	25		
1,2-Dibromoethane (EDB)	10.2	0.50	μg/L	10.0		102	70-130	1.55	25		
Dibromomethane	10.6	1.0	μg/L	10.0		106	70-130	0.563	25		
1,2-Dichlorobenzene	10.4	1.0	μg/L	10.0		104	70-130	2.95	25		
,3-Dichlorobenzene	10.4	1.0	μg/L	10.0		104	70-130	2.66	25		
,4-Dichlorobenzene	10.7	1.0	μg/L	10.0		107	70-130	2.31	25		
rans-1,4-Dichloro-2-butene	8.76	2.0	μg/L	10.0		87.6	70-130	0.114	25		
Dichlorodifluoromethane (Freon 12)	4.69	2.0	μg/L	10.0		46.9	40-160	3.56	25	V-05	
,1-Dichloroethane	10.6	1.0	μg/L	10.0		106	70-130	3.42	25	. 00	
,2-Dichloroethane	10.0	1.0	μg/L	10.0		102	70-130	1.65	25		
,1-Dichloroethylene	8.76	1.0	μg/L μg/L	10.0		87.6	70-130	19.6	25		
is-1,2-Dichloroethylene	9.77	1.0	μg/L	10.0		97.7	70-130	3.72	25		
rans-1,2-Dichloroethylene	10.4	1.0	μg/L	10.0		104	70-130	7.25	25		
,2-Dichloropropane	10.4	1.0	μg/L μg/L	10.0		107	70-130	2.04	25		
,3-Dichloropropane	10.7	0.50	μg/L	10.0		105	70-130	1.60	25		
2,2-Dichloropropane	5.88	1.0	μg/L μg/L	10.0		58.8	40-130	3.02	25		
,1-Dichloropropene	10.0	2.0	μg/L μg/L	10.0		100	70-130	6.08	25		
ris-1,3-Dichloropropene	7.06	0.50	μg/L μg/L	10.0		70.6	70-130	2.24	25	V-05	
trans-1,3-Dichloropropene	6.85	0.50	μg/L μg/L	10.0		68.5 *	70-130	2.02	25	L-04, V-05	
Diethyl Ether	8.96	2.0	μg/L μg/L	10.0		89.6	70-130	20.1	25	L 07, ¥-03	
· · · · · · · · · · · · · · · · · · ·	8.90	2.0	rb -	10.0		07.0	10-150	20.1	20		

Page 18 of 24 12L0663\_1 Contest\_Final 12 28 12 0541



#### QUALITY CONTROL

#### Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B065154 - SW-846 5030B											_
LCS Dup (B065154-BSD1)				Prepared: 12	2/21/12 Anal	yzed: 12/25/	12				_
1,4-Dioxane	81.9	50	μg/L	100		81.9	40-130	1.74	50	V-05, V-16	 † ‡
Ethylbenzene	10.9	1.0	$\mu g/L$	10.0		109	70-130	2.90	25		
Hexachlorobutadiene	10.8	0.50	$\mu \text{g/L}$	10.0		108	70-130	0.647	25		
2-Hexanone (MBK)	94.1	10	$\mu \text{g/L}$	100		94.1	70-160	2.64	25		†
Isopropylbenzene (Cumene)	10.5	1.0	$\mu \text{g/L}$	10.0		105	70-130	4.39	25		
p-Isopropyltoluene (p-Cymene)	11.1	1.0	$\mu \text{g/L}$	10.0		111	70-130	3.37	25		
Methyl tert-Butyl Ether (MTBE)	10.2	1.0	$\mu \text{g/L}$	10.0		102	70-130	1.89	25		
Methylene Chloride	10.3	5.0	$\mu \text{g/L}$	10.0		103	70-130	11.7	25		
4-Methyl-2-pentanone (MIBK)	98.0	10	$\mu \text{g/L}$	100		98.0	70-160	2.26	25		†
Naphthalene	8.48	2.0	$\mu \text{g/L}$	10.0		84.8	40-130	1.78	25		†
n-Propylbenzene	10.4	1.0	μg/L	10.0		104	70-130	3.49	25		
Styrene	10.5	1.0	μg/L	10.0		105	70-130	2.73	25		
1,1,1,2-Tetrachloroethane	9.17	2.0	μg/L	10.0		91.7	70-130	4.37	25		
1,1,2,2-Tetrachloroethane	10.3	0.50	μg/L	10.0		103	70-130	0.962	25		
Tetrachloroethylene	10.0	1.0	μg/L	10.0		100	70-130	5.52	25		
Tetrahydrofuran	9.83	10	μg/L	10.0		98.3	70-130	4.09	25		
Toluene	10.4	1.0	μg/L	10.0		104	70-130	3.78	25		
1,2,3-Trichlorobenzene	8.60	5.0	μg/L	10.0		86.0	70-130	0.935	25		
1,2,4-Trichlorobenzene	8.79	1.0	μg/L	10.0		87.9	70-130	0.906	25		
1,3,5-Trichlorobenzene	10.7	1.0	μg/L	10.0		107	70-130	1.21	25		
1,1,1-Trichloroethane	9.21	1.0	μg/L	10.0		92.1	70-130	3.10	25		
1,1,2-Trichloroethane	10.5	1.0	μg/L	10.0		105	70-130	3.54	25		
Trichloroethylene	10.1	1.0	μg/L	10.0		101	70-130	2.92	25		
Trichlorofluoromethane (Freon 11)	9.01	2.0	μg/L	10.0		90.1	70-130	10.5	25		
1,2,3-Trichloropropane	10.3	2.0	μg/L	10.0		103	70-130	0.877	25		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon	9.41	1.0	μg/L	10.0		94.1	70-130	19.2	25		
113)	,										
1,2,4-Trimethylbenzene	10.6	1.0	$\mu g/L$	10.0		106	70-130	3.88	25		
1,3,5-Trimethylbenzene	10.7	1.0	$\mu \text{g}/L$	10.0		107	70-130	3.22	25		
Vinyl Chloride	7.23	2.0	$\mu g/L$	10.0		72.3	40-160	11.6	25		†
m+p Xylene	21.7	2.0	$\mu g/L$	20.0		108	70-130	4.02	25		
o-Xylene	10.6	1.0	μg/L	10.0		106	70-130	4.63	25		_
Surrogate: 1,2-Dichloroethane-d4	24.2		μg/L	25.0		96.7	70-130				
Surrogate: Toluene-d8	25.3		$\mu g/L$	25.0		101	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.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limit. Reported value for this compound is likely to be biased on the low side.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound.  Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.



#### CERTIFICATIONS

#### Certified Analyses included in this Report

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



#### CERTIFICATIONS

#### Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
Methylene Chloride	CT,NY,ME,NH,RI,VA
4-Methyl-2-pentanone (MIBK)	CT,NY,ME,NH,VA
Naphthalene	NY,ME,NH,VA
n-Propylbenzene	CT,NY,ME,NH,VA
Styrene	CT,NY,ME,NH,VA
1,1,1,2-Tetrachloroethane	CT,NY,ME,NH,VA
1,1,2,2-Tetrachloroethane	CT,NY,ME,NH,RI,VA
Tetrachloroethylene	CT,NY,ME,NH,RI,VA
Toluene	CT,NY,ME,NH,RI,VA
1,2,3-Trichlorobenzene	NY,ME,NH,VA
1,2,4-Trichlorobenzene	CT,NY,ME,NH,VA
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,NY,ME,NH,RI,VA
1,1,2-Trichloroethane	CT,NY,ME,NH,RI,VA
Trichloroethylene	CT,NY,ME,NH,RI,VA
Trichlorofluoromethane (Freon 11)	CT,NY,ME,NH,RI,VA
1,2,3-Trichloropropane	NY,ME,NH,VA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NY,VA
1,2,4-Trimethylbenzene	NY,ME,VA
1,3,5-Trimethylbenzene	NY,ME,VA
Vinyl Chloride	CT,NY,ME,NH,RI,VA
m+p Xylene	CT,NY,ME,NH,RI,VA
o-Xylene	CT,NY,ME,NH,RI,VA
The CON-TEST Environmental Laboratory operates up	oder the following certifications and accreditations:

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2013
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2013
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2013
RI	Rhode Island Department of Health	LAO00112	12/30/2012
NC	North Carolina Div. of Water Quality	652	12/31/2012
NJ	New Jersey DEP	MA007 NELAP	06/30/2013
FL	Florida Department of Health	E871027 NELAP	06/30/2013
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2013
WA	State of Washington Department of Ecology	C2065	02/23/2013
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012

ANALYTICAL LABORATORY	con-test®

Phone: 413-525-2332

**CHAIN OF CUSTODY RECORD** 

39 SPRUCE ST. 2ND FLOOR

EAST LONGMEADOW, MA 01028	שי שרתטכב שו, צווט דנטטא
	Page _

		o = Other	O = other					b approval	* Require lab approval		
	ulfate	B = Sodium bisulfate	SL = sludge					1*4-Day	☐ *72-Hr ☐ *4-Day	Date/Time: // ///	Received by (signatore)
	<u>a</u>	S = Sulfuric Acid	S = soil/solid		its or DL's:	Special Requirements	Special Re		□ *24-Hr □ *48-Hr	12-20-12/9	MIKIN Mumper
		N = Nitric Acid	A = air					RUSH * S Pay	BU	Date/Time: 1610	yd by: (signay)
		M = Methanol	<b>DW</b> = drinking water	OYON	Data Enhancement Project/RCP?	ancement	Data Enha		M	1	Kex. Williams
T = Na thiosulfate	<b>T</b> = Na t	H = HCL	WW= wastewater		2695		1			Date/Time: 150/5	Received by: (signature)
X = Na hydroxide	X = Na h	I = Iced	<b>GW</b> = groundwater	and	Khode Island	1	Regulations?		_	2 12 19 12	1
	Codes:	**Preservation Codes:	*Matrix Code:		it Requirements		Detection	Turnaround **	Turnar	ĕ. <b>~</b> .	Relinquished by (signature) (+0 (++)
		ח	C - Clean; U - Unknown		H - High; M - Medium; L - Low;	#:					
			be high in concentration in Matrix/Conc. Code Box:	tration in Matri	igh in concen	be h	(	7.117	0		
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Clier e	<u>.</u>			*		×		0935	12/19	0)	MW-7
					trix   Conc. e   Code	*Matrix Grab Code	Comp- osite G	Stop Date/Time	Start Date/Time	Lab #	Field ID Sample Description
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유 541	Page_	FLOOR	39 SPRUCE ST, 2ND FLOOR	2	יי אברטאט	טוטוט	לך כנ	CHAIN OF CUSTOD		Phone: 413-525-2332	

INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT. \*\* 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

AIHA, NELAC & WBE/DBE Certified

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

F: 413-525-6405 www.contestlabs.com





### Sample Receipt Checklist

CLIENT NAME: ARCHOS		RECEIVED BY:		ATE: 12/00
1) Was the chain(s) of custody		ed?	₩ No N	lo CoC Included
2) Does the chain agree with th If not, explain:	e samples?		(Yes No	
Are all the samples in good of the good of the samples in good of	ondition?		Yes No	
4) How were the samples received	/ed:			
_	_	Ambient	In Cooler(s)	
Were the samples received in To	· · · · · · · · · · · · · · · · · · ·			I/A .
emperature °C by Temp blank		Temperature °C t		3.
i) Are there Dissolved samples Who was notified		Time	Yes No	
6) Are there any RUSH or SHOR	T HOLDING TIME saw			
Who was notified			Yes (No)	
) Location where samples are sto	10	Perm (Walk		ct samples? Yes No ot already approved
) Do all samples have the prop	er Acid pH: Yes N	o (N/A)	Olgitature.	
) Do all samples have the prop				<del></del>
		lo (N/A)		
0) Was the PC notified of any d				(N/A)
C	ontainers rece	eived at Co	n-Test	
	# of containers			# of containers
1 Liter Amber		8 oz a	amber/clear jar	# Of Containers
500 mL Amber			mber/clear jar	
250 mL Amber (8oz amber)			ımber/clear jar	
1 Liter Plastic			r Cassette	
500 mL Plastic			opcalite Tube	
250 mL plastic			c Bag / Ziploc	
40 mL Vial - type listed below	15		2.5 / PM 10	
Colisure / bacteria bottle			F Cartridge	
Dissolved Oxygen bottle			SOC Kit	
Encore			)-17 Tubes	
Flashpoint bottle			nTest Container	
Perchlorate Kit			er glass jar	
Other			Other	
aboratory Comments:			yamber wi	N-7/MW-8
40 mL vials: # HCI	# Methan	ıol		e and Date Frozen:
c#277 # Bisulfate	# DI Wat			
v 3 May 2012 # Thiosulfate	Unpreser	ved		
•	•	Page 24 c	OT 24 12L0663 1 C	ontest_Final 12 28 12 05

January 11, 2013

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

Project Location: Springfield St.

Client Job Number:

Project Number: WK012152.0008

Laboratory Work Order Number: 13A0112

Lua Watthington

Enclosed are results of analyses for samples received by the laboratory on January 4, 2013. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Lisa A. Worthington Project Manager



Arcadis US, Inc. - Warwick, RI REPORT DATE: 1/11/2013

300 Metro Center Blvd., Suite 250 Warwick, RI 02886

ATTN: Donna Pallister

PURCHASE ORDER NUMBER: 5131

PROJECT NUMBER: WK012152.0008

#### ANALYTICAL SUMMARY

WORK ORDER NUMBER: 13A0112

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
Middle School Back	13A0112-01	Sub Slab		EPA TO-14A	
Elementary School # 1	13A0112-02	Sub Slab		EPA TO-14A	
Elementary School # 2	13A0112-03	Sub Slab		EPA TO-14A	
Middle School Front	13A0112-04	Sub Slab		EPA TO-14A	



#### CASE NARRATIVE SUMMARY

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

#### EPA TO-14A

#### **Qualifications:**

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

#### Analyte & Samples(s) Qualified:

13A0112-01[Middle School Back], 13A0112-02[Elementary School # 1], 13A0112-03[Elementary School # 2], 13A0112-04[Middle School Front]

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

#### Analyte & Samples(s) Qualified:

trans-1,3-Dichloropropene

B066051-BS1

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

#### Analyte & Samples(s) Qualified:

Hexachlorobutadiene, trans-1,3-Dichloropropene

B066051-BS1

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

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

Daren J. Damboragian Laboratory Manager



#### ANALYTICAL RESULTS

Project Location: Springfield St. Date Received: 1/4/2013

Field Sample #: Middle School Back Sample ID: 13A0112-01

Sample Matrix: Sub Slab Sampled: 1/4/2013 09:35 Sample Description/Location: Sub Description/Location:

Canister ID: Canister Size: Flow Controller ID: Sample Type: Work Order: 13A0112

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

Sample Flags: A-09		EF	A 10-14A					
	pp		-	ug/r			Date/Time	
Analyte	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Benzene	0.064	0.050		0.20	0.16	1	1/6/13 4:04	WSD
Bromomethane	ND	0.050		ND	0.19	1	1/6/13 4:04	WSD
Carbon Tetrachloride	ND	0.050		ND	0.31	1	1/6/13 4:04	WSD
Chlorobenzene	ND	0.050		ND	0.23	1	1/6/13 4:04	WSD
Chloroethane	ND	0.050		ND	0.13	1	1/6/13 4:04	WSD
Chloroform	0.053	0.050		0.26	0.24	1	1/6/13 4:04	WSD
Chloromethane	0.085	0.050		0.18	0.10	1	1/6/13 4:04	WSD
1,2-Dibromoethane (EDB)	ND	0.050		ND	0.38	1	1/6/13 4:04	WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 4:04	WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 4:04	WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 4:04	WSD
Dichlorodifluoromethane (Freon 12)	0.52	0.050		2.6	0.25	1	1/6/13 4:04	WSD
1,1-Dichloroethane	ND	0.050		ND	0.20	1	1/6/13 4:04	WSD
1,2-Dichloroethane	0.058	0.050		0.23	0.20	1	1/6/13 4:04	WSD
1,1-Dichloroethylene	ND	0.050		ND	0.20	1	1/6/13 4:04	WSD
cis-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	1/6/13 4:04	WSD
1,2-Dichloropropane	ND	0.050		ND	0.23	1	1/6/13 4:04	WSD
cis-1,3-Dichloropropene	ND	0.050		ND	0.23	1	1/6/13 4:04	WSD
trans-1,3-Dichloropropene	ND	0.050		ND	0.23	1	1/6/13 4:04	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.38	0.050		2.7	0.35	1	1/6/13 4:04	WSD
Ethylbenzene	0.28	0.050		1.2	0.22	1	1/6/13 4:04	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	1/6/13 4:04	WSD
Methylene Chloride	1.7	0.50		5.8	1.7	1	1/6/13 4:04	WSD
Styrene	1.6	0.050		6.8	0.21	1	1/6/13 4:04	WSD
1,1,2,2-Tetrachloroethane	ND	0.050		ND	0.34	1	1/6/13 4:04	WSD
Tetrachloroethylene	0.42	0.050		2.9	0.34	1	1/6/13 4:04	WSD
Toluene	8.3	0.050		31	0.19	1	1/6/13 4:04	WSD
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	1	1/6/13 4:04	WSD
1,1,1-Trichloroethane	ND	0.050		ND	0.27	1	1/6/13 4:04	WSD
1,1,2-Trichloroethane	ND	0.050		ND	0.27	1	1/6/13 4:04	WSD
Trichloroethylene	0.19	0.050		1.0	0.27	1	1/6/13 4:04	WSD
Trichlorofluoromethane (Freon 11)	0.28	0.050		1.6	0.28	1	1/6/13 4:04	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.050		ND	0.38	1	1/6/13 4:04	WSD
1,2,4-Trimethylbenzene	0.073	0.050		0.36	0.25	1	1/6/13 4:04	WSD
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	1/6/13 4:04	WSD
Vinyl Chloride	ND	0.050		ND	0.13	1	1/6/13 4:04	WSD
m&p-Xylene	1.4	0.10		6.0	0.43	1	1/6/13 4:04	WSD



#### ANALYTICAL RESULTS

Project Location: Springfield St. Date Received: 1/4/2013

Field Sample #: Middle School Back

Sample ID: 13A0112-01 Sample Matrix: Sub Slab Sampled: 1/4/2013 09:35 Sample Description/Location: Sub Description/Location:

Canister ID: Canister Size: Flow Controller ID: Sample Type: Work Order: 13A0112

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

	LIA	10-14/1				
Sample Flags: A-09	ppbv	ug/m3	Date/Time			
Analyte	Results RL	Flag Results RL	Dilution Analyzed Analyst			
o-Xylene	0.30 0.050	1.3 0.22	1 1/6/13 4:04 WSD			
Surrogates	% Recovery	% REC Limits				
4-Bromofluorobenzene (1)	105	70-130	1/6/13 4:04			



#### ANALYTICAL RESULTS

Project Location: Springfield St. Date Received: 1/4/2013

Field Sample #: Elementary School # 1

Sample ID: 13A0112-02 Sample Matrix: Sub Slab Sampled: 1/4/2013 09:55 Sample Description/Location: Sub Description/Location:

Canister ID: Canister Size: Flow Controller ID: Sample Type:

Work Order: 13A0112 Initial Vacuum(in Hg): Final Vacuum(in Hg): Receipt Vacuum(in Hg): Flow Controller Type: Flow Controller Calibration

RPD Pre and Post-Sampling:

		EPA	A 10-14A					
Sample Flags: A-09	pp	bv			Date/Time			
Analyte	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Benzene	0.12	0.050		0.37	0.16	1	1/6/13 4:47	WSD
Bromomethane	0.088	0.050		0.34	0.19	1	1/6/13 4:47	WSD
Carbon Tetrachloride	ND	0.050		ND	0.31	1	1/6/13 4:47	WSD
Chlorobenzene	ND	0.050		ND	0.23	1	1/6/13 4:47	WSD
Chloroethane	ND	0.050		ND	0.13	1	1/6/13 4:47	WSD
Chloroform	0.10	0.050		0.51	0.24	1	1/6/13 4:47	WSD
Chloromethane	ND	0.050		ND	0.10	1	1/6/13 4:47	WSD
1,2-Dibromoethane (EDB)	ND	0.050		ND	0.38	1	1/6/13 4:47	WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 4:47	WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 4:47	WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 4:47	WSD
Dichlorodifluoromethane (Freon 12)	0.53	0.050		2.6	0.25	1	1/6/13 4:47	WSD
1,1-Dichloroethane	ND	0.050		ND	0.20	1	1/6/13 4:47	WSD
1,2-Dichloroethane	0.10	0.050		0.41	0.20	1	1/6/13 4:47	WSD
1,1-Dichloroethylene	ND	0.050		ND	0.20	1	1/6/13 4:47	WSD
cis-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	1/6/13 4:47	WSD
1,2-Dichloropropane	ND	0.050		ND	0.23	1	1/6/13 4:47	WSD
cis-1,3-Dichloropropene	ND	0.050		ND	0.23	1	1/6/13 4:47	WSD
trans-1,3-Dichloropropene	ND	0.050		ND	0.23	1	1/6/13 4:47	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.25	0.050		1.7	0.35	1	1/6/13 4:47	WSD
Ethylbenzene	0.38	0.050		1.6	0.22	1	1/6/13 4:47	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	1/6/13 4:47	WSD
Methylene Chloride	3.0	0.50		10	1.7	1	1/6/13 4:47	WSD
Styrene	1.7	0.050		7.2	0.21	1	1/6/13 4:47	WSD
1,1,2,2-Tetrachloroethane	ND	0.050		ND	0.34	1	1/6/13 4:47	WSD
Tetrachloroethylene	1.3	0.050		8.6	0.34	1	1/6/13 4:47	WSD
Toluene	12	0.050		44	0.19	1	1/6/13 4:47	WSD
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	1	1/6/13 4:47	WSD
1,1,1-Trichloroethane	ND	0.050		ND	0.27	1	1/6/13 4:47	WSD
1,1,2-Trichloroethane	ND	0.050		ND	0.27	1	1/6/13 4:47	WSD
Trichloroethylene	0.69	0.050		3.7	0.27	1	1/6/13 4:47	WSD
Trichlorofluoromethane (Freon 11)	0.21	0.050		1.2	0.28	1	1/6/13 4:47	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.050		ND	0.38	1	1/6/13 4:47	WSD
1,2,4-Trimethylbenzene	0.056	0.050		0.28	0.25	1	1/6/13 4:47	WSD
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	1/6/13 4:47	WSD
Vinyl Chloride	ND	0.050		ND	0.13	1	1/6/13 4:47	WSD
m&p-Xylene	1.6	0.10		7.1	0.43	1	1/6/13 4:47	WSD



#### ANALYTICAL RESULTS

Project Location: Springfield St. Date Received: 1/4/2013

Field Sample #: Elementary School # 1 Sample ID: 13A0112-02 Sample Matrix: Sub Slab

Sample Matrix: Sub Slab Sampled: 1/4/2013 09:55 Sample Description/Location: Sub Description/Location:

Canister ID: Canister Size: Flow Controller ID: Sample Type: Work Order: 13A0112

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

	LIA	10-14/1	
Sample Flags: A-09	ppbv ug/m3		Date/Time
Analyte	Results RL	Flag Results RL	Dilution Analyzed Analyst
o-Xylene	0.33 0.050	1.4 0.22	1 1/6/13 4:47 WSD
Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	1/6/13 4:47



#### ANALYTICAL RESULTS

Project Location: Springfield St. Date Received: 1/4/2013

Field Sample #: Elementary School # 2 Sample ID: 13A0112-03 Sample Matrix: Sub Slab Sampled: 1/4/2013 09:58 Sample Description/Location: Sub Description/Location:

Canister ID: Canister Size: Flow Controller ID: Sample Type: Work Order: 13A0112 Initial Vacuum(in Hg): Final Vacuum(in Hg): Receipt Vacuum(in Hg): Flow Controller Type: Flow Controller Calibration RPD Pre and Post-Sampling:

Sample Flags: A-09	pp	hv		Date/Time				
Analyte	Results							Analyst
Benzene	0.10	0.050	-	0.33	0.16	1	Analyzed 1/6/13 5:27	WSD
Bromomethane	ND	0.050		ND	0.19	1	1/6/13 5:27	WSD
Carbon Tetrachloride	ND	0.050		ND	0.31	1	1/6/13 5:27	WSD
Chlorobenzene	ND	0.050		ND	0.23	1	1/6/13 5:27	WSD
Chloroethane	ND	0.050		ND	0.13	1	1/6/13 5:27	WSD
Chloroform	0.12	0.050		0.58	0.24	1	1/6/13 5:27	WSD
Chloromethane	ND	0.050		ND	0.10	1	1/6/13 5:27	WSD
1,2-Dibromoethane (EDB)	ND	0.050		ND	0.38	1	1/6/13 5:27	WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 5:27	WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 5:27	WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 5:27	WSD
Dichlorodifluoromethane (Freon 12)	0.71	0.050		3.5	0.25	1	1/6/13 5:27	WSD
1,1-Dichloroethane	ND	0.050		ND	0.20	1	1/6/13 5:27	WSD
1,2-Dichloroethane	0.059	0.050		0.24	0.20	1	1/6/13 5:27	WSD
1,1-Dichloroethylene	ND	0.050		ND	0.20	1	1/6/13 5:27	WSD
cis-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	1/6/13 5:27	WSD
1,2-Dichloropropane	ND	0.050		ND	0.23	1	1/6/13 5:27	WSD
cis-1,3-Dichloropropene	ND	0.050		ND	0.23	1	1/6/13 5:27	WSD
trans-1,3-Dichloropropene	ND	0.050		ND	0.23	1	1/6/13 5:27	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.12	0.050		0.83	0.35	1	1/6/13 5:27	WSD
Ethylbenzene	0.24	0.050		1.0	0.22	1	1/6/13 5:27	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	1/6/13 5:27	WSD
Methylene Chloride	1.7	0.50		5.9	1.7	1	1/6/13 5:27	WSD
Styrene	1.2	0.050		5.3	0.21	1	1/6/13 5:27	WSD
1,1,2,2-Tetrachloroethane	ND	0.050		ND	0.34	1	1/6/13 5:27	WSD
Tetrachloroethylene	0.48	0.050		3.3	0.34	1	1/6/13 5:27	WSD
Toluene	6.7	0.050		25	0.19	1	1/6/13 5:27	WSD
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	1	1/6/13 5:27	WSD
1,1,1-Trichloroethane	ND	0.050		ND	0.27	1	1/6/13 5:27	WSD
1,1,2-Trichloroethane	ND	0.050		ND	0.27	1	1/6/13 5:27	WSD
Trichloroethylene	0.23	0.050		1.3	0.27	1	1/6/13 5:27	WSD
Trichlorofluoromethane (Freon 11)	0.18	0.050		0.99	0.28	1	1/6/13 5:27	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.050		ND	0.38	1	1/6/13 5:27	WSD
1,2,4-Trimethylbenzene	ND	0.050		ND	0.25	1	1/6/13 5:27	WSD
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	1/6/13 5:27	WSD
Vinyl Chloride	ND	0.050		ND	0.13	1	1/6/13 5:27	WSD
m&p-Xylene	0.98	0.10		4.3	0.43	1	1/6/13 5:27	WSD



#### ANALYTICAL RESULTS

Project Location: Springfield St. Date Received: 1/4/2013

Field Sample #: Elementary School # 2 Sample ID: 13A0112-03 Sample Matrix: Sub Slab Sampled: 1/4/2013 09:58 Sample Description/Location: Sub Description/Location: Canister ID:

Canister Size: Flow Controller ID: Sample Type: Work Order: 13A0112 Initial Vacuum(in Hg): Final Vacuum(in Hg): Receipt Vacuum(in Hg): Flow Controller Type: Flow Controller Calibration

RPD Pre and Post-Sampling:

G 1 El 4 00			
Sample Flags: A-09	ppbv	ug/m3	Date/Time
Analyte	Results RL	Flag Results RL	Dilution Analyzed Analyst
o-Xylene	0.20 0.050	0.88 0.22	1 1/6/13 5:27 WSD
Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	103	70-130	1/6/13 5:27



#### ANALYTICAL RESULTS

Project Location: Springfield St. Date Received: 1/4/2013

Field Sample #: Middle School Front Sample ID: 13A0112-04 Sample Matrix: Sub Slab

Sample Matrix: Sub Slab Sampled: 1/4/2013 12:25

Sample Flags: A-09

Sample Description/Location: Sub Description/Location:

Canister ID: Canister Size: Flow Controller ID: Sample Type: Work Order: 13A0112 Initial Vacuum(in Hg): Final Vacuum(in Hg): Receipt Vacuum(in Hg): Flow Controller Type:

Flow Controller Calibration RPD Pre and Post-Sampling:

Sample Plags. A=07	pp	ppbv ug/m3			Date/Time			
Analyte	Results	RL	Flag	Results	RL	Dilution	Analyzed	Analyst
Benzene	0.082	0.050		0.26	0.16	1	1/6/13 6:10	WSD
Bromomethane	0.061	0.050		0.24	0.19	1	1/6/13 6:10	WSD
Carbon Tetrachloride	ND	0.050		ND	0.31	1	1/6/13 6:10	WSD
Chlorobenzene	ND	0.050		ND	0.23	1	1/6/13 6:10	WSD
Chloroethane	ND	0.050		ND	0.13	1	1/6/13 6:10	WSD
Chloroform	ND	0.050		ND	0.24	1	1/6/13 6:10	WSD
Chloromethane	0.11	0.050		0.23	0.10	1	1/6/13 6:10	WSD
1,2-Dibromoethane (EDB)	ND	0.050		ND	0.38	1	1/6/13 6:10	WSD
1,2-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 6:10	WSD
1,3-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 6:10	WSD
1,4-Dichlorobenzene	ND	0.050		ND	0.30	1	1/6/13 6:10	WSD
Dichlorodifluoromethane (Freon 12)	0.34	0.050		1.7	0.25	1	1/6/13 6:10	WSD
1,1-Dichloroethane	ND	0.050		ND	0.20	1	1/6/13 6:10	WSD
1,2-Dichloroethane	0.063	0.050		0.25	0.20	1	1/6/13 6:10	WSD
1,1-Dichloroethylene	ND	0.050		ND	0.20	1	1/6/13 6:10	WSD
cis-1,2-Dichloroethylene	ND	0.050		ND	0.20	1	1/6/13 6:10	WSD
1,2-Dichloropropane	ND	0.050		ND	0.23	1	1/6/13 6:10	WSD
cis-1,3-Dichloropropene	ND	0.050		ND	0.23	1	1/6/13 6:10	WSD
trans-1,3-Dichloropropene	ND	0.050		ND	0.23	1	1/6/13 6:10	WSD
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	0.19	0.050		1.3	0.35	1	1/6/13 6:10	WSD
Ethylbenzene	0.30	0.050		1.3	0.22	1	1/6/13 6:10	WSD
Hexachlorobutadiene	ND	0.050		ND	0.53	1	1/6/13 6:10	WSD
Methylene Chloride	2.0	0.50		6.8	1.7	1	1/6/13 6:10	WSD
Styrene	1.7	0.050		7.4	0.21	1	1/6/13 6:10	WSD
1,1,2,2-Tetrachloroethane	ND	0.050		ND	0.34	1	1/6/13 6:10	WSD
Tetrachloroethylene	0.46	0.050		3.1	0.34	1	1/6/13 6:10	WSD
Toluene	11	0.050		41	0.19	1	1/6/13 6:10	WSD
1,2,4-Trichlorobenzene	ND	0.10		ND	0.74	1	1/6/13 6:10	WSD
1,1,1-Trichloroethane	ND	0.050		ND	0.27	1	1/6/13 6:10	WSD
1,1,2-Trichloroethane	ND	0.050		ND	0.27	1	1/6/13 6:10	WSD
Trichloroethylene	0.25	0.050		1.3	0.27	1	1/6/13 6:10	WSD
Trichlorofluoromethane (Freon 11)	0.20	0.050		1.1	0.28	1	1/6/13 6:10	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.050		ND	0.38	1	1/6/13 6:10	WSD
1,2,4-Trimethylbenzene	0.052	0.050		0.26	0.25	1	1/6/13 6:10	WSD
1,3,5-Trimethylbenzene	ND	0.050		ND	0.25	1	1/6/13 6:10	WSD
Vinyl Chloride	ND	0.050		ND	0.13	1	1/6/13 6:10	WSD
m&p-Xylene	1.4	0.10		6.3	0.43	1	1/6/13 6:10	WSD



#### ANALYTICAL RESULTS

Project Location: Springfield St. Date Received: 1/4/2013

Field Sample #: Middle School Front

Sample ID: 13A0112-04 Sample Matrix: Sub Slab Sampled: 1/4/2013 12:25 Sample Description/Location: Sub Description/Location:

Canister ID: Canister Size: Flow Controller ID: Sample Type: Work Order: 13A0112
Initial Vacuum(in Hg):

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

		V	
Sample Flags: A-09	ppbv ug/m3		Date/Time
Analyte	Results RL	Flag Results RL	Dilution Analyzed Analyst
o-Xylene	0.31 0.050	1.4 0.22	1 1/6/13 6:10 WSD
Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	1/6/13 6:10



#### **Sample Extraction Data**

Prep Method: TO-15 Prep-EPA TO-14A		Pressure	Pre	Pre-Dil Initial	Pre-Dil Final	Default Injection	Actual Injection	
Lab Number [Field ID]	Batch	Dilution	Dilution	mL	mL	mL	mL	Date
13A0112-01 [Middle School Back]	B066051	1	1	N/A	1000	400	400	01/05/13
13A0112-02 [Elementary School # 1]	B066051	1	1	N/A	1000	400	400	01/05/13
13A0112-03 [Elementary School # 2]	B066051	1	1	N/A	1000	400	400	01/05/13
13A0112-04 [Middle School Front]	B066051	1	1	N/A	1000	400	400	01/05/13



#### QUALITY CONTROL

#### Air Toxics by EPA Compendium Methods - Quality Control

Air Toxics by EPA Compendium Methods - Quality Control											
	pp	bv	ug/m	3	Spike Level	Source		%REC		RPD	
Analyte	Results	RL	Results	RL	ppbv	Result	%REC	Limits	RPD	Limit	Flag
Batch B066051 - TO-15 Prep											
Blank (B066051-BLK1)					Prepared & A	Analyzed: 01	/05/13				
Benzene	ND	0.025									
Bromomethane	ND	0.025									
Carbon Tetrachloride	ND	0.025									
Chlorobenzene	ND	0.025									
Chloroethane	ND	0.025									
Chloroform	ND	0.025									
Chloromethane	ND	0.025									
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)	ND	0.025									
1,1-Dichloroethane	ND	0.025									
1,2-Dichloroethane	ND	0.025									
1,1-Dichloroethylene	ND	0.025									
cis-1,2-Dichloroethylene	ND	0.025									
1,2-Dichloropropane	ND	0.025									
cis-1,3-Dichloropropene	ND	0.025									
trans-1,3-Dichloropropene	ND	0.025									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.025									
Ethylbenzene	ND	0.025									
Hexachlorobutadiene	ND	0.025									
Methylene Chloride	ND	0.25									
Styrene	ND	0.025									
1,1,2,2-Tetrachloroethane	ND	0.025									
Tetrachloroethylene	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.050									
1,1,1-Trichloroethane	ND	0.025									
1,1,2-Trichloroethane	ND	0.025									
Γrichloroethylene	ND	0.025									
Γrichlorofluoromethane (Freon 11)	ND	0.025									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Chloride	ND	0.025									
m&p-Xylene	ND	0.050									

ND

8.22

o-Xylene

 $Surrogate: \textit{4-Bromofluorobenzene} \ (l)$ 

0.025

103

70-130

8.00



o-Xylene

Surrogate: 4-Bromofluorobenzene (1)

5.99

8.67

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

#### QUALITY CONTROL

#### Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results RL	ug/m3 Results RL	Spike Level ppbv	Source Result %REC	%REC Limits	RPD	RPD Limit	Flag
Batch B066051 - TO-15 Prep			••					-
LCS (B066051-BS1)			Prepared & A	Analyzed: 01/05/13				
Benzene	4.54		5.00	90.8	70-130			
Bromomethane	4.54		5.00	90.8	70-130			
Carbon Tetrachloride	6.24		5.00	125	70-130			
Chlorobenzene	5.34		5.00	107	70-130			
Chloroethane	4.77		5.00	95.5	70-130			
Chloroform				95.2				
	4.76		5.00		70-130			
Chloromethane	4.78		5.00	95.6	70-130			
1,2-Dibromoethane (EDB)	5.70		5.00	114	70-130			
1,2-Dichlorobenzene	5.15		5.00	103	70-130			
1,3-Dichlorobenzene	5.48		5.00	110	70-130			
1,4-Dichlorobenzene	5.42		5.00	108	70-130			
Dichlorodifluoromethane (Freon 12)	5.03		5.00	101	70-130			
1,1-Dichloroethane	4.50		5.00	90.0	70-130			
1,2-Dichloroethane	5.43		5.00	109	70-130			
1,1-Dichloroethylene	4.60		5.00	92.0	70-130			
cis-1,2-Dichloroethylene	4.83		5.00	96.7	70-130			
1,2-Dichloropropane	4.89		5.00	97.7	70-130			
cis-1,3-Dichloropropene	5.99		5.00	120	70-130			
trans-1,3-Dichloropropene	7.16		5.00	143	* 70-130			L-01, V-0
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	5.30		5.00	106	70-130			
Ethylbenzene	5.64		5.00	113	70-130			
Hexachlorobutadiene	5.23		5.00	105	70-130			V-0
Methylene Chloride	4.68		5.00	93.6	70-130			
Styrene	5.24		5.00	105	70-130			
1,1,2,2-Tetrachloroethane	4.82		5.00	96.5	70-130			
Tetrachloroethylene	5.79		5.00	116	70-130			
Toluene	5.50		5.00	110	70-130			
1,2,4-Trichlorobenzene	5.10		5.00	102	70-130			
1,1,1-Trichloroethane	5.24		5.00	105	70-130			
1,1,2-Trichloroethane	5.50		5.00	110	70-130			
Trichloroethylene	4.92		5.00	98.4	70-130			
Trichlorofluoromethane (Freon 11)	5.43		5.00	109	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.77		5.00	95.4	70-130			
1,2,4-Trimethylbenzene	5.43		5.00	109	70-130			
1,3,5-Trimethylbenzene	5.42		5.00	108	70-130			
Vinyl Chloride	4.55		5.00	91.0	70-130			
m&p-Xylene	12.1		10.0	121	70-130			
a Villana	5.00		5.00	120	70 120			

5.00

8.00

108

70-130

70-130



#### FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
A-09	Holding times and stability of samples taken in tedlar bags have not been determined
L-01	Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.



#### CERTIFICATIONS

#### Certified Analyses included in this Report

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



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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2014
MA	Massachusetts DEP	M-MA100	06/30/2013
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2013
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2013
RI	Rhode Island Department of Health	LAO00112	12/30/2013
NC	North Carolina Div. of Water Quality	652	12/31/2013
NJ	New Jersey DEP	MA007 NELAP	06/30/2013
FL	Florida Department of Health	E871027 NELAP	06/30/2013
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2013
WA	State of Washington Department of Ecology	C2065	02/23/2013
ME	State of Maine	2011028	06/9/2013
VA	Commonwealth of Virginia	460217	12/14/2013
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2012

ANALYTICAL LABORATORY	con-test

	Phone: 413-525-2332	AIR SAMPLE	AIR SAMPLE CHAIN OF CUSTOUY		39 SPRUCE ST	Pag	Page of	5
	Fax: 413-525-6405		RECORD	S	EAST LONGMEADOW, MA 01028	01028		55:5
-	www.contestlabs.com		M2.1	1000		- На	Please fill out	3 16
Company Name: ARCAOIS		Telephone:(401)	738 3887	ı	ANALYSIS	- - - -	and retain the vellow	<u> </u>
Address: 300 Metro Ce	Center Blvd.	Project # WK 012152.	012152,0008	ı	REQUESTED		copy for your record	
Warwick 1	21 02866	Client PO #		ı		  	flow controllers mus	1655
- 1	Pallister	DATA DELIVERY	DATA DELIVERY (check one):  OFAX DEMAIL XWEBSITE CLIENT	<u></u>		- a	of receipt or rental for will apply.	
Project Location: Spring field St	1	Fax # :				ບ ບ ~ ບ	Summa canisters wi	01 1
Sampled By: A Dasily a	8	Email: donna pe	ara		14	) ~	of 14 days after	inal
Proposal Provided? (For Billing purposes)		Date Sampled	ONLY USE WHEN USI	SING PUMPS	) -	<b>у</b> .	sampling date prior cleaning.	
yes proposal date		Start Stop	Ш		1	_ u		onte
	Media Lab #	Date Date Time	Minutes M³/Min. or Sampled L / Min.	Liters <b>or</b> Matrix M <sup>3</sup> Code*		Ф ¬	Canister Contro	1 C
01 Middle School Back TD		1/4/13 9:35		55				0112
2		1/4/13 8:55	37	55				13A
		11412 9:58	00	55				of 19
84 Middle School Front TB		14/3 12:25		55				e 18
								Page
Laboratory Comments:			CLIENT COMMENTS:	OMMENTS:				
Relinguished by: (signature)	Date/Time: 1/4/13 i3:17	Turnaround **	Spec Regulations:	ial Requirements المحادة المحادثة المح	*Matrix Code: SG= SOIL GAS	6	**Media Codes: S=summa can	
Received by (signature)	Date/Time:	10-Day	Data Enhancement/RCP? DY	/RCP? DY DN	IA= INDOOR AIR		<b>TB</b> =tedlar bag <b>P</b> =PUF	
Relinguished by: (signature)	Date/Time:	RUSH *			SS = SUB SLAB	_	ube	
Il Ky lando	1-4-13 1615	0 *73-Hr 0 *48-Hr	Required Detection Limits:	Limits:	D = DUP		F= πter C=cassette	
The state of the s	(8/1/8)	*Approval Required			O = other		O = Other	





### **AIR Only Receipt Checklist**

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

P: 413-525-2332 F: 413-525-6405

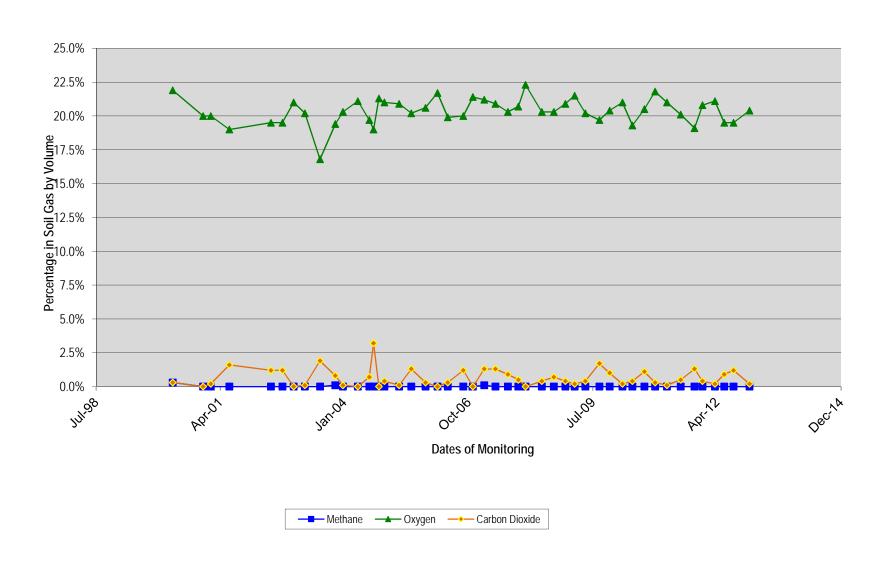
CLIENT NAME: ARCADIS	RECEIVE	D BY: 4/F	DATE:/-4-13			
1) Was the chain(s) of custody relinquish	ed and signed?	Yes) No				
2) Does the chain agree with the samples  If not, explain:	<u> </u>	yes No				
3) Are all the samples in good condition?  If not, explain:		Yes No				
4) Are there any samples "On Hold"?		Yes No	Stored where:			
5) Are there any RUSH or SHORT HOLDIN	IG TIME samples?	Yes No				
Who was notified [	ateTime		<u>/</u>			
6) Location where samples are stored:	AIR (46		ontract samples? Yes No ) if not already approved			
Containe	ers received	at Con-Test	t			
		# of Containers	Types (Size, Duration)			
Summa Cans			Types (Gize, Baration)			
Tedlar Bags		4				
Tubes						
Tubes						
Regulators						
Restrictors						
Tubing						
Other						
Unused Summas:	Unus	ed Regulators:				
1) Was all media (used & unused checked into the WASP?						
2) Were all returned summa cans, Restrictors, & Regulators documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?						
Laboratory Comments:						

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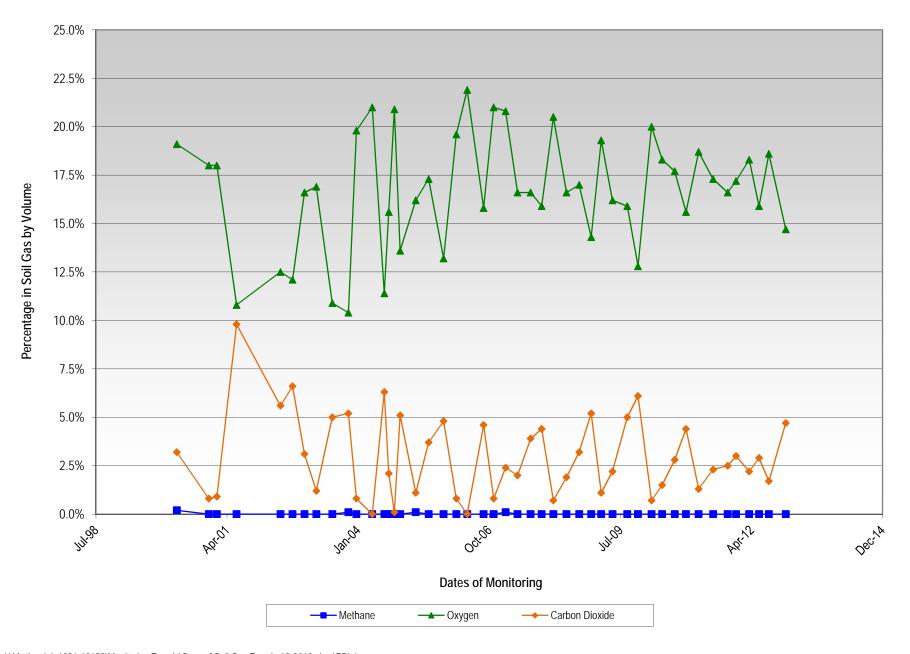
### **ARCADIS**

Appendix C
Soil Gas Parameter Graphs

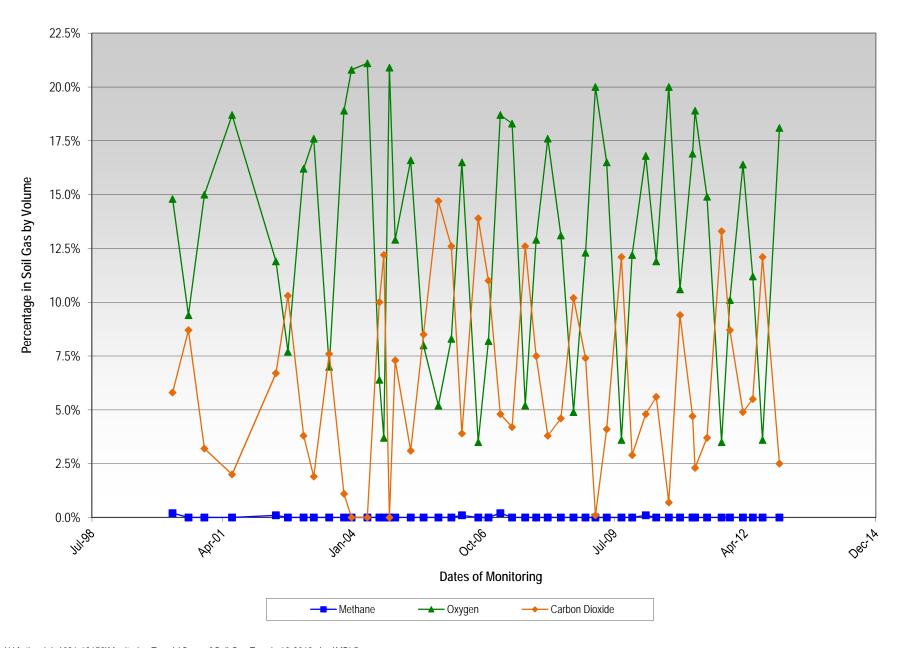
# Soil Gas Well EPL1 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time Springfield Street School Complex Providence, Rhode Island



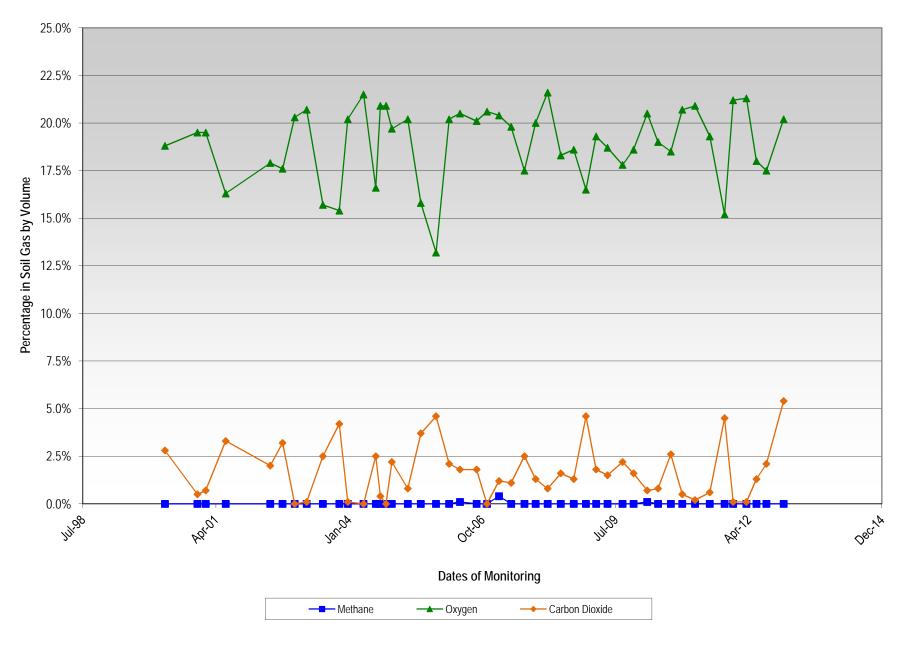
Soil Gas Well EPL4
Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time
Springfield Street School Complex
Providence, Rhode Island



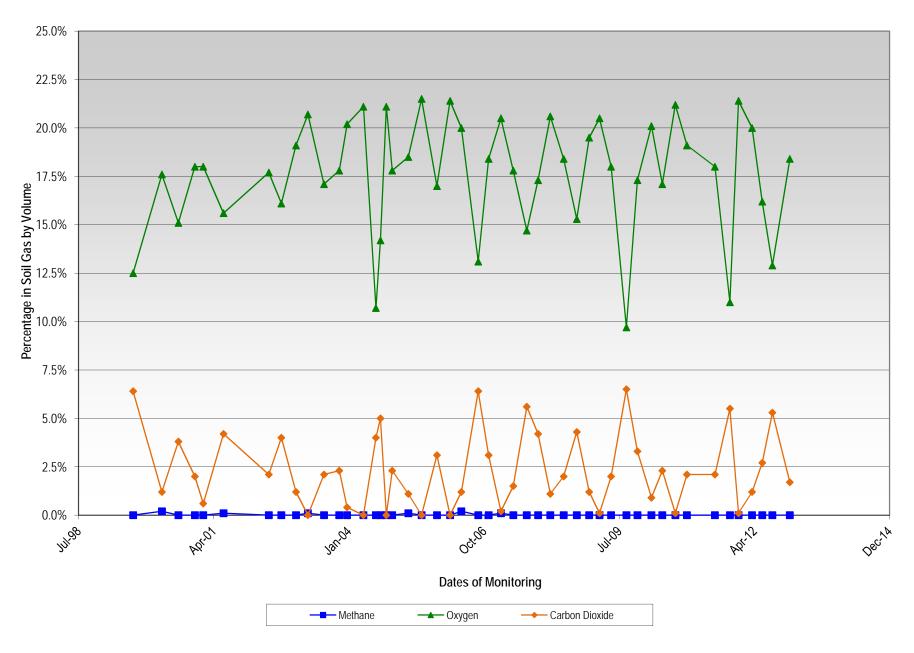
## Soil Gas Well MPL5 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time Springfield Street School Complex Providence, Rhode Island



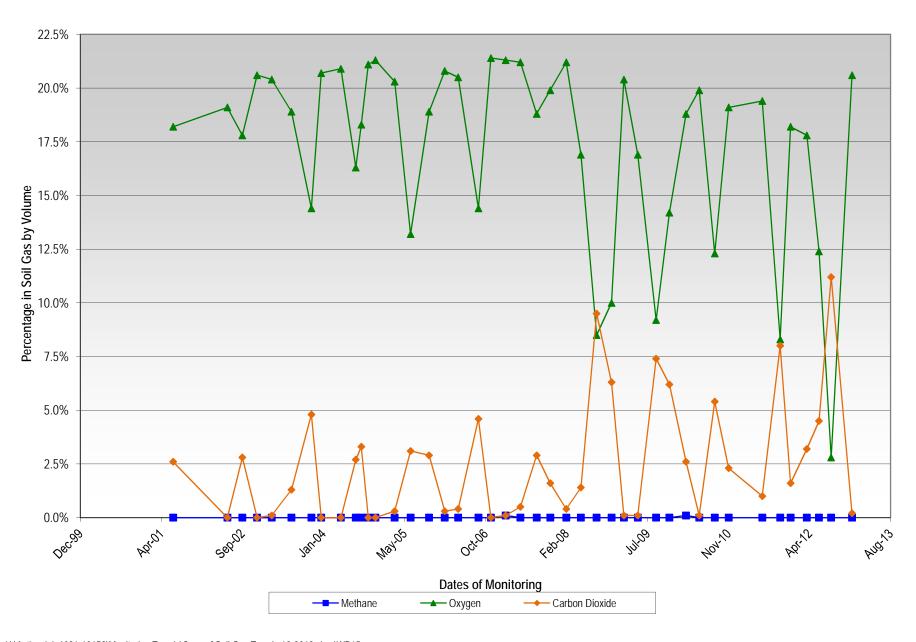
## Soil Gas Well MG2 Fluctuation in Methane, Oxygen, and Carbon Dioxide Percentages over Time Springfield Street School Complex Providence, Rhode Island



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



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



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

