SOIL VAPOR INTRUSION DATA SUMMARY REPORT
2013/2014 HEATING SEASON
FOR THE
ESSEX-HOPE SITE
SITE NUMBER 907015
CITY OF JAMESTOWN
CHAUTAUQUA COUNTY, NEW YORK

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ESSEX-HOPE SITE

SOIL VAPOR INTRUSION DATA SUMMARY REPORT

2013/2014 HEATING SEASON

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LIST OF ACRONYMS AND ABBREVIATIONS

1,1,1-TCA	1,1,1-trichloroethane
1,1-DCE	1,1-dichloroethene, aka 1,1-dichloroethylene
ASP	Analytical Services Protocol
AST	Aboveground Storage Tank)
CCDH	Chautauqua County Health Department
CD	compact disk
cis-1,2-DCE	1,2-dichloroethene (cis), aka cis-1,2-dichloroethylene
COC	chain-of-custody
CPM	Custom Production Manufacturing, Inc.
DUSR	Data Usability Summary Report
ELAP	Environmental Laboratory Approval Program
ETX	ethylbenzene, toluene and xylene
FSP	Field Sampling Plan
L/min	liters per minute
NPLS	North Parking Lot Sump
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCB	polychlorinated biphenyl
PCE	perchloroethene, aka tetrachloroethene or tetrachloroethylene or perchloroethylene
PDF	portable document format
PID	photoionization detector
ppm	part-per-million
RI	Remedial Investigation
ROD	Record of Decision
sq. ft.	square foot
SVI	soil vapor intrusion
TCE	trichloroethene, aka trichloroethylene
Test America	Test America Analytical Laboratory
trans-1,2-DCE	1,2-dichloroethene (trans)
$\mu g/m^3$	micrograms per cubic meter
URS	URS Corporation
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	volatile organic compound

1.0 INTRODUCTION

This Data Summary Report has been prepared to summarize the field activities and analytical results associated with the 2013/2014 heating season soil vapor intrusion (SVI) sampling performed by URS Corporation (URS) at the Essex-Hope Site (Site ID No. 907015) in the City of Jamestown, New York (Figure 1). This report presents data and information from the 2013/2014 heating season SVI sampling, which was conducted on March 25, 2014 and April 8-9, 2014.

1.1 Site Description and History

The Essex/Hope Site is located on a 4.7 acre parcel of land that is currently owned and occupied by Custom Production Manufacturing, Inc. (CPM) at 125 Blackstone Avenue in the City of Jamestown, NY (Figure 2). The site is located in a highly industrialized area of the city that has seen various degrees of industrial use for the past 75 years. Contamination onsite is the result of historical practices conducted at the facility as discussed in the Remedial Investigation (RI) Report dated October 1992.

The following three areas are identified in the Record of Decision (ROD) as the focus of the original remedial efforts:

- North Parking Lot Sump (NPLS) Area: Located in a parking area on the south side of Hopkins street and adjacent to the facility known as Former Plant 5. The subsurface soil proximal to the sump as well as the groundwater in the NPLS Area contain trichloroethylene (TCE) above NYSDEC standards. A smaller area of subsurface soil located south of the sump also contains polychlorinated biphenyls (PCBs) at levels up to 33 mg/kg, dry weight. Depth of the impacted soil primarily occurs from 6 to 12 feet below grade;
- Former Aboveground Storage Tank (AST)/Underground Storage Tank (UST) Area: Located on the east side of the railroad right-of-way. The subsurface soil and groundwater in this area contain ethylbenzene, toluene, and xylene (ETX) residues; and
- Previously Closed UST Area: Located south of the Former Plant 5. The subsurface soil and shallow groundwater in this area contains primarily ETX.

Supplemental site investigations and remedial actions have been conducted since Year 2000. These actions have resulted in modifications to the original remedial measures as well as the definition of the contaminant source and extent. Recent shallow groundwater sampling results show elevated concentrations of ETX beneath the eastern portion of the West Building, as well as elevated concentrations of TCE and its degradation products beneath the western portion of Plant 5 Building.

The Field Sampling Plan (FSP) described proposed indoor air and sub-slab vapor sampling to be performed within the West Building and the Former Plant 5 building. The proposed sampling included a total of eight sub-slab vapor samples (four samples per building), two indoor air samples (one sample per building) and one ambient outdoor air sample (located upwind of the buildings).

2.0 FIELD INVESTIGATION ACTIVITIES

The 2013/2014 heating season SVI sampling was conducted on March 25 and April 8-9, 2014. The activities conducted during the SVI sampling consisted of the following tasks:

- URS conducted an inventory of chemicals present in the sampling area and evaluated their potential to affect air sample results. The inventory was performed on March 25, 2014.
- URS set up fourteen canisters to collect 24 hour samples on April 8, 2014 as follows:

  Former Plant 5 Building

  i) one indoor air; and
  ii) four subslab soil vapors.

  West Building

  i) two indoor air plus one field duplicate; and
  ii) four subslab soil vapors plus one field duplicate.

  Outdoors

  i) One outdoor air.

Sampling locations are shown on Figure 2. On April 9, 2014, URS returned to the site to retrieve the canisters. One of the canisters from the West Building (SS-WB-06) did not register a loss in vacuum after the 24 hour sample collection period, therefor the sample was not analyzed. However, a field duplicate sample (20140408-FD-01) was set up at this location and was successfully collected.

2.1 Indoor Air Quality Survey and Questionnaire

Prior to sampling, URS personnel conducted completed an inventory of chemicals found in the building. A RAE Systems MiniRAE 2000 part-per-million (ppm)-range photoionization detector (PID) was used to screen indoor air and identify potential sources of volatile organic compounds (VOCs) from chemicals prior to collecting the air samples. Completed inventory form for each building may be found in Appendix A. Photographs of the various chemicals stored in the building can be found in Appendix B. URS requested several containers to be removed from the building: a 55 gallon drum of TCE; a gallon container of 1,1,1-TCA (located near the 55 gal drums) ; and 2

items that contain tetrachloroethene, also known as perchloroethylene (PCE), located in the lower right hand corner of chemical storage cabinet.

2.1.1 Indoor Air and Outdoor Air Sampling

URS selected the indoor air sampling locations in consultation with the building manager. Where possible, the indoor air locations were placed in the breathing zone (approximately three feet above the floor). Photographs of each sample location may be found in Appendix B.

The indoor air and outdoor air samples were collected using laboratory evacuated 6-liter Summa® canisters with 24 hour laboratory calibrated flow regulators. The regulators were calibrated at the flow rate of approximately 0.004 liters per minute (L/min). Upon opening the canister valve, the initial vacuum pressure was read from the built-in gauge on the flow controller and recorded onto the Indoor Air Quality Survey and Questionnaire. After the 24 hour sampling period, the canister vacuum was recorded on the Indoor Air Quality Survey and Questionnaire form and the valve was then closed.

One outdoor air sample was collected. Due to limited locations where the canister would be secure, the outdoor air sample was placed in the open space between buildings on the south side of the treatment plant building. The outdoor air sample was collected concurrent with the indoor air and sub slab soil vapor samples.

2.1.2 Subslab Soil Vapor Sampling

URS selected the subslab soil vapor sampling locations in consultation with the building manager. At the subslab sample locations, an electric hammer drill was used to advance a ⅜-inch diameter hole through the concrete slab. Wood blocks were on top of the concrete slab in the southern portion of the Former Plant 5 building, at locations SS-B5-03 and SS-B5-04. Holes were drilled through the wood and concrete slab. All debris was removed using a hand brush to prevent it from entering the hole. The subslab samples were collected through a ⅛-inch inside diameter by ¼-inch outside diameter Teflon-lined polyethylene tubing which was inserted through the hole in the slab. The tubing was sealed to the concrete slab or wood blocks with modeling clay.

A helium tracer gas was utilized during the sampling of each subslab soil vapor location. The tracer gas was used to evaluate whether indoor (ambient) air was short circuiting into the sample

collection tubing. To perform the test, a one quart enclosure was placed over the sealed subslab sample location. The sample tubing was run through a hole in the enclosure and a silicone gasket was used to seal the interface between the tubing and the enclosure. The enclosure was then sealed at the ground surface with a foam gasket. A tank containing ultra high purity helium [99.999 percent (%)] was connected to the side port of the enclosure and enough helium was released to displace any ambient air and to maintain a positive pressure within the enclosure. Following the application of the tracer gas, one liter of soil vapor was purged using a Gillian GilAir-3 air sample pump at a rate of approximately 0.02 L/min into a 1 liter tedlar bag.

The contents of the tedlar bag were measured for helium using a Radiodetection/Dielectric MGD-2002 Multi-gas Detector and for VOCs with a PID. If the helium concentration was less than 10%, the enclosure was removed and the tubing was connected to the Summa canister via the flow controller and sampling commenced. If the concentration of helium exceeded 10%, the clay seal between the sample tubing and the concrete slab was redone and the seal was retested. After the subslab sample locations passed the helium test, the sample collection was initiated. The contents of the tedlar bag containing the subslab purged vapor were subsequently discharged outdoors.

The subslab samples were collected over a 24-hour period using 6-liter Summa® canisters equipped with flow controller valves pre-calibrated at the laboratory (i.e., calibrated at the flow rate of approximately 0.004 L/min). Upon opening the canister valve, the initial vacuum pressure was read from the built-in gauge on the flow controller and recorded onto the Indoor Air Quality Survey and Questionnaire form. After the 24 hour sampling period, the canister vacuum was recorded and the valve was then closed. The tubing was removed and the subslab sample point was then filled to grade with hydraulic cement.

2.2 Sample Analysis

All indoor, subslab, and outdoor air samples were shipped via Federal Express by URS under chain-of-custody (COC) to the URS subcontracted laboratory, TestAmerica Laboratories, Inc. (Test America), located in Burlington, VT. Test America is a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory for the analysis of VOCs by USEPA Method TO-15. All indoor air, outdoor air, and subslab soil vapor samples were analyzed for the TCL VOCs listed in Table 2, to a minimum detection limit of 1.0 micrograms per cubic meter ($\mu g/m^3$) with the exception

of alcohols and ketones. TCE, carbon tetrachloride and vinyl chloride in all indoor and outdoor air samples were analyzed to a minimum detection limit of 0.25 $\mu g/m^3$.

3.0 RESULTS OF THE INVESTIGATION

3.1 Data Validation and Data Usability Summary Report

The data packages submitted by the laboratory were equivalent to the NYSDEC's Analytical Services Protocol (ASP) Category B Deliverable requirements. A Data Usability Summary Report (DUSR) was prepared following the guidelines provided in Department of Environmental Remediation *DER-10 Technical Guidance for Site Investigation and Remediation, Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports* (May 2010). The complete validated analytical results and Form 1s are provided in the DUSR which has been included in Appendix C.

At locations where a sample and a field duplicate are collected, the higher value is used for the evaluation of soil vapor intrusion.

3.2 Soil Vapor Intrusion Investigation Sampling Results

Of the compounds listed on Table 2, TCE (including the breakdown products) as well as ETX are site related, based on historical activities at the site. A summary of detected VOCs in the 2013/2014 Heating Season SVI samples is presented in Table 3. The detected results are shown on Figure 3.

Not all of the compounds summarized below are addressed by the current NYSDOH guidance action matrices or indoor air guidelines (NYSDOH, 2006). A copy of the NYSDOH Soil Vapor/Indoor Air Decision Matrices is provided in Appendix D. Per the NYSDOH, the matrix is used to evaluate the following compounds:

- Matrix 1 – TCE, carbon tetrachloride and vinyl chloride; and
- Matrix 2 - 1,1,1-TCA, cis 1,2-DCE, PCE and 1,1-dichloroethane (1,1-DCA).

TCE was detected in all subslab soil vapor samples. The highest concentration was 5,800 $\mu g/m^3$ at location SS-B5-01. Other Former Plant 5 building subslab soil vapor concentrations, in descending order were 1,900 $\mu g/m^3$ (SS-B5-04), 430 $\mu g/m^3$ (SS-B5-01) and 92 $\mu g/m^3$ (SS-B5-03). The concentration of TCE in Plant 5 Building indoor air was 100 µg/m3 (FF-B5-03).

TCE concentration in the West Building subslab soil vapor samples were 52 µg/m^3 (SS-WB-05), 2.2 µg/m^3 (SS-WB-07), 0.34 µg/m^3 (SS-WB-01) and 0.32 µg/m^3 (SS-WB-08). TCE was not detected in the West Building indoor air or in the outdoor air samples.

Carbon tetrachloride was detected in all three indoor air sample locations and in the outdoor air at similar concentrations (0.42 to 0.46 µg/m^3). Carbon tetrachloride was detected in one subslab sample (SS-WB-05) at 0.30 µg/m^3.

Vinyl chloride was not detected in any of the indoor air or outdoor air sample locations. It was detected in three of the four Former Plant 5 subslab samples (SS-B5-01, SS-B5-03 and SS-B5-04) with concentrations between 2.3 µg/m^3 and 5.5 µg/m^3 and one West Building subslab sample (SS-WB-05) at 0.61 µg/m^3.

1,1,1-TCA was not detected in the Former Plant 5 building subslab soil vapor samples, all indoor air or outdoor air samples. It was detected in three of the four West Building sub slab samples (SS-WB-05, SS-WB-06 and SS-WB-07) at concentrations between 1.5 µg/m^3 and 6.4 µg/m^3.

Cis-1,2-DCE was only detected in one subslab sample location (SS-B5-02) at and 9.3 µg/m^3. Cis-1,2-DCE was not detected in any of the indoor air or outdoor air samples.

PCE was detected in one Former Plant 5 building subslab soil vapor sample (SS-B5-02) at 11 µg/m^3, and in the Former Plant 5 building indoor air (FF-B5-03) at 2.1 µg/m^3. The West Building subslab soil vapor concentrations were between 28 µg/m^3 and 6.9 µg/m^3. PCE was not detected in the West Building indoor air or outdoor air samples.

1,1-dichloroethane (1,1-DCA) was not detected in any soil vapor samples, indoor air or outdoor air samples.

Several other VOCs, including ETX compounds were also detected in the SVI samples collected at the site:

- Ethylbenzene – The subslab soil vapor concentration was 94 µg/m^3 in Former Plant 5 at location SS-B5-03 and between 25 µg/m^3 and 3.2 µg/m^3 in the West Building. The indoor

air concentration was 4.8 μg/m^3 in the Former Plant 5 building and non-detect in the West Building and outdoors.

- Toluene – Subslab vapor concentrations ranged from 540 μg/m^3 to non-detect in the Former Plant 5 Building and between 2.4μg/m^3 to 66 μg/m^3 in the West Building. Indoor air concentration in Former Plant 5 was 17 μg/m^3 and 2.4 μg/m^3 in the West Building. The outdoor air concentration of toluene was 5.0 μg/m^3.

- Xylene (total) – The subslab soil vapor concentrations ranged from 550 μg/m^3 to non-detect in Former Plant 5 building and 290 μg/m^3 to 18 μg/m^3 in the West Building. The indoor air concentration was 21 μg/m^3 in Former Plant 5 and between 3.1 μg/m^3 and 3.3 μg/m^3 in the West Building. Xylene (total) was not detected in the outdoor air sample.

The analytical results were compared against the product inventories. Products most commonly encountered were adhesives, solvent cleaning agents, paints, paint thinners and strippers. The product contents include petroleum distillates, glycols, acetate, ethylbenzene, xylene, and mineral spirits. TCE, PCE and 1,1,1-TCA were also found in the product inventory, but were removed from the buildings prior to sampling. No other chemicals were removed prior to sampling and were stored in chemical storage cabinets during sampling. Background PID screening levels within the building away from the chemical storage areas were non-detect. However, based on the product inventory, the presence of these products may have contributed to the presence of chlorinated compounds and other compounds of interest in the indoor air samples.

Using decision matrix and the compounds listed by the NYSDOH, the following decisions were made for the areas sampled, based on the most severe action:

- Former Plant 5: TCE was detected at concentrations in the subslab soil vapor and indoor air that fell under the “Mitigate” recommendation.

- West Building: TCE was detected in one of four subslab samples at a concentration that fell under the “Monitor” recommendation. Results for all other Matrix 1 and Matrix 2 compounds resulted in a “No further action” designation.

  The subslab soil vapor sample location where TCE was detected is from a small area linking the West Building to the Former Plant 5 building, as shown on Figure 3. By separating the

area from the major portion of the West Building, the majority of the West Building fell under the “No further action” recommendation.

Although carbon tetrachloride concentrations in indoor air fell under the “Take reasonable and practical actions to identify source(s) and reduce exposure”, it was detected in the outdoor air at a similar concentration and was either non-detect or lower than the indoor/outdoor air in the subslab soil vapor. Based on historical uses at the site and the results, it was determined that soil vapor was not a source of carbon tetrachloride in indoor air, and therefore no further action is necessary.

4.0 FUTURE ACTIVITIES

4.1 Mitigation and Monitoring

The NYSDEC and NYSDOH will further evaluate the vapor intrusion sampling results from the 2013/2014 heating season SVI sampling. The NYSDEC and NYSDOH may recommend that continued monitoring and/or mitigation be performed.

5.0 REFERENCES

New York State Department of Health. 2006. *Guidance for Evaluating Soil Vapor Intrusion in the State of New York.* Final. October.

New York State Department of Environmental Conservation. 2010. *Guidance for Data Deliverables and the Development of Data Usability Summary Reports*. DER-10 Technical Guidance for Site Investigation and Remediation, Appendix 2B. Division of Environmental Remediation. May.

United States Environmental Protection Agency. 2006. *Validating Volatile Organic Analysis of Ambient Air in Canister by Method TO-15*, HW-31, Revision 4. Region 2. October.

URS Corporation. 2014. *Field Sampling Plan. Vapor Intrusion Sampling, Essex-Hope Site, Site # 90715, Jamestown, NY.* March.

TABLES

TABLE 1
2013/2014 HEATING SEASON SAMPLE LOCATION IDENTIFICATION
HOPE-ESSEX SITE, JAMESTOWN, NEW YORK

Sample Location	Location ID	Field Sample ID	Description
Former Plant 5	SS-B5-01	907015-SS-B5-01	Former Plant 5 subslab soil vapor sample
	SS-B5-02	907015-SS-B5-02	Former Plant 5 subslab soil vapor sample
	SS-B5-03	907015-SS-B5-03	Former Plant 5 subslab soil vapor sample
	SS-B5-04	907015-SS-B5-04	Former Plant 5 subslab soil vapor sample
	FF-B5-03	907015-FF-B5-03	Former Plant 5 Indoor air sample
West Building	SS-WB-05	907015-SS-WB-05	West Building subslab soil vapor sample
	SS-WB-06	907015-SS-WB-06	West Building subslab soil vapor sample and field duplicate.
		20140408-FD-01	901015-SS-WB-06 sample failed. Field duplicate used as primary sample.
	SS-WB-07	907015-SS-WB-07	West Building subslab soil vapor sample
	SS-WB-08	907015-SS-WB-08	West Building subslab soil vapor sample
	FF-WB-01	907015-FF-WB-01	West Building Indoor air sample and field duplicate
		20140408-FD-02	
	FF-WB-02	907015-FF-WB-02	West Building Indoor air sample
Outdoors	OA-01	907015-OA-01	Outdoor Air Sample

TABLE 2
SUMMARY OF PARAMETERS ANALYZED IN SUBSLAB, INDOOR, AND OUTDOOR AIR BY USEPA METHOD TO-15
ESSEX-HOPE SITE

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloro-1,2,2-trifluoroethane
1,1,2-Trichloroethane
1,1-Dichloroethane*
1,1-Dichloroethene*
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromoethane (Ethylene dibromide)
1,2-Dichlorobenzene
1,2-Dichloroethane*
1,2-Dichloroethene (cis)*
1,2-Dichloroethene (trans)*
1,2-Dichloropropane
1,2-Dichlorotetrafluoroethane
1,3,5-Trimethylbenzene (Mesitylene)
1,3-Butadiene
1,3-Dichlorobenzene
1,3-Dichloropropene (cis)
1,3-Dichloropropene (trans)
1,4-Dichlorobenzene
1,4-Dioxane
2,2,4-Trimethylpentane
2-Chlorotoluene
2-Hexanone
4-Ethyltoluene
4-Isopropyltoluene (p-Cymene)
4-Methyl-2-pentanone
Acetone
Ally chloride
Benzene
Benzyl chloride
Bromodichloromethane
Bromoform
Bromomethane
Butane
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chlorodifluoromethane
Chloroethane*
Chloroform
Chloromethane
Cyclohexane
Dibromochloromethane
Dichlorodifluoromethane
Ethylbenzene
Heptane
Hexachlorobutadiene
Hexane
Isopropyl alcohol
Isopropylbenzene (Cumene)
Methyl ethyl ketone (2-Butanone)
Methyl methacrylate
Methyl tert-butyl ether
Methylene chloride
Naphthalene
n-Butylbenzene
n-Propylbenzene
sec-Butylbenzene
Styrene
tert-Butyl alcohol
tert-Butylbenzene
Tetrachloroethene*
Tetrahydrofuran
Toluene
Trichloroethene*
Trichlorofluoromethane
Vinyl bromide
Vinyl chloride*
Xylene (total)

USEPA Method TO-15, VOCs in Air Collected in SUMMA® Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS): USEPA Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, January 1999.

* - Tetrachloroethene, trichloroethene and their breakdown products.

- The minimum reporting limit in all indoor and outdoor air samples for these compounds is 0.25 microgram per cubic meter ($\mu g/m^3$); the reporting limits for all other compounds are at least 1 $\mu g/m^3$ (except for alcohols and ketones). The minimum reporting limit for all compounds in subslab samples is 1 $\mu g/m^3$.

TABLE 3
SUMMARY OF DETECTED COMPOUNDS IN 2013/2014 HEATING SVI SAMPLES
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Location ID		AMBIENT AIR	B5-01	B5-02	B5-03	B5-03
Sample ID		907015-OA-01	907015-SS-B5-01	907015-SS-B5-02	907015-FF-B5-03	907015-SS-B5-03
Matrix		Outdoor Air	Sub-slab Vapor	Sub-slab Vapor	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	**Units**					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/M3					
1,2,4-Trimethylbenzene	UG/M3				2.2	200
1,2-Dichloroethene (cis)	UG/M3			9.3		
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3					76
1,3-Butadiene	UG/M3					
2-Hexanone	UG/M3					
4-Ethyltoluene	UG/M3					25
4-Isopropyltoluene (p-Cymene)	UG/M3					140
4-Methyl-2-pentanone	UG/M3					
Acetone	UG/M3	14				510
Benzene	UG/M3	7.4			0.79	23
Butane	UG/M3	4.0			6.6	60
Carbon disulfide	UG/M3		62 J			47
Carbon tetrachloride	UG/M3	0.42			0.44	
Chloroethane	UG/M3					79
Chloroform	UG/M3		85 J	4.3		
Chloromethane	UG/M3					
Cyclohexane	UG/M3					22
Dichlorodifluoromethane	UG/M3					
Ethylbenzene	UG/M3				4.8	94
Heptane	UG/M3	1.3			1.1	39
Hexane	UG/M3	1.5			1.1	36
Isopropylbenzene (Cumene)	UG/M3					

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value. Empty Cell - Not Detected.
UG/M3 - Micrograms per cubic meter.

Only Detected Results Reported.

TABLE 3
SUMMARY OF DETECTED COMPOUNDS IN 2013/2014 HEATING SVI SAMPLES
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Location ID		AMBIENT AIR	B5-01	B5-02	B5-03	B5-03
Sample ID		907015-OA-01	907015-SS-B5-01	907015-SS-B5-02	907015-FF-B5-03	907015-SS-B5-03
Matrix		Outdoor Air	Sub-slab Vapor	Sub-slab Vapor	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	**Units**					
Volatile Organic Compounds						
Methyl ethyl ketone (2-Butanone)	UG/M3	6.3 J			6.7 J	
Methylene chloride	UG/M3				3.2	
Naphthalene	UG/M3	4.9			5.8	3,500
n-Propylbenzene	UG/M3					
Tetrachloroethene	UG/M3			11	2.1	
Toluene	UG/M3	5.0			17	540
Trichloroethene	UG/M3		5,800 J	430	100	92
Trichlorofluoromethane	UG/M3				1.2	
Vinyl chloride	UG/M3		5.5 J			4.0
Xylene (total)	UG/M3				21	550

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value. Empty Cell - Not Detected.
UG/M3 - Micrograms per cubic meter.

Only Detected Results Reported.

TABLE 3
SUMMARY OF DETECTED COMPOUNDS IN 2013/2014 HEATING SVI SAMPLES
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Location ID		B5-04	WB-01	WB-01	WB-02	WB-05
Sample ID		907015-SS-B5-04	20140408-FD-02	907015-FF-WB-01	907015-FF-WB-02	907015-SS-WB-05
Matrix		Sub-slab Vapor	Indoor Air	Indoor Air	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	Units		Field Duplicate (1-1)			
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/M3					1.5
1,2,4-Trimethylbenzene	UG/M3	340 J	1.3	1.5		4.4
1,2-Dichloroethene (cis)	UG/M3					
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	120 J				1.9
1,3-Butadiene	UG/M3					
2-Hexanone	UG/M3					
4-Ethyltoluene	UG/M3	46 J				
4-Isopropyltoluene (p-Cymene)	UG/M3					
4-Methyl-2-pentanone	UG/M3					
Acetone	UG/M3	900 J				34
Benzene	UG/M3	23 J				2.6
Butane	UG/M3	36 J	3.8	2.5	2.4	7.6
Carbon disulfide	UG/M3	140 J				3.8
Carbon tetrachloride	UG/M3		0.39	0.46	0.42	0.30
Chloroethane	UG/M3	40 J				9.6
Chloroform	UG/M3					
Chloromethane	UG/M3		1.0	1.2	1.0	
Cyclohexane	UG/M3	24 J				3.0
Dichlorodifluoromethane	UG/M3					2.9
Ethylbenzene	UG/M3					11
Heptane	UG/M3	21 J	1.2			7.6
Hexane	UG/M3	25 J	1.7			6.8
Isopropylbenzene (Cumene)	UG/M3					

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value. Empty Cell - Not Detected.
UG/M3 - Micrograms per cubic meter.

Only Detected Results Reported.

TABLE 3
SUMMARY OF DETECTED COMPOUNDS IN 2013/2014 HEATING SVI SAMPLES
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Location ID		B5-04	WB-01	WB-01	WB-02	WB-05
Sample ID		907015-SS-B5-04	20140408-FD-02	907015-FF-WB-01	907015-FF-WB-02	907015-SS-WB-05
Matrix		Sub-slab Vapor	Indoor Air	Indoor Air	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	Units		Field Duplicate (1-1)			
Volatile Organic Compounds						
Methyl ethyl ketone (2-Butanone)	UG/M3		2.7	3.1		5.8
Methylene chloride	UG/M3					
Naphthalene	UG/M3	650 J				5.4
n-Propylbenzene	UG/M3	34 J				
Tetrachloroethene	UG/M3					6.9
Toluene	UG/M3	78 J	2.2	2.4	2.4	66
Trichloroethene	UG/M3	1,900 J				52
Trichlorofluoromethane	UG/M3		1.3	1.4	1.3	2.0
Vinyl chloride	UG/M3	2.3 J				0.61
Xylene (total)	UG/M3	130 J		3.3	3.1	58

Flags assigned during chemistry validation are shown.

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UG/M3 - Micrograms per cubic meter.

Only Detected Results Reported.

TABLE 3
SUMMARY OF DETECTED COMPOUNDS IN 2013/2014 HEATING SVI SAMPLES
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Location ID		WB-06	WB-07	WB-08
Sample ID		20140408-FD-01	907015-SS-WB-07	907015-SS-WB-08
Matrix		Sub-slab Vapor	Sub-slab Vapor	Sub-slab Vapor
Depth Interval (ft)		-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14
Parameter	**Units**	Field Duplicate (1-1)		
Volatile Organic Compounds				
1,1,1-Trichloroethane	UG/M3	3.0	6.4	
1,2,4-Trimethylbenzene	UG/M3	1.2	13	3.3
1,2-Dichloroethene (cis)	UG/M3			
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3		7.2	1.2
1,3-Butadiene	UG/M3		0.69	1.0
2-Hexanone	UG/M3	2.3	8.2	
4-Ethyltoluene	UG/M3		2.0	
4-Isopropyltoluene (p-Cymene)	UG/M3			
4-Methyl-2-pentanone	UG/M3		7.7	6.9
Acetone	UG/M3	37	55	23
Benzene	UG/M3	1.4	17	3.8
Butane	UG/M3	5.7	7.6	6.8
Carbon disulfide	UG/M3	3.1	3.1	
Carbon tetrachloride	UG/M3			
Chloroethane	UG/M3	17		
Chloroform	UG/M3			
Chloromethane	UG/M3			
Cyclohexane	UG/M3	2.1	4.6	3.1
Dichlorodifluoromethane	UG/M3			3.2
Ethylbenzene	UG/M3	3.2	25	6.6
Heptane	UG/M3	6.5	12	3.4
Hexane	UG/M3	6.1	7.0	3.6
Isopropylbenzene (Cumene)	UG/M3		2.9	

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value. Empty Cell - Not Detected.
UG/M3 - Micrograms per cubic meter.

Only Detected Results Reported.

TABLE 3
SUMMARY OF DETECTED COMPOUNDS IN 2013/2014 HEATING SVI SAMPLES
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

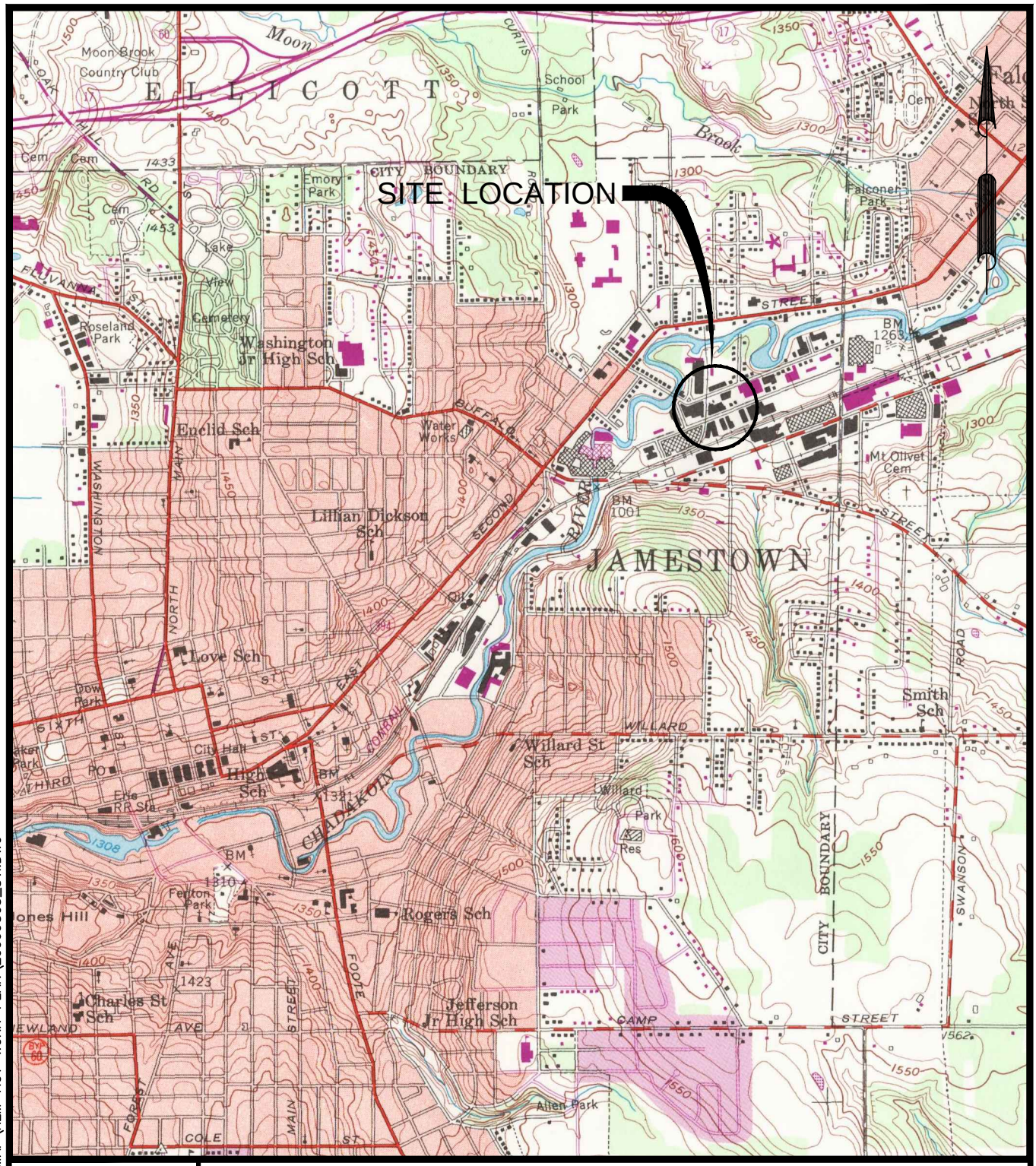
Location ID		WB-06	WB-07	WB-08
Sample ID		20140408-FD-01	907015-SS-WB-07	907015-SS-WB-08
Matrix		Sub-slab Vapor	Sub-slab Vapor	Sub-slab Vapor
Depth Interval (ft)		-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14
Parameter	**Units**	Field Duplicate (1-1)		
Volatile Organic Compounds				
Methyl ethyl ketone (2-Butanone)	UG/M3	3.2	15	4.6
Methylene chloride	UG/M3			
Naphthalene	UG/M3		14	
n-Propylbenzene	UG/M3			
Tetrachloroethene	UG/M3	16	28	14
Toluene	UG/M3	14	12	8.3
Trichloroethene	UG/M3	0.34	2.2	0.32
Trichlorofluoromethane	UG/M3		1.1	1.1
Vinyl chloride	UG/M3	0.95	0.82	
Xylene (total)	UG/M3	18	290	48

Flags assigned during chemistry validation are shown.

J - The reported concentration is an estimated value. Empty Cell - Not Detected.
UG/M3 - Micrograms per cubic meter.

Only Detected Results Reported.

FIGURES



QUADRANGLE LOCATION

0 2000 4000

SCALE IN FEET

REFERENCE:

BASE MAP IS A PORTION OF THE U.S.G.S. 7.5 MINUTE TOPOGRAPHIC SERIES JAMESTOWN, NY QUADRANGLE. DATED: 1954, PHOTOREVISED: 1979. SCALE: 1" = 2000', CONTOUR INTERVAL IS 10 FEET.

URS

PITTSBURGH, PENNSYLVANIA

2013/1014 VAPOR INTRUSION SITE INVESTIGATION REPORT SITE LOCATION MAP

ESSEX/HOPE SITE — JAMESTOWN, NY

CLIENT:	ESSEX SPECIALTY PRODUCTS, INC.	JOB NUMBER:	41569123
SCALE:	AS SHOWN	FIGURE NUMBER	1
		REV	0

FILE: \ESSEXHOP\2006-MAP\REM-ACT-WORK-PLAN\2000USGS_SV1.DWG

00 75 01 20 11 41 KK GG

J:\ESSEXHOP\2006-MAP\REM-ACT-WORK-PLAN\2000usgs_SV1.dwg, 7/7/2014 1:40:14 PM, DWG To PDF_NoLayers.pc3

GRID N
TRUE N

HOPKINS AVENUE

BLACKSTONE AVENUE

FORMER ESSEX SPECIALTY PRODUCTS, LILLY INDUSTRIES, INC. AND MASTER MACHINE, INC., FACILITIES (NOW "WEST" BUILDING)

FORMER PLANT 5
2 STY. CONC. BLOCK & BRICK BUILDING
FIN. FLR. = 1278.87

N/F CPM PLANT # 5 BUILDING

TREATMENT PLANT BUILDING (URS)

FORMER UST AREA

METAL BUILDING
N/F MASTER MACHINE, INC.

JOHNSON MACHINE & FIBER PRODUCTS CO., INC.
CONC. BLOCK AND BRICK BLDG.
FIN. FLR. = 1273.33

N/F JOHNSON MACHINE

N/F ROLLFORM

N/F ROLLFORM INC

ASPHALT PARKING LOT

HOPE INDUSTRIES

STONE PARKING LOT

GRAVEL PARKING LOT

(FORMER TANK FARM)

FIN. FLR. = 1279.88

SCALE IN FEET
0 20 40

MAP REFERENCE AND CONTROL NOTES:

1. BASE MAPPING INCLUDING THE LOCATIONS OF SOME OF THE BUILDINGS, ROADS, CURBS/SIDEWALKS, FENCING, PAVED AREAS, ALL UTILITIES (UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE), AND PROPERTY BOUNDARY WAS PROVIDED BY MICHAEL J. RODGERS AND ASSOCIATES, LAND SURVEYORS, BEMUS POINT, NEW YORK, N.Y.S. LICENSE No. 49232. THE BASE MAP WAS A SEPIA HARD COPY AT A SCALE OF 1"=20', DATED APRIL 15, 1992, LAST REVISION DATE MARCH 10, 1993. RECOVERY WELLS, SPARGE WELLS, AND SVE WELLS WERE SURVEYED AUGUST, 1997. MONITORING WELLS IN THE VICINITY OF THE REMEDIAL ACTION CONSTRUCTION WERE SURVEYED AUGUST, 1997, MONITORING WELLS MW–18, MW–21D,MW–22D, MW–23S, MW–23D, MW–24S, ALL RECOVERY WELLS (RW), ALL GEOPROBES (GP) (EXCEPT GP–4S), ALL PIEZOMETERS (PZ), AND ALL VAPOR PROBES (VP) (EXCEPT VP–3S) WERE LOCATED BY URS FIELD SURVEY AUGUST 2006. RW–6 PIPELINE LOCATED BY FIELD MEASUREMENTS ON 10/17/2008. RW–6, MW–25S AND MW–25D LOCATED BY URS FIELD SURVEY JUNE 30, 2009. COORDINATE INFORMATION SHOWN AT THE BUILDING CORNERS CAME FROM THE MICHAEL J. ROGERS SURVEY DONE ON JANUARY 9, 1998. ALL OTHER BUILDING CORNERS ARE APPROXIMATE. THE SITE AREA BEYOND THE 1998 SURVEY WAS MAPPED BY URS CORPORATION IN AUGUST 2006. THIS MAPPING USED THE SAME VERTICAL AND HORIZONTAL REFERENCE DATA AS THE PREVIOUS SURVEY. THE MAPPING WAS MERGED WITH THE 1998 DATA TO PRODUCE A COMPOSITE SITE BASE MAP. THE LIMITS OF THE COMPOSITE SURVEY MAP ARE SHOWN ON THE DRAWING. SEE MAP REFERENCE 3.

2. VERTICAL BENCH MARK INFORMATION CAME FROM U.S.G.S. PLAQUE U–88–S.E. ABUTT. ERIE R.R. BRIDGE OVER BUFFALO ST., ELEV.=1296.034 (NATIONAL GEODETIC VERTICAL DATUM, 1929).
HORIZONTAL COORDINATES PROVIDED FOR THE MONITORING WELLS AND THE PROPERTY CORNERS ARE BASED ON A LOCAL GRID ESTABLISHED BY THE SURVEYOR. N10000, E10000 IS A PK NAIL SET IN THE CONCRETE CURB/GUTTER AND IS PART OF THE ORIGINAL TRAVERSE. IRON STAKES WERE SET AT THE PROPERTY CORNERS.

3. AREAS OUTSIDE OF CLOUD LINE: PROPERTY LINES AND MAPPING ADJACENT TO BIGELOW AVENUE, NORTH & SOUTH OF HOPKINS AVENUE & EAST OF BIGELOW AVENUE, AND SOUTH OF BLACKSTONE AVENUE WERE TAKEN FROM A VARIETY OF SOURCES INCLUDING SEPIA MYLAR SITE MAP (SEE REFERENCE 1), USGS 7.5 MINUTE TOPOGRAPHIC MAP – JAMESTOWN, NY, CITY OF JAMESTOWN TAX MAP RECORDS, AND URS FIELD RECONAISSANCE. LOCATIONS AND DIMENSIONS IN THESE AREAS ARE APPROXIMATE.

LEGEND – EXISTING

- MONITORING WELL
- MW – ESSEX WELL
- HW – HOPE WELL
- RW – RECOVERY WELL
- GP – GEOPROBE PIEZOMETER (1")
- VP – VAPOR PROBE
- PZ – TEMPORARY PIEZOMETER (0.5–1")
- TEST BORING (TBT1 – TBT4), 2000
- TB – GEOPROBE BORING (TBUST1 – TBUST12) NOV. 2003, DIRECT PUSH SOIL BORING LOCATION –
  PHASE I (TBUST13 – TBUST36 AND TBN1 – TBN13) COMPLETED APRIL–MAY 2005,
  PHASE II (TBUST–37 – TBUST–43, TBN14 – TBN–20) DEC. 2005 THROUGH JAN. 2006,
  (TBUST44 – TBUST54) JUNE, 2011
  POST ISCO MONITORING (TBUST100 – TBUST113) AUGUST, 2012
  WEST BUILDING SAMPLING (TBUST200 – TBUST213) OCTOBER, 2013 AND DECEMBER 2013
- TEST BORING – CHEMOX TREATABILITY STUDY SAMPLES (NOV., 2009)

- FENCE
- PROPERTY LINE
- PROPERTY CORNER & I.D. NUMBER
- GAS VALVE
- GAS LINE
- WATER VALVE
- WATER LINE
- SANITARY SEWER
- PROPERTY LINE FROM TAX MAP APROXIMATE LOCATION
- FENCE LINE APROXIMATE LOCATION
- BUILDING

LEGEND – 2013/2014 INVESTIGATION (LOCATIONS ARE APPROXIMATE)

- SUBSLAB VAPOR SAMPLES, APRIL 2014
- FIRST FLOOR INDOOR AIR SAMPLES, APRIL 2014
- AMBIENT AIR SAMPLES, APRIL 2014

REV	DATE	ISSUE/REVISION DESCRIPTION	CHK'D	APPR'D
B	07/03/14	ISSUED FOR IN–HOUSE REVIEW	MJD	MJD
A	07/02/14	ISSUED FOR IN–HOUSE REVIEW	MJD	MJD

DESIGNED BY	MJD	DATE	07/02/14
DRAWN BY	KG	DATE	07/02/14
CHECKED BY	MJD	DATE	../../..
APPROVED BY	XX	DATE	../../..

SEAL

URS
PITTSBURGH, PENNSYLVANIA

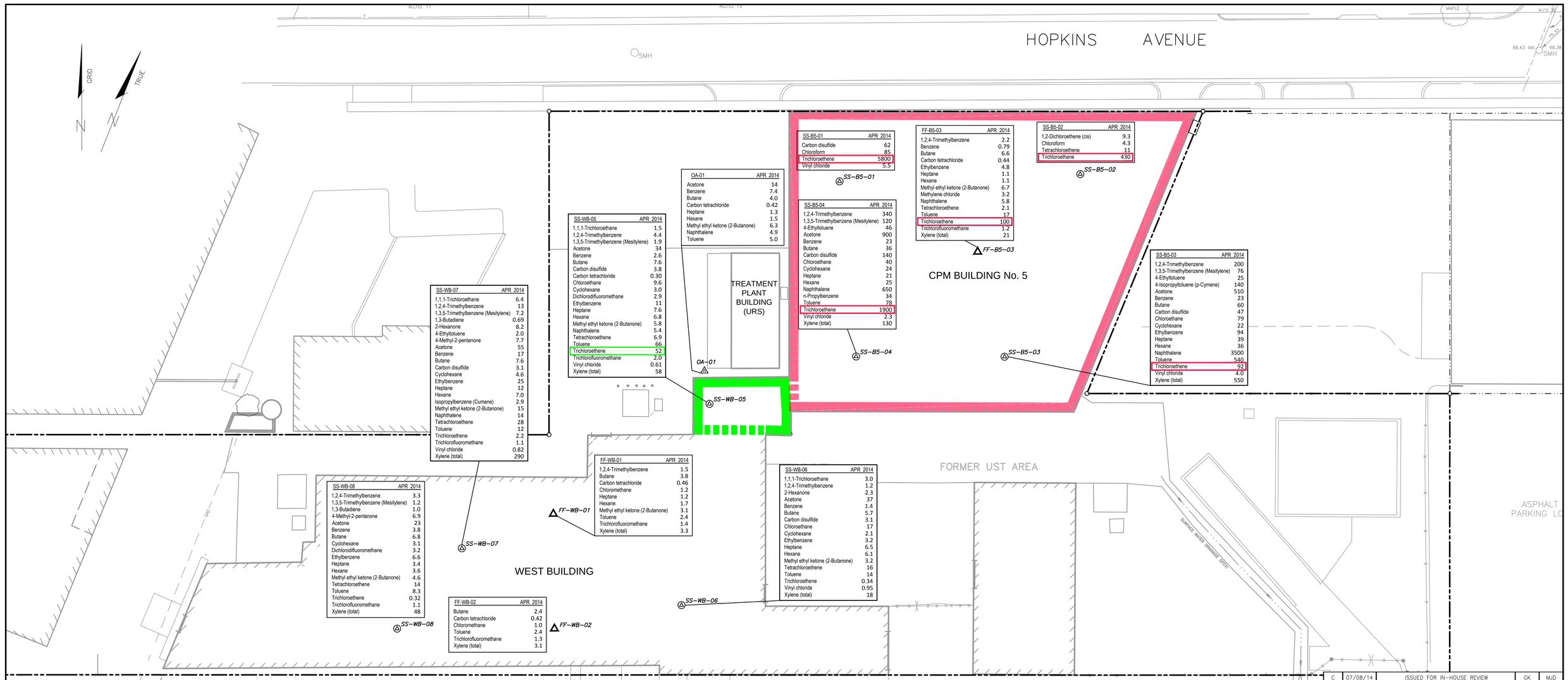
CLIENT
ESSEX SPECIALTY PRODUCTS, INC.
ESSEX\HOPE FACILITY
JAMESTOWN, NEW YORK

2013/2014 VAPOR INTRUSION SITE INVESTIGATION REPORT

GENERAL SITE PLAN AND SAMPLING LOCATIONS

CAD FILE NAME J:\ESSEXHOP\2006–MAP\ \REM–ACT–WORK–PLAN\SITE–PLAN–SUMMER2014–SAMP	SCALE	AS SHOWN
URS JOB NUMBER 41569123.10000	FIGURE NUMBER	2
	REV	B

J:\ESSEXHOP\2006-MAP\REM-ACT-WORK-PLAN\SITE-PLAN-SUMMER2014-SAMP.dwg, 7/7/2014 1:38:41 PM, DWG To PDF.pc3, kg.pmp.pc3



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LEGEND – EXISTING

- FENCE
- PROPERTY LINE
- O2 PROPERTY CORNER & I.D. NUMBER
- G/V GAS VALVE
- GAS GAS LINE
- W/V WATER VALVE
- 6" WATER WATER LINE
- SAN SANITARY SEWER
- PROPERTY LINE FROM TAX MAP APROXIMATE LOCATION
- FENCE LINE APROXIMATE LOCATION
- BUILDING

LEGEND – 2013/2014 INVESTIGATION (LOCATIONS ARE APPROXIMATE)

- SUBSLAB (SS) VAPOR SAMPLES, APRIL 2014
- FIRST FLOOR (FF) INDOOR AIR SAMPLES, APRIL 2014
- AMBIENT AIR (OA) SAMPLES, APRIL 2014
- MITIGATE *
- MONITOR *
- RESULT CAUSING MITIGATE DETERMINATION
- RESULT CAUSING MONITOR DETERMINATION

* SOIL VAPOR/INDOOR AIR MATRIX 1 OR MATRIX 2 GUIDANCE FOR EVALUATING SOIL VAPOR INTRUSION IN THE STATE OF NEW YORK, OCTOBER 2006, APPLICABLE WHERE NO SSD SYSTEM IS INSTALLED.

NOTE:
ALL VOC RESULTS ARE $\mu g/m^3$.

REV	DATE	ISSUE/REVISION DESCRIPTION	CHK'D	APPR'D
C	07/08/14	ISSUED FOR IN-HOUSE REVIEW	GK	MJD
B	07/07/14	ISSUED FOR IN-HOUSE REVIEW	MJD	MJD
A	07/03/14	ISSUED FOR IN-HOUSE REVIEW	MJD	MJD

DESIGNED BY	MJD	DATE	07/02/14
DRAWN BY	KG	DATE	07/03/14
CHECKED BY	MJD	DATE	../../..
APPROVED BY	XX	DATE	../../..

SEAL

URS
PITTSBURGH, PENNSYLVANIA

CLIENT
ESSEX SPECIALTY PRODUCTS, INC.
ESSEX\HOPE FACILITY
JAMESTOWN, NEW YORK

2013/2014 VAPOR INTRUSION SITE INVESTIGATION REPORT
2013/2014 HEATING SEASON SOIL VAPOR INTRUSION RESULTS

CAD FILE NAME J:\ESSEXHOP\2006-MAP\ \REM-ACT-WORK-PLAN\SITE-PLAN-SUMMER2014-SAMP	SCALE AS SHOWN
URS JOB NUMBER 41569123.10000	FIGURE NUMBER 3
	REV C

J:\ESSEXHOP\2006-MAP\REM-ACT-WORK-PLAN\SITE-PLAN-SUMMER2014-SAMP.dwg, 7/8/2014 10:43:46 AM, DWG To PDF.pc3, MJLayers.pc3

APPENDIX A

INDOOR AIR QUALITY QUESTIONNAIRES AND BUILDING INVENTORY

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: ESSEX-HOPE JAMESTOWN Site Code: 907015 Operable Unit:

Building Code: Building Name: CUSTOM PRODUCTION MANUFACTURING (CPM)

Address: 125 BLACKSTONE AVENUE Apt/Suite No:

City: JAMESTOWN State: NY Zip: 14701 County: Chautauqua

Contact Information

Preparer's Name: THOMAS URBAN Phone No: (716) 923-1128

Preparer's Affiliation: URS CORPORATION Company Code:

Purpose of Investigation: VAPOR INTRUSION SAMPLING Date of Inspection: Mar 25, 2014

Contact Name: CHESTER VAN ARSDALE Affiliation: MANAGER

Phone No: (716) 665-3515 Alt. Phone No: Email:

Number of Occupants (total): 3 Number of Children: 0

☒ Occupant Interviewed? ☐ Owner Occupied? ☐ Owner Interviewed?

Owner Name (if different): CARLO MONTISANO Owner Phone: (732) 450-2488

Owner Mailing Address: 20 THOMAS AVENUE SHREWSBURY NJ 07702

Building Details

Bldg Type (Res/Com/Ind/Mixed): INDUSTRIAL Bldg Size (S/M/L): LARGE

If Commercial or Industrial Facility, Select Operations: MANUFACTURING

If Residential Select Structure Type:

Number of Floors: 2 Approx. Year Construction: 1950 ☒ Building Insulated? ☐ Attached Garage?

Describe Overall Building 'Tightness' and Airflows(e.g., results of smoke tests):

SOMEWHAT TIGHT - DRAFTS AROUND OVERHEAD DOORS AND WINDOWS. AIR FLOWS FREELY FROM FIRST AND SECOND FLOORS, DUE TO "OPEN" NATURE OF CONSTRUCTION.

Foundation Description

Foundation Type: NO BASEMENT/SLAB Foundation Depth (bgs): 0 Unit: FEET

Foundation Floor Material: POURED CONCRETE

Foundation Wall Material: CONCRETE BLOCK

Foundation Floor Thickness: 6

Foundation Wall Thickness:

Unit: INCHES

☒ Floor penetrations? Describe Floor Penetrations: CRACKS THROUGHOUT SLAB

☐ Wall penetrations? Describe Wall Penetrations:

Basement is: Basement is: ☐ Sumps/Drains? Water In Sump?:

Describe Foundation Condition (cracks, seepage, etc.) : LARGE DUG PIT IN NW CORNER NEAR MAIN ENTRANCE

☐ Radon Mitigation System Installed? ☐ VOC Mitigation System Installed? ☐ Mitigation System On?

Heating/Cooling/Ventilation Systems

Heating System: OTHER Heat Fuel Type: GAS ☐ Central A/C Present?

Vented Appliances

Water Heater Fuel Type: ELECTRIC Clothes Dryer Fuel Type:

Water Htr Vent Location: Dryer Vent Location:

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: CUSTOM PRODUCTION MANUFACTURIN Bldg Code: Date: Mar 25, 2014

Bldg Address: 125 BLACKSTONE AVENUE Apt/Suite No:

Bldg City/State/Zip: JAMESTOWN NY, 14701

Make and Model of PID: PPB RAE 2000 Date of Calibration: Mar 24, 2014

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
PLANT 5	PROPANE TANKS	3 TANKS	U	PROPANE	841 PPB	☐
"	WET PATCH ROOF REPAIR	3 GAL	UO	STODDARD SOLVENT; AROMATIC PETROLEUM DISTILLATES	1.5 PPM	☐
"	NALCO TECH COOL	6 GAL	U	NA	0	☐
"	INDUSTRIAL COATING	5 GAL	U	AROMATIC HYDROCARBONS	16 PPM	☐
"	CEMENT ADHESIVE	1 GAL	U	PETROLEUM DISTILLATES; TOLUENE; NEOPRENE RUBBER; METHYL ISOBUTYL KETONE	0	☐
"	PVC CEMENT	0.5 PT	U	NA	0	☐
"	JOINT COMPOUND	0.5 PT	U	MEK; TETRAHYDROFURAN; CYCLOHEXANE; ACETONE	804 PPB	☐
"	UNKNOWN	3X1 PT	U, UD	NA	**150 PPB**	☐
"	SLIC-TITE THREAD SEALANT	0.5 PT	U	NO SOLVENTS	0	☐
"	UNKNOWN	1 GAL	U	NA	> 499 PPM	☐
"	INDUSTRIAL COATING	4X5 GAL	U	AROMATIC HYDROCARBONS	46.6 PPM	☐
"	LIQUID COMPOUND	3X5 GAL	U	NA	1.1 PPM	☐
"	PAINTS & ENAMELS	21X1 GA	U	ACRYLIC POLYMERS; ALUMINUM SILICATE; 2-ETHYLHEXYL BENZOATE	0	☐
"	PAINT REMOVER	1 GAL	U	METHYLENE CHLORIDE; METHANOL; MINERAL SPIRITS	14.6 PPM	☐
"	ALUMINUM CLEANER	1 GAL	U	MINERAL SPIRITS	0	☐
"	PANEL ADHESIVE	1 PT	U	NA	0	☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes Were there any elevated PID readings taken on site? Yes ☒ Products with COC?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: CUSTOM PRODUCTION MANUFACTURIN Bldg Code: Date: Mar 25, 2014

Bldg Address: 125 BLACKSTONE AVENUE Apt/Suite No:

Bldg City/State/Zip: JAMESTOWN NY, 14701

Make and Model of PID: PPB RAE 2000 Date of Calibration: Mar 24, 2014

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
PLANT 5	ELECTRIC MOTOR CLEANER	18	U	PERCHLOROETHYLENE	412 PPM	☒
"	PARTING AGENT	12	U	ALIPHATIC PETROLEUM, 1,1-DIFLUOROETHANE, ETHER	7040 PPM	☐
B5 CABINET	STENCIL INK	12	U	NA	501 PPB	☐
"	FURNITURE POLISH	16	D	PROPANE, ISOBUTYLENE, NAPHTHA, PETROLEUM	0	☐
"	LATEX AND ACRYLIC PAINTS	43X1 GA	U	NA	0	☐
"	GLUE/ADHESIVE	5 GAL	U	NA	0	☐
"	ENAMEL	16	U	PETROLEUM DISTILLATES	0	☐
"	SPRAY PAINT	3X8 OZ	U	TOLUENE, XYLENE, KETONES	**41 PPM**	☐
"	STAIN	16	U	PETROLEUM DISTILLATES	26 PPB	☐
PLANT 5	COPPER 8-HYDROXYQUINOLA	1 GAL	U	NA	0	☐
"	PERCHLOROETHYLENE	1 GAL	UD	PERCHLOROETHYLENE	166 PPM	☒
"	CHEMICAL CLEANER	5 GAL	UD	FORMALDEHYDE	460 PPB	☐
"	ROOF SEALANT	5 GAL	UD	NA	17.3 PPB	☐
"	ACETONE	1 GAL	U	ACETONE	252 PPM	☐
"	COLEMAN FUEL	1 GAL	U	KEROSENE	1.4 PPM	☐
"	COATINGS	16	U	METHYL ETHYL KETONE, PROPENE, ETHYLBENZENE	255 PPM	☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes Were there any elevated PID readings taken on site? Yes ☒ Products with COC?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: CUSTOM PRODUCTION MANUFACTURIN Bldg Code: Date: Mar 25, 2014

Bldg Address: 125 BLACKSTONE AVENUE Apt/Suite No:

Bldg City/State/Zip: JAMESTOWN NY, 14701

Make and Model of PID: PPB RAE 2000 Date of Calibration: Mar 24, 2014

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
PLANT 5	FIBERGLASS RESIN	1 GAL	U	STYRENE	66 PPB	☐
"	PVC PRIMER	8	D	ACETONE, METHYL ETHYL KETONE, CYCLOHEXANE, TETRAHYDROFURAN	3.8 PPM	☐
"	1,1,1-TRICHLOROETHANE	1 GAL	UD	1,1,1-TRICHLOROETHANE	0	☒
"	POLANE A CATALYST	1 GAL	U	ALIPHATIC POLYCYANATE, HEXAMETHYLAMINE ACETATE	0	☐
"	LUBRICANTS/OILS	10X5 GA +	U	NA	0	☐
"	CONTACT CEMENT	3X5 GAL	UD	NA	7.4 PPM	☐
"	POWDERED RESIN	5 GAL	U	PARAFORMALDEHYDE	5 PPB	☐
"	FIRE RETARDANT	2X1 GAL	UO	NA	**0**	☐
"	CATALYST REDUCER	1 GAL	U0	KETONES AND ALCOHOLS	1.3 PPM	☐
"	ARGUS COATINGS	4X5 GAL	U	NA	2.8 PPM	☐
"	UNKNOWN DRUMS	3X55 GA +	U	NA	2.4 PPM	☐
"	TRICHLOROETHYLENE	1X55 GA +	U	TRICHLOROETHEYLENE	10.3 PPM	☒
"	ISOCYANATE	1X55 GA +	U	ISOCYANATE	0	☐
"	STEPEN FOAM	2X55 GA +	U	NA	0	☐
"	LAB METAL	16	U	NA	0	☐
"	DEVELOPER SPRAYS	9X14 OZ	U	METHYLENE CHLORIDE, PROPANE	438 PPB	☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes Were there any elevated PID readings taken on site? Yes ☒ Products with COC?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

PRODUCT INVENTORY

Building Name: CUSTOM PRODUCTION MANUFACTURIN Bldg Code: Date: Mar 25, 2014

Bldg Address: 125 BLACKSTONE AVENUE Apt/Suite No:

Bldg City/State/Zip: JAMESTOWN NY, 14701

Make and Model of PID: PPB RAE 2000 Date of Calibration: Mar 24, 2014

Location	Product Name/Description	Size (oz)	Condition *	Chemical Ingredients	PID Reading	COC Y/N?
PLANT 5	PENETRANT SPRAYS	2X9.4 OZ	U	AROMATIC AND ALIPHATIC HYDROCARBONS	0	☐
"	SPRAY PAINTS	3X8 OZ	U	ALIPHATIC HYDROCARBONS, KETONES	0	☐
"	UNKNOWN	4X5 GAL	U	NA	108 PPB	☐
WEST BLDG	ROOF LEAK REPAIR	2X5 GAL	U	STODDARD SOLVENT, PETROLEUM, ASPHALT	5.5 PPM	☐
"	ROOF CEMENT	1 GAL	U	PETROLEUM DISTILLATES	0	☐
"	PENETRANT	22	U	HYDROCARBON PROPELLANT	0	☐
"	DEVELOPER	22	U	ISOPROPANOL, HYDROCARBON PROPELLANT	0	☐
"	SPRAY ADHESIVE	16.5	U	CYCLOHEXANE, DIMETHYL ETHER, ISOOCTANE, HEXANE	**0**	☐
"	HOUGHTON LIME	1 GAL	U	NA	0	☐
"	PAINT	5 GAL	U	CRYSTALLINE SILICA, ACRYLIC PRIMER	0	☐
						☐
						☐
						☐
						☐
						☐
						☐

* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**

** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

Product Inventory Complete? Yes Were there any elevated PID readings taken on site? Yes ☒ Products with COC?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Site Name: ESSEX-HOPE JAMESTOWN Site Code: 907015 Operable Unit:

Building Code: Building Name: CUSTOM PRODUCTION MANUFACTURING (CPM)

Address: 125 BLACKSTONE AVENUE Apt/Suite No:

City: JAMESTOWN State: NY Zip: 14701 County: Chautauqua

Factors Affecting Indoor Air Quailty

Frequency Basement/Lowest Level is Occupied?: OCCASIONALLY Floor Material: CEMENT

☐ Inhabited? ☐ HVAC System On? ☐ Bathroom Exhaust Fan? ☐ Kitchen Exhaust Fan?

Alternate Heat Source: ☐ Is there smoking in the building?

☐ Air Fresheners? Description/Location of Air Freshener:

☐ Cleaning Products Used Recently?: Description of Cleaning Products:

☐ Cosmetic Products Used Recently?: Description of Cosmetic Products:

☐ New Carpet or Furniture? Location of New Carpet/Furniture:

☐ Recent Dry Cleaning? Location of Recently Dry Cleaned Fabrics:

☒ Recent Painting/Staining? Location of New Painting: FABRICATING MACHINE IN NORTH-SIDE OF CPM BLDG

☒ Solvent or Chemical Odors? Describe Odors (if any): SOLVENT ODOR NEAR STORAGE CABINETS AND DRUM STORAGE

☒ Do Any Occupants Use Solvents At Work? If So, List Solvents Used: DEGREASERS, ROOF REPAIR CEMENT

☐ Recent Pesticide/Rodenticide? Description of Last Use:

Describe Any Household Activities (chemical use,/storage, unvented appliances, hobbies, etc.) That May Affect Indoor Air Quality:

FACILITY MANUFACTURES CUSTOM ORDERED METAL PRODUCTS. MACHINES ARE DEGREASED AND MANTAINED PERIODICALLY. PROPANE RUN FORKLIFTS ARE USED FREQUENTLY.

☐ Any Prior Testing For Radon? If So, When?:

☐ Any Prior Testing For VOCs? If So, When?:

Sampling Conditions

Weather Conditions: Outdoor Temperature: °F

Current Building Use: MANUFACTURING Barometric Pressure: in(hg)

Product Inventory Complete? Yes ☐ Building Questionnaire Completed?

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Building Code: _____ Address: 125 BLACKSTONE AVENUE JAMESTOWN, NY 14701

Sampling Information

Sampler Name(s): Tom Urban/George Kisluk

Sampler Company Code: URS

Sample Collection Date: Apr 9, 2014

Date Samples Sent To Lab: Apr 9, 2014

Sample Chain of Custody Number: NA

Outdoor Air Sample Location ID: 907015-OA-01

SUMMA Canister Information

Sample ID:	907015-SS-B5-01	907015-SS-B5	907015-FF-B5	907015-SS-B5	907015-SS-B5
Location Code:	B5-01	B5-02	B5-03	B5-03	B5-04
Location Type:	SUBSLAB	SUBSLAB	FIRST FLOOR	SUBSLAB	SUBSLAB
Canister ID:	3391	5053	2905	5024	3006
Regulator ID:	3947	4031	3051	4725	3239
Matrix:	Subslab Soil Vap	Subslab Soil	Indoor Air	Subslab Soil	Subslab Soil
Sampling Method:	SUMMA AIR SAMPLI	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA

Sampling Area Info

Slab Thickness (inches):	6	6		6	6
Sub-Slab Material:	DIRT	DIRT		DIRT	DIRT
Sub-Slab Moisture:	DRY	DRY		DRY	DRY
Seal Type:	CLAY	CLAY		CLAY	CLAY
Seal Adequate?:	☒	☒	☐	☒	☒

Sample Times and Vacuum Readings

Sample Start Date/Time:	04/08/2014 10:4	04/08/2014 1	04/08/2014 1	04/08/2014 1	04/08/2014 1
Vacuum Gauge Start:	-26	-30	-26	-29	-29
Sample End Date/Time:	04/09/2014 11:4	04/09/2014 1	04/09/2014 0	04/09/2014 1	04/09/2014 0
Vacuum Gauge End:	-21	-7	-4	-5	-2.5
Sample Duration (hrs):	25	24	21	24	22
Vacuum Gauge Unit:	in(hg)	in(hg)	in(hg)	in(hg)	in(hg)

Sample QA/QC Readings

Vapor Port Purge:	☒	☒	☐	☒	☒
Purge PID Reading:	367	246		1913	2937
Purge PID Unit:	ppb	ppb		ppb	ppb
Tracer Test Pass:	☒	☒	☐	☒	☒

Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Building Code: _____ Address: 125 BLACKSTONE AVENUE JAMESTOWN, NY 14701

Sampling Information

Sampler Name(s): Tom Urban/George Kisluk

Sampler Company Code: URSB

Sample Collection Date: Apr 9, 2014

Date Samples Sent To Lab: Apr 9, 2014

Sample Chain of Custody Number: NA

Outdoor Air Sample Location ID: 907015-OA-01

SUMMA Canister Information

Sample ID:	907015-FF-WB-01	20140408-FD	907015-FF-WB	907015-SS-WB	907015-SS-WB
Location Code:	WB-01	WB-01	WB-02	WB-05	WB-06
Location Type:	FIRST FLOOR	FIRST FLOOR	FIRST FLOOR	SUBSLAB	SUBSLAB
Canister ID:	4804	4800	2740	4568	3352
Regulator ID:	4751	4522	4490	4519	3099
Matrix:	Indoor Air	Indoor Air	Indoor Air	Subslab Soil	Subslab Soil
Sampling Method:	SUMMA AIR SAMPLI	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA

Sampling Area Info

Slab Thickness (inches):				6	6
Sub-Slab Material:				DIRT	DIRT
Sub-Slab Moisture:				DRY	DRY
Seal Type:				CLAY	CLAY
Seal Adequate?:	☐	☐	☐	☒	☒

Sample Times and Vacuum Readings

Sample Start Date/Time:	04/08/2014 11:5	04/08/2014 1	04/08/2014 1	04/08/2014 1	04/08/2014 1
Vacuum Gauge Start:	-30	-30	-30	-28	-30
Sample End Date/Time:	04/09/2014 11:5	04/09/2014 1	04/09/2014 1	04/09/2014 1	04/09/2014 0
Vacuum Gauge End:	-5	-6	-5	-20	-30
Sample Duration (hrs):	24	24	24	24	21
Vacuum Gauge Unit:	in(hg)	in(hg)	in(hg)	in(hg)	in(hg)

Sample QA/QC Readings

Vapor Port Purge:	☐	☐	☐	☒	☒
Purge PID Reading:				773	554
Purge PID Unit:				ppb	ppb
Tracer Test Pass:	☐	☐	☐	☒	☒

Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

Building Code: _____ Address: 125 BLACKSTONE AVENUE JAMESTOWN, NY 14701

Sampling Information

Sampler Name(s): Tom Urban/George Kisluk

Sampler Company Code: URS

Sample Collection Date: Apr 9, 2014

Date Samples Sent To Lab: Apr 9, 2014

Sample Chain of Custody Number: NA

Outdoor Air Sample Location ID: 907015-OA-01

SUMMA Canister Information

Sample ID:	20140408-FD-01	907015-SS-WB	907015-SS-WB	907015-OA-01	
Location Code:	WB-06	WB-07	WB-08	OA-01	
Location Type:	SUBSLAB	SUBSLAB	SUBSLAB	OUTDOOR	
Canister ID:	4288	2688	3314	4568	
Regulator ID:	5199	5213	4738	4519	
Matrix:	Subslab Soil Vap	Subslab Soil	Subslab Soil	Ambient Outd	
Sampling Method:	SUMMA AIR SAMPLI	SUMMA AIR SA	SUMMA AIR SA	SUMMA AIR SA	

Sampling Area Info

Slab Thickness (inches):	6	6	6		
Sub-Slab Material:	DIRT	DIRT	DIRT		
Sub-Slab Moisture:	DRY	DRY	DRY		
Seal Type:	CLAY	CLAY	CLAY		
Seal Adequate?:	☒	☒	☒	☐	☐

Sample Times and Vacuum Readings

Sample Start Date/Time:	04/08/2014 11:4	04/08/2014 1	04/08/2014 1	04/08/2014 1	
Vacuum Gauge Start:	-29	-27	-28	-30	
Sample End Date/Time:	04/09/2014 8:50	04/09/2014 1	04/09/2014 1	04/09/2014 1	
Vacuum Gauge End:	-4	-4	-16	-6	
Sample Duration (hrs):	21	23	24	23	
Vacuum Gauge Unit:	in(hg)	in(hg)	in(hg)	in(hg)	

Sample QA/QC Readings

Vapor Port Purge:	☒	☒	☒	☐	☐
Purge PID Reading:	554	676	522		
Purge PID Unit:	ppb	ppb	ppb		
Tracer Test Pass:	☒	☒	☒	☐	☐

Sample start and end times should be entered using the following format: MM/DD/YYYY HH:MM

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

LOWEST BUILDING LEVEL LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the lowest building level .
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

SEE FIGURE 2

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

FIRST FLOOR BUILDING LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the first floor of the building.
The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

NA

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

Structure Sampling Questionnaire and Building Inventory

New York State Department of Environmental Conservation

OUTDOOR PLOT LAYOUT SKETCH

Please click the box with the blue border below to upload a sketch of the outdoor plot of the building as well as the surrounding area. The sketch should be in a standard image format (.jpg, .png, .tiff)

Clear Image

SEE FIGURE 2

Design Sketch

Design Sketch Guidelines and Recommended Symbology

- Identify and label the locations of all sub-slab, indoor air, and outdoor air samples on the layout sketch.
- Measure the distance of all sample locations from identifiable features, and include on the layout sketch.
- Identify room use (bedroom, living room, den, kitchen, etc.) on the layout sket
- Identify the locations of the following features on the layout sketch, using the appropriate symbols:

B or **F**	Boiler or Furnace	o	Other floor or wall penetrations (label appropriately)
HW	Hot Water Heater	**xxxxxxx**	Perimeter Drains (draw inside or outside outer walls as appropriate)
FP	Fireplaces	**######**	Areas of broken-up concrete
WS	Wood Stoves	● SS-1	Location & label of sub-slab samples
W/D	Washer / Dryer	● IA-1	Location & label of indoor air samples
S	Sumps	● OA-1	Location & label of outdoor air samples
@	Floor Drains	● PFET-1	Location and label of any pressure field test holes.

APPENDIX B

PHOTOGRAPHS

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 1: Chemical inventory – Former Plant 5 building.

Photo 2: Chemical inventory – Former Plant 5 building.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 3: Chemical inventory – Former Plant 5 building.

Photo 4: Chemical inventory – Former Plant 5 building.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 5: Chemical inventory – Former Plant 5 building.

Photo 6: Chemical inventory – Former Plant 5 building.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 7: Chemical inventory – Former Plant 5 building. Close-up of photo 6.

Photo 8: Chemical inventory – Former Plant 5 building

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 9: Chemical inventory – Former Plant 5 building. 1,1,1-Trichloroethane can.

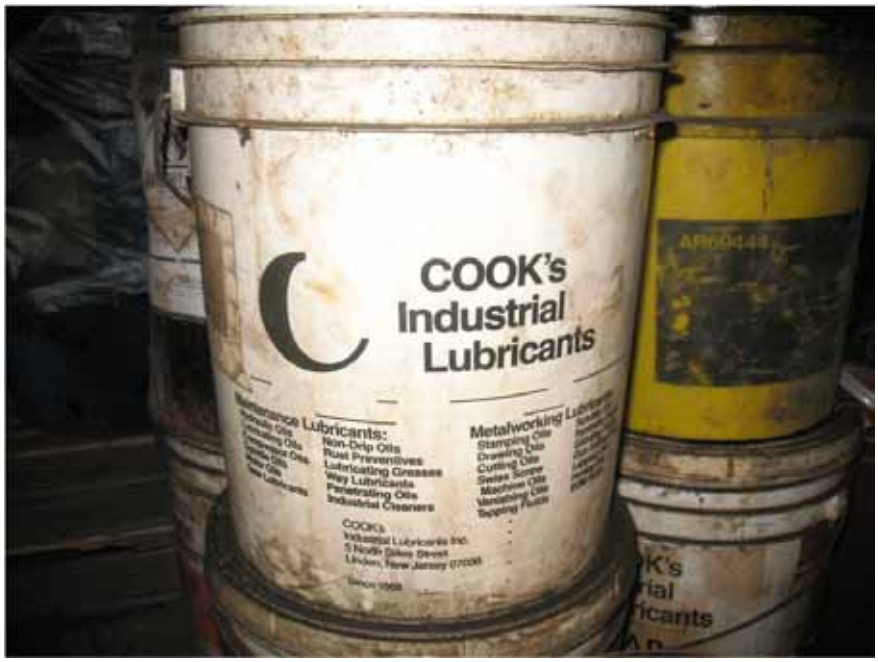

Photo 10: Chemical inventory – Former Plant 5 building 1.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 11: Chemical inventory – Former Plant 5 building. Trichloroethylene drum.

Photo 12: Wood block floor in Former Plant 5.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 13: Subslab soil vapor sample 907015-SS-B5-01 in Former Plant 5.

Photo 14: Subslab soil vapor sample 907015-SS-B5-02 in Former Plant 5.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 15: Subslab soil vapor sample 907015-SS-B5-03 in Former Plant 5.

Photo 16: Subslab soil vapor sample 907015-SS-B5-04 in Former Plant 5, looking northwest.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 17: Subslab soil vapor sample 907015-SS-B5-04 in Former Plant 5, looking west.

Photo 18: Subslab soil vapor sample 907015-SS-WB-05 in West Building.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 19: Subslab soil vapor sample 907015-SS-WB-06 plus field duplicate in West Building.

Photo 20: Indoor air sample 907015-FF-WB-01 plus field duplicate in West Building.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 21: Subslab soil vapor sample 907015-SS-WB-07 in West Building.

Photo 22: Subslab soil vapor sample 907015-SS-WB-08 in West Building.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 23: Indoor air sample 907015-FF-WB-03 in West Building.

Photo 24: Indoor air sample 907015-FF-B5-03 in Former Plant 5.

PHOTOGRAPHIC LOG
VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK

Photo 25: Outdoor air sample 907015-OA-01.

APPENDIX C

DATA USABILITY SUMMARY REPORT

DATA USABILITY SUMMARY REPORT

VAPOR INTRUSION SAMPLING
ESSEX-HOPE SITE
JAMESTOWN, NEW YORK
SITE #907015

Analyses Performed by:

TEST AMERICA LABORATORIES, INC.
BURLINGTON, VT

Prepared for:

THE DOW CHEMICAL COMPANY
3200 KANAWHA TURNPIKE, BUILDING 2000/2125
SOUTH CHARLESTON, WEST VIRGINIA 25303

Prepared by:

URS CORPORATION
257 WEST GENESEE STREET, SUITE 400
BUFFALO, NY 14202-2657

JUNE 2014

TABLE OF CONTENTS

TABLES
(Following Text)

ATTACHMENTS

1.0 INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *DER-10 Technical Guidance for Site Investigation and Remediation, Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports,* May 2010. Discussed in this DUSR are analytical data for 7 soil gas samples, 1 soil gas field duplicate, 3 indoor air samples, 1 indoor air field duplicate, and 1 outdoor air sample collected on April 9, 2014. The samples were collected in support of the vapor intrusion study for the Essex-Hope site (Site #907015), located in Jamestown, New York at the request of the Dow Chemical Company.

2.0 ANALYTICAL METHODOLOGIES/DATA VALIDATION PROCEDURES

All samples were sent to TestAmerica Laboratories, Inc. (Burlington, VT) for analysis. The samples were analyzed for volatile organic compounds (VOCs) following United States Environmental Protection Agency (USEPA) Compendium Method TO-15, Determination of VOCs in Air Collected in Specially Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS).

A limited data validation was performed in accordance with the guidelines in the following USEPA Region II document:

- *Volatile Organic Analysis of Ambient Air in Canister By Method TO-15, SOP HW-31, Rev. 4,* October 2006.

The limited validation included: a completeness review of all required deliverables; holding times; a review of quality control (QC) results [blanks, instrument tunings, calibration standards, duplicate analyses, and laboratory control sample (LCS)/matrix spike/matrix spike duplicate (MS/MSD) recoveries] to determine if the data are within the protocol-required limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

Definitions of USEPA Region II data qualifiers are presented at the end of this text. The validated analytical results are presented on Table 2 (ambient air, soil gas, and indoor air). Copies of the validated laboratory results (i.e., Form 1's) are presented in Attachment A. Documentation supporting the

qualification of data is presented in Attachment B. Only analytical deviations affecting data usability are discussed in this report.

3.0 DATA DELIVERABLE COMPLETENESS

Full deliverable data packages (i.e., NYSDEC ASP (Category B or equivalent) were provided by the laboratory, which included all reporting forms and raw data necessary to fully evaluate and verify the reported analytical results.

4.0 SAMPLE RECEIPT/PRESERVATION/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved, and under proper chain-of-custody (COC) with the following exception.

The date/times listed on the COC represent the date/time the sampling started. The laboratory logged in the samples using the information on the sample tags, which represents the ending date/times of sample collection.

All samples were analyzed within the required holding times.

5.0 NON-CONFORMANCES

- Initial and Continuing Calibrations

  The percent relative standard deviation (%RSD) for the initial calibration (ICAL) relative response factors (RRFs) exceeded 30% for methyl ethyl ketone. The detected results for this compound in the associated samples listed in Table 1 have been qualified 'J'.

  Documentation supporting the qualification of data (i.e., Form 5) is presented in Attachment B.

6.0 SAMPLE RESULTS AND REPORTING

All quantitation/reporting limits were reported in accordance with method requirements and were adjusted for sample size and dilution factors.

The flow controller for sample 907015-SS-WB-06 did not work properly, thus, the analysis for this sample was cancelled. A field duplicate (20140408-FD-01) was collected at this sample point and the results are presented on Table 2.

Samples 907015-SS-B5-01 and 907015-SS-B5-04 were received at the laboratory with pressures of -23" Hg and -20" Hg, respectively. This indicates the flow controllers may have been partially clogged. Thus, only limited sample volume was able to be collected. Regardless, these samples required further dilutions due to elevated levels of trichloroethene. All results have been qualified 'J'/'UJ' due to the limited sample volume collected.

Sample 907015-SS-WB-08 was received at the laboratory with a pressure of -16" Hg which indicates the flow controller may have been partially clogged. Thus, only limited sample volume was able to be collected. The quantitation limits reported were not impacted since the laboratory was able to purge additional sample volume and analyzed the sample without a dilution.

Several other samples were analyzed utilizing dilutions due to elevated levels of target compounds. The quanititation limits reported for the non-detect compounds represent the lowest achievable at the dilutions utilized in the analyses.

A field duplicate was collected for sample 907015-FF-WB-01. Generally, similar detections and concentrations were observed in the sample and the respective field duplicate. Note, the USEPA Region II validation guidelines do not require qualification of VOC analytical results based upon field duplicate precision.

7.0 SUMMARY

All sample analyses were found to be compliant with the method criteria, except where previously noted. Those results qualified 'J' or 'UJ' are considered conditionally usable. All other sample results are usable as reported. URS does not recommend the recollection of any samples at this time.

Prepared By: Ann Marie Kropovitch, Chemist AMK **Date:** 6/9/14

Reviewed By: Peter R. Fairbanks, Senior Chemist PF **Date:** 6/9/14

DEFINITIONS OF USEPA DATA QUALIFIERS

U – The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J – The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UJ – The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R – The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

D – The sample result was reported from a secondary dilution analysis.

TABLE 1

SUMMARY OF DATA QUALIFICATIONS

ESSEX-HOPE SITE

SAMPLE ID	FRACTION	ANALYTICAL DEVIATION	QUALIFICATION
907015-OA-01 and 907015-FF-B5-03	VOCs	ICAL %RSD>30% for methyl ethyl ketone.	Qualify detects 'J'.
907015-SS-B5-01 and 907015-SS-B5-04	VOCs	Limited sample volume collected.	Qualify detects 'J' and non-detects 'UJ'.

TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		AMBIENT AIR	B5-01	B5-02	B5-03	B5-03
Sample ID		907015-OA-01	907015-SS-B5-01	907015-SS-B5-02	907015-FF-B5-03	907015-SS-B5-03
Matrix		Outdoor Air	Sub-slab Vapor	Sub-slab Vapor	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	Units					
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/M3	1.1 U	33 UJ	2.2 U	1.1 U	24 U
1,1,2,2-Tetrachloroethane	UG/M3	1.4 U	41 UJ	2.7 U	1.4 U	30 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/M3	1.5 U	46 UJ	3.1 U	1.5 U	34 U
1,1,2-Trichloroethane	UG/M3	1.1 U	33 UJ	2.2 U	1.1 U	24 U
1,1-Dichloroethane	UG/M3	0.81 U	24 UJ	1.6 U	0.81 U	18 U
1,1-Dichloroethene	UG/M3	0.79 U	24 UJ	1.6 U	0.79 U	17 U
1,2,4-Trichlorobenzene	UG/M3	3.7 U	110 UJ	7.4 U	3.7 U	81 U
1,2,4-Trimethylbenzene	UG/M3	0.98 U	29 UJ	2.0 U	2.2	200
1,2-Dibromoethane (Ethylene dibromide)	UG/M3	1.5 U	46 UJ	3.1 U	1.5 U	34 U
1,2-Dichlorobenzene	UG/M3	1.2 U	36 UJ	2.4 U	1.2 U	26 U
1,2-Dichloroethane	UG/M3	0.81 U	24 UJ	1.6 U	0.81 U	18 U
1,2-Dichloroethene (cis)	UG/M3	0.79 U	24 UJ	9.3	0.79 U	17 U
1,2-Dichloroethene (trans)	UG/M3	0.79 U	24 UJ	1.6 U	0.79 U	17 U
1,2-Dichloropropane	UG/M3	0.92 U	28 UJ	1.8 U	0.92 U	20 U
1,2-Dichlorotetrafluoroethane	UG/M3	1.4 U	42 UJ	2.8 U	1.4 U	31 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	0.98 U	29 UJ	2.0 U	0.98 U	76
1,3-Butadiene	UG/M3	0.44 U	13 UJ	0.88 U	0.44 U	9.7 U
1,3-Dichlorobenzene	UG/M3	1.2 U	36 UJ	2.4 U	1.2 U	26 U
1,3-Dichloropropene (cis)	UG/M3	0.91 U	27 UJ	1.8 U	0.91 U	20 U
1,3-Dichloropropene (trans)	UG/M3	0.91 U	27 UJ	1.8 U	0.91 U	20 U
1,4-Dichlorobenzene	UG/M3	1.2 U	36 UJ	2.4 U	1.2 U	26 U
1,4-Dioxane	UG/M3	18 U	540 UJ	36 U	18 U	390 U
2,2,4-Trimethylpentane	UG/M3	0.93 U	28 UJ	1.9 U	0.93 U	20 U
2-Chlorotoluene	UG/M3	1.0 U	31 UJ	2.1 U	1.0 U	23 U

Flags assigned during chemistry validation are shown.

Made By: AMK 06/03/2014 Checked By: PRF 06/05/2014

Detection Limits shown are PQL

TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		AMBIENT AIR	B5-01	B5-02	B5-03	B5-03
Sample ID		907015-OA-01	907015-SS-B5-01	907015-SS-B5-02	907015-FF-B5-03	907015-SS-B5-03
Matrix		Outdoor Air	Sub-slab Vapor	Sub-slab Vapor	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	**Units**					
Volatile Organic Compounds						
2-Hexanone	UG/M3	2.0 U	61 UJ	4.1 U	2.0 U	45 U
4-Ethyltoluene	UG/M3	0.98 U	29 UJ	2.0 U	0.98 U	25
4-Isopropyltoluene (p-Cymene)	UG/M3	1.1 U	33 UJ	2.2 U	1.1 U	140
4-Methyl-2-pentanone	UG/M3	2.0 U	61 UJ	4.1 U	2.0 U	45 U
Acetone	UG/M3	14	360 UJ	24 U	12 U	510
Ally chloride	UG/M3	1.6 U	47 UJ	3.1 U	1.6 U	34 U
Benzene	UG/M3	7.4	19 UJ	1.3 U	0.79	23
Benzyl chloride	UG/M3	1.0 U	31 UJ	2.1 U	1.0 U	23 U
Bromodichloromethane	UG/M3	1.3 U	40 UJ	2.7 U	1.3 U	29 U
Bromoform	UG/M3	2.1 U	62 UJ	4.1 U	2.1 U	45 U
Bromomethane	UG/M3	0.78 U	23 UJ	1.6 U	0.78 U	17 U
Butane	UG/M3	4.0	36 UJ	2.4 U	6.6	60
Carbon disulfide	UG/M3	1.6 U	62 J	3.1 U	1.6 U	47
Carbon tetrachloride	UG/M3	0.42	7.5 UJ	0.50 U	0.44	5.5 U
Chlorobenzene	UG/M3	0.92 U	28 UJ	1.8 U	0.92 U	20 U
Chlorodifluoromethane	UG/M3	1.8 U	53 UJ	3.5 U	1.8 U	39 U
Chloroethane	UG/M3	1.3 U	39 UJ	2.6 U	1.3 U	79
Chloroform	UG/M3	0.98 U	85 J	4.3	0.98 U	21 U
Chloromethane	UG/M3	1.0 U	31 UJ	2.1 U	1.0 U	23 U
Cyclohexane	UG/M3	0.69 U	21 UJ	1.4 U	0.69 U	22
Dibromochloromethane	UG/M3	1.7 U	51 UJ	3.4 U	1.7 U	37 U
Dichlorodifluoromethane	UG/M3	2.5 U	74 UJ	4.9 U	2.5 U	54 U
Ethylbenzene	UG/M3	0.87 U	26 UJ	1.7 U	4.8	94
Heptane	UG/M3	1.3	25 UJ	1.6 U	1.1	39

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TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		AMBIENT AIR	B5-01	B5-02	B5-03	B5-03
Sample ID		907015-OA-01	907015-SS-B5-01	907015-SS-B5-02	907015-FF-B5-03	907015-SS-B5-03
Matrix		Outdoor Air	Sub-slab Vapor	Sub-slab Vapor	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	**Units**					
Volatile Organic Compounds						
Hexachlorobutadiene	UG/M3	2.1 U	64 UJ	4.3 U	2.1 U	47 U
Hexane	UG/M3	1.5	21 UJ	1.4 U	1.1	36
Isopropyl alcohol	UG/M3	12 U	370 UJ	25 U	12 U	270 U
Isopropylbenzene (Cumene)	UG/M3	0.98 U	29 UJ	2.0 U	0.98 U	22 U
Methyl ethyl ketone (2-Butanone)	UG/M3	6.3 J	44 UJ	2.9 U	6.7 J	32 U
Methyl methacrylate	UG/M3	2.0 U	61 UJ	4.1 U	2.0 U	45 U
Methyl tert-butyl ether	UG/M3	0.72 U	22 UJ	1.4 U	0.72 U	16 U
Methylene chloride	UG/M3	1.7 U	52 UJ	3.5 U	3.2	38 U
Naphthalene	UG/M3	4.9	78 UJ	5.2 U	5.8	3,500
n-Butylbenzene	UG/M3	1.1 U	33 UJ	2.2 U	1.1 U	24 U
n-Propylbenzene	UG/M3	0.98 U	29 UJ	2.0 U	0.98 U	22 U
sec-Butylbenzene	UG/M3	1.1 U	33 UJ	2.2 U	1.1 U	24 U
Styrene	UG/M3	0.85 U	25 UJ	1.7 U	0.85 U	19 U
tert-Butyl alcohol	UG/M3	15 U	450 UJ	30 U	15 U	330 U
tert-Butylbenzene	UG/M3	1.1 U	33 UJ	2.2 U	1.1 U	24 U
Tetrachloroethene	UG/M3	1.4 U	41 UJ	11	2.1	30 U
Tetrahydrofuran	UG/M3	15 U	440 UJ	29 U	15 U	320 U
Toluene	UG/M3	5.0	23 UJ	1.5 U	17	540
Trichloroethene	UG/M3	0.21 U	5,800 J	430	100	92
Trichlorofluoromethane	UG/M3	1.1 U	34 UJ	2.2 U	1.2	25 U
Vinyl bromide	UG/M3	0.87 U	26 UJ	1.7 U	0.87 U	19 U
Vinyl chloride	UG/M3	0.10 U	5.5 J	0.20 U	0.10 U	4.0
Xylene (total)	UG/M3	0.87 U	26 UJ	1.7 U	21	550

Flags assigned during chemistry validation are shown.

Made By: AMK 06/03/2014 Checked By: PRF 06/05/2014

Detection Limits shown are PQL

TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		B5-04	WB-01	WB-01	WB-02	WB-05
Sample ID		907015-SS-B5-04	20140408-FD-02	907015-FF-WB-01	907015-FF-WB-02	907015-SS-WB-05
Matrix		Sub-slab Vapor	Indoor Air	Indoor Air	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	Units		Field Duplicate (1-1)			
Volatile Organic Compounds						
1,1,1-Trichloroethane	UG/M3	22 UJ	1.1 U	1.1 U	1.1 U	1.5
1,1,2,2-Tetrachloroethane	UG/M3	28 UJ	1.4 U	1.4 U	1.4 U	1.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/M3	31 UJ	1.5 U	1.5 U	1.5 U	1.6 U
1,1,2-Trichloroethane	UG/M3	22 UJ	1.1 U	1.1 U	1.1 U	1.1 U
1,1-Dichloroethane	UG/M3	16 UJ	0.81 U	0.81 U	0.81 U	0.83 U
1,1-Dichloroethene	UG/M3	16 UJ	0.79 U	0.79 U	0.79 U	0.82 U
1,2,4-Trichlorobenzene	UG/M3	75 UJ	3.7 U	3.7 U	3.7 U	3.8 U
1,2,4-Trimethylbenzene	UG/M3	340 J	1.3	1.5	0.98 U	4.4
1,2-Dibromoethane (Ethylene dibromide)	UG/M3	31 UJ	1.5 U	1.5 U	1.5 U	1.6 U
1,2-Dichlorobenzene	UG/M3	24 UJ	1.2 U	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	UG/M3	16 UJ	0.81 U	0.81 U	0.81 U	0.83 U
1,2-Dichloroethene (cis)	UG/M3	16 UJ	0.79 U	0.79 U	0.79 U	0.82 U
1,2-Dichloroethene (trans)	UG/M3	16 UJ	0.79 U	0.79 U	0.79 U	0.82 U
1,2-Dichloropropane	UG/M3	19 UJ	0.92 U	0.92 U	0.92 U	0.95 U
1,2-Dichlorotetrafluoroethane	UG/M3	28 UJ	1.4 U	1.4 U	1.4 U	1.4 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	120 J	0.98 U	0.98 U	0.98 U	1.9
1,3-Butadiene	UG/M3	8.9 UJ	0.44 U	0.44 U	0.44 U	0.46 U
1,3-Dichlorobenzene	UG/M3	24 UJ	1.2 U	1.2 U	1.2 U	1.2 U
1,3-Dichloropropene (cis)	UG/M3	18 UJ	0.91 U	0.91 U	0.91 U	0.93 U
1,3-Dichloropropene (trans)	UG/M3	18 UJ	0.91 U	0.91 U	0.91 U	0.93 U
1,4-Dichlorobenzene	UG/M3	24 UJ	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dioxane	UG/M3	360 UJ	18 U	18 U	18 U	19 U
2,2,4-Trimethylpentane	UG/M3	19 UJ	0.93 U	0.93 U	0.93 U	0.96 U
2-Chlorotoluene	UG/M3	21 UJ	1.0 U	1.0 U	1.0 U	1.1 U

Flags assigned during chemistry validation are shown.

Made By: AMK 06/03/2014 Checked By: PRF 06/05/2014

Detection Limits shown are PQL

TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		B5-04	WB-01	WB-01	WB-02	WB-05
Sample ID		907015-SS-B5-04	20140408-FD-02	907015-FF-WB-01	907015-FF-WB-02	907015-SS-WB-05
Matrix		Sub-slab Vapor	Indoor Air	Indoor Air	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	Units		Field Duplicate (1-1)			
Volatile Organic Compounds						
2-Hexanone	UG/M3	41 UJ	2.0 U	2.0 U	2.0 U	2.1 U
4-Ethyltoluene	UG/M3	46 J	0.98 U	0.98 U	0.98 U	1.0 U
4-Isopropyltoluene (p-Cymene)	UG/M3	22 UJ	1.1 U	1.1 U	1.1 U	1.1 U
4-Methyl-2-pentanone	UG/M3	41 UJ	2.0 U	2.0 U	2.0 U	2.1 U
Acetone	UG/M3	900 J	12 U	12 U	12 U	34
Ally chloride	UG/M3	31 UJ	1.6 U	1.6 U	1.6 U	1.6 U
Benzene	UG/M3	23 J	0.64 U	0.64 U	0.64 U	2.6
Benzyl chloride	UG/M3	21 UJ	1.0 U	1.0 U	1.0 U	1.1 U
Bromodichloromethane	UG/M3	27 UJ	1.3 U	1.3 U	1.3 U	1.4 U
Bromoform	UG/M3	42 UJ	2.1 U	2.1 U	2.1 U	2.1 U
Bromomethane	UG/M3	16 UJ	0.78 U	0.78 U	0.78 U	0.80 U
Butane	UG/M3	36 J	3.8	2.5	2.4	7.6
Carbon disulfide	UG/M3	140 J	1.6 U	1.6 U	1.6 U	3.8
Carbon tetrachloride	UG/M3	5.1 UJ	0.39	0.46	0.42	0.30
Chlorobenzene	UG/M3	19 UJ	0.92 U	0.92 U	0.92 U	0.95 U
Chlorodifluoromethane	UG/M3	36 UJ	1.8 U	1.8 U	1.8 U	1.8 U
Chloroethane	UG/M3	40 J	1.3 U	1.3 U	1.3 U	9.6
Chloroform	UG/M3	20 UJ	0.98 U	0.98 U	0.98 U	1.0 U
Chloromethane	UG/M3	21 UJ	1.0	1.2	1.0	1.1 U
Cyclohexane	UG/M3	24 J	0.69 U	0.69 U	0.69 U	3.0
Dibromochloromethane	UG/M3	34 UJ	1.7 U	1.7 U	1.7 U	1.8 U
Dichlorodifluoromethane	UG/M3	50 UJ	2.5 U	2.5 U	2.5 U	2.9
Ethylbenzene	UG/M3	17 UJ	0.87 U	0.87 U	0.87 U	11
Heptane	UG/M3	21 J	1.2	0.82 U	0.82 U	7.6

Flags assigned during chemistry validation are shown.

Made By: AMK 06/03/2014 Checked By: PRF 06/05/2014

Detection Limits shown are PQL

TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		B5-04	WB-01	WB-01	WB-02	WB-05
Sample ID		907015-SS-B5-04	20140408-FD-02	907015-FF-WB-01	907015-FF-WB-02	907015-SS-WB-05
Matrix		Sub-slab Vapor	Indoor Air	Indoor Air	Indoor Air	Sub-slab Vapor
Depth Interval (ft)		-	-	-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14	04/09/14	04/09/14
Parameter	Units		Field Duplicate (1-1)			
Volatile Organic Compounds						
Hexachlorobutadiene	UG/M3	43 UJ	2.1 U	2.1 U	2.1 U	2.2 U
Hexane	UG/M3	25 J	1.7	0.70 U	0.70 U	6.8
Isopropyl alcohol	UG/M3	250 UJ	12 U	12 U	12 U	13 U
Isopropylbenzene (Cumene)	UG/M3	20 UJ	0.98 U	0.98 U	0.98 U	1.0 U
Methyl ethyl ketone (2-Butanone)	UG/M3	30 UJ	2.7	3.1	1.5 U	5.8
Methyl methacrylate	UG/M3	41 UJ	2.0 U	2.0 U	2.0 U	2.1 U
Methyl tert-butyl ether	UG/M3	14 UJ	0.72 U	0.72 U	0.72 U	0.74 U
Methylene chloride	UG/M3	35 UJ	1.7 U	1.7 U	1.7 U	1.8 U
Naphthalene	UG/M3	650 J	2.6 U	2.6 U	2.6 U	5.4
n-Butylbenzene	UG/M3	22 UJ	1.1 U	1.1 U	1.1 U	1.1 U
n-Propylbenzene	UG/M3	34 J	0.98 U	0.98 U	0.98 U	1.0 U
sec-Butylbenzene	UG/M3	22 UJ	1.1 U	1.1 U	1.1 U	1.1 U
Styrene	UG/M3	17 UJ	0.85 U	0.85 U	0.85 U	0.88 U
tert-Butyl alcohol	UG/M3	300 UJ	15 U	15 U	15 U	16 U
tert-Butylbenzene	UG/M3	22 UJ	1.1 U	1.1 U	1.1 U	1.1 U
Tetrachloroethene	UG/M3	27 UJ	1.4 U	1.4 U	1.4 U	6.9
Tetrahydrofuran	UG/M3	300 UJ	15 U	15 U	15 U	15 U
Toluene	UG/M3	78 J	2.2	2.4	2.4	66
Trichloroethene	UG/M3	1,900 J	0.21 U	0.21 U	0.21 U	52
Trichlorofluoromethane	UG/M3	23 UJ	1.3	1.4	1.3	2.0
Vinyl bromide	UG/M3	18 UJ	0.87 U	0.87 U	0.87 U	0.90 U
Vinyl chloride	UG/M3	2.3 J	0.10 U	0.10 U	0.10 U	0.61
Xylene (total)	UG/M3	130 J	0.87 U	3.3	3.1	58

Flags assigned during chemistry validation are shown.

Made By: AMK 06/03/2014 Checked By: PRF 06/05/2014

Detection Limits shown are PQL

TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		WB-06	WB-07	WB-08
Sample ID		20140408-FD-01	907015-SS-WB-07	907015-SS-WB-08
Matrix		Sub-slab Vapor	Sub-slab Vapor	Sub-slab Vapor
Depth Interval (ft)		-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14
Parameter	Units	Field Duplicate (1-1)		
Volatile Organic Compounds				
1,1,1-Trichloroethane	UG/M3	3.0	6.4	1.1 U
1,1,2,2-Tetrachloroethane	UG/M3	1.4 U	1.4 U	1.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane	UG/M3	1.5 U	1.5 U	1.5 U
1,1,2-Trichloroethane	UG/M3	1.1 U	1.1 U	1.1 U
1,1-Dichloroethane	UG/M3	0.81 U	0.81 U	0.81 U
1,1-Dichloroethene	UG/M3	0.79 U	0.79 U	0.79 U
1,2,4-Trichlorobenzene	UG/M3	3.7 U	3.7 U	3.7 U
1,2,4-Trimethylbenzene	UG/M3	1.2	13	3.3
1,2-Dibromoethane (Ethylene dibromide)	UG/M3	1.5 U	1.5 U	1.5 U
1,2-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	UG/M3	0.81 U	0.81 U	0.81 U
1,2-Dichloroethene (cis)	UG/M3	0.79 U	0.79 U	0.79 U
1,2-Dichloroethene (trans)	UG/M3	0.79 U	0.79 U	0.79 U
1,2-Dichloropropane	UG/M3	0.92 U	0.92 U	0.92 U
1,2-Dichlorotetrafluoroethane	UG/M3	1.4 U	1.4 U	1.4 U
1,3,5-Trimethylbenzene (Mesitylene)	UG/M3	0.98 U	7.2	1.2
1,3-Butadiene	UG/M3	0.44 U	0.69	1.0
1,3-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U
1,3-Dichloropropene (cis)	UG/M3	0.91 U	0.91 U	0.91 U
1,3-Dichloropropene (trans)	UG/M3	0.91 U	0.91 U	0.91 U
1,4-Dichlorobenzene	UG/M3	1.2 U	1.2 U	1.2 U
1,4-Dioxane	UG/M3	18 U	18 U	18 U
2,2,4-Trimethylpentane	UG/M3	0.93 U	0.93 U	0.93 U
2-Chlorotoluene	UG/M3	1.0 U	1.0 U	1.0 U

Flags assigned during chemistry validation are shown.

Made By: AMK 06/03/2014 Checked By: PRF 06/05/2014

Detection Limits shown are PQL

TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		WB-06	WB-07	WB-08
Sample ID		20140408-FD-01	907015-SS-WB-07	907015-SS-WB-08
Matrix		Sub-slab Vapor	Sub-slab Vapor	Sub-slab Vapor
Depth Interval (ft)		-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14
Parameter	**Units**	Field Duplicate (1-1)		
Volatile Organic Compounds				
2-Hexanone	UG/M3	2.3	8.2	2.0 U
4-Ethyltoluene	UG/M3	0.98 U	2.0	0.98 U
4-Isopropyltoluene (p-Cymene)	UG/M3	1.1 U	1.1 U	1.1 U
4-Methyl-2-pentanone	UG/M3	2.0 U	7.7	6.9
Acetone	UG/M3	37	55	23
Ally chloride	UG/M3	1.6 U	1.6 U	1.6 U
Benzene	UG/M3	1.4	17	3.8
Benzyl chloride	UG/M3	1.0 U	1.0 U	1.0 U
Bromodichloromethane	UG/M3	1.3 U	1.3 U	1.3 U
Bromoform	UG/M3	2.1 U	2.1 U	2.1 U
Bromomethane	UG/M3	0.78 U	0.78 U	0.78 U
Butane	UG/M3	5.7	7.6	6.8
Carbon disulfide	UG/M3	3.1	3.1	1.6 U
Carbon tetrachloride	UG/M3	0.25 U	0.25 U	0.25 U
Chlorobenzene	UG/M3	0.92 U	0.92 U	0.92 U
Chlorodifluoromethane	UG/M3	1.8 U	1.8 U	1.8 U
Chloroethane	UG/M3	17	1.3 U	1.3 U
Chloroform	UG/M3	0.98 U	0.98 U	0.98 U
Chloromethane	UG/M3	1.0 U	1.0 U	1.0 U
Cyclohexane	UG/M3	2.1	4.6	3.1
Dibromochloromethane	UG/M3	1.7 U	1.7 U	1.7 U
Dichlorodifluoromethane	UG/M3	2.5 U	2.5 U	3.2
Ethylbenzene	UG/M3	3.2	25	6.6
Heptane	UG/M3	6.5	12	3.4

Flags assigned during chemistry validation are shown.

Made By: AMK 06/03/2014 Checked By: PRF 06/05/2014

Detection Limits shown are PQL

TABLE 2
VALIDATED OUTDOOR AND INDOOR AIR, AND SOIL VAPOR SAMPLE ANALYTICAL RESULTS
ESSEX-HOPE SITE

Location ID		WB-06	WB-07	WB-08
Sample ID		20140408-FD-01	907015-SS-WB-07	907015-SS-WB-08
Matrix		Sub-slab Vapor	Sub-slab Vapor	Sub-slab Vapor
Depth Interval (ft)		-	-	-
Date Sampled		04/09/14	04/09/14	04/09/14
Parameter	**Units**	Field Duplicate (1-1)		
Volatile Organic Compounds				
Hexachlorobutadiene	UG/M3	2.1 U	2.1 U	2.1 U
Hexane	UG/M3	6.1	7.0	3.6
Isopropyl alcohol	UG/M3	12 U	12 U	12 U
Isopropylbenzene (Cumene)	UG/M3	0.98 U	2.9	0.98 U
Methyl ethyl ketone (2-Butanone)	UG/M3	3.2	15	4.6
Methyl methacrylate	UG/M3	2.0 U	2.0 U	2.0 U
Methyl tert-butyl ether	UG/M3	0.72 U	0.72 U	0.72 U
Methylene chloride	UG/M3	1.7 U	1.7 U	1.7 U
Naphthalene	UG/M3	2.6 U	14	2.6 U
n-Butylbenzene	UG/M3	1.1 U	1.1 U	1.1 U
n-Propylbenzene	UG/M3	0.98 U	0.98 U	0.98 U
sec-Butylbenzene	UG/M3	1.1 U	1.1 U	1.1 U
Styrene	UG/M3	0.85 U	0.85 U	0.85 U
tert-Butyl alcohol	UG/M3	15 U	15 U	15 U
tert-Butylbenzene	UG/M3	1.1 U	1.1 U	1.1 U
Tetrachloroethene	UG/M3	16	28	14
Tetrahydrofuran	UG/M3	15 U	15 U	15 U
Toluene	UG/M3	14	12	8.3
Trichloroethene	UG/M3	0.34	2.2	0.32
Trichlorofluoromethane	UG/M3	1.1 U	1.1	1.1
Vinyl bromide	UG/M3	0.87 U	0.87 U	0.87 U
Vinyl chloride	UG/M3	0.95	0.82	0.10 U
Xylene (total)	UG/M3	18	290	48

Flags assigned during chemistry validation are shown.

Made By: AMK 06/03/2014 Checked By: PRF 06/05/2014

Detection Limits shown are PQL

ATTACHMENT A

VALIDATED FORM I'S

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-B5-03 | Lab Sample ID: 200-21798-13

Matrix: Air | Lab File ID: 7093_023.D

Analysis Method: TO-15 | Date Collected: 04/09/2014 09:40

Sample wt/vol: 200(mL) | Date Analyzed: 04/18/2014 06:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70897 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	2.5	U	2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.0	U	1.0	
106-97-8	n-Butane	58.12	6.6		1.2	
75-01-4	Vinyl chloride	62.50	0.10	U	0.10	
106-99-0	1,3-Butadiene	54.09	0.44	U	0.44	
74-83-9	Bromomethane	94.94	0.78	U	0.78	
75-00-3	Chloroethane	64.52	1.3	U	1.3	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.87	U	0.87	
75-69-4	Trichlorofluoromethane	137.37	1.2		1.1	
76-13-1	Freon TF	187.38	1.5	U	1.5	
75-35-4	1,1-Dichloroethene	96.94	0.79	U	0.79	
67-64-1	Acetone	58.08	12	U	12	
67-63-0	Isopropyl alcohol	60.10	12	U	12	
75-15-0	Carbon disulfide	76.14	1.6	U	1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	3.2		1.7	
75-65-0	tert-Butyl alcohol	74.12	15	U	15	
1634-04-4	Methyl tert-butyl ether	88.15	0.72	U	0.72	
156-60-5	trans-1,2-Dichloroethene	96.94	0.79	U	0.79	
110-54-3	n-Hexane	86.17	1.1		0.70	
75-34-3	1,1-Dichloroethane	98.96	0.81	U	0.81	
78-93-3	Methyl Ethyl Ketone	72.11	6.7	J	1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.79	U	0.79	
540-59-0	1,2-Dichloroethene, Total	96.94	0.79	U	0.79	
67-66-3	Chloroform	119.38	0.98	U	0.98	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	1.1	U	1.1	
110-82-7	Cyclohexane	84.16	0.69	U	0.69	
56-23-5	Carbon tetrachloride	153.81	0.44		0.25	
540-84-1	2,2,4-Trimethylpentane	114.23	0.93	U	0.93	
71-43-2	Benzene	78.11	0.79		0.64	
107-06-2	1,2-Dichloroethane	98.96	0.81	U	0.81	

4/21/14

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-B5-03 | Lab Sample ID: 200-21798-13

Matrix: Air | Lab File ID: 7093_023.D

Analysis Method: TO-15 | Date Collected: 04/09/2014 09:40

Sample wt/vol: 200(mL) | Date Analyzed: 04/18/2014 06:20

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70897 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	1.1		0.82	
79-01-6	Trichloroethene	131.39	100		0.21	
80-62-6	Methyl methacrylate	100.12	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	112.99	0.92	U	0.92	
123-91-1	1,4-Dioxane	88.11	18	U	18	
75-27-4	Bromodichloromethane	163.83	1.3	U	1.3	
10061-01-5	cis-1,3-Dichloropropene	110.97	0.91	U	0.91	
108-10-1	methyl isobutyl ketone	100.16	2.0	U	2.0	
108-88-3	Toluene	92.14	17		0.75	
10061-02-6	trans-1,3-Dichloropropene	110.97	0.91	U	0.91	
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1	
127-18-4	Tetrachloroethene	165.83	2.1		1.4	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	2.0	U	2.0	
124-48-1	Dibromochloromethane	208.29	1.7	U	1.7	
106-93-4	1,2-Dibromoethane	187.87	1.5	U	1.5	
108-90-7	Chlorobenzene	112.56	0.92	U	0.92	
100-41-4	Ethylbenzene	106.17	4.8		0.87	
179601-23-1	m,p-Xylene	106.17	17		2.2	
95-47-6	Xylene, o-	106.17	4.1		0.87	
1330-20-7	Xylene (total)	106.17	21		0.87	
100-42-5	Styrene	104.15	0.85	U	0.85	
75-25-2	Bromoform	252.75	2.1	U	2.1	
98-82-8	Cumene	120.19	0.98	U	0.98	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4	
103-65-1	n-Propylbenzene	120.19	0.98	U	0.98	
622-96-8	4-Ethyltoluene	120.20	0.98	U	0.98	
108-67-8	1,3,5-Trimethylbenzene	120.20	0.98	U	0.98	
95-49-8	2-Chlorotoluene	126.59	1.0	U	1.0	
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1	
95-63-6	1,2,4-Trimethylbenzene	120.20	2.2		0.98	
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1	
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1	
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2	
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-B5-03 Lab Sample ID: 200-21798-13

Matrix: Air Lab File ID: 7093_023.D

Analysis Method: TO-15 Date Collected: 04/09/2014 09:40

Sample wt/vol: 200(mL) Date Analyzed: 04/18/2014 06:20

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70897 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.0	U	1.0	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.7	U	3.7	
87-68-3	Hexachlorobutadiene	260.76	2.1	U	2.1	
91-20-3	Naphthalene	128.17	5.8		2.6	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-01 | Lab Sample ID: 200-21798-1

Matrix: Air | Lab File ID: 7047_007.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:44

Sample wt/vol: 28 (mL) | Date Analyzed: 04/15/2014 16:22

Soil Aliquot Vol: | Dilution Factor: 29.9

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32 (mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL
75-71-8	Dichlorodifluoromethane	120.91	74	U	74
75-45-6	Freon 22	86.47	53	U	53
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	42	U	42
74-87-3	Chloromethane	50.49	31	U	31
106-97-8	n-Butane	58.12	36	U	36
75-01-4	Vinyl chloride	62.50	5.5		3.1
106-99-0	1,3-Butadiene	54.09	13	U	13
74-83-9	Bromomethane	94.94	23	U	23
75-00-3	Chloroethane	64.52	39	U	39
593-60-2	Bromoethene (Vinyl Bromide)	106.96	26	U	26
75-69-4	Trichlorofluoromethane	137.37	34	U	34
76-13-1	Freon TF	187.38	46	U	46
75-35-4	1,1-Dichloroethene	96.94	24	U	24
67-64-1	Acetone	58.08	360	U	360
67-63-0	Isopropyl alcohol	60.10	370	U	370
75-15-0	Carbon disulfide	76.14	62		47
107-05-1	3-Chloropropene	76.53	47	U	47
75-09-2	Methylene Chloride	84.93	52	U	52
75-65-0	tert-Butyl alcohol	74.12	450	U	450
1634-04-4	Methyl tert-butyl ether	88.15	22	U	22
156-60-5	trans-1,2-Dichloroethene	96.94	24	U	24
110-54-3	n-Hexane	86.17	21	U	21
75-34-3	1,1-Dichloroethane	98.96	24	U	24
78-93-3	Methyl Ethyl Ketone	72.11	44	U	44
156-59-2	cis-1,2-Dichloroethene	96.94	24	U	24
540-59-0	1,2-Dichloroethene, Total	96.94	24	U	24
67-66-3	Chloroform	119.38	85		29
109-99-9	Tetrahydrofuran	72.11	440	U	440
71-55-6	1,1,1-Trichloroethane	133.41	33	U	33
110-82-7	Cyclohexane	84.16	21	U	21
56-23-5	Carbon tetrachloride	153.81	7.5	U	7.5
540-84-1	2,2,4-Trimethylpentane	114.23	28	U	28
71-43-2	Benzene	78.11	19	U	19
107-06-2	1,2-Dichloroethane	98.96	24	U	24

6/2/14

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-01 | Lab Sample ID: 200-21798-1

Matrix: Air | Lab File ID: 7047_007.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:44

Sample wt/vol: 28(mL) | Date Analyzed: 04/15/2014 16:22

Soil Aliquot Vol: | Dilution Factor: 29.9

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL
142-82-5	n-Heptane	100.21	25	U J	25
79-01-6	Trichloroethene	131.39	5800	J	6.4
80-62-6	Methyl methacrylate	100.12	61	U J	61
78-87-5	1,2-Dichloropropane	112.99	28	U	28
123-91-1	1,4-Dioxane	88.11	540	U	540
75-27-4	Bromodichloromethane	163.83	40	U	40
10061-01-5	cis-1,3-Dichloropropene	110.97	27	U	27
108-10-1	methyl isobutyl ketone	100.16	61	U	61
108-88-3	Toluene	92.14	23	U	23
10061-02-6	trans-1,3-Dichloropropene	110.97	27	U	27
79-00-5	1,1,2-Trichloroethane	133.41	33	U	33
127-18-4	Tetrachloroethene	165.83	41	U	41
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	61	U	61
124-48-1	Dibromochloromethane	208.29	51	U	51
106-93-4	1,2-Dibromoethane	187.87	46	U	46
108-90-7	Chlorobenzene	112.56	28	U	28
100-41-4	Ethylbenzene	106.17	26	U	26
179601-23-1	m,p-Xylene	106.17	65	U	65
95-47-6	Xylene, o-	106.17	26	U	26
1330-20-7	Xylene (total)	106.17	26	U	26
100-42-5	Styrene	104.15	25	U	25
75-25-2	Bromoform	252.75	62	U	62
98-82-8	Cumene	120.19	29	U	29
79-34-5	1,1,2,2-Tetrachloroethane	167.85	41	U	41
103-65-1	n-Propylbenzene	120.19	29	U	29
622-96-8	4-Ethyltoluene	120.20	29	U	29
108-67-8	1,3,5-Trimethylbenzene	120.20	29	U	29
95-49-8	2-Chlorotoluene	126.59	31	U	31
98-06-6	tert-Butylbenzene	134.22	33	U	33
95-63-6	1,2,4-Trimethylbenzene	120.20	29	U	29
135-98-8	sec-Butylbenzene	134.22	33	U	33
99-87-6	4-Isopropyltoluene	134.22	33	U	33
541-73-1	1,3-Dichlorobenzene	147.00	36	U	36
106-46-7	1,4-Dichlorobenzene	147.00	36	U	36

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FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-01 Lab Sample ID: 200-21798-1

Matrix: Air Lab File ID: 7047_007.d

Analysis Method: TO-15 Date Collected: 04/09/2014 11:44

Sample wt/vol: 28 (mL) Date Analyzed: 04/15/2014 16:22

Soil Aliquot Vol: Dilution Factor: 29.9

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32 (mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	31	U J	31	
104-51-8	n-Butylbenzene	134.22	33	U	33	
95-50-1	1,2-Dichlorobenzene	147.00	36	U	36	
120-82-1	1,2,4-Trichlorobenzene	181.45	110	U	110	
87-68-3	Hexachlorobutadiene	260.76	64	U	64	
91-20-3	Naphthalene	128.17	78	U	78	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-02 | Lab Sample ID: 200-21798-2

Matrix: Air | Lab File ID: 7047_008.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 10:47

Sample wt/vol: 100(mL) | Date Analyzed: 04/15/2014 17:11

Soil Aliquot Vol: | Dilution Factor: 2

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	4.9	U	4.9	
75-45-6	Freon 22	86.47	3.5	U	3.5	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	2.8	U	2.8	
74-87-3	Chloromethane	50.49	2.1	U	2.1	
106-97-8	n-Butane	58.12	2.4	U	2.4	
75-01-4	Vinyl chloride	62.50	0.20	U	0.20	
106-99-0	1,3-Butadiene	54.09	0.88	U	0.88	
74-83-9	Bromomethane	94.94	1.6	U	1.6	
75-00-3	Chloroethane	64.52	2.6	U	2.6	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	1.7	U	1.7	
75-69-4	Trichlorofluoromethane	137.37	2.2	U	2.2	
76-13-1	Freon TF	187.38	3.1	U	3.1	
75-35-4	1,1-Dichloroethene	96.94	1.6	U	1.6	
67-64-1	Acetone	58.08	24	U	24	
67-63-0	Isopropyl alcohol	60.10	25	U	25	
75-15-0	Carbon disulfide	76.14	3.1	U	3.1	
107-05-1	3-Chloropropene	76.53	3.1	U	3.1	
75-09-2	Methylene Chloride	84.93	3.5	U	3.5	
75-65-0	tert-Butyl alcohol	74.12	30	U	30	
1634-04-4	Methyl tert-butyl ether	88.15	1.4	U	1.4	
156-60-5	trans-1,2-Dichloroethene	96.94	1.6	U	1.6	
110-54-3	n-Hexane	86.17	1.4	U	1.4	
75-34-3	1,1-Dichloroethane	98.96	1.6	U	1.6	
78-93-3	Methyl Ethyl Ketone	72.11	2.9	U	2.9	
156-59-2	cis-1,2-Dichloroethene	96.94	9.3		1.6	
540-59-0	1,2-Dichloroethene, Total	96.94	9.3 ~~9.1~~		1.6	
67-66-3	Chloroform	119.38	4.3		2.0	
109-99-9	Tetrahydrofuran	72.11	29	U	29	
71-55-6	1,1,1-Trichloroethane	133.41	2.2	U	2.2	
110-82-7	Cyclohexane	84.16	1.4	U	1.4	
56-23-5	Carbon tetrachloride	153.81	0.50	U	0.50	
540-84-1	2,2,4-Trimethylpentane	114.23	1.9	U	1.9	
71-43-2	Benzene	78.11	1.3	U	1.3	
107-06-2	1,2-Dichloroethane	98.96	1.6	U	1.6	

6/2/14

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-02 | Lab Sample ID: 200-21798-2

Matrix: Air | Lab File ID: 7047_008.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 10:47

Sample wt/vol: 100(mL) | Date Analyzed: 04/15/2014 17:11

Soil Aliquot Vol: | Dilution Factor: 2

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	1.6	U	1.6	
79-01-6	Trichloroethene	131.39	430		0.43	
80-62-6	Methyl methacrylate	100.12	4.1	U	4.1	
78-87-5	1,2-Dichloropropane	112.99	1.8	U	1.8	
123-91-1	1,4-Dioxane	88.11	36	U	36	
75-27-4	Bromodichloromethane	163.83	2.7	U	2.7	
10061-01-5	cis-1,3-Dichloropropene	110.97	1.8	U	1.8	
108-10-1	methyl isobutyl ketone	100.16	4.1	U	4.1	
108-88-3	Toluene	92.14	1.5	U	1.5	
10061-02-6	trans-1,3-Dichloropropene	110.97	1.8	U	1.8	
79-00-5	1,1,2-Trichloroethane	133.41	2.2	U	2.2	
127-18-4	Tetrachloroethene	165.83	11		2.7	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	4.1	U	4.1	
124-48-1	Dibromochloromethane	208.29	3.4	U	3.4	
106-93-4	1,2-Dibromoethane	187.87	3.1	U	3.1	
108-90-7	Chlorobenzene	112.56	1.8	U	1.8	
100-41-4	Ethylbenzene	106.17	1.7	U	1.7	
179601-23-1	m,p-Xylene	106.17	4.3	U	4.3	
95-47-6	Xylene, o-	106.17	1.7	U	1.7	
1330-20-7	Xylene (total)	106.17	1.7	U	1.7	
100-42-5	Styrene	104.15	1.7	U	1.7	
75-25-2	Bromoform	252.75	4.1	U	4.1	
98-82-8	Cumene	120.19	2.0	U	2.0	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	2.7	U	2.7	
103-65-1	n-Propylbenzene	120.19	2.0	U	2.0	
622-96-8	4-Ethyltoluene	120.20	2.0	U	2.0	
108-67-8	1,3,5-Trimethylbenzene	120.20	2.0	U	2.0	
95-49-8	2-Chlorotoluene	126.59	2.1	U	2.1	
98-06-6	tert-Butylbenzene	134.22	2.2	U	2.2	
95-63-6	1,2,4-Trimethylbenzene	120.20	2.0	U	2.0	
135-98-8	sec-Butylbenzene	134.22	2.2	U	2.2	
99-87-6	4-Isopropyltoluene	134.22	2.2	U	2.2	
541-73-1	1,3-Dichlorobenzene	147.00	2.4	U	2.4	
106-46-7	1,4-Dichlorobenzene	147.00	2.4	U	2.4	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-02 | Lab Sample ID: 200-21798-2

Matrix: Air | Lab File ID: 7047_008.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 10:47

Sample wt/vol: 100(mL) | Date Analyzed: 04/15/2014 17:11

Soil Aliquot Vol: | Dilution Factor: 2

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	2.1	U	2.1	
104-51-8	n-Butylbenzene	134.22	2.2	U	2.2	
95-50-1	1,2-Dichlorobenzene	147.00	2.4	U	2.4	
120-82-1	1,2,4-Trichlorobenzene	181.45	7.4	U	7.4	
87-68-3	Hexachlorobutadiene	260.76	4.3	U	4.3	
91-20-3	Naphthalene	128.17	5.2	U	5.2	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-03 | Lab Sample ID: 200-21798-3

Matrix: Air | Lab File ID: 7093_022.D

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:02

Sample wt/vol: 43(mL) | Date Analyzed: 04/18/2014 05:29

Soil Aliquot Vol: | Dilution Factor: 21.9

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70897 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	54	U	54	
75-45-6	Freon 22	86.47	39	U	39	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	31	U	31	
74-87-3	Chloromethane	50.49	23	U	23	
106-97-8	n-Butane	58.12	60		26	
75-01-4	Vinyl chloride	62.50	4.0		2.2	
106-99-0	1,3-Butadiene	54.09	9.7	U	9.7	
74-83-9	Bromomethane	94.94	17	U	17	
75-00-3	Chloroethane	64.52	79		29	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	19	U	19	
75-69-4	Trichlorofluoromethane	137.37	25	U	25	
76-13-1	Freon TF	187.38	34	U	34	
75-35-4	1,1-Dichloroethene	96.94	17	U	17	
67-64-1	Acetone	58.08	510		260	
67-63-0	Isopropyl alcohol	60.10	270	U	270	
75-15-0	Carbon disulfide	76.14	47		34	
107-05-1	3-Chloropropene	76.53	34	U	34	
75-09-2	Methylene Chloride	84.93	38	U	38	
75-65-0	tert-Butyl alcohol	74.12	330	U	330	
1634-04-4	Methyl tert-butyl ether	88.15	16	U	16	
156-60-5	trans-1,2-Dichloroethene	96.94	17	U	17	
110-54-3	n-Hexane	86.17	36		15	
75-34-3	1,1-Dichloroethane	98.96	18	U	18	
78-93-3	Methyl Ethyl Ketone	72.11	32	U	32	
156-59-2	cis-1,2-Dichloroethene	96.94	17	U	17	
540-59-0	1,2-Dichloroethene, Total	96.94	17	U	17	
67-66-3	Chloroform	119.38	21	U	21	
109-99-9	Tetrahydrofuran	72.11	320	U	320	
71-55-6	1,1,1-Trichloroethane	133.41	24	U	24	
110-82-7	Cyclohexane	84.16	22		15	
56-23-5	Carbon tetrachloride	153.81	5.5	U	5.5	
540-84-1	2,2,4-Trimethylpentane	114.23	20	U	20	
71-43-2	Benzene	78.11	23		14	
107-06-2	1,2-Dichloroethane	98.96	18	U	18	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-03 | Lab Sample ID: 200-21798-3

Matrix: Air | Lab File ID: 7093_022.D

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:02

Sample wt/vol: 43(mL) | Date Analyzed: 04/18/2014 05:29

Soil Aliquot Vol: | Dilution Factor: 21.9

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70897 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	39		18	
79-01-6	Trichloroethene	131.39	92		4.7	
80-62-6	Methyl methacrylate	100.12	45	U	45	
78-87-5	1,2-Dichloropropane	112.99	20	U	20	
123-91-1	1,4-Dioxane	88.11	390	U	390	
75-27-4	Bromodichloromethane	163.83	29	U	29	
10061-01-5	cis-1,3-Dichloropropene	110.97	20	U	20	
108-10-1	methyl isobutyl ketone	100.16	45	U	45	
108-88-3	Toluene	92.14	540		17	
10061-02-6	trans-1,3-Dichloropropene	110.97	20	U	20	
79-00-5	1,1,2-Trichloroethane	133.41	24	U	24	
127-18-4	Tetrachloroethene	165.83	30	U	30	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	45	U	45	
124-48-1	Dibromochloromethane	208.29	37	U	37	
106-93-4	1,2-Dibromoethane	187.87	34	U	34	
108-90-7	Chlorobenzene	112.56	20	U	20	
100-41-4	Ethylbenzene	106.17	94		19	
179601-23-1	m,p-Xylene	106.17	400		48	
95-47-6	Xylene, o-	106.17	150		19	
1330-20-7	Xylene (total)	106.17	550		19	
100-42-5	Styrene	104.15	19	U	19	
75-25-2	Bromoform	252.75	45	U	45	
98-82-8	Cumene	120.19	22	U	22	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	30	U	30	
103-65-1	n-Propylbenzene	120.19	22	U	22	
622-96-8	4-Ethyltoluene	120.20	25		22	
108-67-8	1,3,5-Trimethylbenzene	120.20	76		22	
95-49-8	2-Chlorotoluene	126.59	23	U	23	
98-06-6	tert-Butylbenzene	134.22	24	U	24	
95-63-6	1,2,4-Trimethylbenzene	120.20	200		22	
135-98-8	sec-Butylbenzene	134.22	24	U	24	
99-87-6	4-Isopropyltoluene	134.22	140		24	
541-73-1	1,3-Dichlorobenzene	147.00	26	U	26	
106-46-7	1,4-Dichlorobenzene	147.00	26	U	26	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-03 Lab Sample ID: 200-21798-3

Matrix: Air Lab File ID: 7093_022.D

Analysis Method: TO-15 Date Collected: 04/09/2014 11:02

Sample wt/vol: 43(mL) Date Analyzed: 04/18/2014 05:29

Soil Aliquot Vol: Dilution Factor: 21.9

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70897 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	23	U	23	
104-51-8	n-Butylbenzene	134.22	24	U	24	
95-50-1	1,2-Dichlorobenzene	147.00	26	U	26	
120-82-1	1,2,4-Trichlorobenzene	181.45	81	U	81	
87-68-3	Hexachlorobutadiene	260.76	47	U	47	
91-20-3	Naphthalene	128.17	3500		57	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-04 | Lab Sample ID: 200-21798-4

Matrix: Air | Lab File ID: 7047_010.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 08:44

Sample wt/vol: 29(mL) | Date Analyzed: 04/15/2014 18:48

Soil Aliquot Vol: | Dilution Factor: 20.1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL
75-71-8	Dichlorodifluoromethane	120.91	50	U	50
75-45-6	Freon 22	86.47	36	U	36
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	28	U	28
74-87-3	Chloromethane	50.49	21	U	21
106-97-8	n-Butane	58.12	36		24
75-01-4	Vinyl chloride	62.50	2.3		2.1
106-99-0	1,3-Butadiene	54.09	8.9	U	8.9
74-83-9	Bromomethane	94.94	16	U	16
75-00-3	Chloroethane	64.52	40		27
593-60-2	Bromoethene(Vinyl Bromide)	106.96	18	U	18
75-69-4	Trichlorofluoromethane	137.37	23	U	23
76-13-1	Freon TF	187.38	31	U	31
75-35-4	1,1-Dichloroethene	96.94	16	U	16
67-64-1	Acetone	58.08	900		240
67-63-0	Isopropyl alcohol	60.10	250	U	250
75-15-0	Carbon disulfide	76.14	140		31
107-05-1	3-Chloropropene	76.53	31	U	31
75-09-2	Methylene Chloride	84.93	35	U	35
75-65-0	tert-Butyl alcohol	74.12	300	U	300
1634-04-4	Methyl tert-butyl ether	88.15	14	U	14
156-60-5	trans-1,2-Dichloroethene	96.94	16	U	16
110-54-3	n-Hexane	86.17	25		14
75-34-3	1,1-Dichloroethane	98.96	16	U	16
78-93-3	Methyl Ethyl Ketone	72.11	30	U	30
156-59-2	cis-1,2-Dichloroethene	96.94	16	U	16
540-59-0	1,2-Dichloroethene, Total	96.94	16	U	16
67-66-3	Chloroform	119.38	20	U	20
109-99-9	Tetrahydrofuran	72.11	300	U	300
71-55-6	1,1,1-Trichloroethane	133.41	22	U	22
110-82-7	Cyclohexane	84.16	24		14
56-23-5	Carbon tetrachloride	153.81	5.1	U	5.1
540-84-1	2,2,4-Trimethylpentane	114.23	19	U	19
71-43-2	Benzene	78.11	23		13
107-06-2	1,2-Dichloroethane	98.96	16	U	16

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-04 | Lab Sample ID: 200-21798-4

Matrix: Air | Lab File ID: 7047_010.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 08:44

Sample wt/vol: 29(mL) | Date Analyzed: 04/15/2014 18:48

Soil Aliquot Vol: | Dilution Factor: 20.1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL
142-82-5	n-Heptane	100.21	21		16
79-01-6	Trichloroethene	131.39	1900		4.3
80-62-6	Methyl methacrylate	100.12	41	U	41
78-87-5	1,2-Dichloropropane	112.99	19	U	19
123-91-1	1,4-Dioxane	88.11	360	U	360
75-27-4	Bromodichloromethane	163.83	27	U	27
10061-01-5	cis-1,3-Dichloropropene	110.97	18	U	18
108-10-1	methyl isobutyl ketone	100.16	41	U	41
108-88-3	Toluene	92.14	78		15
10061-02-6	trans-1,3-Dichloropropene	110.97	18	U	18
79-00-5	1,1,2-Trichloroethane	133.41	22	U	22
127-18-4	Tetrachloroethene	165.83	27	U	27
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	41	U	41
124-48-1	Dibromochloromethane	208.29	34	U	34
106-93-4	1,2-Dibromoethane	187.87	31	U	31
108-90-7	Chlorobenzene	112.56	19	U	19
100-41-4	Ethylbenzene	106.17	17	U	17
179601-23-1	m,p-Xylene	106.17	81		44
95-47-6	Xylene, o-	106.17	45		17
1330-20-7	Xylene (total)	106.17	130		17
100-42-5	Styrene	104.15	17	U	17
75-25-2	Bromoform	252.75	42	U	42
98-82-8	Cumene	120.19	20	U	20
79-34-5	1,1,2,2-Tetrachloroethane	167.85	28	U	28
103-65-1	n-Propylbenzene	120.19	34		20
622-96-8	4-Ethyltoluene	120.20	46		20
108-67-8	1,3,5-Trimethylbenzene	120.20	120		20
95-49-8	2-Chlorotoluene	126.59	21	U	21
98-06-6	tert-Butylbenzene	134.22	22	U	22
95-63-6	1,2,4-Trimethylbenzene	120.20	340		20
135-98-8	sec-Butylbenzene	134.22	22	U	22
99-87-6	4-Isopropyltoluene	134.22	22	U	22
541-73-1	1,3-Dichlorobenzene	147.00	24	U	24
106-46-7	1,4-Dichlorobenzene	147.00	24	U	24

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-B5-04 | Lab Sample ID: 200-21798-4

Matrix: Air | Lab File ID: 7047_010.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 08:44

Sample wt/vol: 29(mL) | Date Analyzed: 04/15/2014 18:48

Soil Aliquot Vol: | Dilution Factor: 20.1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	21	U	21	
104-51-8	n-Butylbenzene	134.22	22	U	22	
95-50-1	1,2-Dichlorobenzene	147.00	24	U	24	
120-82-1	1,2,4-Trichlorobenzene	181.45	75	U	75	
87-68-3	Hexachlorobutadiene	260.76	43	U	43	
91-20-3	Naphthalene	128.17	650		53	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-WB-01 | Lab Sample ID: 200-21798-8

Matrix: Air | Lab File ID: 7047_013.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:52

Sample wt/vol: 200(mL) | Date Analyzed: 04/15/2014 21:26

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	2.5	U	2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.2		1.0	
106-97-8	n-Butane	58.12	2.5		1.2	
75-01-4	Vinyl chloride	62.50	0.10	U	0.10	
106-99-0	1,3-Butadiene	54.09	0.44	U	0.44	
74-83-9	Bromomethane	94.94	0.78	U	0.78	
75-00-3	Chloroethane	64.52	1.3	U	1.3	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.87	U	0.87	
75-69-4	Trichlorofluoromethane	137.37	1.4		1.1	
76-13-1	Freon TF	187.38	1.5	U	1.5	
75-35-4	1,1-Dichloroethene	96.94	0.79	U	0.79	
67-64-1	Acetone	58.08	12	U	12	
67-63-0	Isopropyl alcohol	60.10	12	U	12	
75-15-0	Carbon disulfide	76.14	1.6	U	1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	1.7	U	1.7	
75-65-0	tert-Butyl alcohol	74.12	15	U	15	
1634-04-4	Methyl tert-butyl ether	88.15	0.72	U	0.72	
156-60-5	trans-1,2-Dichloroethene	96.94	0.79	U	0.79	
110-54-3	n-Hexane	86.17	0.70	U	0.70	
75-34-3	1,1-Dichloroethane	98.96	0.81	U	0.81	
78-93-3	Methyl Ethyl Ketone	72.11	3.1		1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.79	U	0.79	
540-59-0	1,2-Dichloroethene, Total	96.94	0.79	U	0.79	
67-66-3	Chloroform	119.38	0.98	U	0.98	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	1.1	U	1.1	
110-82-7	Cyclohexane	84.16	0.69	U	0.69	
56-23-5	Carbon tetrachloride	153.81	0.46		0.25	
540-84-1	2,2,4-Trimethylpentane	114.23	0.93	U	0.93	
71-43-2	Benzene	78.11	0.64	U	0.64	
107-06-2	1,2-Dichloroethane	98.96	0.81	U	0.81	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-WB-01 | Lab Sample ID: 200-21798-8

Matrix: Air | Lab File ID: 7047_013.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:52

Sample wt/vol: 200(mL) | Date Analyzed: 04/15/2014 21:26

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	0.82	U	0.82	
79-01-6	Trichloroethene	131.39	0.21	U	0.21	
80-62-6	Methyl methacrylate	100.12	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	112.99	0.92	U	0.92	
123-91-1	1,4-Dioxane	88.11	18	U	18	
75-27-4	Bromodichloromethane	163.83	1.3	U	1.3	
10061-01-5	cis-1,3-Dichloropropene	110.97	0.91	U	0.91	
108-10-1	methyl isobutyl ketone	100.16	2.0	U	2.0	
108-88-3	Toluene	92.14	2.4		0.75	
10061-02-6	trans-1,3-Dichloropropene	110.97	0.91	U	0.91	
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1	
127-18-4	Tetrachloroethene	165.83	1.4	U	1.4	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	2.0	U	2.0	
124-48-1	Dibromochloromethane	208.29	1.7	U	1.7	
106-93-4	1,2-Dibromoethane	187.87	1.5	U	1.5	
108-90-7	Chlorobenzene	112.56	0.92	U	0.92	
100-41-4	Ethylbenzene	106.17	0.87	U	0.87	
179601-23-1	m,p-Xylene	106.17	2.4		2.2	
95-47-6	Xylene, o-	106.17	0.95		0.87	
1330-20-7	Xylene (total)	106.17	3.3		0.87	
100-42-5	Styrene	104.15	0.85	U	0.85	
75-25-2	Bromoform	252.75	2.1	U	2.1	
98-82-8	Cumene	120.19	0.98	U	0.98	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4	
103-65-1	n-Propylbenzene	120.19	0.98	U	0.98	
622-96-8	4-Ethyltoluene	120.20	0.98	U	0.98	
108-67-8	1,3,5-Trimethylbenzene	120.20	0.98	U	0.98	
95-49-8	2-Chlorotoluene	126.59	1.0	U	1.0	
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1	
95-63-6	1,2,4-Trimethylbenzene	120.20	1.5		0.98	
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1	
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1	
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2	
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-WB-01 Lab Sample ID: 200-21798-8

Matrix: Air Lab File ID: 7047_013.d

Analysis Method: TO-15 Date Collected: 04/09/2014 11:52

Sample wt/vol: 200(mL) Date Analyzed: 04/15/2014 21:26

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.0	U	1.0	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.7	U	3.7	
87-68-3	Hexachlorobutadiene	260.76	2.1	U	2.1	
91-20-3	Naphthalene	128.17	2.6	U	2.6	

907015-FF-WB-01

FORM I

AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 20140408-FD-02 Lab Sample ID: 200-21798-9

Matrix: Air Lab File ID: 7047_014.d

Analysis Method: TO-15 Date Collected: 04/09/2014 00:00

Sample wt/vol: 200(mL) Date Analyzed: 04/15/2014 22:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	2.5	U	2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.0		1.0	
106-97-8	n-Butane	58.12	3.8		1.2	
75-01-4	Vinyl chloride	62.50	0.10	U	0.10	
106-99-0	1,3-Butadiene	54.09	0.44	U	0.44	
74-83-9	Bromomethane	94.94	0.78	U	0.78	
75-00-3	Chloroethane	64.52	1.3	U	1.3	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.87	U	0.87	
75-69-4	Trichlorofluoromethane	137.37	1.3		1.1	
76-13-1	Freon TF	187.38	1.5	U	1.5	
75-35-4	1,1-Dichloroethene	96.94	0.79	U	0.79	
67-64-1	Acetone	58.08	12	U	12	
67-63-0	Isopropyl alcohol	60.10	12	U	12	
75-15-0	Carbon disulfide	76.14	1.6	U	1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	1.7	U	1.7	
75-65-0	tert-Butyl alcohol	74.12	15	U	15	
1634-04-4	Methyl tert-butyl ether	88.15	0.72	U	0.72	
156-60-5	trans-1,2-Dichloroethene	96.94	0.79	U	0.79	
110-54-3	n-Hexane	86.17	1.7		0.70	
75-34-3	1,1-Dichloroethane	98.96	0.81	U	0.81	
78-93-3	Methyl Ethyl Ketone	72.11	2.7		1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.79	U	0.79	
540-59-0	1,2-Dichloroethene, Total	96.94	0.79	U	0.79	
67-66-3	Chloroform	119.38	0.98	U	0.98	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	1.1	U	1.1	
110-82-7	Cyclohexane	84.16	0.69	U	0.69	
56-23-5	Carbon tetrachloride	153.81	0.39		0.25	
540-84-1	2,2,4-Trimethylpentane	114.23	0.93	U	0.93	
71-43-2	Benzene	78.11	0.64	U	0.64	
107-06-2	1,2-Dichloroethane	98.96	0.81	U	0.81	

907015-FF-WB-01

FORM I

AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 20140408-FD-02 Lab Sample ID: 200-21798-9

Matrix: Air Lab File ID: 7047_014.d

Analysis Method: TO-15 Date Collected: 04/09/2014 00:00

Sample wt/vol: 200(mL) Date Analyzed: 04/15/2014 22:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	1.2		0.82	
79-01-6	Trichloroethene	131.39	0.21	U	0.21	
80-62-6	Methyl methacrylate	100.12	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	112.99	0.92	U	0.92	
123-91-1	1,4-Dioxane	88.11	18	U	18	
75-27-4	Bromodichloromethane	163.83	1.3	U	1.3	
10061-01-5	cis-1,3-Dichloropropene	110.97	0.91	U	0.91	
108-10-1	methyl isobutyl ketone	100.16	2.0	U	2.0	
108-88-3	Toluene	92.14	2.2		0.75	
10061-02-6	trans-1,3-Dichloropropene	110.97	0.91	U	0.91	
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1	
127-18-4	Tetrachloroethene	165.83	1.4	U	1.4	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	2.0	U	2.0	
124-48-1	Dibromochloromethane	208.29	1.7	U	1.7	
106-93-4	1,2-Dibromoethane	187.87	1.5	U	1.5	
108-90-7	Chlorobenzene	112.56	0.92	U	0.92	
100-41-4	Ethylbenzene	106.17	0.87	U	0.87	
179601-23-1	m,p-Xylene	106.17	2.2	U	2.2	
95-47-6	Xylene, o-	106.17	0.87	U	0.87	
1330-20-7	Xylene (total)	106.17	0.87	U	0.87	
100-42-5	Styrene	104.15	0.85	U	0.85	
75-25-2	Bromoform	252.75	2.1	U	2.1	
98-82-8	Cumene	120.19	0.98	U	0.98	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4	
103-65-1	n-Propylbenzene	120.19	0.98	U	0.98	
622-96-8	4-Ethyltoluene	120.20	0.98	U	0.98	
108-67-8	1,3,5-Trimethylbenzene	120.20	0.98	U	0.98	
95-49-8	2-Chlorotoluene	126.59	1.0	U	1.0	
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1	
95-63-6	1,2,4-Trimethylbenzene	120.20	1.3		0.98	
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1	
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1	
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2	
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2	

907015-FF-WB-0

FORM I

AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 20140408-FD-02 Lab Sample ID: 200-21798-9

Matrix: Air Lab File ID: 7047_014.d

Analysis Method: TO-15 Date Collected: 04/09/2014 00:00

Sample wt/vol: 200(mL) Date Analyzed: 04/15/2014 22:17

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.0	U	1.0	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.7	U	3.7	
87-68-3	Hexachlorobutadiene	260.76	2.1	U	2.1	
91-20-3	Naphthalene	128.17	2.6	U	2.6	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-WB-02 | Lab Sample ID: 200-21798-12

Matrix: Air | Lab File ID: 7047_017.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 12:11

Sample wt/vol: 200(mL) | Date Analyzed: 04/16/2014 00:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	2.5	U	2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.0		1.0	
106-97-8	n-Butane	58.12	2.4		1.2	
75-01-4	Vinyl chloride	62.50	0.10	U	0.10	
106-99-0	1,3-Butadiene	54.09	0.44	U	0.44	
74-83-9	Bromomethane	94.94	0.78	U	0.78	
75-00-3	Chloroethane	64.52	1.3	U	1.3	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.87	U	0.87	
75-69-4	Trichlorofluoromethane	137.37	1.3		1.1	
76-13-1	Freon TF	187.38	1.5	U	1.5	
75-35-4	1,1-Dichloroethene	96.94	0.79	U	0.79	
67-64-1	Acetone	58.08	12	U	12	
67-63-0	Isopropyl alcohol	60.10	12	U	12	
75-15-0	Carbon disulfide	76.14	1.6	U	1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	1.7	U	1.7	
75-65-0	tert-Butyl alcohol	74.12	15	U	15	
1634-04-4	Methyl tert-butyl ether	88.15	0.72	U	0.72	
156-60-5	trans-1,2-Dichloroethene	96.94	0.79	U	0.79	
110-54-3	n-Hexane	86.17	0.70	U	0.70	
75-34-3	1,1-Dichloroethane	98.96	0.81	U	0.81	
78-93-3	Methyl Ethyl Ketone	72.11	1.5	U	1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.79	U	0.79	
540-59-0	1,2-Dichloroethene, Total	96.94	0.79	U	0.79	
67-66-3	Chloroform	119.38	0.98	U	0.98	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	1.1	U	1.1	
110-82-7	Cyclohexane	84.16	0.69	U	0.69	
56-23-5	Carbon tetrachloride	153.81	0.42		0.25	
540-84-1	2,2,4-Trimethylpentane	114.23	0.93	U	0.93	
71-43-2	Benzene	78.11	0.64	U	0.64	
107-06-2	1,2-Dichloroethane	98.96	0.81	U	0.81	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-WB-02 | Lab Sample ID: 200-21798-12

Matrix: Air | Lab File ID: 7047_017.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 12:11

Sample wt/vol: 200(mL) | Date Analyzed: 04/16/2014 00:52

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	0.82	U	0.82	
79-01-6	Trichloroethene	131.39	0.21	U	0.21	
80-62-6	Methyl methacrylate	100.12	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	112.99	0.92	U	0.92	
123-91-1	1,4-Dioxane	88.11	18	U	18	
75-27-4	Bromodichloromethane	163.83	1.3	U	1.3	
10061-01-5	cis-1,3-Dichloropropene	110.97	0.91	U	0.91	
108-10-1	methyl isobutyl ketone	100.16	2.0	U	2.0	
108-88-3	Toluene	92.14	2.4		0.75	
10061-02-6	trans-1,3-Dichloropropene	110.97	0.91	U	0.91	
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1	
127-18-4	Tetrachloroethene	165.83	1.4	U	1.4	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	2.0	U	2.0	
124-48-1	Dibromochloromethane	208.29	1.7	U	1.7	
106-93-4	1,2-Dibromoethane	187.87	1.5	U	1.5	
108-90-7	Chlorobenzene	112.56	0.92	U	0.92	
100-41-4	Ethylbenzene	106.17	0.87	U	0.87	
179601-23-1	m,p-Xylene	106.17	2.2		2.2	
95-47-6	Xylene, o-	106.17	0.88		0.87	
1330-20-7	Xylene (total)	106.17	3.1		0.87	
100-42-5	Styrene	104.15	0.85	U	0.85	
75-25-2	Bromoform	252.75	2.1	U	2.1	
98-82-8	Cumene	120.19	0.98	U	0.98	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4	
103-65-1	n-Propylbenzene	120.19	0.98	U	0.98	
622-96-8	4-Ethyltoluene	120.20	0.98	U	0.98	
108-67-8	1,3,5-Trimethylbenzene	120.20	0.98	U	0.98	
95-49-8	2-Chlorotoluene	126.59	1.0	U	1.0	
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1	
95-63-6	1,2,4-Trimethylbenzene	120.20	0.98	U	0.98	
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1	
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1	
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2	
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-FF-WB-02 Lab Sample ID: 200-21798-12

Matrix: Air Lab File ID: 7047_017.d

Analysis Method: TO-15 Date Collected: 04/09/2014 12:11

Sample wt/vol: 200(mL) Date Analyzed: 04/16/2014 00:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.0	U	1.0	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.7	U	3.7	
87-68-3	Hexachlorobutadiene	260.76	2.1	U	2.1	
91-20-3	Naphthalene	128.17	2.6	U	2.6	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-05 | Lab Sample ID: 200-21798-5

Matrix: Air | Lab File ID: 7047_011.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:47

Sample wt/vol: 500(mL) | Date Analyzed: 04/15/2014 19:45

Soil Aliquot Vol: | Dilution Factor: 1.03

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	2.9		2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.1	U	1.1	
106-97-8	n-Butane	58.12	7.6		1.2	
75-01-4	Vinyl chloride	62.50	0.61		0.11	
106-99-0	1,3-Butadiene	54.09	0.46	U	0.46	
74-83-9	Bromomethane	94.94	0.80	U	0.80	
75-00-3	Chloroethane	64.52	9.6		1.4	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.90	U	0.90	
75-69-4	Trichlorofluoromethane	137.37	2.0		1.2	
76-13-1	Freon TF	187.38	1.6	U	1.6	
75-35-4	1,1-Dichloroethene	96.94	0.82	U	0.82	
67-64-1	Acetone	58.08	34		12	
67-63-0	Isopropyl alcohol	60.10	13	U	13	
75-15-0	Carbon disulfide	76.14	3.8		1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	1.8	U	1.8	
75-65-0	tert-Butyl alcohol	74.12	16	U	16	
1634-04-4	Methyl tert-butyl ether	88.15	0.74	U	0.74	
156-60-5	trans-1,2-Dichloroethene	96.94	0.82	U	0.82	
110-54-3	n-Hexane	86.17	6.8		0.73	
75-34-3	1,1-Dichloroethane	98.96	0.83	U	0.83	
78-93-3	Methyl Ethyl Ketone	72.11	5.8		1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.82	U	0.82	
540-59-0	1,2-Dichloroethene, Total	96.94	0.82	U	0.82	
67-66-3	Chloroform	119.38	1.0	U	1.0	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	1.5		1.1	
110-82-7	Cyclohexane	84.16	3.0		0.71	
56-23-5	Carbon tetrachloride	153.81	0.30		0.26	
540-84-1	2,2,4-Trimethylpentane	114.23	0.96	U	0.96	
71-43-2	Benzene	78.11	2.6		0.66	
107-06-2	1,2-Dichloroethane	98.96	0.83	U	0.83	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-05 | Lab Sample ID: 200-21798-5

Matrix: Air | Lab File ID: 7047_011.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:47

Sample wt/vol: 500(mL) | Date Analyzed: 04/15/2014 19:45

Soil Aliquot Vol: | Dilution Factor: 1.03

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	7.6		0.84	
79-01-6	Trichloroethene	131.39	52		0.22	
80-62-6	Methyl methacrylate	100.12	2.1	U	2.1	
78-87-5	1,2-Dichloropropane	112.99	0.95	U	0.95	
123-91-1	1,4-Dioxane	88.11	19	U	19	
75-27-4	Bromodichloromethane	163.83	1.4	U	1.4	
10061-01-5	cis-1,3-Dichloropropene	110.97	0.93	U	0.93	
108-10-1	methyl isobutyl ketone	100.16	2.1	U	2.1	
108-88-3	Toluene	92.14	66		0.78	
10061-02-6	trans-1,3-Dichloropropene	110.97	0.93	U	0.93	
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1	
127-18-4	Tetrachloroethene	165.83	6.9		1.4	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	2.1	U	2.1	
124-48-1	Dibromochloromethane	208.29	1.8	U	1.8	
106-93-4	1,2-Dibromoethane	187.87	1.6	U	1.6	
108-90-7	Chlorobenzene	112.56	0.95	U	0.95	
100-41-4	Ethylbenzene	106.17	11		0.89	
179601-23-1	m,p-Xylene	106.17	44		2.2	
95-47-6	Xylene, o-	106.17	15		0.89	
1330-20-7	Xylene (total)	106.17	58		0.89	
100-42-5	Styrene	104.15	0.88	U	0.88	
75-25-2	Bromoform	252.75	2.1	U	2.1	
98-82-8	Cumene	120.19	1.0	U	1.0	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4	
103-65-1	n-Propylbenzene	120.19	1.0	U	1.0	
622-96-8	4-Ethyltoluene	120.20	1.0	U	1.0	
108-67-8	1,3,5-Trimethylbenzene	120.20	1.9		1.0	
95-49-8	2-Chlorotoluene	126.59	1.1	U	1.1	
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1	
95-63-6	1,2,4-Trimethylbenzene	120.20	4.4		1.0	
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1	
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1	
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2	
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-05 Lab Sample ID: 200-21798-5

Matrix: Air Lab File ID: 7047_011.d

Analysis Method: TO-15 Date Collected: 04/09/2014 11:47

Sample wt/vol: 500(mL) Date Analyzed: 04/15/2014 19:45

Soil Aliquot Vol: Dilution Factor: 1.03

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.1	U	1.1	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.8	U	3.8	
87-68-3	Hexachlorobutadiene	260.76	2.2	U	2.2	
91-20-3	Naphthalene	128.17	5.4		2.7	

90705-SS-WB-06

FORM I

AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 20140408-FD-01 Lab Sample ID: 200-21798-7

Matrix: Air Lab File ID: 7047_012.d

Analysis Method: TO-15 Date Collected: 04/09/2014 00:00

Sample wt/vol: 200(mL) Date Analyzed: 04/15/2014 20:36

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	2.5	U	2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.0	U	1.0	
106-97-8	n-Butane	58.12	5.7		1.2	
75-01-4	Vinyl chloride	62.50	0.95		0.10	
106-99-0	1,3-Butadiene	54.09	0.44	U	0.44	
74-83-9	Bromomethane	94.94	0.78	U	0.78	
75-00-3	Chloroethane	64.52	17		1.3	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.87	U	0.87	
75-69-4	Trichlorofluoromethane	137.37	1.1	U	1.1	
76-13-1	Freon TF	187.38	1.5	U	1.5	
75-35-4	1,1-Dichloroethene	96.94	0.79	U	0.79	
67-64-1	Acetone	58.08	37		12	
67-63-0	Isopropyl alcohol	60.10	12	U	12	
75-15-0	Carbon disulfide	76.14	3.1		1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	1.7	U	1.7	
75-65-0	tert-Butyl alcohol	74.12	15	U	15	
1634-04-4	Methyl tert-butyl ether	88.15	0.72	U	0.72	
156-60-5	trans-1,2-Dichloroethene	96.94	0.79	U	0.79	
110-54-3	n-Hexane	86.17	6.1		0.70	
75-34-3	1,1-Dichloroethane	98.96	0.81	U	0.81	
78-93-3	Methyl Ethyl Ketone	72.11	3.2		1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.79	U	0.79	
540-59-0	1,2-Dichloroethene, Total	96.94	0.79	U	0.79	
67-66-3	Chloroform	119.38	0.98	U	0.98	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	3.0		1.1	
110-82-7	Cyclohexane	84.16	2.1		0.69	
56-23-5	Carbon tetrachloride	153.81	0.25	U	0.25	
540-84-1	2,2,4-Trimethylpentane	114.23	0.93	U	0.93	
71-43-2	Benzene	78.11	1.4		0.64	
107-06-2	1,2-Dichloroethane	98.96	0.81	U	0.81	

907015-SS-WB-06

FORM I

AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 20140408-FD-01 Lab Sample ID: 200-21798-7

Matrix: Air Lab File ID: 7047_012.d

Analysis Method: TO-15 Date Collected: 04/09/2014 00:00

Sample wt/vol: 200(mL) Date Analyzed: 04/15/2014 20:36

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL
142-82-5	n-Heptane	100.21	6.5		0.82
79-01-6	Trichloroethene	131.39	0.34		0.21
80-62-6	Methyl methacrylate	100.12	2.0	U	2.0
78-87-5	1,2-Dichloropropane	112.99	0.92	U	0.92
123-91-1	1,4-Dioxane	88.11	18	U	18
75-27-4	Bromodichloromethane	163.83	1.3	U	1.3
10061-01-5	cis-1,3-Dichloropropene	110.97	0.91	U	0.91
108-10-1	methyl isobutyl ketone	100.16	2.0	U	2.0
108-88-3	Toluene	92.14	14		0.75
10061-02-6	trans-1,3-Dichloropropene	110.97	0.91	U	0.91
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1
127-18-4	Tetrachloroethene	165.83	16		1.4
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	2.3		2.0
124-48-1	Dibromochloromethane	208.29	1.7	U	1.7
106-93-4	1,2-Dibromoethane	187.87	1.5	U	1.5
108-90-7	Chlorobenzene	112.56	0.92	U	0.92
100-41-4	Ethylbenzene	106.17	3.2		0.87
179601-23-1	m,p-Xylene	106.17	14		2.2
95-47-6	Xylene, o-	106.17	4.4		0.87
1330-20-7	Xylene (total)	106.17	18		0.87
100-42-5	Styrene	104.15	0.85	U	0.85
75-25-2	Bromoform	252.75	2.1	U	2.1
98-82-8	Cumene	120.19	0.98	U	0.98
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4
103-65-1	n-Propylbenzene	120.19	0.98	U	0.98
622-96-8	4-Ethyltoluene	120.20	0.98	U	0.98
108-67-8	1,3,5-Trimethylbenzene	120.20	0.98	U	0.98
95-49-8	2-Chlorotoluene	126.59	1.0	U	1.0
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1
95-63-6	1,2,4-Trimethylbenzene	120.20	1.2		0.98
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2

907015-SS-WB-06

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 20140408-FD-01 Lab Sample ID: 200-21798-7

Matrix: Air Lab File ID: 7047_012.d

Analysis Method: TO-15 Date Collected: 04/09/2014 00:00

Sample wt/vol: 200(mL) Date Analyzed: 04/15/2014 20:36

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70788 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.0	U	1.0	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.7	U	3.7	
87-68-3	Hexachlorobutadiene	260.76	2.1	U	2.1	
91-20-3	Naphthalene	128.17	2.6	U	2.6	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-07 | Lab Sample ID: 200-21798-10

Matrix: Air | Lab File ID: 7047_015.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 10:30

Sample wt/vol: 200(mL) | Date Analyzed: 04/15/2014 23:07

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	2.5	U	2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.0	U	1.0	
106-97-8	n-Butane	58.12	7.6		1.2	
75-01-4	Vinyl chloride	62.50	0.82		0.10	
106-99-0	1,3-Butadiene	54.09	0.69		0.44	
74-83-9	Bromomethane	94.94	0.78	U	0.78	
75-00-3	Chloroethane	64.52	1.3	U	1.3	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.87	U	0.87	
75-69-4	Trichlorofluoromethane	137.37	1.1		1.1	
76-13-1	Freon TF	187.38	1.5	U	1.5	
75-35-4	1,1-Dichloroethene	96.94	0.79	U	0.79	
67-64-1	Acetone	58.08	55		12	
67-63-0	Isopropyl alcohol	60.10	12	U	12	
75-15-0	Carbon disulfide	76.14	3.1		1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	1.7	U	1.7	
75-65-0	tert-Butyl alcohol	74.12	15	U	15	
1634-04-4	Methyl tert-butyl ether	88.15	0.72	U	0.72	
156-60-5	trans-1,2-Dichloroethene	96.94	0.79	U	0.79	
110-54-3	n-Hexane	86.17	7.0		0.70	
75-34-3	1,1-Dichloroethane	98.96	0.81	U	0.81	
78-93-3	Methyl Ethyl Ketone	72.11	15		1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.79	U	0.79	
540-59-0	1,2-Dichloroethene, Total	96.94	0.79	U	0.79	
67-66-3	Chloroform	119.38	0.98	U	0.98	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	6.4		1.1	
110-82-7	Cyclohexane	84.16	4.6		0.69	
56-23-5	Carbon tetrachloride	153.81	0.25	U	0.25	
540-84-1	2,2,4-Trimethylpentane	114.23	0.93	U	0.93	
71-43-2	Benzene	78.11	17		0.64	
107-06-2	1,2-Dichloroethane	98.96	0.81	U	0.81	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-07 | Lab Sample ID: 200-21798-10

Matrix: Air | Lab File ID: 7047_015.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 10:30

Sample wt/vol: 200(mL) | Date Analyzed: 04/15/2014 23:07

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	12		0.82	
79-01-6	Trichloroethene	131.39	2.2		0.21	
80-62-6	Methyl methacrylate	100.12	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	112.99	0.92	U	0.92	
123-91-1	1,4-Dioxane	88.11	18	U	18	
75-27-4	Bromodichloromethane	163.83	1.3	U	1.3	
10061-01-5	cis-1,3-Dichloropropene	110.97	0.91	U	0.91	
108-10-1	methyl isobutyl ketone	100.16	7.7		2.0	
108-88-3	Toluene	92.14	12		0.75	
10061-02-6	trans-1,3-Dichloropropene	110.97	0.91	U	0.91	
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1	
127-18-4	Tetrachloroethene	165.83	28		1.4	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	8.2		2.0	
124-48-1	Dibromochloromethane	208.29	1.7	U	1.7	
106-93-4	1,2-Dibromoethane	187.87	1.5	U	1.5	
108-90-7	Chlorobenzene	112.56	0.92	U	0.92	
100-41-4	Ethylbenzene	106.17	25		0.87	
179601-23-1	m,p-Xylene	106.17	200		2.2	
95-47-6	Xylene, o-	106.17	81		0.87	
1330-20-7	Xylene (total)	106.17	290		0.87	
100-42-5	Styrene	104.15	0.85	U	0.85	
75-25-2	Bromoform	252.75	2.1	U	2.1	
98-82-8	Cumene	120.19	2.9		0.98	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4	
103-65-1	n-Propylbenzene	120.19	0.98	U	0.98	
622-96-8	4-Ethyltoluene	120.20	2.0		0.98	
108-67-8	1,3,5-Trimethylbenzene	120.20	7.2		0.98	
95-49-8	2-Chlorotoluene	126.59	1.0	U	1.0	
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1	
95-63-6	1,2,4-Trimethylbenzene	120.20	13		0.98	
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1	
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1	
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2	
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-07 | Lab Sample ID: 200-21798-10

Matrix: Air | Lab File ID: 7047_015.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 10:30

Sample wt/vol: 200(mL) | Date Analyzed: 04/15/2014 23:07

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.0	U	1.0	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.7	U	3.7	
87-68-3	Hexachlorobutadiene	260.76	2.1	U	2.1	
91-20-3	Naphthalene	128.17	14		2.6	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-08 | Lab Sample ID: 200-21798-11

Matrix: Air | Lab File ID: 7047_016.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 12:10

Sample wt/vol: 376(mL) | Date Analyzed: 04/16/2014 00:02

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	3.2		2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.0	U	1.0	
106-97-8	n-Butane	58.12	6.8		1.2	
75-01-4	Vinyl chloride	62.50	0.10	U	0.10	
106-99-0	1,3-Butadiene	54.09	1.0		0.44	
74-83-9	Bromomethane	94.94	0.78	U	0.78	
75-00-3	Chloroethane	64.52	1.3	U	1.3	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.87	U	0.87	
75-69-4	Trichlorofluoromethane	137.37	1.1		1.1	
76-13-1	Freon TF	187.38	1.5	U	1.5	
75-35-4	1,1-Dichloroethene	96.94	0.79	U	0.79	
67-64-1	Acetone	58.08	23		12	
67-63-0	Isopropyl alcohol	60.10	12	U	12	
75-15-0	Carbon disulfide	76.14	1.6	U	1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	1.7	U	1.7	
75-65-0	tert-Butyl alcohol	74.12	15	U	15	
1634-04-4	Methyl tert-butyl ether	88.15	0.72	U	0.72	
156-60-5	trans-1,2-Dichloroethene	96.94	0.79	U	0.79	
110-54-3	n-Hexane	86.17	3.6		0.70	
75-34-3	1,1-Dichloroethane	98.96	0.81	U	0.81	
78-93-3	Methyl Ethyl Ketone	72.11	4.6		1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.79	U	0.79	
540-59-0	1,2-Dichloroethene, Total	96.94	0.79	U	0.79	
67-66-3	Chloroform	119.38	0.98	U	0.98	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	1.1	U	1.1	
110-82-7	Cyclohexane	84.16	3.1		0.69	
56-23-5	Carbon tetrachloride	153.81	0.25	U	0.25	
540-84-1	2,2,4-Trimethylpentane	114.23	0.93	U	0.93	
71-43-2	Benzene	78.11	3.8		0.64	
107-06-2	1,2-Dichloroethane	98.96	0.81	U	0.81	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-08 | Lab Sample ID: 200-21798-11

Matrix: Air | Lab File ID: 7047_016.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 12:10

Sample wt/vol: 376(mL) | Date Analyzed: 04/16/2014 00:02

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	3.4		0.82	
79-01-6	Trichloroethene	131.39	0.32		0.21	
80-62-6	Methyl methacrylate	100.12	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	112.99	0.92	U	0.92	
123-91-1	1,4-Dioxane	88.11	18	U	18	
75-27-4	Bromodichloromethane	163.83	1.3	U	1.3	
10061-01-5	cis-1,3-Dichloropropene	110.97	0.91	U	0.91	
108-10-1	methyl isobutyl ketone	100.16	6.9		2.0	
108-88-3	Toluene	92.14	8.3		0.75	
10061-02-6	trans-1,3-Dichloropropene	110.97	0.91	U	0.91	
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1	
127-18-4	Tetrachloroethene	165.83	14		1.4	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	2.0	U	2.0	
124-48-1	Dibromochloromethane	208.29	1.7	U	1.7	
106-93-4	1,2-Dibromoethane	187.87	1.5	U	1.5	
108-90-7	Chlorobenzene	112.56	0.92	U	0.92	
100-41-4	Ethylbenzene	106.17	6.6		0.87	
179601-23-1	m,p-Xylene	106.17	31		2.2	
95-47-6	Xylene, o-	106.17	17		0.87	
1330-20-7	Xylene (total)	106.17	48		0.87	
100-42-5	Styrene	104.15	0.85	U	0.85	
75-25-2	Bromoform	252.75	2.1	U	2.1	
98-82-8	Cumene	120.19	0.98	U	0.98	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4	
103-65-1	n-Propylbenzene	120.19	0.98	U	0.98	
622-96-8	4-Ethyltoluene	120.20	0.98	U	0.98	
108-67-8	1,3,5-Trimethylbenzene	120.20	1.2		0.98	
95-49-8	2-Chlorotoluene	126.59	1.0	U	1.0	
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1	
95-63-6	1,2,4-Trimethylbenzene	120.20	3.3		0.98	
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1	
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1	
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2	
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-SS-WB-08 | Lab Sample ID: 200-21798-11

Matrix: Air | Lab File ID: 7047_016.d

Analysis Method: TO-15 | Date Collected: 04/09/2014 12:10

Sample wt/vol: 376(mL) | Date Analyzed: 04/16/2014 00:02

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70788 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.0	U	1.0	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.7	U	3.7	
87-68-3	Hexachlorobutadiene	260.76	2.1	U	2.1	
91-20-3	Naphthalene	128.17	2.6	U	2.6	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-OA-01 | Lab Sample ID: 200-21798-14

Matrix: Air | Lab File ID: 7093_024.D

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:14

Sample wt/vol: 200(mL) | Date Analyzed: 04/18/2014 07:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70897 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
75-71-8	Dichlorodifluoromethane	120.91	2.5	U	2.5	
75-45-6	Freon 22	86.47	1.8	U	1.8	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	1.4	U	1.4	
74-87-3	Chloromethane	50.49	1.0	U	1.0	
106-97-8	n-Butane	58.12	4.0		1.2	
75-01-4	Vinyl chloride	62.50	0.10	U	0.10	
106-99-0	1,3-Butadiene	54.09	0.44	U	0.44	
74-83-9	Bromomethane	94.94	0.78	U	0.78	
75-00-3	Chloroethane	64.52	1.3	U	1.3	
593-60-2	Bromoethene(Vinyl Bromide)	106.96	0.87	U	0.87	
75-69-4	Trichlorofluoromethane	137.37	1.1	U	1.1	
76-13-1	Freon TF	187.38	1.5	U	1.5	
75-35-4	1,1-Dichloroethene	96.94	0.79	U	0.79	
67-64-1	Acetone	58.08	14		12	
67-63-0	Isopropyl alcohol	60.10	12	U	12	
75-15-0	Carbon disulfide	76.14	1.6	U	1.6	
107-05-1	3-Chloropropene	76.53	1.6	U	1.6	
75-09-2	Methylene Chloride	84.93	1.7	U	1.7	
75-65-0	tert-Butyl alcohol	74.12	15	U	15	
1634-04-4	Methyl tert-butyl ether	88.15	0.72	U	0.72	
156-60-5	trans-1,2-Dichloroethene	96.94	0.79	U	0.79	
110-54-3	n-Hexane	86.17	1.5		0.70	
75-34-3	1,1-Dichloroethane	98.96	0.81	U	0.81	
78-93-3	Methyl Ethyl Ketone	72.11	6.3	J	1.5	
156-59-2	cis-1,2-Dichloroethene	96.94	0.79	U	0.79	
540-59-0	1,2-Dichloroethene, Total	96.94	0.79	U	0.79	
67-66-3	Chloroform	119.38	0.98	U	0.98	
109-99-9	Tetrahydrofuran	72.11	15	U	15	
71-55-6	1,1,1-Trichloroethane	133.41	1.1	U	1.1	
110-82-7	Cyclohexane	84.16	0.69	U	0.69	
56-23-5	Carbon tetrachloride	153.81	0.42		0.25	
540-84-1	2,2,4-Trimethylpentane	114.23	0.93	U	0.93	
71-43-2	Benzene	78.11	7.4		0.64	
107-06-2	1,2-Dichloroethane	98.96	0.81	U	0.81	

4/18/14

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington | Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-OA-01 | Lab Sample ID: 200-21798-14

Matrix: Air | Lab File ID: 7093_024.D

Analysis Method: TO-15 | Date Collected: 04/09/2014 11:14

Sample wt/vol: 200(mL) | Date Analyzed: 04/18/2014 07:12

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-624 ID: 0.32(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 70897 | Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
142-82-5	n-Heptane	100.21	1.3		0.82	
79-01-6	Trichloroethene	131.39	0.21	U	0.21	
80-62-6	Methyl methacrylate	100.12	2.0	U	2.0	
78-87-5	1,2-Dichloropropane	112.99	0.92	U	0.92	
123-91-1	1,4-Dioxane	88.11	18	U	18	
75-27-4	Bromodichloromethane	163.83	1.3	U	1.3	
10061-01-5	cis-1,3-Dichloropropene	110.97	0.91	U	0.91	
108-10-1	methyl isobutyl ketone	100.16	2.0	U	2.0	
108-88-3	Toluene	92.14	5.0		0.75	
10061-02-6	trans-1,3-Dichloropropene	110.97	0.91	U	0.91	
79-00-5	1,1,2-Trichloroethane	133.41	1.1	U	1.1	
127-18-4	Tetrachloroethene	165.83	1.4	U	1.4	
591-78-6	Methyl Butyl Ketone (2-Hexanone)	100.20	2.0	U	2.0	
124-48-1	Dibromochloromethane	208.29	1.7	U	1.7	
106-93-4	1,2-Dibromoethane	187.87	1.5	U	1.5	
108-90-7	Chlorobenzene	112.56	0.92	U	0.92	
100-41-4	Ethylbenzene	106.17	0.87	U	0.87	
179601-23-1	m,p-Xylene	106.17	2.2	U	2.2	
95-47-6	Xylene, o-	106.17	0.87	U	0.87	
1330-20-7	Xylene (total)	106.17	0.87	U	0.87	
100-42-5	Styrene	104.15	0.85	U	0.85	
75-25-2	Bromoform	252.75	2.1	U	2.1	
98-82-8	Cumene	120.19	0.98	U	0.98	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	1.4	U	1.4	
103-65-1	n-Propylbenzene	120.19	0.98	U	0.98	
622-96-8	4-Ethyltoluene	120.20	0.98	U	0.98	
108-67-8	1,3,5-Trimethylbenzene	120.20	0.98	U	0.98	
95-49-8	2-Chlorotoluene	126.59	1.0	U	1.0	
98-06-6	tert-Butylbenzene	134.22	1.1	U	1.1	
95-63-6	1,2,4-Trimethylbenzene	120.20	0.98	U	0.98	
135-98-8	sec-Butylbenzene	134.22	1.1	U	1.1	
99-87-6	4-Isopropyltoluene	134.22	1.1	U	1.1	
541-73-1	1,3-Dichlorobenzene	147.00	1.2	U	1.2	
106-46-7	1,4-Dichlorobenzene	147.00	1.2	U	1.2	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Burlington Job No.: 200-21798-1

SDG No.: 21798

Client Sample ID: 907015-OA-01 Lab Sample ID: 200-21798-14

Matrix: Air Lab File ID: 7093_024.D

Analysis Method: TO-15 Date Collected: 04/09/2014 11:14

Sample wt/vol: 200(mL) Date Analyzed: 04/18/2014 07:12

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-624 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 70897 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
100-44-7	Benzyl chloride	126.58	1.0	U	1.0	
104-51-8	n-Butylbenzene	134.22	1.1	U	1.1	
95-50-1	1,2-Dichlorobenzene	147.00	1.2	U	1.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	3.7	U	3.7	
87-68-3	Hexachlorobutadiene	260.76	2.1	U	2.1	
91-20-3	Naphthalene	128.17	4.9		2.6	

ATTACHMENT B

SUPPORT DOCUMENTATION

AIR SAMPLE CHAIN OF CUSTODY RECORD

URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203
PHONE: 716-856-5636

URS CONTACT: George Kislok

…CT NUMBER: 569831.10000
SITE NAME: Essex/Hope

…ERS (PRINT/SIGNATURE): U-bain / Tom Uh…

…RY SERVICE: FedEx AIRBILL NO.:

LAB: Test America
SHIPPING CONTAINER 4 of 4
PAGE 1 of 2

…TION …IFIER	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX CODE	CANISTER SIZE (LITERS)	CANISTER ID	FLOW CONTROLLER ID	INITIAL PRESSURE/ VACUUM (" Hg)	FINAL PRESSURE/ VACUUM (" Hg)	PRESSURE/VACUUM UPON LAB RECEIPT (" Hg)	TO-15			REMARKS	SAMPLE TYPE CODE
B5-01	4/8/14	10:25	907015-SS-B5-01	AS	6	3391	3947	-26	-21		X				N1
B5-02	↓	10:47	907015-SS-B5-02	AS	6	5053	4031	-30	-7		X				N1
B5-03		11:02	907015-SS-B5-03	AS	6	5024	4725	-29	-5		X				N1
B5-04		11:14	907015-SS-B5-04	AS	6	3006	3239	-29	-25		X			-2.5 final inc.	N1
WB-05		11:26	907015-SS-WB-05	AS	6	4568	4519	-28	-20		X				N1
WB-06		11:43	907015-SS-WB-06	AS	6	3352	3099	-30	-30		X			Bad regulator	N1
FD-01		—	20140408-FD-01	AQ	6	4288	5199	-29	-4		X				FD1
WB-01		11:52	907015-FF-WB-01	AI	6	4804	4751	-30	-5		X				N1
FD-02		—	20140408-FD-02	AQ	6	4800	4522	-30	-6		X			WB-01	FD2
WB-07		11:58	907015-SS-WB-07	AS	6	2685	5213	-27	-4		X				N1
WB-08		12:10	907015-SS-WB-08	AS	6	3314	4738	-28	-14		X				N1
WB-02		12:11	907015-FF-WB-02	AI	6	2740	4490	-30	-5		X				N1
B5-03	↓	12:18	907015-FF-B5-03	AI	6	2905	3051	-26	-4		X				N1

WB-06

…TRIX CODES: AA - AMBIENT AIR; AI - INDOOR AIR; AQ - FIELD QC; AS - SUB-SLAB AIR; GS - SOIL GAS

…IPLE CODES: N# - NORMAL ENVIRONMENTAL SAMPLE; FD# - FIELD DUPLICATE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

…QUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	SPECIAL INSTRUCTIONS
Uh…	4/9/14	1300				
…QUISHED BY (SIGNATURE)	**DATE**	**TIME**	**RECEIVED FOR LAB BY (SIGNATURE)**	**DATE**	**TIME**	
			TA BUF	4/10/14	1010	200-21798 Chain of Custody

…ution: Original accompanies shipment, copy to project file

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…/1 OF 1/CofCR/GCM

CASE NARRATIVE

Client: URS Corporation

Project: Jamestown NY 41569831.10000

Report Number: 200-21798-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 04/10/2014. The sample collection start dates and times were listed on the COC, however the sample collection end dates and times listed on the sample labels were used for the login.

The flow controller used to collect sample 907015-SS-WB-06 became clogged, and no sample was pulled into the canister. The pressure of that sample was measured at -29.2 at the laboratory, and the analysis was cancelled. Three other samples arrived with pressures greater than -10". The results of their analyses are listed below.

VOLATILE ORGANIC COMPOUNDS

Samples 907015-SS-B5-01, 907015-SS-B5-02, 907015-SS-B5-03, 907015-SS-B5-04, 907015-SS-WB-05, 20140408-FD-01, 907015-FF-WB-01, 20140408-FD-02, 907015-SS-WB-07, 907015-SS-WB-08, 907015-FF-WB-02, 907015-FF-B5-03, 907015-OA-01 and [redacted] were analyzed for Volatile Organic Compounds in accordance with EPA Method TO-15. The samples were analyzed on 04/15/2014, 04/16/2014 and 04/18/2014.

Sample 907015-SS-B5-01 arrived at the laboratory with a pressure of -23.0 and indications that the flow controller became plugged, however the analysis of this sample was perfored at a 29.9X dilution to bring the concentration of TCE within calibration range.

Sample 907015-SS-WB-05 arrived at the laboratory with a pressure of -20.6. The laboratoy was able to purge additional volume for this sample, resulting in analysis at a 1.03X dilution. Sample 907015-SS-WB-08 arrived with a pressure of -16.3. The laboratory was able to purge additional volume for this sample, resulting in a full strength analysis.

The analyses of samples 907015-SS-B5-02, 907015-SS-B5-03, 907015-SS-B5-04 and [redacted] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the VOC analysis.

All quality control parameters were within the acceptance limits.

AIR SAMPLE CHAIN OF CUSTODY RECORD

URS CORPORATION
77 GOODELL STREET
BUFFALO, NY 14203
PHONE: 716-856-5636

URS CONTACT: George Kisluk

ECT NUMBER: 56931.10000

SITE NAME: Essex/Hope

LAB: Test America

SHIPPING CONTAINER ____ of 4

PAGE 2 of 2

ERS (PRINT/SIGNATURE)

M Urban / Tom Uhler

ERY SERVICE: Fed Ex AIRBILL NO.: _____

ATION TIFIER	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX CODE	CANISTER SIZE (LITERS)	CANISTER ID	FLOW CONTROLLER ID	INITIAL PRESSURE/ VACUUM (" Hg)	FINAL PRESSURE/ VACUUM (" Hg)	PRESSURE/VACUUM UPON LAB RECEIPT (" Hg)	REQUIRED ANALYSIS: TO-15			REMARKS	SAMPLE TYPE CODE
A-01	4/8/14	12:24	901015-CA-01	AA	6	5050	2764	-30	-6		Y				N
[redacted]															

MATRIX CODES: AA - AMBIENT AIR; AI - INDOOR AIR; AQ - FIELD QC; AS - SUB-SLAB AIR; GS - SOIL GAS

SAMPLE TYPE CODES: N# - NORMAL ENVIRONMENTAL SAMPLE; FD# - FIELD DUPLICATE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

QUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME	SPECIAL INSTRUCTIONS
	4/9/14	1300				
QUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME	
			TMER	4/7/14	10:10	

tion: Original accompanies shipment, copy to project file

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OF 1/CofCR/GCM

FORM VI
AIR - GC/MS VOA INITIAL CALIBRATION DATA
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Burlington Job No.: 200-21798-1 Analy Batch No.: 69511

SDG No.: 21798

Instrument ID: CHB.i GC Column: RTX-624 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/14/2014 12:11 Calibration End Date: 03/14/2014 18:16 Calibration ID: 25935

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Methyl Ethyl Ketone	+++++ 0.4418	+++++ 0.4450	0.8399 0.3800	0.4577	0.4251	Ave		0.4983				34.0	*	30.0			
Tetrahydrofuran	+++++ 0.1117	+++++ 0.1099	+++++ 0.0985	0.1178	0.1074	Ave		0.1091				6.4		30.0			
Chloroform	+++++ 1.9716	2.5748 2.0083	2.3925 1.8935	1.9886	1.8740	Ave		2.1005				13.0		30.0			
Cyclohexane	+++++ 0.2828	0.3575 0.2783	0.3407 0.2402	0.2887	0.2710	Ave		0.2942				14.0		30.0			
1,1,1-Trichloroethane	+++++ 0.4425	0.5572 0.4388	0.5158 0.3914	0.4421	0.4164	Ave		0.4577				13.0		30.0			
Carbon tetrachloride	0.6115 0.4897	0.5836 0.4916	0.5501 0.4547	0.4723	0.4552	Ave		0.5136				12.0		30.0			
2,2,4-Trimethylpentane	+++++ 0.7071	0.9184 0.6918	0.8763 0.6075	0.7453	0.6773	Ave		0.7462				15.0		30.0			
Benzene	+++++ 0.6129	0.8222 0.6130	0.7646 0.5549	0.6220	0.5801	Ave		0.6528				15.0		30.0			
1,2-Dichloroethane	+++++ 0.2090	0.2697 0.2119	0.2546 0.1999	0.2114	0.1969	Ave		0.2219				13.0		30.0			
n-Heptane	+++++ 0.1925	0.2935 0.1873	0.2683 0.1621	0.2119	0.1869	Ave		0.2147				22.0		30.0			
n-Butanol	+++++ 0.0900	+++++ 0.0818	+++++ 0.0739	0.0788	0.0745	Ave		0.0798				8.2		30.0			
Trichloroethene	0.4028 0.3019	0.3870 0.3006	0.3557 0.2688	0.3022	0.2852	Ave		0.3255				15.0		30.0			
1,2-Dichloropropane	+++++ 0.1758	0.2441 0.1728	0.2297 0.1506	0.1858	0.1701	Ave		0.1898				18.0		30.0			
Methyl methacrylate	+++++ 0.1989	+++++ 0.1964	0.2206 0.1742	0.2006	0.1891	Ave		0.1966				7.7		30.0			
1,4-Dioxane	+++++ 0.1171	+++++ 0.1126	+++++ 0.0963	0.1078	0.1028	Ave		0.1073				7.6		30.0			
Dibromomethane	+++++ 0.3359	0.4116 0.3256	0.3834 0.2694	0.3341	0.3200	Ave		0.3400				14.0		30.0			
Bromodichloromethane	+++++ 0.4522	0.5578 0.4529	0.5174 0.4105	0.4540	0.4263	Ave		0.4673				11.0		30.0			
cis-1,3-Dichloropropene	+++++ 0.3350	0.3894 0.3372	0.3708 0.3102	0.3287	0.3124	Ave		0.3405				8.6		30.0			
methyl isobutyl ketone	+++++ 0.2607	+++++ 0.2567	0.3111 0.2275	0.2738	0.2506	Ave		0.2634				11.0		30.0			
n-Octane	+++++ 0.2612	0.3942 0.2518	0.3649 0.2117	0.2958	0.2582	Ave		0.2911				23.0		30.0			

Note: The ml coefficient is the same as Ave RRF for an Ave curve type.

APPENDIX D

NYSDOH SOIL VAPOR/INDOOR AIR DECISION MATRICES

Soil Vapor / Indoor Air Matrix 1

October 2006

	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	< 0.25	0.25 to < 1	1 to < 5.0	5.0 and above
< 5	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
5 to < 50	5. No further action	6. MONITOR	7. MONITOR	8. MITIGATE
50 to < 250	9. MONITOR	10. MONITOR / MITIGATE	11. MITIGATE	12. MITIGATE
250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

No further action:
Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:
The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:
Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:
Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:
Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX 1

This matrix summarizes the minimum actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 0.25 microgram per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples, a minimum reporting limit of 5 micrograms per cubic meter is recommended for buildings with full slab foundations, and 1 microgram per cubic meter for buildings with less than a full slab foundation.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion to occur is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions may be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including the identified source of the volatile chemicals, the environmental remediation program, and site-specific and building-specific conditions. For example, to the extent that all site data and site conditions demonstrate that soil vapor intrusion is not occurring and that the potential for soil vapor intrusion to occur is not likely, the soil vapor intrusion investigation would be considered complete. In general, if indoor exposures represent a concern due to indoor sources, then the State will provide guidance to the property owner and/or tenant on ways to reduce their exposure. If indoor exposures represent a concern due to outdoor sources, then the NYSDEC will decide who is responsible for further investigation and any necessary remediation. Depending upon the outdoor source, this responsibility may or may not fall upon the party conducting the soil vapor intrusion investigation.

Soil Vapor / Indoor Air Matrix 2

October 2006

	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	< 3	3 to < 30	30 to < 100	100 and above
< 100	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
100 to < 1,000	5. MONITOR	6. MONITOR / MITIGATE	7. MITIGATE	8. MITIGATE
1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

No further action:
Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:
The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:
Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:
Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:
Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX 2

This matrix summarizes the minimum actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 3 micrograms per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples, a minimum reporting limit of 5 micrograms per cubic meter is recommended.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion to occur is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions may be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including the identified source of the volatile chemicals, the environmental remediation program, and site-specific and building-specific conditions. For example, to the extent that all site data and site conditions demonstrate that soil vapor intrusion is not occurring and that the potential for soil vapor intrusion to occur is not likely, the soil vapor intrusion investigation would be considered complete. In general, if indoor exposures represent a concern due to indoor sources, then the State will provide guidance to the property owner and/or tenant on ways to reduce their exposure. If indoor exposures represent a concern due to outdoor sources, then the NYSDEC will decide who is responsible for further investigation and any necessary remediation. Depending upon the outdoor source, this responsibility may or may not fall upon the party conducting the soil vapor intrusion investigation.