

July 29, 2015

Mr. Joseph T. Martella II, Senior Engineer  
Rhode Island Department of Environmental Management  
Office of Waste Management  
Site Remediation Program  
235 Promenade Street  
Providence, Rhode Island 02908



**RE: Air Monitoring Report  
Second Quarter, 2015  
Retail Complex, Active Sub-Slab Depressurization System  
Former Gorham Manufacturing Facility  
333 Adelaide Avenue, Providence, Rhode Island  
AMEC Project No. 3652150005**

Dear Mr. Martella:

This letter report presents the results of quarterly compliance sampling and analysis conducted by Amec Foster Wheeler (Formerly AMEC) at the retail complex located at the Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island (Site). The reporting period is from April 2015 through June 2015 and includes one quarterly compliance sampling event (June 11, 2015).

The sampling, analysis and reporting are being conducted consistent with the Short Term Response Action Order of Approval, dated July 24, 2008 and the Addendum to the Order of Approval dated August 7, 2008 (collectively referred to as the Orders of Approval).

### **Background**

The active sub-slab depressurization (ASD) system, also called a vapor mitigation system, in the large retail space consists of four extraction wells connected to a 3 hp Rotron regenerative blower. The blower is located in an enclosure located at the north, or rear, of the large retail space.

The small retail spaces consist of the eastern, central, and western retail spaces (Figure 1). The mitigation systems in the small retail spaces consist of one extraction well in each space connected to an individual radon-type fan, located at the north, or rear, of each small retail space.

### **Small Retail Spaces**

The quarterly monitoring event for the three small retail spaces, consistent with the requirements of the Orders of Approval, was completed on June 11, 2015.

Table 1 summarizes the analytical results at the small retail spaces for the baseline sampling event conducted prior to system start-up in February 2009 and all subsequent sampling events conducted after system start-up. Results of the indoor air samples were compared to the Draft Connecticut Industrial/Commercial Indoor Target Air Concentrations (TAC), which were identified as action levels in the Orders of Approval. The laboratory report (15F0576) associated with the June 11, 2015 quarterly sampling event is provided in Appendix A of this letter report. The analytical laboratory's detection limits are provided in Appendix B.

The sampling event included an indoor air sample from each of the small retail spaces (locations IA-5, IA-6, and IA-7), one outdoor air reference sample (location AA-1), and one air sample collected from each of the three vapor extraction wells (EW-5, EW-6, and EW-7). The sampling locations are shown in Figure 1. The outdoor reference air sample (AA-1) was located north of the property, upwind of the

retail building. Sub-slab vacuum monitoring (pressure differential measurements) was also conducted at locations VMW-5, VMW-6, and VMW-7 in conjunction with the quarterly air sampling program. The vacuum monitoring results are tabulated in Table 2.

The following conclusions are based on Site observations and the data from Table 1.

- ▶ Indoor air sample results for the June 11, 2015 quarterly sampling event in the small retail spaces (sample locations IA-5 through IA-7) were in compliance with action levels.
- ▶ The eastern small retail space (indoor air sample location IA-5) was unoccupied during this sampling event.
- ▶ The center small retail space (sample location IA-6) was unoccupied during this sampling event.
- ▶ The western small retail space (sample location IA-7) is intermittently occupied for church functions.
- ▶ The mitigation systems are functioning as designed.

### **Large Retail Space**

The quarterly monitoring event for the large retail space, consistent with the requirements of the Orders of Approval, was completed on June 11, 2015. Table 3 summarizes the analytical results for the large retail space for the baseline sampling event conducted prior to system start-up and all subsequent sampling events conducted after system start-up. Results of the indoor air samples were compared to the Draft Connecticut Industrial/Commercial Indoor TAC, which were identified as action levels in the Orders of Approval. The laboratory report (15F0576) associated with June 11, 2015 quarterly sampling event is provided in Appendix A of this letter report. The analytical laboratory's detection limits are provided in Appendix B.

The sampling event included collection of samples from each of the indoor air sampling points in the large retail space (locations IA-1 through IA-4), one outdoor air reference sample (location AA-1), and one air sample collected from the manifold where air from the four vapor extraction wells is collected (EW-Combined). The sampling locations are shown in Figure 1. The outdoor reference air sample (AA-1) was located north of the property upwind of the retail building. Sub-slab vacuum monitoring (pressure differential measurements) was also conducted at locations VMW-1 through VMW-4 in conjunction with the air sampling program. The vacuum monitoring results for the large retail space are tabulated in Table 4.

The following conclusions are based on Site observations and the data from Table 3.

- ▶ Indoor air sample results are in compliance with action levels for the quarterly sampling event in the large retail space (sample locations IA-1 through IA-4) except for chloroform. The concentration of chloroform in sample from IA-2 was slightly above the TAC (0.62 ug/m<sup>3</sup> vs. 0.50 ug/m<sup>3</sup>) and IA-4 at (1.2 ug/m<sup>3</sup> vs. 0.50 ug/m<sup>3</sup>). As communicated to RIDEM in previous reports, Chloroform is not a constituent of concern for the site and is therefore not one of the compounds for which the vapor mitigation system was designed to address. There has been more activity in the large retail space in 2014 and 2015, and it is possible that some volatile compounds are being introduced into the indoor air by the activity through cleaning fluids. The chloroform appears to be unrelated to the vapor intrusion pathway and the concentrations of chloroform above the action level do not constitute a violation of the action levels contained in the Orders of Approval. The mitigation system is functioning as designed and is achieving desired results with respect to indoor air quality in the large retail space.
- ▶ The large retail space has been subdivided into two spaces. The eastern section is currently occupied by a health fitness club which opened in January of 2013. This space was recently updated to change the name of the gym to "Blast" as part of a nationwide revision. This space includes indoor air sample locations IA-2 and IA-4 and sub-slab vacuum monitoring well VMW-2.

- ▶ The western side of the large retail space remains vacant and includes indoor air locations IA-1 and IA-3, vapor extraction well EW-5 and sub-slab vacuum monitoring VMW-1, VMW-3, and VMW-4.

### ASD System Monitoring/Maintenance

The ASD system performance is monitored monthly by Clean Harbors Environmental Services. There was one system shutdown during the reporting period. This shutdown occurred on May 08, 2015 for the change-out of the carbon in the carbon vessels. The spent carbon was removed by Evoqua Water Technologies LLC (Evoqua) and transported, under manifest, as hazardous waste and reactivated at the Evoqua facility in Darlington, Pennsylvania. There were several low flow conditions reported on radon fan 2 & 3 on April 27. Radon fan 2 was reset remotely with the current relay sensor likely the cause for the alarm. Radon fan 3 low flow conditions on April 27 & June 23rd resulted from an electrical power issue inside the retail space and was manually turned on upon inspection.

### Next Reporting Period

The next quarterly report (third quarter 2015) will cover the monitoring period from July 2015 through September 2015. The report will be prepared and submitted to the Rhode Island Department of Environmental Management (RIDEM) in October 2015.

Please contact the undersigned at (978) 692-9090 if we can provide additional information or answer any questions concerning these monitoring events and system adjustments.

Sincerely,

### Amec Foster Wheeler Environment & Infrastructure, Inc.



Mark Maggiore  
Environmental Scientist



David E. Heislein  
Senior Project Manager

- Enclosures:
- Table 1. Summary of Analytical Results – Air Sampling for Small Retail Spaces
  - Table 2. Vacuum Monitoring Results – Small Retail Spaces
  - Table 3. Summary of Analytical Results – Air Sampling for Large Retail Space
  - Table 4. Vacuum Monitoring Results – Large Retail Space

Figure 1 Vapor Mitigation Sample Locations

Appendix A – Laboratory Reports

Appendix B – Analytical Laboratory Detection Limits

cc: Don Gralnek, Executive Director - Providence Redevelopment Agency  
G. Simpson, Textron, Inc. (Electronic)  
Knight Memorial Library Repository  
Shane Brackett, Paolino Properties (including tenants)  
Joseph P. Salvetti, Norfolk Ram Group, LLC  
AMEC Project File

P:\BOS\Textron\3652150005 - Textron Gorham ASD System\8.0 Proj Deliverables\8.1 Reports\June 2015 \_2nd Qrt\Draft Gorham\_QTR\_2\_2015\_Draft.doc



## **TABLES**





Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Outdoor Air Reference Locations																		
	AA-1-0116/2009	AA-1-0203/2009	AA-1-0211/2009	AA-1-0218/2009	AA-1-0226/2009	AA-1-0306/2009	AA-1-0331/2009	AA-1-0414/2009	AA-1-0424/2009	AA-1-0515/2009	AA-1-0611/2009	AA-1-0917/2009	AA-1-0924/2009	AA-1-1001/2009	AA-1-1008/2009	AA-1-1229/2009	AA-1-0128/2010	AA-1-0205/2010	AA-1-0212/2010
Methyl methacrylate	5.5	3.1	0.65	1.5	0.78	7.4	15	2.1	2.8	1.7	1.9	0.70	4.2	0.70	23	4.6	1.3	1.9	1.7
Methyl-butyl ether	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.13	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
n-Heptane	0.20	0.27	0.92	1.6	0.20	0.20	0.20	0.14	0.20	0.40	0.23	0.20	0.20	0.20	0.20	0.20	0.26	0.20	0.20
o-Xylene	0.22	0.27	0.53	2.2	0.22	0.22	0.22	0.16	0.22	0.24	0.27	0.23	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Propylene (Propene)	0.18	0.18	0.090	0.090	0.18	0.090	0.090	0.13	0.18	0.090	0.090	0.35	0.35	0.18	0.35	0.35	0.35	0.35	0.35
Styrene	0.21	0.21	0.21	0.28	0.21	0.21	0.15	0.15	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Tetrahydroethene	0.34	0.34	0.73	0.77	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.52	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Tetrahydrofuran	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.11	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Toluene	0.84	1.5	3.2	14	0.71	0.99	0.82	0.14	0.72	2.6	2.1	1.9	2.0	0.61	0.50	0.78	0.84	0.64	0.97
trans-1,2-Dichloroethene	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.14	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
trans-1,3-Dichloropropene	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.16	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Trichloroethane	0.27	0.27	0.27	0.39	0.27	0.27	0.27	0.19	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
Trichlorofluoromethane	1.3	1.2	1.7	2.4	1.5	2.0	1.7	0.92	1.3	1.5	2.0	1.1	1.4	1.2	1.5	2.2	1.2	1.2	1.6
Trichlorofluoroethane	0.68	0.53	0.50	0.47	0.64	0.48	0.51	0.27	0.64	0.67	0.56	0.47	0.49	0.45	0.46	0.54	0.49	0.55	0.54
Vinyl acetate	0.71	0.71	0.18	0.18	0.71	0.18	0.18	0.50	0.71	0.18	0.18	0.71	0.71	0.71	0.71	0.36	0.71	0.71	0.71
Vinyl chloride	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.10	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13





Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Outdoor Air Reference Locations																									
	AA-1-021910 2/19/2010	AA-1-032610 3/26/2010	AA-1-043010 4/30/2010	AA-1-052810 5/28/2010	AA-1-070110 7/1/2010	AA-1-091610 9/16/2010	AA-1-120710 12/7/2010	AA-1-021710 2/17/2011	AA-1-060211 6/2/2011	AA-1-091511 9/15/2011	AA-1-120811 12/8/2011	AA-1-030812 3/8/2012	AA-1-061412 6/14/2012	AA-1-091312 9/13/2012	AA-1-010313 1/3/2013	AA-1-031513 3/15/2013	AA-1-060713 6/7/2013	AA-1-090613 9/6/2013	AA-1-100313 10/3/2013	AA-1-121313 12/13/2013	AA-1-030714 3/7/2014	AA-1-061314 6/13/2014	AA-1-091214 9/12/2014	AA-1-121914 12/19/2014	AA-01-032715 3/27/2015	AA-1-061115 6/11/2015
Methyl methacrylate	0.70 U	0.70 U	0.70 U	0.35 U	1.1	0.66	0.20 U	0.48	0.20 U	0.20 U	0.12 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.082 U	0.14 U	0.14 U	0.14 U	0.14 U
Methylene chloride	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Methyl-H-butyl ether	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.089	0.11	0.18	0.14 U	0.12	0.21	0.15	0.18	0.14 U	0.21	0.62	0.054 U	0.14 U	0.19	0.14 U
n-Heptane	0.22 U	0.22 U	0.22 U	0.22 U	0.46	1.2	0.22 U	1.1	0.22 U	0.22 U	0.22 U	0.086	0.078	0.31	0.15 U	0.12	0.20	0.15 U	0.24	0.15 U	0.17	0.5	0.054 U	0.046 U	0.25	0.11 U
n-Xylene	0.35 U	0.35 U	0.35 U	0.35 U	0.87 U	1.9	0.35 U	0.86 U	0.34 U	0.34 U	0.21 U	2.1 U	0.77	1.3	2.4 U	2.4 U	2.4 U	2.4 U	2.3 U	2.4 U	2.4 U	1.3	1.4 U	2.4 U	2.4 U	2.4 U
Styrene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.37	0.13 U	0.10	0.13	0.15 U	0.039	0.15 U	0.15 U	0.052	0.15 U	0.24 U	0.16	0.085 U	0.15 U	0.15 U	0.15 U
Tetrachloroethene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.49	0.34 U	0.34 U	0.34 U	0.34 U	0.73	0.10 U	0.20 U	0.87	0.24 U	0.90	0.24 U	0.24 U	0.30	0.24 U	0.24 U	0.4	0.071	0.09 U	0.22 U	0.29 U
Tetrahydrofuran	0.19	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.057	0.088 U	0.088 U	0.43	0.10 U	0.10 U	0.10 U	1.4	0.10 U	0.10 U	0.23	0.10 U	0.059 U	0.1 U	0.1 U	0.1 U
Toluene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	1.2	0.14 U	0.14 U	1.2	2.6	0.33	0.35	1.3	0.51
trans-1,2-Dichloroethene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.14 U	0.088 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.064 U	0.16 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.67	0.081 U	0.045	0.091	0.19 U	0.26	0.19 U	0.11	0.11	0.19 U	0.19 U	0.19 U	0.052 U	0.19 U	0.19 U	0.19 U
Trichloroethene	1.5	1.5	1.5	1.2	1.1	1.1	1.5	1.7	1.5	1.5	1.7	1.1	1.7	1.5	1.5	1.3	1.8	11	3.3	1.5	1.1	1.4	1.3	1.3	1.1	1.5
Trichlorofluoroethane	0.54	0.62	0.45	0.58	0.56	0.44	0.56	0.66	0.69	0.58	0.89	0.43	0.53	0.59	0.58	0.86	1.0	0.60	0.55	0.55	0.46	0.54	0.57	0.63	0.49 U	0.65 U
Vinyl acetate	0.71 U	0.36 U	0.77 U	0.18 U	0.18 U	0.36 U	0.18 U	0.18 U	3.5 U	0.18 U	0.11 U	0.21 U	0.21 U	0.25 U	0.25 U	2.5 U	2.5 U	2.4 U	2.4 U	2.5 U	2.5 U	2.5 U	1.4 U	2.5 U	2.5 U	2.5 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 U	0.069 U	0.080 U	0.060 U	0.060 U	0.069 U	0.067 U	0.069 U	0.060 U	0.060 U	0.026 U	0.09 U	0.09 U	0.09 U

Table 1.  
Summary of Analytical Results - Air Sampling for Small Retail Spaces  
Former Gorham Manufacturing Site  
Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )		Extraction Well - Eastern Small Retail Space															
EW-5-020309 2/3/2009	EW-5-021109 2/11/2009	EW-5-021809 2/18/2009	EW-5-022609 2/26/2009	EW-5-030609 3/6/2009	EW-5-041409 4/14/2009	EW-5-051509 5/15/2009	EW-5-061109 6/11/2009	EW-5-091709 9/17/2009	EW-5-122909 12/29/2009	EW-5-032610 3/26/2010	EW-5-091610 9/16/2010	EW-5-120710 12/7/2010	EW-5-021711 2/17/2011	EW-5-060211 6/2/2011	EW-5-091511 9/15/2011	EW-5-120811 12/8/2011	
1900000	41000	17000	71000	18000	26000	31000	19000	35000	920	540	460	210	400	340	430	130	
1,1,1,2-Tetrachloroethane	6.8 U	6.8 U	6.8 U	1.7 U	68 U	3.4 U	3.4 U	3.4 U	3.4 U	6.8 U	3.4 U	1.4 U	1.4 U	6.9 U	25 U	3.4 U	
1,1,2,2-Tetrachloroethane	5.4 U	5.4 U	5.4 U	1.4 U	54 U	2.7 U	2.7 U	2.7 U	2.7 U	5.4 U	2.7 U	1.1 U	1.1 U	5.5 U	11 U	2.7 U	
1,1-Dichloroethane	1000	1900	890	770	360	450	430	230	100	50	42	29	34	33	44	16	
1,1-Dichloroethene	2900	290	130	190	61	160	160	96	30	18	21	13	15	11	14	5.0	
1,1,2,2-Trichlorobenzene	7.4 U	7.4 U	7.4 U	1.9 U	74 U	3.7 U	3.7 U	3.7 U	3.7 U	7.4 U	3.7 U	1.5 U	1.5 U	7.4 U	30 U	7.4 U	
1,2,4-Trimethylbenzene	5.0 U	5.0 U	5.0 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	0.98 U	0.98 U	4.9 U	9.8 U	2.5 U	
1,2-Dibromoethane (EDB)	7.6 U	7.6 U	7.6 U	1.9 U	76 U	3.8 U	3.8 U	3.8 U	3.8 U	7.6 U	3.8 U	1.5 U	1.5 U	7.7 U	15 U	3.8 U	
1,2-Dichlorobenzene	6.0 U	6.0 U	6.0 U	1.5 U	60 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	3.0 U	1.2 U	1.2 U	6.0 U	12 U	3.0 U	
1,2-Dichloroethane	4.0 U	4.0 U	4.0 U	1.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	0.81 U	0.81 U	4.0 U	8.1 U	2.0 U	
1,2-Dichloropropane	4.6 U	4.6 U	4.6 U	1.2 U	46 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6 U	2.3 U	0.92 U	0.92 U	4.6 U	9.2 U	2.3 U	
1,2-Dichlorotetrafluoroethane	7.0 U	7.0 U	7.0 U	1.8 U	70 U	3.5 U	3.5 U	3.5 U	3.5 U	7.0 U	3.5 U	0.98 U	0.98 U	4.9 U	9.8 U	2.5 U	
1,3,5-Trimethylbenzene	5.0 U	5.0 U	5.0 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	0.44 U	0.44 U	2.2 U	4.4 U	1.1 U	
1,3-Butadiene	2.2 U	2.2 U	2.2 U	0.55 U	22 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2 U	1.1 U	0.44 U	0.44 U	2.2 U	4.4 U	1.1 U	
1,3-Dichlorobenzene	6.0 U	6.0 U	6.0 U	1.5 U	60 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	3.0 U	1.2 U	1.2 U	6.0 U	12 U	3.0 U	
1,4-Dichlorobenzene	6.0 U	6.0 U	6.0 U	1.5 U	60 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	3.0 U	1.2 U	1.2 U	6.0 U	12 U	3.0 U	
1,4-Dioxane	6.3	89	75	170	3700	64000	100000	230000	7800	18000	15000	4000	7200 B	17000	13000	2700	
2-Butanone	4.0 U	4.0 U	4.0 U	1.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	0.82 U	0.82 U	4.0 U	8.2 U	2.0 U	
Hexanone	5.0 U	5.0 U	5.0 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	0.98 U	0.98 U	4.9 U	9.8 U	2.5 U	
4-Ethyltoluene	4.0 U	4.0 U	4.0 U	1.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	0.82 U	0.82 U	4.1 U	8.2 U	2.0 U	
4-Methyl-2-pentanone	530	32	52	29	460	5600	14000	6900	1700	3200	4500	2000 B	1800 B	2200 B	3400	710	
Benzene	13	12	6.2	4.8	32 U	11	7.1	11	5.6	6.3	5.5	4.2	4.5	4.2	6.4 U	2.8	
Benzyl chloride	5.2 U	5.2 U	5.2 U	1.3 U	52 U	2.6 U	2.6 U	2.6 U	2.6 U	5.2 U	2.6 U	1.0 U	1.0 U	5.2 U	10 U	2.6 U	
Bromodichloromethane	6.6 U	6.6 U	6.6 U	1.7 U	66 U	3.3 U	3.3 U	3.3 U	3.3 U	6.6 U	3.3 U	1.3 U	1.3 U	6.7 U	13 U	3.4 U	
Bromotoluene	11 U	11 U	11 U	2.5 U	110 U	5.5 U	5.5 U	5.5 U	5.5 U	11 U	5.5 U	2.1 U	2.1 U	10 U	21 U	5.2 U	
Bromomethane	3.8 U	3.8 U	3.8 U	0.95 U	38 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8 U	1.9 U	0.78 U	0.78 U	3.9 U	7.8 U	1.9 U	
Carbon disulfide	3.2 U	3.2 U	3.2 U	0.80 U	32 U	1.6 U	1.6 U	1.6 U	1.6 U	3.2 U	1.6 U	0.41 U	0.41 U	3.2 U	6.4 U	1.6 U	
Carbon tetrachloride	6.2 U	6.2 U	6.2 U	1.6 U	62 U	3.1 U	3.1 U	3.1 U	3.1 U	6.2 U	3.1 U	1.3 U	1.3 U	6.3 U	13 U	1.2	
Chlorobenzene	4.6 U	4.6 U	4.6 U	1.2 U	46 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6 U	2.3 U	0.92 U	0.92 U	4.6 U	9.2 U	2.3 U	
Chloroethane	260	23	16	11	45	26 U	11	15	7.0	6.5	3.5	3.1	3.4	2.6 U	7.5	1.3 U	
Chloroform	83	32	20	16	2.8	48 U	7.2	6.5	5.8	2.6	4.8 U	1.1	1.2	4.9 U	9.8 U	1.1	
Chloromethane	2.0 U	2.0 U	2.0 U	0.50 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	0.41 U	0.41 U	2.1 U	4.1 U	1.0 U	
cis-1,2-Dichloroethane	2900	710	400	410	150	270	250	170	58	32	43	17	27	27	35	11	
cis-1,3-Dichloropropene	4.4 U	4.4 U	4.4 U	1.1 U	44 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4 U	2.2 U	0.91 U	0.91 U	4.5 U	9.1 U	2.3 U	
Cyclohexane	3.4 U	3.4 U	3.4 U	0.85 U	34 U	1.7 U	1.7 U	1.7 U	1.7 U	3.4 U	1.7 U	0.69 U	0.69 U	3.4 U	6.9 U	1.7 U	
Dibromochloromethane	8.6 U	8.6 U	8.6 U	2.2 U	86 U	4.3 U	4.3 U	4.3 U	4.3 U	8.6 U	4.3 U	1.7 U	1.7 U	8.5 U	17 U	4.3 U	
Dichlorodifluoromethane	5.0 U	5.0 U	5.0 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	0.81 U	0.81 U	5.0 U	10 U	2.8	
Ethanol	320	36	46	33	22	130	30	26	3.8 U	45	28	68	89	23	19	24 J	
Ethyl acetate	7.3 U	3.6 U	3.6 U	7.3 U	0.90 U	73 U	3.6 U	3.6 U	1.8 U	3.6 U	1.8 U	0.87 U	0.87 U	3.6 U	7.2 U	3.6	
Hexachlorocyclopentadiene	4.4 U	4.4 U	4.4 U	1.1 U	44 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4 U	2.2 U	0.87 U	0.87 U	4.3 U	8.7 U	2.2 U	
Hexachlorobutadiene	22 U	22 U	22 U	5.4 U	220 U	11 U	11 U	11 U	11 U	22 U	11 U	2.1 U	2.1 U	11 U	21 U	4.2	
Hexane	5.0	3.6 U	3.6 U	3.6 U	2.3	36 U	3.3	1.8 U	1.8 U	3.6 U	1.8 U	0.70 U	0.70 U	3.5 U	280 U	70 U	
Isopropyl alcohol	190	5.1	4.6	5.0 U	4.6	290	24	37	35	2.5 U	2.0	54	59	11	13	25 U	
m,p-Xylene	8.6 U	8.6 U	8.6 U	2.2 U	86 U	4.3 U	4.3 U	4.3 U	4.3 U	8.6 U	4.3 U	1.7 U	1.7 U	8.7 U	17 U	4.3 U	

Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Extraction Well - Eastern Small Retail Space																	
	EW-5-020309 2/3/2009	EW-5-021109 2/11/2009	EW-5-021809 2/18/2009	EW-5-022809 2/26/2009	EW-5-030609 3/6/2009	EW-5-041409 4/14/2009	EW-5-051509 5/15/2009	EW-5-061109 6/11/2009	EW-5-091709 9/17/2009	EW-5-122909 12/29/2009	EW-5-032610 3/26/2010	EW-5-070110 7/1/2010	EW-5-091610 9/16/2010	EW-5-120710 12/7/2010	EW-5-021711 2/17/2011	EW-5-060211 6/2/2011	EW-5-091511 9/15/2011	EW-5-120811 12/8/2011
Methyl methacrylate	7.8	7.0 U	9.6	7.0 U	12	720	21	15	7.0 U	25	14 U	8.6	7.0 U	1.4 U	0.82 U	4.1 U	8.2 U	2.0 U
Methylene chloride	3.6 U	3.6 U	3.6 U	3.6 U	0.90 U	36 U	1.8 U	1.8 U	1.8 U	1.8 U	3.6 U	1.8 U	3.6 U	0.72 U	0.72 U	3.6 U	7.2 U	1.8 U
Methyl-Butyl ether	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	4.0 U	0.82 U	0.82 U	4.1 U	8.2 U	2.0 U
n-Heptane	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	44 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4 U	2.2 U	4.4 U	0.87 U	0.87 U	4.3 U	8.7 U	2.2 U
o-Xylene	3.5 U	1.8 U	1.8 U	3.5 U	0.45 U	35 U	0.90 U	0.90 U	3.5 U	3.5 U	6.9 U	3.5 U	6.9 U	1.4 U	3.4 U	17 U	140 U	4.1 U
Propylene (Propene)	4.2 U	1.7 U	4.2 U	4.2 U	1.7 U	42 U	2.1 U	2.1 U	2.1 U	2.1 U	4.2 U	2.1 U	4.2 U	0.85 U	0.85 U	4.3 U	8.5 U	2.1 U
Styrene	210	310	190	97	8.0	68 U	21	25	19	8.9	6.8 U	6.7	6.8 U	4	4100	6.8 U	14 U	3.5
Tetrachloroethene	16	110	69	140	2200	42000	61000	150000	94000	9700	23000	37000	29000	8200	11000	30000	41000	11000
Tetrahydrofuran	13	4.7	3.8 U	3.8 U	0.95 U	38 U	2.2	3.4	1.9 U	1.9 U	3.8 U	1.9 U	3.8 U	0.75 U	1.6	3.8 U	7.5 U	0.90
Toluene	26	6.1	4.0 U	4.7	1.0 U	40 U	2.6	2.8	2.0 U	2.0 U	4.0 U	2.0 U	4.0 U	0.79 U	0.79 U	4.0 U	7.9 U	2.0 U
trans-1,2-Dichloroethene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	44 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4 U	2.2 U	4.4 U	0.91 U	0.91 U	4.5 U	9.1 U	2.3 U
trans-1,3-Dichloropropene	51000	20000	14000	8900	2400	3900	4400	2700	6900	1600	1100	1200	1100	410	660	790	940	290
Trichloroethene	3500	200	120	67	16	56 U	27	41	2.8 U	53	7.0	7.4	5.8	5.1	5.8	5.6 U	11 U	3.4
Trichlorofluoromethane	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	76 U	3.8 U	3.8 U	3.8 U	3.8 U	7.6 U	3.8 U	7.6 U	1.5 U	1.5 U	7.7 U	15 U	3.8 U
Trichlorofluoroethane	15 U	3.8 U	3.8 U	15 U	0.90 U	150 U	1.8 U	1.8 U	7.1 U	3.6 U	7.1 U	1.8 U	7.1 U	1.4 U	0.70 U	7.0 U	7.0 U	1.8 U
Vinyl acetate	2.6 U	2.6 U	2.6 U	2.6 U	0.65 U	26 U	1.3 U	5.3	1.3 U	3.0	3.4	3.1	4.3	2.4	3.7	3.3	6.2	1.3 U
Vinyl chloride																		



Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (µg/m <sup>3</sup> )	Extraction Well - Eastern Small Retail Space										Extraction Well - Center Small Retail Space																		
	EW-5-030812 3/8/2012 4.1 U	EW-5-061412 6/14/2012 0.41 U	EW-5-091312 9/13/2012 2.5	EW-5-010313 1/3/2013 0.41 U	EW-5-031513 3/15/2013 1.8	EW-5-060713 6/7/2013 0.41 U	EW-5-090613 9/6/2013 0.19 U	EW-5-121313 12/13/2013 1.1	EW-5-030714 3/7/2014 0.41 U	EW-5-061314 6/13/2014 0.41 U	EW-5-091214 9/12/2014 0.82 U	EW-5-121914 12/19/2014 0.41 U	EW-05-032715 3/27/2015 0.41 U	EW-05-061115 6/11/2015 1.9 J	EW-6-020309 2/3/2009 7.0 U	EW-6-021109 2/11/2009 7.0 U	EW-6-021809 2/18/2009 7.5	EW-6-022609 2/26/2009 7.0 U	EW-6-030609 3/6/2009 7.0 U	EW-6-041409 4/14/2009 7.0 U	EW-6-051509 5/15/2009 7.0 U	EW-6-061109 6/11/2009 7.0 U	EW-6-091709 9/17/2009 7.0 U	EW-6-122909 12/29/2009 7.0 U	EW-6-070110 7/1/2010 7.0 U	EW-6-091610 9/16/2010 7.0 U			
Methyl methacrylate	15	11	2.5	0.41 U	6.9	1.1	3.4	0.41 U	0.79	0.99	1.6 J	3.5 U	0.44 J	1.9 J	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	
Methylene chloride	3.6 U	0.36 U	0.36 U	0.36 U	0.36 U	0.17 U	0.36 U	0.36 U	0.36 U	0.36 U	0.72 U	0.36 U	0.36 U	0.36 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	
Methyl-H-butyl ether	4.1 U	0.41 U	0.52	0.41 U	0.41 U	0.19 U	0.41 U	0.41 U	0.41 U	0.41 U	0.82 U	0.41 U	0.41 U	0.41 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	
n-Heptane	4.3 U	0.14	0.73	0.43 U	0.43 U	0.50	0.43 U	0.43 U	0.43 U	0.43 U	0.87 U	0.43 U	0.15 J	0.25 J	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	
o-Xylene	15	6.9 U	3.9	6.9 U	6.9 U	2.3	6.9 U	6.9 U	6.9 U	6.9 U	14 U	6.9 U	6.9 U	6.9 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	
Propylene (Propene)	4.3 U	0.46	0.38	0.43 U	0.43 U	0.35	0.43 U	0.43 U	0.43 U	0.43 U	0.85 U	0.43 U	0.43 U	0.43 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	
Tetrachloroethene	3.4 U	0.92	2.1	0.65 U	0.68 U	0.71	0.68 U	0.68 U	0.69	1.2	1.2	0.46 J	0.24 J	0.68 U	330	290	130	290	190	300	190	210	250	210	250	210	250	210	
Tetrahydrofuran	4500	7700	1000	0.29 U	2300	26000	1000	2900	2900	2600	3300	460	320	1.9	75	480	260	730	570	130	110	87	91	31	42000	53000	31	42000	
Toluene	37	0.58	5.6	0.66	0.40	0.43	4.2	0.44	1.4	1.7	1.1	0.36 J	0.55	0.83	12	38 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	
trans-1,2-Dichloroethene	2.0 U	0.40 U	0.18	0.40 U	0.40 U	0.19 U	0.40 U	0.40 U	0.40 U	0.40 U	0.4 U	0.4 U	0.4 U	0.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	
trans-1,3-Dichloropropene	2.3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.21 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	
Trichloroethene	170	220	400	0.54 U	0.54 U	150	770	80	190	160	200	66	38	0.54 U	12000	6900	4200	4400	3900	3000	4700	6100	2000	3200	4700	6100	2000		
Trichlorofluoromethane	5.6 U	4.9	8.5	2.4	1.4	2.9	4.6	2.7	3.4	3.1	4.1	3.1	1.9 J	1.7 J	2300	870	630	350	250	150	230	440	700	320	440	700	320		
Trichlorofluoroethane	3.8 U	0.77 U	0.57	0.77 U	0.61	0.77 U	0.64	0.77 U	0.77 U	0.77 U	1.5 U	0.63 J	0.44 J	0.64 J	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	
Vinyl acetate	7.9 U	0.70 U	0.70 U	0.70 U	0.70 U	3.3 U	7.0 U	7.0 U	7.0 U	7.0 U	14 U	7 U	7 U	7 U	15 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U
Vinyl chloride	1.3 U	2.9	4.7	0.26 U	0.26 U	0.26 U	3.5	0.26 U	1.1	1.3	0.26 U	0.28	0.15 J	0.26 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U

Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Extraction Well - Center Small Retail Space										Extraction Well - Western Small Retail Space														
	EW-6-12/27/2010	EW-6-02/17/11	EW-6-06/20/11	EW-6-09/15/11	EW-6-12/08/11	EW-6-03/08/12	EW-6-06/14/12	EW-6-09/13/2012	EW-6-01/03/13	EW-6-03/15/2013	EW-6-06/07/13	EW-6-09/06/13	EW-6-12/13/2013	EW-6-03/07/14	EW-6-06/13/2014	EW-6-09/12/14	EW-6-12/19/2014	EW-6-02/03/09	EW-6-02/11/09	EW-6-02/18/2009	EW-6-02/26/2009	EW-6-03/06/09	EW-6-04/14/09	EW-6-05/15/09	
1,1,1-Trichloroethane	130	0.55 U	80	230	33	0.27 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1,1,2-Tetrachloroethane																									
1,1,2,2-Tetrachloroethane																									
1,1,2-Trichloroethane																									
1,1-Dichloroethane																									
1,1-Dichloroethene																									
1,2,4-Trichlorobenzene																									
1,2,4-Trimethylbenzene																									
1,2-Dibromobenzene (EDB)																									
1,2-Dichlorobenzene																									
1,2-Dichloropropane																									
1,2-Dichloroethane																									
1,2-Dichloroethene																									
1,3,5-Trimethylbenzene																									
1,3-Butadiene																									
1,3-Dichlorobenzene																									
1,4-Dichlorobenzene																									
1,4-Dioxane																									
2-Butanone																									
2-Hexanone																									
4-Ethyltoluene																									
4-Methyl-2-pentanone																									
Acetone																									
Benzene																									
Benzyl chloride																									
Bromochloromethane																									
Bromotoluene																									
Bromomethane																									
Carbon disulfide																									
Carbon tetrachloride																									
Chlorobenzene																									
Chloroethane																									
Chloroform																									
Chloromethane																									
cis-1,2-Dichloroethane																									
cis-1,3-Dichloropropene																									
Cyclohexane																									
Dibromochloromethane																									
Dichlorodifluoromethane																									
Ethanol																									
Ethyl acetate																									
Ethylbenzene																									
Hexachlorobutadiene																									
Hexane																									
Isopropyl alcohol																									
m,p-Xylene																									

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 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Extraction Well - Center Small Retail Space												Extraction Well - Western Small Retail Space															
	EW-6-12/7/2010	EW-6-02/17/2011	EW-6-06/22/2011	EW-6-09/15/2011	EW-6-12/08/2011	EW-6-03/08/2012	EW-6-06/14/2012	EW-6-09/13/2012	EW-6-01/03/2013	EW-6-03/15/2013	EW-6-06/07/2013	EW-6-09/06/2013	EW-6-12/13/2013	EW-6-03/07/2014	EW-6-06/13/2014	EW-6-09/12/2014	EW-6-12/19/2014	EW-6-03/27/2015	EW-6-06/11/2015	EW-7-02/03/2009	EW-7-2/3/2009	EW-7-02/11/2009	EW-7-2/18/2009	EW-7-02/26/2009	EW-7-03/06/2009	EW-7-04/14/2009	EW-7-05/15/2009	
Methyl methacrylate	1.3	2.8	6.9 U	3.6	4.8	2.5	14	2.1	1.4	3.8	0.84	0.99	0.41 U	0.41 U	0.82 U	1.6 J	3.5 U	3.5 U	3.5 U	9.3	2.6	8.0	3.5	1.8 U	1.8 U	20	20	29
Methylene chloride	0.36 U	0.36 U	3.6 U	1.8 U	1.8 U	0.36 U	0.13	0.36 U	0.36 U	0.36 U	0.13 U	0.36 U	0.36 U	0.36 U	0.72 U	0.72 U	0.36 U	0.36 U	0.36 U	3.6 U	3.5	2.9	4.9	4.9	3.1	3.6 U	3.6 U	1.8 U
Methyl-H-butyl ether	0.41 U	0.41 U	4.1 U	2.0 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	4.0 U	4.0 U	1.4	1.0 U	1.0 U	1.0 U	4.0 U	4.0 U	2.0 U
n-Heptane	0.43 U	0.43 U	4.3 U	2.2 U	0.43 U	0.16	0.73	0.43 U	0.43 U	0.43 U	0.37	0.43 U	0.43 U	0.43 U	0.87 U	0.87 U	0.43 U	0.43 U	0.43 U	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	1.1 U	4.4 U	4.4 U	2.2 U
p-Xylene	0.69 U	1.7 U	17.0 U	3.8	6.9 U	2.8	6.9 U	6.9 U	6.9 U	6.9 U	2.4 U	6.9 U	6.9 U	1	2.1 J	0.84 J	0.84 J	0.84 J	6.9 U	3.5 U	1.60 U	1.10	0.87 U	0.87 U	0.45 U	3.5 U	0.90 U	
Propylene (Propene)	0.43 U	0.43 U	4.3 U	2.1 U	0.43 U	0.20	0.35	0.43 U	0.43 U	0.43 U	0.28	0.43 U	0.43 U	0.43 U	0.85 U	0.43 U	0.43 U	0.43 U	0.094 J	4.2 U	0.84 U	1.1 U	1.1 U	1.1 U	1.1 U	4.2 U	4.2 U	2.1 U
Styrene	8.1	1.2	6.5 U	17	2.4	0.76	4.8	0.88	0.68 U	0.68 U	8.3	1.5	1.1	3.3	5.9	3.1	3.1	3.1	0.094 J	66	69	56	84	69	40	40	140	
Tetrachloroethene	480	0.29 U	13000	3900	3.7	8100	0.29 U	0.29 U	0.27	58	35000	650	54	1200	4100	260	260	260	600	41	23	12	14	7.5	3.0 U	3.0 U	5.6	
Toluene	0.38 U	2.4	3.8 U	1.9 U	0.36	0.70	5.3	0.46	0.31	0.50	0.25	0.38 U	0.40 U	0.40 U	0.68 J	0.25 J	0.25 J	0.25 J	0.7	14	2.9	3.6	1.7	0.95 U	3.8 U	1.9 U	1.9 U	
trans-1,2-Dichloroethene	0.4 U	0.40 U	4.0 U	2.0 U	0.20 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.14 U	0.40 U	0.45 U	0.45 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	150	140	90	90	80	80	48	120	
trans-1,3-Dichloropropene	0.45 U	0.45 U	4.5 U	2.3 U	0.23 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.16 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	1.1 U	4.4 U	4.4 U	2.2 U
Trichloroethene	250	0.54 U	190	390	66	0.27 U	180	0.21	0.54 U	5.7	150	36	28	60	110	44	44	44	25	230	210	180	180	200	110	330		
Trichlorofluoromethane	28	1.7	11	34	11	1.0	15	2.0	1.9	4.7	6.2	12	6.9	14	21	15	15	15	12	1800	1400	900	690	640	190	310		
Trichlorotrifluoroethane	0.77 U	0.86	7.7 U	15 U	0.38 U	0.77 U	0.60	0.77 U	0.63	0.77 U	0.72	0.77 U	0.77 U	0.77 U	1.5 U	0.63 J	0.63 J	0.63 J	0.59 J	7.6 U	1.6 U	1.9 U	1.9 U	1.9 U	7.6 U	7.6 U	3.8 U	
Vinyl acetate	0.7 U	0.35 U	7.0 U	1.8 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	2.5 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	15 U	0.72 U	0.90 U	3.5 U	0.90 U	15 U	15 U	1.6 U	
Vinyl chloride	0.26 U	0.26 U	2.6 U	1.3 U	0.13 U	1.5	0.26 U	0.26 U	0.26 U	0.26 U	2.2	0.26 U	0.26 U	0.26 U	1.3	0.26 U	0.26 U	0.26 U	0.26 U	280	370	160	46	21	2.6 U	2.7		





Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (µg/m <sup>3</sup> )		Extraction Well - Western Small Retail Space																								
EW-7-081109	EW-7-091709	EW-7-122909	EW-7-032610	EW-7-070110	EW-7-091610	EW-7-120710	EW-7-021711	EW-7-060211	EW-7-09152011	EW-7-120811	EW-7-030812	EW-7-061412	EW-7-091312	EW-7-010313	EW-7-031513	EW-7-060713	EW-7-090613	EW-7-100313	EW-7-121313	EW-7-030714	EW-7-061314	EW-7-091214	EW-7-121914	EW-7-032715	EW-7-061115	
6/11/2009	9/17/2009	12/29/2009	3/26/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/4/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	10/3/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	
16	7.0 U	27	1.4 U	2.4	0.81	1.9	0.41 U	6.9 U	0.82 U	6.9 U	1.5	33	2.1	5.4	5.6	10	1.5	1.7	1.7	0.41 U	0.82 U	0.85	1.3 J	3.5 U	0.49 J	3.5 U
1.8 U	1.8 U	1.8 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	0.72 U	0.36 U	3.6 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.13 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	
2.0 U	2.0 U	2.0 U	0.40 U	0.40 U	0.40 U	0.41 U	0.41 U	4.1 U	0.82 U	0.41 U	4.1 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.59	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	
2.2 U	2.2 U	2.2 U	0.65	0.44 U	0.44 U	0.43 U	0.43 U	4.3 U	0.87 U	0.38	4.3 U	0.18	0.52	0.51	0.15	0.43 U	0.40	0.73	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	
0.90 U	3.5 U	3.5 U	0.69 U	1.8 U	0.69 U	0.69 U	1.7 U	17 U	14 U	0.69 U	13	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	2.4 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	
2.1 U	2.1 U	2.1 U	0.42 U	0.87	0.47	0.43 U	0.43 U	4.3 U	0.85 U	0.49	4.3 U	0.86	0.41	0.43 U	0.14	0.43 U	0.41	0.45	0.43 U	0.43 U	0.45	0.85 U	0.43 U	0.34 J	0.46	
230	410	130	74	510	610	190	110	120	450	170	5.6	130	200	1.3	3.0	100	410	150	140	81	110	370	18	81	89	
15	4.1	1.5 U	2800	0.70	18	6.1	2.7	3900	7.9	9.9	1000	13	1.1	8.2	120	2000	10	4.6	2100	1400	2100	4.6	350	660	720	
1.9 U	1.9 U	1.9 U	5.4	4.8	2.2	0.47	0.88	3.8 U	1.9	1.1	8.1	1.1	1.9	1.6	0.63	1.1	3.1	6.5	1.0	1.2	1.4	0.59 J	0.63	0.72	1.0	
140	150	84	2.2	120	110	78	58	4.0 U	82	54	3.8	37	45	0.40 U	2.1	7.1	64	32	13	9.2	7.7	28	1.9	6.7	4.9	
2.2 U	2.2 U	2.2 U	0.44 U	0.44 U	0.44 U	0.45 U	0.45 U	4.5 U	0.91 U	0.45 U	2.3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.16 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U		
420	920	620	190	690	730	440	310	260	680	310	53	320	450	1.1	17	170	740	350	280	210	190	440	46	180	170	
660	1400	620	210	690	700	530	740	330	2500	1000	180	1300	2000	3.5	91	280	1500	990	1100	690	300	1100	200	460	340	
3.8 U	3.8 U	3.8 U	0.76 U	0.76 U	0.76 U	0.69	0.77 U	7.7 U	1.5 U	1.0	3.8 U	0.78	0.57	0.77 U	0.71	0.77 U	1.1	1.1	0.9	0.77 U	0.77 U	1.1	0.78	0.8 J	0.74 J	
1.8 U	7.1 U	3.5 U	0.71 U	0.36 U	0.71 U	0.70 U	0.33 U	7.0 U	0.70 U	0.35 U	7.0 U	2.2	0.70 U	0.70 U	0.70 U	7.0 U	2.5 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U		
3.2	1.3 U	1.6	1.0	0.26 U	1.6	0.41	0.26 U	2.6 U	0.51 U	0.26 U	1.3 U	0.26 U	0.26 U	0.26 U	0.26 U	0.90	0.090 U	0.26 U	0.26 U	1.5	1.8	0.26 J	0.16 J	0.82		

Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Eastern Small Retail Space																	
	IA-5- 1/16/2009 011609	IA-5- 2/3/2009 023009	IA-5- 2/11/2009 021109	IA-5- 2/18/2009 021809	IA-5- 2/26/2009 022609	IA-5- 3/6/2009 030609	IA-5- 4/14/2009 041409	IA-5- 5/15/2009 051509	IA-5- 6/11/2009 061109	IA-5- 9/17/2009 091709	IA-5- 12/29/2009 122909	IA-5- 3/26/2010 032610	IA-5- 7/1/2010 070110	IA-5- 9/16/2010 091610	IA-5- 12/8/2010 120810	IA-5- 2/17/2011 021711	IA-5- 06/02/11 060211	IA-5- 09/15/2011 091511
1,1,1-Trichloroethane	48	0.92	0.27	0.27	0.27	0.27	0.98	0.27	0.27	0.27	0.27	0.38	0.27	0.27	0.27	0.27	0.27	0.27
1,1,1,2-Tetrachloroethane	0.14	0.34	0.34	0.34	0.34	0.34	0.24	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
1,1,2,2-Tetrachloroethane	12	0.27	0.27	0.27	0.27	0.27	0.19	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
1,1,2-Trichloroethane	430	1.8	0.20	0.20	0.20	0.20	0.14	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
1,1-Dichloroethane	20	0.58	0.20	0.20	0.20	0.20	0.20	0.14	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
1,1,1-Trichlorobenzene	NA	0.37	0.37	0.37	0.37	0.37	0.26	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
1,2,4-Trimethylbenzene	52	0.25	0.32	0.36	0.25	0.25	0.20	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dibromoethane (EDB)	0.038	0.38	0.38	0.38	0.38	0.38	0.27	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
1,2-Dichlorobenzene	410	0.30	0.30	0.30	0.30	0.30	0.20	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
1,2-Dichloroethane	0.31	0.20	0.20	0.20	0.20	0.20	0.14	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
1,2-Dichloropropane	0.42	0.23	0.23	0.23	0.23	0.23	0.17	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
1,2-Dichlorotetrafluoroethane	NA	0.35	0.35	0.35	0.35	0.35	0.25	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
1,3,5-Trimethylbenzene	52	0.25	0.25	0.25	0.25	0.25	0.18	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,3-Butadiene	NA	0.11	0.11	0.11	0.11	0.11	0.080	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
1,3-Dichlorobenzene	410	0.30	0.30	0.30	0.30	0.30	0.21	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
1,4-Dichlorobenzene	24	0.30	0.30	0.30	0.30	0.30	0.21	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
1,4-Dioxane	NA																	
2-Butanone	500	7.2	2.4	2.7	2.6	0.75	0.45	3.8	1.9	5.3	2.1	0.79	1.5	2.1	1.4	0.78	0.78	3.6
2-Hexanone	NA	0.20	0.48	0.38	0.27	0.20	0.20	0.47	0.45	1.1	0.48	0.20	0.23	0.44	0.20	0.20	0.20	4.1
4-Ethyltoluene	NA	0.25	0.25	0.25	0.25	0.25	0.18	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4-Methyl-2-pentanone	200	0.20	0.20	0.20	0.20	0.20	0.20	0.18	0.20	0.68	0.23	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Acetone	500	32	11	21	20	9.5	6.5	14	14	46	16	15	11	18	17	6.4	9.5	24
Benzene	3.3	0.79	0.60	0.99	1.6	0.41	0.55	0.62	0.49	0.53	0.35	0.45	0.65	0.18	1.1	0.26	1.1	0.33
Benzyl chloride	NA	0.26	0.26	0.26	0.26	0.26	0.19	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Bromodichloromethane	0.46	0.33	0.33	0.33	0.33	0.33	0.24	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Bromoform	7.3	0.51	0.51	0.51	0.51	0.51	0.36	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
Bromomethane	NA	0.19	0.19	0.19	0.19	0.19	0.14	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Carbon disulfide	NA	0.16	0.16	0.16	0.16	0.16	0.12	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Carbon tetrachloride	0.54	0.33	0.44	0.50	0.55	0.47	0.61	0.44	0.46	0.46	0.39	0.41	0.48	0.53	0.44	0.54	0.6	0.59
Chlorobenzene	200	0.23	0.23	0.23	0.23	0.23	0.17	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
Chloroethane	500	0.13	0.13	0.13	0.13	0.13	0.10	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Chloroform	0.5	0.24	0.24	0.24	0.24	0.24	0.17	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Chloromethane	80	1.1	1.0	1.5	1.4	1.1	1.1	1.1	1.1	1.4	1.0	2.0	1.2	1.0	1.0	0.76	0.96	1.1
cis-1,2-Dichloroethene	100	0.20	0.20	0.20	0.20	0.20	0.14	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
cis-1,3-Dichloropropene	2.9	0.22	0.22	0.22	0.22	0.22	0.16	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Cyclohexane	NA	0.17	0.17	0.38	0.41	0.17	0.17	0.12	0.17	0.40	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Dibromochloromethane	NA	0.43	0.43	0.43	0.43	0.43	0.31	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Dichlorodifluoromethane	500	2.0	2.2	2.5	2.7	2.6	2.6	1.9	2.5	2.2	2.1	1.9	1.8	2.4	1.9	2.3	3.1	1.7
Ethanol	NA	590	12	23	140	85	32	41	180	500	62	51	25	58	150	2.4	14	7.7
Ethyl acetate	NA	0.75	0.37	0.18	0.18	0.37	0.18	0.26	0.18	0.31	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Ethylbenzene	290	0.22	0.25	0.33	0.43	0.22	0.22	0.24	0.22	0.30	0.23	0.22	0.22	0.44	0.91	0.22	0.30	0.36
Hexachlorobutadiene	NA	1.1	1.1	1.1	1.1	1.1	0.75	1.1	1.1	0.53	1.1	1.1	0.53	1.1	0.53	0.53	0.53	0.53
Hexane	NA	0.84	0.54	1.1	0.99	0.39	0.5	0.71	0.58	1.0	0.52	0.57	0.43	0.48	1.0	0.30	1.7	7.0
Isopropyl alcohol	NA	3.8	3.5	580	2.9	3.0	1.3	1.7	2.0	1.9	3.5	3.8	3.8	1.9	8.2	0.12	1.7	6.4
m,p-Xylene	500	0.60	0.74	0.91	1.2	0.43	0.43	0.68	0.51	0.88	0.89	0.43	0.46	1.2	2.4	0.43	0.85	0.57

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 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Eastern Small Retail Space																		
	IA-5-011609 1/16/2009	IA-5-020309 2/3/2009	IA-5-021109 2/11/2009	IA-5-021809 2/18/2009	IA-5-022609 2/26/2009	IA-5-030609 3/6/2009	IA-5-041409 4/14/2009	IA-5-051509 5/15/2009	IA-5-061109 6/11/2009	IA-5-091709 9/17/2009	IA-5-122909 12/29/2009	IA-5-032610 3/26/2010	IA-5-070110 7/1/2010	IA-5-091610 9/16/2010	IA-5-120810 12/8/2010	IA-5-021711 2/17/2011	IA-5-060211 6/2/2011	IA-5-091511 9/15/2011	
Methyl methacrylate	17	2.0	3.6	5.2	1.1	1.2	0.74	2.5	2.9	2.0	0.70 U	4.3	2.2	1.3	0.75	0.65	2.8	4.2	7.7
Methylene chloride	190	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Methyl-t-butyl ether	NA	0.20 U	0.20 U	0.36	0.35	0.20 U	0.20 U	0.23	0.38	0.48	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.33	0.20 U	0.20 U	0.20 U
n-Heptane	500	0.23	0.27	0.35	0.47	0.22 U	0.23	0.23	0.23	0.32	0.22 U	0.22 U	0.22 U	0.31	0.87	0.22 U	0.30	0.26	0.22 U
o-Xylene	NA	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.090 U	0.13 U	0.090 U	0.090 U	0.35 U	0.35 U	0.35 U	0.87 U	0.35 U	0.86 U	0.86 U	0.86 U	3.4 U
Styrene	290	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.15 U	0.24 U	0.21 U	1.5	0.30	0.21 U	0.35	0.32	0.58	0.21 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	5	3.2	0.34 U	0.43	0.43	0.34 U	0.34 U	0.24 U	0.47	0.34 U	0.41	0.34 U	0.34 U	0.34 U	0.34 U	0.39	2.4	0.34 U	0.58
Tetrahydrofuran	NA	3.2	0.15 U	0.15 U	0.15 U	0.15 U	0.11 U	0.11 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	500	1.3	1.1	3.0	3.3	0.65	0.51	1.5	2.8	2.8	1.5	0.54	1.5	0.70	6.2	0.19 U	1.8	0.90	0.97
trans-1,2-Dichloroethene	200	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,3-Dichloropropene	2.9	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U
Trichloroethene	1	5.5	0.39	0.27 U	0.27 U	0.27 U	0.27 U	0.22 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.28	0.27 U	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	500	3.0	1.3	1.7	1.8	1.5	1.7	1.2	1.3	2.0	1.2	1.8	1.4	6.3	1.3	1.7	1.4	1.4	1.7
Trichlorofluoroethane	NA	0.62	0.54	0.48	0.45	0.64	0.48	0.53	0.61	0.54	0.50	0.54	0.55	0.43	0.52	0.66	0.69	0.63	0.63
Vinyl acetate	NA	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.50 U	0.18 U	0.18 U	0.71 U	0.36 U	0.36 U	0.43	0.18 U	0.43	0.18 U	3.5 U	0.18 U
Vinyl chloride	1.9	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U

Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (µg/m <sup>3</sup> )	Indoor Air - Eastern Small Retail Space										Indoor Air - Center Small Retail Space																
	IA-5- 12/8/2011	IA-5- 3/9/2012	IA-5- 06/14/2012	IA-5- 9/13/2012	IA-5- 01/03/13	IA-5- 3/15/2013	IA-5- 06/07/13	IA-5- 09/06/13	IA-5- 12/13/2013	IA-5- 03/07/14	IA-5- 6/13/2014	IA-5- 9/12/2014	IA-5- 12/19/2014	IA-6- 1/16/2009	IA-6- 2/3/2009	IA-6- 02/03/09	IA-6- 2/11/2009	IA-6- 2/18/2009	IA-6- 2/26/2009	IA-6- 3/6/2009	IA-6- 4/14/2009	IA-6- 5/15/2009	IA-6- 6/11/2009	IA-6- 06/11/09	IA-6- 09/17/2009	IA-6- 12/29/2009	
1,1,1-Trichloroethane	0.15	0.082 U	0.15	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.29	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,1,2-Tetrachloroethane		0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2,2-Tetrachloroethane	0.14	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,2-Trichloroethane	0.12 U	0.081 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethene	2.2	0.45 U	0.45 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trichlorobenzene	1.3	0.15 U	0.16 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	1.5	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-Trimethylbenzene	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dibromobenzene (EDB)	23	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,2-Dichlorobenzene	0.066	0.061 U	0.044 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	0.14 U	0.069 U	0.067 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorofluoroethane																	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.39	0.15 U	0.077 U	0.11 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,3-Butadiene	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,3-Dichlorobenzene	0.07	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dichlorobenzene	0.36	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane	0.98	2.0	0.84	2.3	1.3	1.3	3.2	2.4	2.2	1.8	3.7	0.8 J	0.8 J	2.1 J	1.4 J	1.20	3.2	2.9	2.4	2.3	1.0	2.5	4.1	2.5	4.1	2.4	1.8
2-Butanone	0.13	0.32	0.081 U	0.17 U	0.16 U	0.16 U	0.48 U	0.44 U	0.14 U	0.32	0.52 U	0.14 U	0.14 U	0.43	0.16	0.20 U	0.42	0.34	0.20 U	0.37	0.14 U	0.62	0.72	0.70	0.70	0.70	0.20 U
2-Hexanone	0.25	0.15 U	0.053 U	0.097 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.22	0.17 U	0.17 U	0.17 U	0.17 U	0.041 J	0.25 U	0.25 U	0.47	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Ethyltoluene	0.13	0.18	0.34	0.22	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.24	0.35	0.14 U	0.14 U	0.19	0.14 U	0.20 U	0.20 U	0.36	0.20 U	0.20 U	0.14 U	0.34	0.70	0.29	0.29	0.20 U	0.20 U
4-Methyl-2-pentanone	6.6	11	13	13	9.0	9.7	24	19	40	12	25	10	14	12	12	44	14	25	11	6.5	6.1	11	28	20	20	20	14
Acetone	0.38	0.34	0.20	0.53	0.53	0.80	0.27	0.68	0.55	0.4	0.55	0.4	0.4	0.54	0.33	1.0	0.60	0.98	0.41	0.70	0.59	0.47	0.43	0.31	0.31	0.40	
Benzene	0.16 U	0.16 U	0.16 U	0.19 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Benzyl chloride	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromodichloromethane	0.31 U	0.31 U	0.31 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromoform	0.12 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Bromomethane	0.93 U	0.93 U	0.93 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon disulfide	0.49	0.46	0.42	0.38	0.58 [a]	0.37	0.59	0.47	0.50	0.43	0.45	0.36	0.36	0.35	0.37	0.39	0.42	0.52	0.47	0.47	0.6 [a]	0.42	0.77 [a]	0.45	0.45	0.42	0.40
Carbon tetrachloride	0.48	0.14 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chlorobenzene	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.13 U	0.13 U	0.13 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroethane	0.49	0.073 U	0.14 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloroform	1.0	1.1	1.4	1.2	1.0	1.2	1.5	1.2	1.3	1.3	1.2	0.81	0.81	0.92 J	0.87 J	1.3	0.90	1.4	1.5	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Chromene	0.18	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,2-Dichloroethene	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
cis-1,3-Dichloropropene	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.17 U	0.17 U	0.17 U	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Cyclohexane	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dibromochloromethane	2.6	2.0	2.9	2.8	1.6	3.4	1.9	3.4	1.9	2.5	2.1	1.9	1.9	1.3	2	2.0	2.1	2.6	2.8	2.6	2.0	2.7	2.5	2.2	2.2	2.2	1.9
Dichlorodifluoroethane	5.4	14	43	11	3.9	1.9	12	15	4.5	18	2.2	7.7	7.7	12	25	41	23	12	40	13	12	8.6	51	31	12	10	
Ethanol	0.11 U	0.48 U	0.21 U																								



Table 1.  
Summary of Analytical Results - Air Sampling for Small Retail Spaces  
Former Gorham Manufacturing Site  
Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Center Small Retail Space																				
	IA-6-032610 7/1/2010 3/26/2010	IA-6-091610 9/16/2010	IA-6-120710 12/7/2010	IA-6-021711 2/17/2011	IA-6-060211 6/2/2011	IA-6-091511 9/15/2011	IA-6-120811 12/8/2011	IA-6-030812 3/8/2012	IA-6-061412 6/14/2012	IA-6-091312 9/13/2012	IA-6-010313 1/3/2013	IA-6-031513 3/15/2013	IA-6-060713 6/7/2013	IA-6-090613 9/6/2013	IA-6-121313 12/13/2013	IA-6-030714 3/7/2014	IA-6-061314 6/13/2014	IA-6-091214 9/12/2014	IA-6-121914 12/19/2014	IA-6-032715 3/27/2015	IA-6-061115 6/11/2015
1,1,1-Trichloroethane	0.35	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.085	0.082 U	0.072 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.12	0.19 U	0.19 U	0.19 U
1,1,1,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.10 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U
1,1-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.081 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.089 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.45 U	0.45 U	0.28 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.15 U	0.26 U	0.26 U	0.26 U
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.33 U	0.25 U	0.35 U	0.25 U	0.16 U	0.15 U	0.21 U	0.17 U	0.076 U	0.21 U	0.27 U	0.17 U	0.27 U	0.27 U	0.27 U	0.077 U	0.27 U	0.27 U	0.27 U
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.056 U	0.061 U	0.056 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.039 U	0.14 U	0.14 U	0.054 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U
1,2-Dichlorofluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.059 U	0.15 U	0.091 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.071 U	0.17 U	0.17 U	0.052 U
1,3-Butadiene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.068 U	0.068 U	0.068 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.044 U	0.078 U	0.078 U	0.078 U
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.13 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U
1,4-Dioxane																					
2-Butanone	1.4	1.1	0.89	0.87	1.9 B	2.9 U	5.9 U	1.3	0.63	1.4	2.8	1.4	1.4	0.91	2.8	2.2	1.6	3.1	0.66 J	0.81 J	1 J
2-Hexanone	0.26 U	0.20 U	0.20 U	0.20 U	0.22 U	4.1 U	0.60	0.15	0.12 U	0.20 U	0.27 U	0.14 U	0.20 U	0.14 U	0.48 U	0.14 U	0.29 U	0.41 U	0.043 J	0.14 U	0.18 U
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.080 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.073 J	0.17 U	0.045 J
4-Methyl-2-pentanone	0.20 U	0.20 U	0.40	0.20 U	0.20 U	0.28 U	0.31	0.13	0.12 U	0.92	0.25	0.14 U	0.14 U	0.14 U	0.30	0.14 U	0.22	0.24	0.09	0.14 U	0.12 J
Acetone	6.5	14	13	11 B	14 B	19 B	26	10	7.4	15	18	11	10	20	29	27	12	26	9.2	8.2	9.2
Benzene	0.55	0.19	0.60	0.44	1.3	0.29	0.31	0.42	0.39	0.20	0.49	0.48	0.80	0.23	0.70	0.53	2.4	0.7	0.3	0.4	0.5
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.052 U	0.16 U	0.16 U
Bromochloroethane	0.33 U	0.33 U	0.33 U	0.34 U	0.34 U	0.34 U	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U
Bromoforn	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U	0.52 U	0.31 U	0.31 U	0.31 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.078 U	0.16 U	0.16 U
Carbon tetrachloride	0.43	0.55 [a]	0.44	0.46	0.57 [a]	0.64 [a]	0.52	0.46	0.48	0.44	0.37	0.55 [a]	0.42	0.58 [a]	0.47	0.45	0.45	0.43	0.42	0.33	0.31
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.45 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.2	0.053 U	0.093 U	0.093 U
Chloroform	0.24 U	0.36	0.36	0.24 U	0.24 U	0.24 U	0.24 U	0.10 U	0.073 U	0.24 U	0.17 U	0.075 U	0.17 U	0.17 U	0.19 U	0.17 U	0.25	0.11	0.082 J	0.069 J	0.15 J
Chloromethane	1.4	1.0	1.1	0.95	0.92	1.1	1.4	1.3	1.2	1.4	1.2	1.1	1.4	1.5	1.1	1.2	1.3	1.9	1.1	0.88	0.95
cis-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.088 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U
Cyclohexane	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.29 U	0.43 U	0.10 U	0.10 U	0.20 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.34	0.16	0.069 U	0.12 U	0.12 U
Dibromochloroethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
Dichlorodifluoroethane	1.6	2.4	1.6	1.9	3.1	1.8	1.9	2.9	2.0	2.9	2.8	2.7	3.4	1.9	2.5	2.1	1.5	2.1	0.88	1.9	1.4
Ethanol	7.1	18	36	5.9	10	7.7	14	24	41	67	23	24	29	20	21	6.1	20	38	160	9.4	17
Ethyl acetate	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.48 U	0.69 U	0.31 U	1.0 U	0.42 U	0.34 U	0.64 U	0.42 U	0.42 U	0.34 U	1.7	0.34	0.17	0.13 U	0.3 U
Ethylbenzene	0.22 U	0.22 U	0.43	0.22 U	0.45	0.22 U	0.15 U	0.22 U	0.21 U	0.23 U	0.16 U	0.11 U	0.18 U	0.29 U	0.15 U	0.56 U	0.2	0.18	0.088 J	0.18 U	0.13 U
Hexachlorobutadiene	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.32 U	0.32 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.21 U	0.37 U	0.37 U	0.37 U
Hexane	0.22	1.3	0.69	0.39	1.5	0.41	7.0 U	0.41	0.48 U	0.73 U	1.0 U	0.64 U	0.76 U	0.83 U	0.85 U	0.38 U	1.2	0.69	0.35 U	0.29 U	4.9 U
Isopropyl alcohol	4.9	1.0	3.2	1.1	2.8	1.2 U	11 U	2.9 U	2.9 U	6.7 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	1.7	8.1	3.4	0.52 J	3.1 J
m,p-Xylene	0.51	0.58	1.1	0.43 U	1.2	0.48	0.69	0.45	0.54	0.73	0.38	0.58	0.51	0.51	0.81	0.20	1.6	0.6	0.4	0.3	0.4

Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (µg/m <sup>3</sup> )	Indoor Air - Center Small Retail Space																						
	IA-6-0326/2010	IA-6-0701/2010	IA-6-0916/2010	IA-6-1207/2010	IA-6-0217/2011	IA-6-0602/2011	IA-6-0915/2011	IA-6-1208/2011	IA-6-0308/2012	IA-6-0614/2012	IA-6-0913/2012	IA-6-0103/2013	IA-6-0315/2013	IA-6-0607/2013	IA-6-0906/2013	IA-6-1213/2013	IA-6-0307/2014	IA-6-0613/2014	IA-6-0912/2014	IA-6-1219/2014	IA-6-0327/2015	IA-6-0611/2015	
Methyl methacrylate	0.70 U	0.18 U	0.64	0.20 U	0.20 U	0.20 U	1.0	1.7 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Methyl t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.14 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.22 U	0.22 U	0.47	0.20 U	0.35	0.20 U	0.20 U	0.22 U	0.17	0.15	0.25	0.31	0.095	0.10	0.47	0.14 U	0.71	1.1	0.16	0.14 U	0.14 U	0.15	0.14 U
p-Xylene	0.35 U	0.87 U	0.42	0.40	0.86 U	0.86 U	0.86 U	3.4 U	2.1 U	2.1 U	0.29	0.12	0.13	0.21	0.32	0.15 U	0.64	0.24	0.14	0.085 U	0.18	0.18	0.13 U
Propylene (Propene)	0.21 U	0.24	0.29	0.21 U	0.21 U	0.27	0.22	0.22	0.13	0.13 U	1.2	0.64	0.15 U	0.15 U	0.22	2.4 U	2.4 U	0.81	1.4 U	2.4 U	2.4 U	2.4 U	
Tetrachloroethene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	1.6	0.58	0.68	0.15	0.57	2.6	0.24 U	0.24 U	0.24 U	0.24 U	0.15 U	0.16	0.077 J	0.096 J	0.093 J	
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.088 U	0.088 U	1.2	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	
Toluene	1.6	1.7	2.6	0.40	2.9	0.83	1.2	1.4	1.1	1.1	1.5	0.56	0.65	1.1	2.6	0.49	3.4	1.3	0.72	0.5	0.76	0.77	
trans-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	
Trichloroethene	0.27 U	0.27 U	0.30	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19	0.081 U	0.24	0.20	0.19 U	0.072	0.19 U	0.19 U	0.21	0.19 U	0.12	0.19 U	0.075 U	0.19 U	
Trichlorofluoromethane	1.3	1.5	3.1	1.1	1.6	1.1	1.7	1.4	1.0	1.6	1.7	2.0	1.3	2.1	1.7	1.5	1.7	1.3	1.3	1.3	1.3	1.1	
Trichlorofluoroethane	0.55	0.55	0.42	0.52	0.69	0.67	0.56	0.68	0.44	0.57	0.62	0.61	0.65	1.0	0.66	0.58	0.46	0.53	0.54	0.64	0.47 J	0.67 J	
Vinyl acetate	0.36 U	0.18 U	0.36 U	0.35 U	0.18 U	3.5 U	0.18 U	0.11 U	0.21 U	0.21 U	0.25 U	0.25 U	0.25 U	2.5 U	2.5 U	2.5 U	2.5 U	2.3 U	1.4 U	2.5 U	2.5 U	2.5 U	
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.077 U	0.077 U	0.077 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.084	0.09 U	0.09 U	0.09 U	





Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

		Indoor Air - Western Small Retail Space																			
Parameter (ug/m <sup>3</sup> )	IA-7-0116/2009	IA-7-020309	IA-7-021109	IA-7-021809	IA-7-022609	IA-7-030609	IA-7-041409	IA-7-051509	IA-7-061109	IA-7-091709	IA-7-122809	IA-7-0326/2010	IA-7-070110	IA-7-0916/2010	IA-7-120710	IA-7-0217/2011	IA-7-060211	IA-7-0915/2011	IA-7-1208/2011	IA-7-030812	IA-7-061412
	1/16/2009	2/3/2009	2/11/2009	2/19/2009	2/26/2009	3/6/2009	4/14/2009	5/15/2009	6/11/2009	9/17/2009	12/29/2009	3/26/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012
Methyl methacrylate	1.9	5.7	0.92	1.5	6.3	1.4	4.2	2.3	5.7	0.70 U	2.9	0.70 U	1.3	0.60	1.3	2.5	1.1	1.7 U	1.3	2.8	1.4
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U
n-Heptane	0.20	0.20 U	0.37	1.2	0.20 U	0.20 U	0.17	0.20 U	0.34	0.37	0.20 U	0.29	0.50	0.68	0.33	0.47	2.0	1.1	0.46	0.47	0.65
o-Xylene	0.24	0.31	0.39	0.97	0.24	0.22 U	0.16 U	0.22 U	0.25	0.31	0.60	0.28	0.43	0.43	0.22 U	0.22 U	0.69	0.41	0.30	0.17	0.20
Propylene (Propene)	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.090 U	0.13 U	0.090 U	0.15 U	0.21 U	0.35 U	0.35 U	0.26	0.70	0.35 U	0.86 U	0.86 U	3.4 U	2.1 U	2.1 U	0.20
Styrene	0.21 U	0.21 U	0.21 U	0.26	0.34 U	0.34 U	0.15 U	0.21 U	0.29	0.39	0.21 U	0.26	0.26	0.39	0.21 U	0.21 U	0.34 U	0.62	0.18	0.097	0.26
Tetrahydrofuran	1.6	0.34 U	0.65	0.63	0.34 U	0.34 U	0.48	0.34 U	0.34 U	0.34 U	1.0	0.34 U	0.15 U	0.36	0.34 U	1.7	0.34 U	0.24	0.66	0.14	0.15
Toluene	45	2.1	0.74	0.43	0.15 U	0.15 U	0.27	0.15 U	0.51	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.24	0.18	0.088 U	0.088 U	0.088
trans-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	2.3	4.0	0.57	7.2	8.4	3.5	0.48	1.6	6.6	3.7	1.2	0.48	1.4
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.068 U	0.14 U
Trichloroethene	4.6	1.4	0.28	0.58	0.27 U	0.27 U	0.30	0.27 U	1.3	1.1	1.7	0.40	0.27 U	0.77	0.27 U	0.27 U	0.27 U	0.27 U	0.16	0.081 U	0.077 U
Trichlorofluoromethane	4.7	1.4	1.7	3.1	1.6	1.7	1.3	1.1	1.9	1.3	1.7	0.27 U	1.3	2.9	1.2	1.6	1.3	1.6	1.3	1.1	1.7
Trichlorofluoroethane	0.62	0.57	0.47	0.44	0.66	0.45	0.54	0.69	0.57	0.51	0.54	0.64	0.54	0.43	0.55	0.67	0.76	0.54	0.67	0.44	0.53
Vinyl acetate	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.50 U	0.18 U	0.18 U	0.71 U	0.36 U	0.36 U	0.18 U	0.36 U	0.35 U	0.18 U	3.5 U	0.18 U	0.11 U	0.21 U	0.21 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 U

Table 1.  
Summary of Analytical Results - Air Sampling for Small Retail Spaces  
Former Gorham Manufacturing Site  
Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Western Small Retail Space												
	IA-7-091312 9/13/2012	IA-7-010313 1/3/2013	IA-7-031513 3/15/2013	IA-7-060713 6/7/2013	IA-7-090613 9/6/2013	IA-7-100313 10/3/2013	IA-7-121313 12/13/2013	IA-7-030714 3/7/2014	IA-7-061314 6/13/2014	IA-7-091214 9/12/2014	IA-7-121914 12/19/2014	IA-7-032715 3/27/2015	IA-7-061115 6/11/2015
1,1,1-Trichloroethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.055 U	0.19 U	0.19 U	0.19 U
1,1,1,2-Tetrachloroethane	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.42 U	0.44 U	0.44 U	0.44 U	0.25 U	0.44 U	0.44 U	0.44 U
1,1,2,2-Tetrachloroethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U	0.069 U	0.24 U	0.24 U	0.24 U
1,1,2-Trichloroethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U
1,1-Dichloroethene	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.25 U	0.26 U	0.26 U	0.26 U	0.15 U	0.26 U	0.26 U	0.26 U
1,2,4-Trimethylbenzene	0.46 U	0.17 U	0.10 U	0.58 U	0.40 U	0.70 U	0.25 U	0.38 U	0.31 U	0.37 U	0.052 U	0.33 U	0.21 U
1,2-Dibromoethane (EDB)	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.27 U	0.27 U	0.077 U	0.27 U	0.27 U	0.27 U
1,2-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.11 U	0.14 U	0.14 U	0.14 U	0.15 U	0.14 U	0.065 U	0.19 U
1,2-Dichloropropane	0.094 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.085 U	0.16 U	0.16 U	0.16 U
1,2-Dichlorotrifluoroethane													
1,3,5-Trimethylbenzene	0.26 U	0.17 U	0.17 U	0.17 U	0.17 U	0.23 U	0.17 U	0.17 U	0.17 U	0.057 U	0.17 U	0.083 U	0.083 U
1,3-Butadiene	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.075 U	0.078 U	0.048 U	0.078 U	0.044 U	0.078 U	0.078 U	0.078 U
1,3-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.06 J	0.21 U	0.21 U	0.21 U
1,4-Dichlorobenzene	0.063 U	0.21 U	0.21 U	0.21 U	0.21 U	0.086 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.16 U	0.15 U
1,4-Dioxane													
2-Butanone	2.8 U	1.9 U	1.9 U	1.7 U	1.6 U	3.8 U	0.69 U	1.5 U	3 U	2.2 U	0.75 U	1.4 U	1.7 U
2-Hexanone	0.41 U	0.20 U	0.35 U	0.14 U	0.15 U	1.1 U	0.14 U	0.37 U	0.35 U	0.41 U	0.14 U	0.43 U	0.17 U
4-Ethyltoluene	0.16 U	0.17 U	0.17 U	0.17 U	0.17 U	0.20 U	0.17 U	0.17 U	0.17 U	0.065 U	0.17 U	0.09 U	0.069 U
4-Methyl-2-pentanone	0.29 U	0.18 U	0.14 U	0.21 U	0.20 U	0.44 U	0.14 U	0.14 U	0.34 U	0.18 U	0.14 U	0.18 U	0.15 U
Acetone	24 U	14 U	15 U	49 U	46 U	46 U	20 U	15 U	30 U	41 U	12 U	16 U	24 U
Benzene	0.49 U	0.58 U	0.87 U	0.32 U	0.43 U	1.8 U	0.54 U	1.9 U	0.57 U	0.36 U	0.4 U	0.57 U	0.27 U
Benzyl chloride	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.052 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U
Bromoforn	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.35 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U
Bromomethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.056 U	0.14 U	0.14 U	0.14 U
Carbon disulfide	0.090 U	1.1 U	1.1 U	0.16 U	0.60 U	0.14 U	1.1 U	1.1 U	1.1 U	0.11 U	1.1 U	0.042 U	0.1 U
Carbon tetrachloride	0.38 U	0.51 U	0.39 U	0.55 [a]	0.46 U	0.45 U	0.49 U	0.42 U	0.45 U	0.46 U	0.33 U	0.34 U	0.36 U
Chlorobenzene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U
Chloroethane	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.089 U	0.093 U	0.093 U	0.093 U	0.053 U	0.093 U	0.093 U	0.093 U
Chloroform	0.20 U	0.17 U	0.082 U	0.21 U	0.47 U	0.17 U	0.24 U	0.17 U	0.18 U	0.12 U	0.096 U	0.079 U	0.19 U
Chloromethane	1.3 U	1.1 U	1.4 U	1.5 U	1.3 U	1.2 U	1.2 U	1.4 U	1.4 U	0.76 U	0.86 U	1 U	1.3 U
cis-1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U
Cyclohexane	0.23 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.30 U	0.12 U	0.069 U	0.12 U	0.12 U	0.12 U
Dibromochloromethane	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.29 U	0.30 U	0.30 U	0.30 U	0.085 U	0.30 U	0.30 U	0.30 U
Dichlorodifluoroethane	2.9 U	2.6 U	1.7 U	3.1 U	2.1 U	1.5 U	2.7 U	1.5 U	2.1 U	2.2 U	1.8 U	1.3 U	1.9 U
Ethanol	60 U	52 U	11 U	45 U	21 U	40 U	25 U	50 U	79 U	96 U	39 U	110 U	110 U
Ethyl acetate	0.57 U	0.77 U	0.13 U	5.5 U	1.3 U	1.9 U	0.34 U	0.56 U	0.41 U	0.37 U	0.13 U	0.64 U	0.39 U
Ethylbenzene	0.45 U	0.19 U	0.14 U	0.36 U	0.48 U	0.82 U	0.15 U	0.43 U	0.35 U	0.2 U	0.085 U	0.58 U	0.19 U
Hexachlorobutadiene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.36 U	0.37 U	0.37 U	0.37 U	0.21 U	0.37 U	0.37 U	0.37 U
Hexane	0.97 U	0.86 U	0.87 U	2.9 U	1.3 U	0.97 U	0.39 U	0.39 U	1.1 U	0.9 U	0.37 U	4.9 U	0.36 U
Isopropyl alcohol	22 U	3.3 U	3.4 U	3.4 U	3.4 U	6.0 U	4.0 U	1.9 U	11.0 U	2 U	1.4 U	30.0 U	11 U
m,p-Xylene	1.4 U	0.71 U	0.40 U	1.1 U	1.2 U	1.8 U	0.25 U	1.2 U	1.1 U	0.54 U	0.28 U	0.67 U	0.48 U

Table 1.  
 Summary of Analytical Results - Air Sampling for Small Retail Spaces  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Western Small Retail Space															
	IA-7-091312	IA-7-010313	IA-7-031513	IA-7-031513	IA-7-060713	IA-7-090613	IA-7-100313	IA-7-121313	IA-7-030714	IA-7-061314	IA-7-091214	IA-7-121914	IA-7-032715	IA-7-061115		
	9/13/2012	1/3/2013	3/15/2013	3/15/2013	6/7/2013	9/6/2013	10/3/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015		
Methyl methacrylate	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.082 U	0.14 U	0.14 U	0.14 U		
Methylene chloride	2.3	2.6	1.4	6.1	1.3	1.1	1.1	1.1	0.76	0.88	0.74	0.63 J	0.39 J	0.6 J		
Methyl-t-butyl ether	0.11	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.072 U	0.13 U	0.13 U	0.063 J		
n-Heptane	0.99	0.14 U	0.16	0.42	1.1	1.6	0.45	1.3	4.6	1.9	4.3	0.19	0.19	0.14 J		
o-Xylene	0.56	0.24	0.15	0.40	0.44	0.85	0.15 U	0.44	0.39	0.19	0.088 J	0.26	0.26	0.19		
Propylene (Propene)	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	1.5	1.4 U	2.4 U	2.4 U	2.4 U		
Styrene	0.89	0.15 U	0.081	0.29	2.6	0.37	0.15 U	0.17	0.29	0.24	0.15 U	0.096 J	0.096 J	0.29		
Tetrachloroethene	1.7	0.24 U	0.15	0.24 U	0.24 U	5.5	0.22	0.24 U	0.40	0.34	0.13	0.13 J	0.23 J	0.25		
Tetrahydrofuran	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.65	0.15	0.10 U	0.10 U	0.14	0.13	0.11	0.11	0.15		
Toluene	2.4	0.99	1.0	3.8	4.7	7.8	1.1	2.8	2.2	1.3	0.72	1.1	1.1	1		
trans-1,2-Dichloroethene	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U		
trans-1,3-Dichloropropene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U		
Trichloroethene	0.15	0.19 U	0.068	0.19 U	0.19 U	0.53	0.14	0.19 U	0.28	0.19 U	0.077	0.19 U	0.1 J	0.19 U		
Trichlorofluoromethane	1.8	1.8	1.5	2.5	1.8	1.9	1.6	1.7	1.4	1.3	1.4	1.2	1.2	1.5		
Trichlorofluoroethane	0.58	0.60	0.87	1.0	0.63	0.52	0.60	0.45	0.52	0.58	0.58	0.63	0.64 J	0.65 J		
Vinyl acetate	0.25 U	0.25 U	0.25 U	2.5 U	2.5 U	2.4 U	2.3 U	2.5 U	2.5 U	2.5 U	1.4 U	2.5 U	2.3 U	2.3 U		
Vinyl chloride	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.087 U	0.080 U	0.080 U	0.080 U	0.080 U	0.026 U	0.09 U	0.09 U	0.09 U		

Notes:  
 [a] Benzene and carbon tetrachloride are above the target air concentration, but are not compliance violations as indoor air concentrations are consistent with outdoor air concentrations that were sampled on the same day.  
 NA - not available  
 U - Not detected, value is the detection limit  
 B - Compounds detected in method blank as well as field sample  
 J - Indicates compound was detected at an estimated value.  
 D - Result from diluted analyses  
 ug/m<sup>3</sup> - micrograms per cubic meter  
 5 indoor air concentration for industrial/commercial scenarios

Prepared by / Date: AKN 06/19/15  
 Checked by / Date: MAM 7/15/15

**Table 2.**  
**Vacuum Monitoring Results - Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Date	Pressure Differential (inches of water)		
	VMW-5	VMW-6	VMW-7
2/3/2009	-0.25	-0.17	0.00
2/18/2009	-0.212	-0.155	-0.011
2/26/2009	-0.230	-0.120	-0.025
3/6/2009	-0.200	-0.086	-0.012
4/14/2009	-0.108	-0.054	-0.014
5/15/2009	-0.081	-0.073	-0.016
6/11/2009	-0.090	-0.076	-0.098
9/17/2009	-0.110	-0.102	+0.074
12/29/2009**	-0.011	-0.010	-0.061
3/26/2010	-0.245	-0.142	-0.018
7/1/2010	-0.542	-0.114	-0.176
9/16/2010	-0.247	-0.874	-0.013
12/7/2010	-0.044	-0.028	+0.022
2/17/2011	-0.212	-0.599	-0.337
6/2/2011	-0.277	-0.236	-0.138**
9/15/2011	-0.234	-0.212	-0.010
12/8/2011	-0.609	-0.115	-0.009
3/8/2012	-0.003	-0.246	-0.114
6/14/2012	-0.237	-0.103	-0.132
9/13/2012	-0.243	-0.119	-0.210
1/3/2013	-0.150	-0.060	-0.052
3/15/2013	-0.228	-0.354	-0.002
6/7/2013	-0.226	-0.123	-0.011
9/6/2013	-0.232	-0.829	-0.007
10/3/2013	NM	NM	-0.006
12/13/2013	-0.215	-0.002	-0.002
3/7/2014	-0.177	-0.002	-0.002
6/13/2014	-0.185	-0.010	-0.011
9/12/2014	-0.258	-0.256	-0.014
12/19/2014	-0.222	-0.100	-0.001
3/27/2015	-0.301	-0.097	-0.036
6/11/2015	-0.23***	-0.1***	NM***

\*\* ASD system offline.

NM = Not Measured

\*\*\* Due to Digital Manometer reading high range only at the time of measurement, readings are in tenths of inches of water. VMW-7 was not measured due to the low range of the vacuum.

Prepared by/Date: MAM 07/10/15

Checked by/Date: KRM 07/10/15









Table 3.  
Summary of Analytical Results - Air Sampling for Large Retail Space  
Former Gorham Manufacturing Site  
Providence, Rhode Island

Parameter (ugm <sup>-3</sup> )	Outdoor Air Reference Locations																										
	AA-1-021910 2/19/2010 0.27 U	AA-1-032610 3/26/2010 0.27 U	AA-1-043010 4/30/2010 0.27 U	AA-1-052810 5/28/2010 0.27 U	AA-1-070110 7/1/2010 0.27 U	AA-1-091610 9/16/2010 0.27 U	AA-1-120710 12/7/2010 0.27 U	AA-1-021711 2/17/2011 0.27 U	AA-1-060211 6/6/2011 0.27 U	AA-1-091511 9/15/2011 0.27 U	AA-1-120811 12/8/2011 0.29	AA-1-030812 3/8/2012 0.082 U	AA-1-061412 6/14/2012 0.10	AA-1-091312 9/13/2012 0.19 U	AA-1-031513 3/15/2013 0.19 U	AA-1-060713 6/7/2013 0.19 U	AA-1-090613 9/6/2013 0.19 U	AA-1-100313 10/3/2013 0.18 U	AA-1-121313 12/13/13 0.19 U	AA-1-030714 3/07/14 0.19 U	AA-1-061314 6/13/2014 0.19 U	AA-1-091214 9/12/2014 0.055 U	AA-1-121914 12/19/2014 0.25 U	AA-01-032715 3/27/2015 0.44 U	AA-1-081115 8/11/15 0.44 U		
1,1,1-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.29	0.082 U	0.10	0.19 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.055 U	0.19 U	0.25 U	0.44 U	0.44 U	0.19 U	
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.055 U	0.19 U	0.25 U	0.44 U	0.44 U	0.19 U	
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.21 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.069 U	0.19 U	0.069 U	0.24 U	0.24 U	0.19 U	
1,1-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.063 U	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.04 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.62 U	0.45 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.26 U	0.26 U	0.26 U	0.16 U	0.16 U	0.16 U	0.26 U	0.26 U	0.14 U	
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.84 U	0.16 U	0.15 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.17 U	0.17 U	0.089 U	0.17 U	0.089 U	0.17 U	0.17 U	0.2 U	
1,2-Dibromobenzene (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.27 U	0.077 U	0.27 U	0.077 U	0.27 U	0.27 U	0.2 U	
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.34 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.12 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	
1,2-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.066 U	0.061 U	0.046 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.037 U	0.14 U	0.037 U	0.14 U	0.14 U	0.14 U	
1,2-Dichloropropane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	
1,2-Dichlorofluoroethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.28 U	0.15 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.047 U	0.17 U	0.17 U	0.098 U	0.17 U	0.098 U	0.17 U	0.17 U	0.17 U	
1,3-Butadiene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.068 U	0.075 U	0.075 U	0.075 U	0.044 U	0.075 U	0.044 U	0.075 U	0.075 U	0.075 U	
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.12 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.12 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	
1,4-Dioxane	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.12 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	
2-Butanone	0.88	1.5	1.4	2.4	2.3	2.7	1.8 B	2.9 U	5.9 U	0.35	1.4	1.1	2.0	0.89	1.0	0.31	0.70	0.94	0.82	1.4	2.2	1.1 J	1.1 J	0.2	0.6	0.7	0.41
Hexane	0.20 U	0.29	0.29	0.49	0.49	0.41	0.20 U	4.1 U	0.67	0.12 U	0.34	0.14	0.27	0.14 U	0.13	0.49	0.32	0.14 U	0.14 U	0.26	0.34	0.16	0.14 U	0.16	0.17	0.17	0.17
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.34	0.25 U	0.25 U	0.25 U	0.063 U	0.15 U	0.093 U	0.17 U	0.17 U	0.17 U	0.17 U	0.063 U	0.17 U	0.17 U	0.098 U	0.17 U	0.098 U	0.17 U	0.17 U	0.17 U	
4-Methyl-2-pentanone	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.23 U	0.10	0.14 U	0.083 U	0.24	0.14 U	0.14 U	0.14 U	0.14 U	0.2	0.036 U	0.14 U	0.036 U	0.14 U	0.092 U	
Acetone	3.7	9.5	12	20	13	14	5.7 B	19 B	8.7 B	20	4.9	10	12	8.7	18	28	16	12	26	9.3	22	25	10	22	25	10	10
Benzene	0.41	0.69	0.35	0.19	0.16 U	1.2	0.28	2.3	0.16 U	0.19	0.40	0.29	0.20	0.68	0.42	1.0	0.31	0.70	0.95	0.43	1.0	0.9	0.2	0.2	0.6	0.7	0.41
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.16 U	0.16 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.052 U	0.18 U	0.052 U	0.18 U	0.18 U	0.18 U	
Bromochloroethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.34 U	0.34 U	0.34 U	0.34 U	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.067 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U	
Bromoforn	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U	0.52 U	0.52 U	0.31 U	0.31 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U	
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.078 U	0.14 U	0.078 U	0.14 U	0.14 U	0.14 U	
Carbon disulfide	0.44	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.38	0.16 U	1.6 U	0.58	0.93 U	0.11	1.1 U	1.1 U	0.52	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.098 U	1.1 U	0.098 U	1.1 U	0.057 U	1.1 U	
Carbon tetrachloride	0.43	0.49	0.47	0.52	0.51	0.43	0.42	0.48	0.53	0.48	0.43	0.43	0.36	0.52	0.41	0.55	0.47	0.43	0.45	0.22	0.42	0.45	0.36	0.34	0.36	0.36	
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.089 U	0.093 U	0.093 U	0.11	0.053 U	0.093 U	0.093 U	0.093 U	0.093 U	
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.094 U	0.073 U	0.067 U	0.096 U	0.17 U	0.21	0.17 U	0.17 U	0.10	0.17 U	0.17 U	0.08	0.082 U	0.065 U	0.11 U	0.11 U	
Chloromethane	1.1	1.4	0.78	1.1	0.96	0.99	1.0	0.96	1.4	0.96	1.4	1.5	1.1	1.0	1.6	1.4	1.1	1.1	0.96	1.1	1.3	1.4	0.64	0.96	1.1	1.1	
cis-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.04 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	
trans-1,2-Dichloroethene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U	0.045 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	
Cyclohexane	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.31	0.069 U	0.12 U	0.12 U	0.12 U	0.12 U	
Dibromochloroethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.29 U	0.30 U	0.30 U	0.085 U	0.30 U	0.085 U	0.30 U	0.30 U	0.30 U	
Dichlorodifluoroethane	2.9	1.8	2.1	2.5	2.4	2.9	3.1	1.9	2.5	2.0	2.4	2.8	2.5	2.5	1.7	3.0	2.0	1.8	2.7	1.4	2.2	2.2	2.1	1.4	2.1	2.3	
Ethanol	1.2	4.9	4.0	3.3	4.0	14	2.3	12	2.7	5.8	1.5	4.1	7.4	5.2	2.7	6.1	6.7	6.7	5.4	9.0	17.0	2.9	2.9	2.7	2.7		

Table 3.  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

		Outdoor Air Reference Locations																										
Parameter (ugm <sup>-3</sup> )	AA-1-02190 2/19/2010 0.18 U	AA-1-03260 3/26/2010 0.22 U	AA-1-04300 4/30/2010 0.22 U	AA-1-05280 5/28/2010 0.20 U	AA-1-07010 7/1/2010 0.18 U	AA-1-09160 9/16/2010 0.18 U	AA-1-12070 12/7/2010 0.18 U	AA-1-02171 2/17/2011 0.18 U	AA-1-06021 6/6/2011 0.18 U	AA-1-09150 9/15/2011 0.18 U	AA-1-12081 12/8/2011 0.11 U	AA-1-03082 3/8/2012 0.11 U	AA-1-06142 6/14/2012 0.11 U	AA-1-09132 9/13/2012 0.13 U	AA-1-10303 1/3/2013 0.13 U	AA-1-03153 3/15/2013 0.13 U	AA-1-06073 6/7/2013 0.13 U	AA-1-09063 9/6/2013 0.13 U	AA-1-10033 10/3/2013 0.12 U	AA-1-12133 12/13/13 0.13 U	AA-1-03071 3/07/14 0.13 U	AA-1-06134 6/13/2014 0.13 U	AA-1-09124 9/12/2014 0.072 U	AA-1-12194 12/19/2014 0.13 U	AA-1-03271 3/27/2015 0.13 U	AA-1-08115 8/11/2015 0.13 U		
Methyl-ethyl ether	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
n-Heptane	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	
c-Xylene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	
Propylene (Propene)	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	
Styrene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	
Tetrachloroethene	0.19 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	
Tetrahydrofuran	0.46 U	1.1 U	0.75 U	0.63 U	0.57 U	1.0 U	0.19 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	5.3 U	
Toluene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,2-Dichloroethene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Trichloroethene	1.5 U	1.5 U	1.2 U	1.4 U	1.3 U	1.1 U	1.2 U	1.7 U	1.5 U	1.7 U	1.5 U	1.7 U	1.5 U	1.7 U	1.5 U	1.7 U	1.5 U	1.7 U	1.5 U	1.7 U	1.5 U	1.7 U	1.5 U	1.7 U	1.5 U	1.7 U	1.5 U	
Trichlorofluoromethane	0.54 U	0.62 U	0.45 U	0.58 U	0.56 U	0.44 U	0.66 U	0.69 U	0.69 U	0.58 U	0.89 U	0.43 U	0.53 U	0.53 U	0.58 U	0.66 U	1.0 U	0.60 U	0.55 U	0.55 U	0.46 U	0.54 U	0.57 U	0.63 U	0.49 U	0.65 U	0.65 U	
Trichlorofluoroethane	0.71 U	0.36 U	0.71 U	0.18 U	0.18 U	0.36 U	0.18 U	0.21 U	3.5 U	0.18 U	0.11 U	0.21 U	0.21 U	0.25 U	0.25 U	0.25 U	2.5 U	2.5 U	2.4 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	
Vinyl acetate	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	

Table 3.  
 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space														
	EW- Combined- D-02109 2/3/2009	EW- COMBINE D-021809 2/18/2009	EW- COMBINE D-022609 2/26/2009	EW- COMBINE D-042009 4/14/2009	EW- COMBINE D-091709 9/17/2009	EW- COMBINE D-091709 9/17/2009	EW- COMBINE D-100109 10/1/2009	EW- COMBINE D-100809 10/8/2009	EW- COMBINE D-012810 1/28/2010	EW- COMBINE D-021210 2/12/2010	EW- COMBINE D-020510 2/5/2010	EW- COMBINE D-021210 2/12/2010	EW- COMBINE D-043010 4/30/2010	EW- COMBINE D-052810 5/28/2010	EW- COMBINE D-070110 7/1/2010
1,1,1-Trichloroethane	190000	91000	73000	32000	35000	19000	11000	8100	7900	6800	1500	1200	1400	1700	2000
1,1,1,2-Tetrachloroethane	6.8 U	6.8 U	14 U	14 U	6.8 U	3.4 U	14 U	14 U	14 U	6.8 U	0.34 U	0.68 U	0.68 U	6.8 U	0.68 U
1,1,2,2-Tetrachloroethane	5.4 U	5.4 U	11 U	11 U	5.4 U	2.7 U	11 U	11 U	11 U	5.4 U	0.27 U	0.54 U	0.54 U	5.4 U	0.54 U
1,1-Dichloroethane	19000	7800	5300	4800	390	2280	1600	1900	1900	1700	280	310	200	270	290
1,1-Dichloroethene	7.4 U	7.4 U	15 U	15 U	7.4 U	3.7 U	15 U	15 U	15 U	7.4 U	0.37 U	0.74 U	0.74 U	7.4 U	0.74 U
1,2-Dibromoethane (EDB)	7.6 U	7.6 U	16 U	16 U	7.6 U	3.8 U	16 U	16 U	16 U	7.6 U	0.38 U	0.76 U	0.76 U	7.6 U	0.76 U
1,2-Dichlorobenzene	6.0 U	6.0 U	12 U	12 U	6.0 U	3.0 U	12 U	12 U	12 U	6.0 U	0.30 U	0.60 U	0.60 U	6.0 U	0.60 U
1,2-Dichloroethane	4.0 U	4.0 U	8.0 U	8.0 U	4.0 U	2.0 U	8.0 U	8.0 U	8.0 U	4.0 U	0.20 U	0.40 U	0.40 U	4.0 U	0.40 U
1,2-Dichloropropane	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	2.3 U	9.2 U	9.2 U	9.2 U	4.6 U	0.23 U	0.46 U	0.46 U	4.6 U	0.46 U
1,2-Dichlorotetrafluoroethane	7.0 U	7.0 U	14 U	14 U	7.0 U	3.5 U	14 U	14 U	14 U	7.0 U	0.35 U	0.70 U	0.70 U	7.0 U	0.70 U
1,3,5-Trimethylbenzene	5.0 U	5.0 U	10 U	10 U	5.0 U	2.5 U	10 U	10 U	10 U	5.0 U	0.25 U	0.50 U	0.50 U	5.0 U	0.50 U
1,3-Butadiene	2.2 U	2.2 U	4.4 U	4.4 U	2.2 U	1.1 U	4.4 U	4.4 U	4.4 U	2.2 U	0.23 U	0.45 U	0.45 U	2.2 U	0.22 U
1,3-Dichlorobenzene	6.0 U	6.0 U	12 U	12 U	6.0 U	3.0 U	12 U	12 U	12 U	6.0 U	0.30 U	0.60 U	0.60 U	6.0 U	0.60 U
1,4-Dichlorobenzene	6.0 U	6.0 U	12 U	12 U	6.0 U	3.0 U	12 U	12 U	12 U	6.0 U	0.30 U	0.60 U	0.60 U	6.0 U	0.60 U
1,4-Dioxane	37	32	48	60	21	40	7.8	31	30	21	4.0	11	10	9.0	12
2-Butanone	4.0 U	4.0 U	8.0 U	8.0 U	4.0 U	2.0 U	8.0 U	8.0 U	8.0 U	4.0 U	0.20 U	0.40 U	0.40 U	4.0 U	0.40 U
2-Hexanone	5.0 U	5.0 U	10 U	10 U	5.0 U	2.5 U	10 U	10 U	10 U	5.0 U	0.25 U	0.50 U	0.50 U	5.0 U	0.50 U
4-Ethyltoluene	4.0 U	4.0 U	8.0 U	8.0 U	4.0 U	2.0 U	8.0 U	8.0 U	8.0 U	4.0 U	0.20 U	0.40 U	0.40 U	4.0 U	0.40 U
4-Methyl-2-pentanone	1600	31	75	63	4.8 U	0.24 U	20	9.6 U	20 U	20 U	31	9.6 U	13	24	16
Acetone	14	7.3	8.4	6.4 U	3.2 U	2.5	27	3.2 U	6.4 U	6.4 U	0.61	3.2 U	0.63	0.74	5.5
Benzyl chloride	5.2 U	5.2 U	11 U	11 U	5.2 U	2.6 U	11 U	11 U	11 U	5.2 U	0.26 U	0.52 U	0.52 U	5.2 U	0.52 U
Bromochloromethane	6.6 U	6.6 U	14 U	14 U	6.6 U	3.3 U	14 U	14 U	14 U	6.6 U	0.33 U	0.66 U	0.66 U	6.6 U	0.66 U
Bromoform	11 U	11 U	21 U	21 U	11 U	5.1 U	21 U	21 U	21 U	11 U	0.51 U	1.1 U	1.1 U	11 U	1.1 U
Bromomethane	3.8 U	3.8 U	7.6 U	7.6 U	3.8 U	1.9 U	7.6 U	7.6 U	7.6 U	3.8 U	0.19 U	0.38 U	0.38 U	3.8 U	0.38 U
Carbon disulfide	3.2 U	3.2 U	6.4 U	6.4 U	3.2 U	1.6 U	6.4 U	6.4 U	6.4 U	3.2 U	0.16 U	0.32 U	0.32 U	3.2 U	0.32 U
Carbon tetrachloride	6.2 U	6.2 U	13 U	13 U	6.2 U	3.1 U	13 U	13 U	13 U	6.2 U	0.31 U	0.62 U	0.62 U	6.2 U	0.62 U
Chlorobenzene	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	2.3 U	9.2 U	9.2 U	9.2 U	4.6 U	0.23 U	0.46 U	0.46 U	4.6 U	0.46 U
Chloroethane	3400	1700	1200	450	42	220	110	94	92	88	11	1.3	9.9	4.8	7.2
Chloroform	27	17	20	17	4.8 U	8.8	12	11	11	11	4.1	5.8	0.49	6.2	6.0
Chloromethane	2.0 U	2.0 U	4.0 U	4.0 U	2.0 U	1.0 U	4.0 U	4.0 U	4.0 U	2.0 U	0.10 U	0.20 U	0.20 U	2.0 U	0.20 U
cis-1,2-Dichloroethane	14000	4700	6300	4200	300	1600	1600	1500	1300	1200	190	280	21	240	260
cis-1,3-Dichloropropene	4.4 U	4.4 U	8.8 U	8.8 U	4.4 U	2.2 U	8.8 U	8.8 U	8.8 U	4.4 U	0.44 U	0.88 U	0.88 U	4.4 U	0.44 U
Cyclohexane	3.4 U	3.4 U	6.8 U	6.8 U	3.4 U	1.7 U	6.8 U	6.8 U	6.8 U	3.4 U	0.34 U	0.68 U	0.68 U	3.4 U	0.34 U
Dibromochloromethane	8.6 U	8.6 U	18 U	18 U	8.6 U	4.3 U	18 U	18 U	18 U	8.6 U	0.43 U	0.86 U	0.86 U	8.6 U	0.86 U
Dichlorodifluoroethane	5.0 U	5.0 U	10 U	10 U	5.0 U	2.5 U	10 U	10 U	10 U	5.0 U	0.25 U	0.50 U	0.50 U	5.0 U	0.50 U
Ethanol	960	81	120	17	21	200	96	32	33	39	60	23	62	10	19 U
Ethyl acetate	7.3 U	3.6 U	7.2 U	15 U	7.3 U	3.7 U	18 U	3.6 U	7.2 U	7.2 U	0.36 U	0.72 U	0.36 U	3.6 U	0.36 U
Ethylbenzene	9.4 U	4.4 U	8.8 U	8.8 U	4.4 U	2.2 U	8.8 U	8.8 U	8.8 U	4.4 U	0.44 U	0.88 U	0.44 U	4.4 U	0.44 U
Hexachlorobutadiene	22 U	22 U	43 U	43 U	22 U	1.1 U	43 U	22 U	22 U	22 U	1.1 U	2.2 U	1.1 U	11 U	1.1 U
Hexane	16	4.9	270	7.2 U	3.6 U	2.3	1.9	3.6 U	7.2 U	7.2 U	0.36 U	0.72 U	0.36 U	3.6 U	0.36 U
Isopropyl alcohol	610	2.4 U	15	9.9 U	5.0 U	0.25 U	22	5.0 U	9.9 U	9.9 U	1.0	0.50 U	2.6	2.4 U	0.24 U
m,p-Xylene	25	8.6 U	18 U	18 U	8.6 U	4.3 U	18 U	18 U	18 U	8.6 U	0.86 U	1.72 U	0.86 U	8.6 U	0.86 U
Methyl methacrylate	12	7.0 U	14 U	14 U	19	2.6	7.0 U	14 U	28 U	28 U	1.4 U	14 U	1.4 U	7.0 U	2.1
Methylene chloride															

Table 3.  
 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space																			
	EW- Combined- 02/03/09 2/3/2009	EW- D-021109 2/11/2009	EW- D-021809 2/18/2009	EW- D-022609 2/26/2009	EW- D-041409 4/14/2009	EW- D-042409 4/24/2009	EW- D-091709 9/17/2009	EW- D-092409 9/24/2009	EW- D-100109 10/1/2009	EW- D-100809 10/8/2009	EW- D-012810 1/28/2010	EW- D-020510 2/5/2010	EW- D-021210 2/12/2010	EW- D-021910 2/19/2010	EW- D-043010 4/30/2010	EW- D-052810 5/28/2010	EW- D-070110 7/1/2010			
Methyl-t-butyl ether	3.6 U	3.6 U	7.2 U	7.2 U	3.6 U	0.18 U	1.8 U	1.8 U	7.2 U	7.2 U	0.36 U	3.6 U	0.18 U	0.36 U	0.36 U	3.6 U	0.36 U			
n-Heptane	4.0 U	4.0 U	8.0 U	8.0 U	4.0 U	0.20 U	2.0 U	2.0 U	8.0 U	8.0 U	0.40 U	4.0 U	0.20 U	0.40 U	0.40 U	4.0 U	0.40 U			
o-Xylene	8.4 U	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	2.2 U	8.8 U	8.8 U	0.44 U	4.4 U	0.22 U	0.44 U	0.44 U	4.4 U	0.44 U			
Propylene (Propene)	3.5 U	100 U	3.6 U	6.9 U	3.5 U	0.18 U	3.5 U	3.5 U	6.9 U	6.9 U	0.69 U	6.9 U	0.35 U	0.69 U	0.69 U	18 U	1.8 U			
Styrene	4.2 U	4.2 U	8.4 U	8.4 U	4.2 U	0.21 U	2.1 U	2.1 U	8.4 U	8.4 U	0.42 U	4.2 U	0.21 U	0.42 U	0.42 U	4.2 U	0.42 U			
Tetrachloroethene	140 U	60 U	430 U	540 U	47 U	110 U	110 U	110 U	540 U	67 U	4.6 U	200 U	4.8 U	45 U	450 U	1300 U	640 U			
Tetrahydrofuran	77 U	77 U	150 U	180 U	66 U	110 U	110 U	110 U	180 U	85 U	7.2 U	15 U	32 U	28 U	43 U	34 U	54 U			
Toluene	36 U	3.8 U	7.6 U	7.6 U	3.8 U	0.59 U	3.4 U	3.4 U	7.6 U	7.6 U	0.38 U	3.8 U	0.36 U	0.38 U	0.75 U	3.8 U	0.41 U			
trans-1,2-Dichloroethene	110 U	61 U	47 U	47 U	4.6 U	33 U	29 U	34 U	30 U	26 U	3.4 U	4.6 U	0.36 U	4.1 U	3.0 U	4.6 U	5.5 U			
trans-1,3-Dichloropropene	4.4 U	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	2.2 U	8.8 U	8.8 U	0.44 U	4.4 U	0.22 U	0.44 U	0.44 U	4.4 U	0.44 U			
Trichloroethene	36000 U	17000 U	26000 U	13000 U	1400 U	6200 U	4000 U	3600 U	4000 U	4300 U	390 U	1400 U	400 U	58 U	460 U	1200 U	1700 U			
Trichlorofluoromethane	9900 U	2300 U	1800 U	1000 U	98 U	600 U	1800 U	1400 U	1500 U	1500 U	260 U	230 U	29 U	230 U	210 U	300 U	440 U			
Trichlorotrifluoroethane	7.6 U	7.6 U	16 U	16 U	7.6 U	0.74 U	3.8 U	3.8 U	16 U	16 U	0.76 U	7.6 U	0.53 U	0.76 U	0.76 U	7.6 U	0.76 U			
Vinyl acetate	15 U	3.6 U	7.2 U	29 U	15 U	0.71 U	7.1 U	15 U	29 U	29 U	1.5 U	15 U	0.71 U	1.5 U	1.5 U	3.6 U	0.36 U			
Vinyl chloride	110 U	20 U	10 U	5.2 U	2.6 U	3.4 U	1.3 U	2.6 U	5.2 U	5.2 U	0.26 U	2.6 U	0.13 U	0.26 U	0.26 U	2.6 U	0.26 U			



Table 3.  
 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space																			
	EW- COMBINE D-120710 9/16/2010	EW- COMBINE D-021711 2/17/2011	EW- COMBINE D 091511 9/15/2011	EW- COMBINE D 091511 12/08/2011	EW- COMBINE 030812 3/8/2012	EW- COMBINE 061412 6/14/2012	EW- COMBINE 091312 9/13/2012	EW- COMBINE 010313 1/13/2013	EW- COMBINE 031513 3/15/2013	EW- COMBINE 060713 6/7/2013	EW- COMBINE 090613 9/6/2013	EW- COMBINE 121313 12/13/13	EW- COMBINE 030714 03/07/14	EW- COMBINE 061314 6/13/2014	EW- COMBINE 091214 9/12/2014	EW- COMBINE 121914 12/19/2014	EW- COMBINE 032715 3/27/2015	EW- COMBINE 061115 6/11/2015	EW-1- 030609 3/6/2009	EW-1- 033109 3/31/2009
Methyl-butyl ether	0.40 U	0.41 U	0.41 U	0.23 U	4.1 U	0.41 U	0.17 U	0.36 U	4.4 U	0.41 U	0.14 U	0.36 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	3.6 U	4.0 U
n-Heptane	0.56 U	0.43 U	0.87 U	0.69 U	4.3 U	0.28 U	0.28 U	0.43 U	16 U	0.43 U	0.20 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	4.4 U	4.4 U
o-Xylene	0.69 U	1.8 U	1.7 U	14 U	6.9 U	13 U	3.8 U	6.9 U	6.9 U	6.9 U	2.4 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	1.8 U	1.8 U
Propylene (Propene)	0.42 U	0.43 U	0.43 U	0.85 U	0.21 U	0.54 U	0.39 U	0.43 U	14 U	0.43 U	0.15 U	0.43 U	0.43 U	0.43 U	0.85 U	0.43 U	0.43 U	0.43 U	4.2 U	4.2 U
Styrene	750 U	160 U	920 U	440 U	8.1 U	170 U	530 U	910 U	850 U	60 U	23 U	250 U	7.0 U	260 U	230 U	100 U	400 U	1400 U	600 U	1200 U
Tetrahydrofuran	31 U	11 U	11 U	21 U	0.27 U	8.3 U	3800 U	110 U	1.8 U	4.1 U	7.2 U	10 U	0.79 U	1.7 U	4.7 U	2.9 U	0.65 U	1.2 U	6.3 U	21 U
Toluene	3.5 U	0.38 U	1.4 U	0.75 U	2.5 U	3.8 U	1.4 U	0.87 U	0.38 U	74 U	0.62 U	0.67 U	0.38 U	1.1 U	1.8 U	0.75 U	0.43 U	0.2 J	3.5 U	3.8 U
trans-1,2-Dichloroethene	6.6 U	0.6 U	1.9 U	3.5 U	1.1 U	2.0 U	1.7 U	1.9 U	1.0 U	0.86 U	0.62 U	2.6 U	0.40 U	0.59 U	0.89 U	1.4 U	0.6 U	0.65 U	1.1 U	9.2 U
trans-1,3-Dichloropropene	0.44 U	0.45 U	0.45 U	0.91 U	0.45 U	2.3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.16 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	4.4 U	4.4 U
Trichloroethene	3200 U	240 U	1800 U	1900 U	97 U	730 U	1500 U	2600 U	2000 U	380 U	280 U	1200 U	160 U	560 U	800 U	480 U	480 U	1300 U	31000 U	42000 U
Trichlorofluoromethane	410 U	71 U	200 U	610 U	200 U	150 U	260 U	100 U	230 U	130 U	140 U	200 U	98 U	160 U	360 U	200 U	80 U	170 U	520 U	540 U
Trichlorofluoroethane	0.76 U	0.77 U	0.77 U	1.5 U	0.89 U	3.8 U	0.77 U	0.37 U	0.77 U	1.4 U	1.3 U	0.77 U	0.77 U	0.77 U	0.86 J	0.89 U	0.54 J	0.89 J	7.6 U	7.6 U
Vinyl acetate	0.71 U	0.7 U	0.35 U	0.70 U	0.35 U	7.0 U	1.4 U	0.70 U	0.70 U	7.0 U	2.5 U	7.0 U	7.0 U	7.0 U	14 U	7 U	7 U	7 U	3.6 U	3.6 U
Vinyl chloride	0.40 U	0.26 U	0.26 U	0.51 U	0.26 U	1.3 U	0.26 U	0.26 U	0.26 U	0.26 U	0.090 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	2.7 U	4.8 U

Table 3.  
Summary of Analytical Results - Air Sampling for Large Retail Space  
Former Gorham Manufacturing Site  
Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space						Post Treatment - Large Retail Space						Indoor Air - Large Retail Space						CT IACTIND 2003 (ug/m <sup>3</sup> )
	EW-2-030609/36/2009	EW-3-030609/36/2009	EW-3-03109/3/31/2009	EW-4-030609/36/2009	EW-4-03109/3/31/2009	EW-4-033109/36/2009	Post-carbon-020309/2/3/2009	POST-CARBON-021109/2/11/2009	POST-CARBON-021809/2/18/2009	POST-CARBON-041409/10/8/2009	POST-CARBON-041409/10/8/2009	POST-CARBON-010810/1/8/2010	IA-1-011609/1/16/2009	IA-1-020309/2/3/2009	IA-1-021109/2/11/2009	IA-1-021809/2/18/2009	IA-1-022609/2/26/2009	IA-1-030609/3/6/2009	
1,1,1-Trichloroethane	26000	30000	54000	72000	11000	14000	1.0	15	45	1.9	13000	450	500	10	0.56	1.1	0.99	1.8	
1,1,1,2-Tetrachloroethane	6.8 U	6.8 U	6.8 U	6.8 U	1.7 U	6.8 U	0.34 U	1.7 U	0.68 U	0.68 U	68 U	0.34 U	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	
1,1,2,2-Tetrachloroethane	5.4 U	5.4 U	5.4 U	5.4 U	1.4 U	5.4 U	0.27 U	1.4 U	0.54 U	0.54 U	54 U	0.27 U	12	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	
1,1-Dichloroethane	5700	7000	1600	2300	690	1400	0.20 U	1.0 U	5.4	11000	490	370	610	0.71	0.20 U	0.20 U	0.20 U	0.32	
1,1-Dichloroethene	330	640	340	560	97	210	0.20 U	1.0 U	0.40 U	6400	96	76	87	0.36	0.20 U	0.20 U	0.20 U	0.20 U	
1,2-Dichloroethane	7.4 U	7.4 U	7.4 U	7.4 U	1.9 U	7.4 U	0.37 U	1.9 U	0.74 U	0.74 U	74 U	0.37 U	NA	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	
1,2,4-Trimethylbenzene	5.0 U	5.0 U	5.0 U	5.0 U	1.3 U	5.0 U	0.25 U	1.3 U	0.50 U	0.50 U	50 U	0.25 U	52	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	
1,2-Dibromoethane (EDB)	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	7.6 U	0.38 U	1.9 U	0.76 U	0.76 U	76 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	
1,2-Dichlorobenzene	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	0.30 U	1.5 U	0.60 U	0.60 U	60 U	0.30 U	410	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	
1,2-Dichloroethene	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	4.0 U	0.20 U	1.0 U	0.40 U	0.40 U	40 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
1,2-Dichloropropane	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	4.6 U	0.23 U	1.2 U	0.46 U	0.46 U	46 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	
1,2-Dichlorofluoroethane	7.0 U	7.0 U	7.0 U	7.0 U	1.8 U	7.0 U	0.35 U	1.8 U	0.70 U	0.70 U	70 U	0.35 U	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	
1,3,5-Trimethylbenzene	5.0 U	5.0 U	5.0 U	5.0 U	1.3 U	5.0 U	0.21 U	1.3 U	0.50 U	0.50 U	50 U	0.21 U	52	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	
1,3-Butadiene	2.2 U	2.2 U	2.2 U	2.2 U	0.55 U	2.2 U	0.11 U	0.55 U	0.22 U	0.22 U	22 U	0.11 U	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	
1,3-Dichlorobenzene	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	0.29 U	1.5 U	0.60 U	0.60 U	60 U	0.29 U	410	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	
1,4-Dichlorobenzene	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	0.30 U	1.5 U	0.60 U	0.60 U	60 U	0.30 U	NA	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	
1,4-Dioxane	12	11	36	10	36	6.4	10	6.3	9.4	5.5	330	1.9	2.0	20	3.1	5.8	3.4	2.2	
2-Butanone	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	4.0 U	0.20 U	1.0 U	0.40 U	0.40 U	40 U	0.20 U	NA	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	1.3 U	5.0 U	0.21 U	1.3 U	0.50 U	0.50 U	50 U	0.21 U	NA	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	
4-Ethyltoluene	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	4.0 U	0.20 U	1.0 U	0.40 U	0.40 U	40 U	0.20 U	200	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
4-Methyl-2-pentanone	9.6 U	9.6 U	53	24	26	12	1200	11	19	12	430	3.6	5.7	500	7.7	19	21	10	
Benzene	5.6 U	7.8 U	3.2 U	6.8 U	1.4 U	3.2 U	1.3 U	0.80 U	0.32 U	0.32 U	32 U	0.16 U	3.3	1.0	0.68	1.9	3.0	0.69	
Benzyl chloride	5.2 U	5.2 U	5.2 U	5.2 U	1.3 U	5.2 U	0.26 U	1.3 U	0.52 U	0.52 U	52 U	0.26 U	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	
Bromochloromethane	6.0 U	6.0 U	6.0 U	6.0 U	1.7 U	6.0 U	0.33 U	1.7 U	0.66 U	0.66 U	66 U	0.33 U	0.46	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	
Bromoform	11 U	11 U	11 U	11 U	2.5 U	11 U	0.51 U	2.5 U	1.1 U	1.1 U	110 U	0.51 U	7.3	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	
Bromomethane	3.8 U	3.8 U	3.8 U	3.8 U	0.95 U	3.8 U	0.19 U	0.95 U	0.38 U	0.38 U	38 U	0.19 U	NA	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	
Carbon disulfide	27	25	3.2 U	3.2 U	1.8 U	3.2 U	0.16 U	0.80 U	0.41	0.41	41	0.16 U	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	
Carbon tetrachloride	6.2 U	6.2 U	6.2 U	6.2 U	1.6 U	6.2 U	0.38 U	1.6 U	0.62 U	0.62 U	62 U	0.31 U	0.54	0.35	0.41	0.52	0.46	0.59 [a]	
Chlorobenzene	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	4.6 U	0.23 U	1.2 U	0.46 U	0.46 U	46 U	0.23 U	200	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	
Chloroethane	700	590	41	44	17	33	0.13 U	5100	1800	480	64	19	10	500	0.13 U	0.13 U	0.13 U	0.13 U	
Chloroform	9.6 U	15 U	13	23	3.6 U	7.5 U	0.24 U	1.2 U	0.48 U	0.67	48 U	0.24 U	6.8	0.5	0.24 U	0.24 U	0.24 U	0.24 U	
Chloromethane	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U	2.0 U	0.59 U	0.50 U	0.20 U	0.20 U	20 U	0.10 U	80	1.1	1.0	1.4	1.5	1.0	
cis-1,2-Dichloroethane	6100	7600	610	1200	560	1300	0.27 U	1.0 U	3.9	5200	820	230	570	2.0	0.20 U	1.0	1.1	0.73	
cis-1,3-Dichloropropene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	0.22 U	1.1 U	0.44 U	0.44 U	44 U	0.22 U	2.9	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	
Cyclohexane	8.4	8.8	3.4 U	3.4 U	0.85 U	3.4 U	0.83 U	0.85 U	0.34 U	0.34 U	34 U	0.17 U	NA	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	
Dibromochloromethane	8.6 U	8.6 U	8.6 U	8.6 U	2.2 U	8.6 U	0.43 U	2.2 U	0.86 U	0.86 U	86 U	0.43 U	NA	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	
Dichlorodifluoromethane	5.0 U	5.0 U	5.0 U	5.0 U	1.3 U	5.0 U	0.26 U	1.3 U	0.52 U	0.52 U	52 U	0.26 U	500	1.8	2.1	2.6	2.6	2.6	
Ethanol	12	8.3	39	1.8 U	8.6 U	1.8 U	740	36	25	9.8	110	0.38 U	2.8	NA	5.7	8.3	14	20	
Ethyl acetate	3.6 U	3.6 U	3.6 U	3.6 U	0.90 U	3.6 U	0.37 U	0.90 U	0.36 U	0.36 U	36 U	0.18 U	NA	0.37 U	0.37 U	0.18 U	0.18 U	0.18 U	
Ethylbenzene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	1.1 U	5.4 U	0.44 U	0.44 U	44 U	0.22 U	290	0.26	0.28	0.66	0.85	0.23	
Hexachlorobutadiene	22 U	22 U	22 U	22 U	5.4 U	22 U	1.1 U	5.4 U	2.2 U	2.2 U	22 U	0.53 U	NA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Hexane	3.6 U	3.6 U	3.6 U	3.6 U	0.90 U	3.6 U	0.30 U	0.90 U	0.36 U	0.36 U	36 U	0.18 U	0.23	0.82	0.74	1.2	1.6	1.0	
Isopropyl alcohol	2.4 U	2.4 U	2.4 U	2.4 U	0.59 U	2.4 U	450	2.9	3.1	47	290	0.25 U	1.4	3.4	3.1	5.3	5.8	3.8	
m,p-Xylene	8.6 U	8.6 U	8.6 U	8.6 U	2.2 U	8.6 U	0.27 U	2.2 U	0.86 U	0.86 U	86 U	0.43 U	500	0.76	0.87	2.1	2.8	0.80	
Methyl methacrylate	7.0 U	17	7.0 U	13	19	12	20	76	17	3.0	810	0.70 U	0.72	2.3	3.3	1.8	4.4	1.1	
Methylene chloride	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	0.30 U	1.5 U	0.60 U	0.60 U	60 U	0.30 U	NA	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	







Table 3.  
 Summary of Analytical Results – Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																				
	IA-1- 033109 3/31/2009 0.18 U	IA-1- 041409 4/14/2009 0.14 U	IA-1- 042409 4/24/2009 0.18 U	IA-1- 091709 9/17/2009 0.18 U	IA-1- 092409 9/24/2009 0.18 U	IA-1- 100109 10/1/2009 0.18 U	IA-1- 100809 10/8/2009 0.18 U	IA-1- 120209 12/2/2009 0.13 U	IA-1- 010810 1/8/2010 0.18 U	IA-1- 012810 1/28/2010 0.18 U	IA-1- 020510 2/5/2010 0.18 U	IA-1- 021210 2/12/2010 0.18 U	IA-1- 021910 2/19/2010 0.18 U	IA-1- 032610 3/26/2010 0.18 U	IA-1- 043010 4/30/2010 0.18 U	IA-1- 052810 5/28/2010 0.18 U	IA-1- 070110 7/1/2010 0.18 U	IA-1- 091610 9/16/2010 0.18 U	IA-1- 120710 12/7/2010 0.18 U	IA-1- 021711 2/17/2011 0.18 U	IA-1- 060211 6/2/2011 0.18 U
Methyl-t-butyl ether	0.20 U	0.14 U	0.13 U	0.18 U	0.20 U	0.26 U	0.42 U	0.35 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.36 U	0.20 U	0.20 U	0.50 U
n-Heptane	0.22 U	0.16 U	0.28 U	0.31 U	0.40 U	0.28 U	0.42 U	0.44 U	0.22 U	0.22 U	0.38 U	0.22 U	0.22 U	0.22 U	0.22 U	0.28 U	0.46 U	0.51 U	0.69 U	0.22 U	0.56 U
o-Xylene	0.090 U	0.13 U	0.18 U	0.35 U	0.35 U	0.18 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.87 U	0.87 U	0.35 U	0.86 U	0.86 U	0.86 U
Propylene (Propene)	0.21 U	0.15 U	0.24 U	0.21 U	0.21 U	0.21 U	0.19 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.25 U	0.31 U	0.31 U	0.24 U	0.21 U	0.21 U
Styrene	1.5 U	1.9 U	6.1 [a]	0.34 U	0.34 U	2.0 U	1.1 U	3.2 U	0.34 U	0.34 U	0.34 U	0.34 U	1.2 U	0.34 U	4.5 U	0.55 U	1.1 U	0.34 U	3.3 U	0.21 U	0.21 U
Tetrachloroethane	0.15 U	0.23 U	0.40 U	0.15 U	0.15 U	0.15 U	0.11 U	0.11 U	0.15 U	0.15 U	0.15 U	0.15 U	0.22 U	0.15 U	0.15 U	0.15 U	0.24 U	0.16 U	0.15 U	0.15 U	0.15 U
Toluene	1.7 U	0.72 U	5.7 U	1.3 U	1.1 U	0.78 U	1.2 U	2.8 U	2.1 U	0.19 U	0.82 U	0.69 U	0.58 U	0.80 U	1.3 U	0.91 U	0.99 U	2.5 U	0.44 U	3.0 U	0.58 U
trans-1,2-Dichloroethane	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,3-Dichloropropene	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U
Trichloroethane	0.57 U	0.74 U	1.6 U	0.27 U	0.27 U	1.1 U	0.56 U	0.69 U	0.27 U	0.27 U	0.27 U	0.31 U	0.39 U	0.27 U	1.5 U	0.22 U	0.40 U	0.27 U	1.7 U	0.23 U	0.23 U
Trichlorofluoromethane	1.2 U	1.2 U	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	1.3 U	2.5 U	0.81 U	1.3 U	1.5 U	1.5 U	1.4 U	1.2 U	1.3 U	1.4 U	2.7 U	1.2 U	1.7 U	1.1 U
Trichlorofluoroethane	0.59 U	0.54 U	1.7 U	0.48 U	0.44 U	0.45 U	0.51 U	0.52 U	0.63 U	0.71 U	0.63 U	0.55 U	0.55 U	0.48 U	0.59 U	0.53 U	0.48 U	0.57 U	0.64 U	0.64 U	0.67 U
Vinyl acetate	0.18 U	0.50 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.25 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.36 U	0.71 U	0.18 U	0.36 U	0.36 U	0.36 U	0.18 U	3.5 U
Vinyl chloride	0.13 U	0.10 U	0.16 U	0.13 U	0.13 U	0.17 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.14 U	0.13 U	0.13 U



Table 3.  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																			
	IA-1 091511 9/15/2011 12/8/2011 12/0811 0.11 U	IA-1- 030812 3/8/2012 6/14/2012 091312 0.11 U	IA-1- 061412 6/14/2012 9/13/2012 091312 0.13 U	IA-1- 031513 3/15/2013 6/7/2013 060713 0.13 U	IA-1- 010313 1/3/2013 1/3/2013 010313 0.13 U	IA-1- 031513 3/15/2013 6/7/2013 060713 0.13 U	IA-1- 090613 9/6/2013 12/13/13 090613 0.13 U	IA-1- 121313 12/13/13 12/13/13 121313 0.13 U	IA-1- 030714 03/07/14 03/07/14 030714 0.13 U	IA-1- 061314 6/13/2014 9/12/2014 061314 0.13 U	IA-1- 091214 9/12/2014 9/12/2014 091214 0.11 U	IA-1-121914 12/19/2014 12/19/2014 IA-1-121914 0.13 U	IA-1- 032715 3/27/2015 3/27/2015 032715 0.13 U	IA-1- 061115 6/11/2015 6/11/2015 061115 0.13 U	IA-2- 011609 1/16/2009 2/3/2009 011609 0.18 U	IA-2- 021109 2/11/2009 2/11/2009 021109 0.18 U	IA-2- 021809 2/18/2009 2/26/2009 021809 0.18 U	IA-2- 041409 4/14/2009 4/24/2009 041409 0.18 U	IA-2- 042409 4/24/2009 9/17/2009 042409 0.18 U	IA-2- 091709 9/17/2009 9/17/2009 091709 0.18 U
Methyl-butyl ether	0.18 U	0.11 U	0.11 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.11 U	0.11 U	0.13 U	0.13 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.20 U	0.079	0.12 U	0.093	0.44	0.14 U	0.14 U	0.81	0.14 U	0.67	0.44	0.53	0.14 U	0.15	0.20 U	0.58	0.22	0.15	0.20 U	0.20 U
o-Xylene	0.22 U	0.15	0.096	0.14	0.66	0.15 U	0.27	0.42	0.15 U	0.82	0.32	0.22	0.064 J	0.14 J	0.30	0.76	0.89	0.34	0.22	0.27
Propylene (Propene)	0.47	0.84	0.21	0.085	1.1	0.15 U	0.15 U	0.27	0.15 U	0.16	0.29	0.11 J	0.15 U	0.15 U	0.21 U	0.21 U	0.23	0.21 U	0.15 U	0.21 U
Styrene	0.21 U	0.85	0.13 U	0.038	0.14	0.15 U	0.15 U	0.27	0.15 U	0.16	0.29	0.11 J	0.15 U	0.15 U	0.21 U	0.21 U	0.23	0.21 U	0.15 U	0.21 U
Tetrahydrofuran	0.15 U	0.14	0.088 U	0.10 U	0.10 U	0.10 U	0.10 U	0.27	0.10 U	0.21	0.31	0.13	0.33	0.24 U	0.22 U	0.64	4.2	3.2	0.15 U	0.34 U
Toluene	0.93	1.6	0.30	0.64	2.8	0.42	1.0	4.2	0.62	3.2	1.9	2.7	0.58	0.63	1.7	1.3	4.0	5.5	2.3	1.0
trans-1,2-Dichloroethene	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.059 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U
trans-1,3-Dichloropropene	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.068 U	0.16 U	0.16 U	0.16 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U
Trichloroethene	0.27 U	0.25	0.081 U	0.16 U	0.21	0.19 U	0.19 U	0.19 U	0.19 U	0.25	0.19 U	0.081 U	0.14 J	0.087 J	0.19 U	0.19 U	1.6	1.4	0.91	1.9
Trichlorofluoromethane	1.8	1.0	0.89	1.8	1.7	1.6	1.3	2.4	1.4	1.6	1.4	1.3	1.1	1.5	2.0	1.2	1.7	2.8	1.6	1.3
Trichlorofluoroethane	0.59	0.69	0.40	0.59	0.57	0.55	0.79	1.1	0.63	0.54	0.57	0.58	0.62	0.47 J	0.69	0.58	0.49	0.46	0.64	0.74
Vinyl acetate	0.18 U	0.11 U	0.21 U	0.25 U	0.25 U	0.25 U	2.5 U	2.5 U	2.5 U	2.5 U	2.1 U	2.5 U	2.5 U	0.71 U	0.71 U	0.71 U	0.18 U	0.18 U	0.50 U	0.71 U
Vinyl chloride	0.13 U	0.077 U	0.038 U	0.077 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.080 U	0.09 U	0.038 U	0.09 U	0.09 U	0.27	0.13 U	0.18	0.20	0.13 U	0.18



Table 3.  
 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

		Indoor Air - Large Retail Space																						
Parameter (µg/m <sup>3</sup> )	IA-2-092409 9/24/2009 0.20 U 0.42	IA-2-100109 10/1/2009 0.18 U 0.30	IA-2-100809 10/8/2009 0.18 U 0.34	IA-2-012810 1/28/2010 0.18 U 0.46	IA-2-020510 2/5/2010 0.18 U 0.35 U	IA-2-021210 2/12/2010 0.18 U 0.35 U	IA-2-021910 2/19/2010 0.18 U 0.21 U	IA-2-032610 3/26/2010 0.18 U 0.21 U	IA-2-043010 4/30/2010 0.18 U 0.21 U	IA-2-091610 9/16/2010 0.18 U 0.25	IA-2-070110 7/1/2010 0.18 U 0.36	IA-2-091610 9/16/2010 0.18 U 0.43	IA-2-070110 7/1/2010 0.18 U 1.4	IA-2-091610 9/16/2010 0.18 U 1.3	IA-2-120710 12/7/2010 0.18 U 2.2	IA-2-021711 2/17/2011 0.18 U 2.2	IA-2-060211 6/2/2011 0.18 U 2.9	IA-2-091511 9/15/2011 0.18 U 0.55	IA-2-120811 12/8/2011 0.11 U 1.6	IA-2-030812 3/8/2012 0.11 U 0.24	IA-2-061412 6/14/2012 0.11 U 0.90	IA-2-091312 9/13/2012 0.18 U 0.097		
Methyl-t-butyl ether	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
n-Heptane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
o-Xylene	0.42	0.30	0.44	0.46	0.40	0.22 U	0.22 U	0.22 U	0.22 U	0.29	0.44	0.57	0.63	0.63	0.22 U	0.56	0.22 U	0.22 U	0.23	0.14	0.083	0.17	0.17	0.55
Propylene (Propene)	0.35 U	0.18 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.87 U	0.87 U	0.87 U	0.35 U	0.86 U	0.86 U	0.86 U	3.4 U	2.1 U	2.1 U	2.1 U	2.1 U	2.4 U	2.4 U
Styrene	0.21 U	0.21 U	0.21 U	0.41	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.25	0.36	0.24	0.24	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.059	0.13 U	0.097	0.097	0.19	0.19
Tetrachloroethene	0.35	1.7	1.0	2.3	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.36	0.43	1.4	1.4	0.34 U	0.32	0.23	0.34 U	0.45	0.92	0.23	0.090	0.090	2.0	2.0
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	1.6	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.097	0.088 U	0.048	0.10 U	0.10 U
Toluene	1.1	1.2	1.5	2.4	0.93	0.64	0.19 U	0.80	1.3	0.91	1.3	2.2	2.2	0.41	0.41	2.9	0.55	0.99	1.6	0.24	0.90	0.90	2.6	2.6
trans-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U
Trichloroethene	0.27 U	0.99	0.57	0.79	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.53	0.27 U	0.53	0.27 U	1.7	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.081 U	0.16 U	0.20 U	0.20 U
Trichlorofluoromethane	1.2	1.2	1.2	1.2	1.4	1.4	1.1	1.4	1.3	1.3	1.6	2.5	1.2	1.8	1.2	1.8	1.2	1.1	1.1	0.94	1.8	1.8	2.6	2.6
Trichlorofluoroethane	0.47	0.46	0.54	0.46	0.53	0.61	0.38 U	0.51	0.44	0.53	0.94	0.45	0.59	0.71	0.71	0.71	0.71	0.61	0.71	0.42	0.57	0.64	0.64	
Vinyl acetate	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.35 U	0.18 U	3.5 U	0.18 U	0.11 U	0.21 U	0.21 U	0.21 U	0.25 U	0.25 U
Vinyl chloride	0.13 U	0.16	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.14	0.13 U	0.13 U	0.13 U	0.077 U	0.077 U	0.077 U	0.077 U	0.090 U	0.090 U

Table 3.  
 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

		Indoor Air - Large Retail Space																							
Parameter (ug/m <sup>3</sup> )		IA-2-010313 1/3/2013	IA-2-031513 3/15/2013	IA-2-060713 6/7/2013	IA-2-090613 9/6/2013	IA-2-121313 12/13/13	IA-2-030714 03/07/14	IA-2-061314 6/13/2014	IA-2-091214 9/12/2014	IA-2-121914 12/19/2014	IA-2-061115 6/11/2015	IA-3-011609 1/16/2009	IA-3-020309 2/3/2009	IA-3-021109 2/11/2009	IA-3-021809 2/18/2009	IA-3-022609 2/26/2009	IA-3-041409 4/14/2009	IA-3-042409 4/24/2009	IA-3-091709 9/17/2009	IA-3-092409 9/24/2009	IA-3-100109 10/1/2009	IA-3-100809 10/8/2009	IA-3-012810 1/28/2010	IA-3-020510 2/5/2010	
	1,1,1-Trichloroethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
	1,1,1,2-Tetrachloroethane	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
	1,1,2,2-Tetrachloroethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
	1,1,2-Trichloroethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
	1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
	1,1-Dichloroethene	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
	1,2-Dichlorobenzene	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
	1,2,4-Trimethylbenzene	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
	1,2-Dibromochloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
	1,2-Dichlorobenzene (EDB)	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	1,2-Dichloroethane	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
	1,2-Dichloropropane	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
	1,2-Dichlorotrifluoroethane	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
	1,3,5-Trimethylbenzene	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U
	1,3-Butadiene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	1,3-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	1,4-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
	1,4-Dioxane	5.1 U	2.4 U	4.2 U	2.1 U	1.2 U	1.8 U	1.6 U	4.9 U	0.92 U	1.7 U	1.8 U	2.0 U	4.2 U	4.6 U	4.0 U	1.7 U	1.6 U	2.5 U	2.0 U	2.6 U	0.70 U	1.5 U	2.0 U	2.0 U
	2-Butanone	0.17 U	0.22 U	0.51 U	0.41 U	0.14 U	0.39 U	0.14 U	0.16 U	0.14 U	0.2 U	0.12 U	0.20 U	0.26 U	0.33 U	0.3 U	0.20 U	0.14 U	0.38 U	0.51 U	0.58 U	0.20 U	0.37 U	0.52 U	0.39 U
	Hexane	0.24 U	0.24 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.049 U	0.17 U	0.072 U	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
	4-Methyl-2-pentanone	3.6 U	1.4 U	0.54 U	0.46 U	0.18 U	0.57 U	1.1 U	1.3 U	0.14 U	0.84 U	0.9 U	0.20 U	0.20 U	0.29 U	0.34 U	0.20 U	0.14 U	0.22 U	0.20 U	0.42 U	0.20 U	0.20 U	0.20 U	0.20 U
	Acetone	19 U	46 U	32 U	22 U	32 U	32 U	29 U	37 U	9.7 U	40 U	29 U	18 U	12 U	17 U	24 U	9.7 U	7.5 U	50 U	11 U	19 U	6.7 U	11 U	14 U	21 U
	Benzyl chloride	0.65 U	0.81 U	0.56 U	0.32 U	0.66 U	0.17 U	0.62 U	0.30 U	0.36 U	0.67 U	0.39 U	1.0 U	0.71 U	1.9 U	3.1 U	0.69 U	0.6 U	0.46 U	0.41 U	0.5 U	0.39 U	0.46 U	1.3 U	0.86 U
	Bromochloromethane	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
	Bromomethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
	Bromotoluene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
	Bromonitroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
	Carbon disulfide	1.9 U	0.47 U	0.39 U	0.33 U	0.17 U	0.17 U	0.56 U	0.49 U	1.1 U	0.29 U	0.39 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
	Carbon tetrachloride	0.56 [a]	0.45 U	0.58 U	0.45 U	0.46 U	0.41 U	0.42 U	0.43 U	0.37 U	0.36 U	0.35 U	0.34 U	0.45 U	0.52 U	0.6 [a]	0.43 U	0.22 U	0.42 U	0.4 U	0.43 U	0.4 U	0.42 U	0.42 U	0.42 U
	Chlorobenzene	0.58 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
	Chloroethane	0.093 U	0.14 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.053 U	0.093 U	0.061 U	0.093 U	0.13 U	0.13 U	0.43 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
	Chloroform	0.17 U	0.15 U	0.17 U	0.17 U	0.37 U	0.29 U	0.53 U	1 U	0.13 U	0.41 U	0.62 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.53 U
	Chloromethane	1.0 U	2.7 U	1.7 U	0.98 U	1.1 U	1.3 U	1.2 U	0.71 U	1.1 U	0.98 U	1.2 U	1.4 U	1.1 U	1.1 U	1.1 U	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	0.97 U	1.0 U	1.2 U	2.9 U
	cis-1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
	cis-1,3-Dichloropropene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	0.16 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
	Cyclohexane	1.9 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.32 U	0.069 U	0.12 U	0.12 U	0.12 U	0.12 U	0.17 U	0.46 U	0.6 U	0.17 U	0.15 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
	Dibromochloromethane	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.3 U	0.085 U	0.3 U	0.3 U	0.3 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
	Dichlorodifluoromethane	2.6 U	1.7 U	3.3 U	1.8 U	2.6 U	1.5 U	2 U	2.1 U	1.8 U	2.4 U	2.4 U	1.9 U	2.3 U	2.5 U	2.9 U	2.6 U	2.6 U	2.9 U	2.1 U	2.1 U	2.2 U	2.2 U	2.3 U	2.5 U
	Diethyl ether	8.1 U	380 U	66 U	46 U	89 U	130 U	240 U	140 U	27 U	150 U	220 U	5.5 U	9.2 U	13 U	18 U	7.9 U	4.2 U	9.0 U	6.2 U	7.5 U	4.5 U	5.0 U	13 U	40 U
	Ethyl acetate	0.59 U	2 U	0.39 U	0.28 U	0.13 U	0.36 U	0.25 U	0.35 U	0.17 U	0.45 U	0.49 U	0.37 U	0.37 U	0.18 U	0.18 U	0.37 U	0.26 U	0.37 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
	Ethylbenzene	4.1 U	0.25 U	0.39 U	0.17 U	0.15 U	0.56 U	0.27 U	0.14 U	0.076 U	0.2 U	0.15 U	0.2												

Table 3.  
 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																								
	IA-2-010313 1/3/2013 0.13 U	IA-2-031513 3/15/2013 0.13 U	IA-2-060713 6/7/2013 0.13 U	IA-2-090613 9/6/2013 0.13 U	IA-2-121313 12/13/13 0.13 U	IA-2-030714 03/07/14 0.13 U	IA-2-061314 6/13/2014 0.13 U	IA-2-091214 9/12/2014 0.072 U	IA-2-121914 12/19/2014 0.13 U	IA-2-032715 3/27/2015 0.13 U	IA-2-061115 6/11/2015 0.13 U	IA-3-011609 1/16/2009 0.18 U	IA-3-020309 2/3/2009 0.18 U	IA-3-021109 2/11/2009 0.18 U	IA-3-021809 2/18/2009 0.18 U	IA-3-022609 2/26/2009 0.18 U	IA-3-041409 4/14/2009 0.13 U	IA-3-042409 4/24/2009 0.18 U	IA-3-09172009 9/17/2009 0.18 U	IA-3-092409 9/24/2009 0.18 U	IA-3-100109 10/1/2009 0.18 U	IA-3-100809 10/8/2009 0.18 U	IA-3-012810 1/28/2010 0.18 U	IA-3-020510 2/5/2010 0.18 U	
Methyl-Butyl ether	3.1	0.33	0.41	0.2	0.14 U	0.64	0.39	0.18	0.14 U	0.21	0.2	0.22	0.20 U	0.61	0.77	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.24	0.73	0.20 U	0.18 U
n-Heptane	5.1	0.33	0.52	0.2	0.15 U	0.66	0.34	0.17	0.088 J	0.25	0.19	0.28	0.33	0.79	0.86	0.23	0.22	0.24	0.26	0.45	0.27	0.34	0.44	0.26	0.26
Propylene (Propene)	2.4 U	2.4 U	2.4 U	0.7	2.4 U	2.4 U	2.7	1.4 U	2.4 U	2.4 U	2.4 U	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.13 U	0.16 U	0.35 U	0.35 U	0.18 U	0.35 U	0.35 U	0.35 U	0.35 U
Styrene	0.45	0.12	0.15 U	0.17	0.15 U	0.20	0.35	0.40	0.15 U	0.18	0.23	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.15 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.40	0.21 U	0.21 U
Trichloroethene	0.24	0.16	0.64	0.25	0.24 U	0.28	0.34	0.13	0.32	0.65	0.4	0.18	0.36	4.3	3.3	1.9	2.2	7.1 [a]	0.34 U	0.34 U	2.0	1.1	2.2	0.34 U	0.34 U
Tetrahydrofuran	0.24	0.10 U	0.10 U	0.10 U	0.10 U	0.058	0.12	0.09	0.1 U	0.3	0.12	12	1.1	1.3	0.49	0.15 U	0.24	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.40	0.15 U	0.15 U
Toluene	5.6	1.5	2.8	1.3	1.0	3.2	1.9	1.6	0.6	1.4	1.3	1.7	1.5	4.7	5.8	2.1	1.0	1.2	1.2	1.1	0.73	1.1	2.5	0.78	0.78
trans-1,2-Dichloroethene	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,3-Dichloropropene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	0.19 U	0.053	0.19 U	0.19 U	0.19 U	0.23	0.19 U	0.064	0.14 J	0.079 J	0.19 U	3.9	0.49	1.7	1.5	0.53	0.77	1.8	0.27 U	0.27 U	1.1	0.54	0.75	0.27 U	0.27 U
Trichlorofluoromethane	2.7	1.3	2.0	1.3	1.6	1.2	1.3	1.3	1.4	1.4	1.5	1.9	1.3	1.8	2.8	1.8	1.2	1.3	1.4	1.2	1.2	1.2	1.2	1.2	1.3
Trichlorofluoroethane	0.56	0.70	1.7	0.60	0.57	0.46	0.54	0.56	0.63	0.48 J	0.62 J	0.60	0.58	0.49	0.44	0.69	0.53	0.74	0.51	0.46	0.49	0.47	0.49	0.52	
Vinyl acetate	0.25 U	0.25 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	1.4 U	2.5 U	2.5 U	0.71 U	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.50 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	
Vinyl chloride	0.060 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.09 U	0.026 U	0.09 U	0.09 U	0.09 U	0.23	0.13 U	0.19	0.21	0.13 U	0.10 U	0.17	0.13 U	0.13 U	0.18	0.13 U	0.13 U	0.13 U	



Table 3.  
Summary of Analytical Results - Air Sampling for Large Retail Space  
Former Gorham Manufacturing Site  
Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																			
	IA-3- 021210 2/12/2010	IA-3- 021910 2/19/2010	IA-3- 032610 3/26/2010	IA-3- 043010 4/30/2010	IA-3- 052810 5/28/2010	IA-3- 071010 7/10/2010	IA-3- 091610 9/16/2010	IA-3- 120710 12/7/2010	IA-3- 021711 2/17/2011	IA-3- 060211 6/2/2011	IA-3- 091511 9/15/2011	IA-3- 120811 12/8/2011	IA-3- 030812 3/8/2012	IA-3- 061412 6/14/2012	IA-3- 091312 9/13/2012	IA-3- 010313 1/3/2013	IA-3- 031513 3/15/2013	IA-3- 060713 6/7/2013	IA-3- 090613 9/6/2013	IA-3- 121313 12/13/13
1,1,1-Trichloroethane	0.29	0.86	0.27 U	1.2	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,1,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2,2-Tetrachloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,2-Trichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trichlorobenzene	0.25 U	0.25 U	0.25 U	0.26	0.34	0.46	0.60	0.80	0.25 U	0.49	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-Trimethylbenzene	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dibromoethane (EDB)	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,2-Dichlorobenzene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloroethane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichloropropane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane	1.2	1.6	0.51	1.0	2.2	3.3	0.95	0.72	0.47	0.39	0.76 B	2.9 U	5.9 U	1.2	0.45	2.4	2.7	0.93	2.2	2.0
2-Butanone	0.22	0.39	0.20 U	0.29	0.52	0.67	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
2-Hexanone	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Ethyltoluene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
4-Methyl-2-pentanone	6.7	7.3	3.8	6.7	15	21	11	9.7 B	9.7 B	11 B	7.2	3.9	13	12	6.7	12	28	16	16	14
Acetone	0.67	0.53	0.6	0.67	0.47	0.51	0.72	0.47	1.4	0.29	0.30	0.39	0.39	0.23	0.66	0.53	0.75	0.23	0.75	0.54
Benzene	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Benzyl chloride	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Bromodichloromethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromoform	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Bromomethane	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon disulfide	0.31 U	0.43	0.43	0.49	0.54	0.57 [a]	0.41	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Carbon tetrachloride	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chlorobenzene	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroethane	0.48	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloroform	1.3	1.2	1.1	0.85	1.2	1.2	1.1	0.88	0.97	1.2	1.4	0.84	1.1	1.4	1.3	0.95	1.3	1.3	1.3	1.1
Chloromethane	0.20 U	0.59	0.20 U	1.3	0.20 U	0.51	0.20 U	1.7	0.20 U	0.20 U	0.20 U	0.17	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
cis-1,2-Dichloroethane	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
cis-1,3-Dichloropropene	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Cyclohexane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dibromochloromethane	2.5	3.0	1.6	2.1	2.5	2.7	1.5	2.1	3.1	2.1	1.8	2.6	2.1	2.8	2.5	1.8	2.7	2.5	1.8	2.7
Dichlorodifluoromethane	17	38	3.6	5.3	5.5	7.0	8.0	2.4	9.4	3.6	5.8	2.1	2.2	4.4	6.6	2.7	2.5	2.1	2.7	1.1
Ethanol	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethyl acetate	0.22 U	0.22 U	0.22 U	0.26	0.23	0.29	0.47	0.22 U	0.47	0.36	0.22 U	0.12	0.11	0.14	0.42	0.27	0.098	0.18	0.36	0.15 U
Ethylbenzene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexachlorobutadiene	1.0	0.29	1.1	0.55	0.45	0.58	0.35 U	1.5	2.6	7.0 U	0.35	0.37	0.74	1.4	0.89	1.0	0.68	0.94	0.76	1.9
Isopropyl alcohol	0.25 U	0.20	0.64	3.4	0.12 U	0.76	8.8	1.1	1.7	1.2 U	4.9 U	2.9 U	0.56	2.9 U	1.7	0.57	0.62	3.4 U	3.4 U	1.9
m,p-Xylene	0.43 U	0.43 U	0.46	0.80	0.99	1.3	1.6	0.43 U	1.4	0.95	0.54	0.38	0.24	0.40	1.5	1.0	0.31	0.72	1.1	0.19
Methyl methacrylate	2.3	0.70 U	0.70 U	0.70 U	0.35 U	1.2	0.57	0.55	4.6	8.0	1.7 U	4.5	1.1	1.3	2.7	3.3	2.1	1.1	1.2	1.3
Methylene chloride	0.20 U	0.59	0.20 U	1.3	0.20 U	0.51	0.20 U	1.7	0.20 U	0.20 U	0.20 U	0.17	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U





Table 3.  
 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

		Indoor Air - Large Retail Space																							
Parameter (ugm <sup>-3</sup> )	IA-3-030714 03/07/14 0.13 U	IA-3-061314 6/13/2014 0.13 U	IA-3-091214 9/12/2014 0.072 U	IA-3-121914 12/19/2014 0.13 U	IA-3-032715 3/27/2015 0.13 U	IA-3-061115 6/11/2015 0.13 U	IA-4-011609 1/16/2009 0.18 U	IA-4-020309 2/3/2009 0.18 U	IA-4-021109 2/11/2009 0.18 U	IA-4-021809 2/18/2009 0.18 U	IA-4-022609 2/26/2009 0.18 U	IA-4-041409 4/14/2009 0.13 U	IA-4-042409 4/24/2009 0.18 U	IA-4-091709 9/17/2009 0.18 U	IA-4-092409 9/24/2009 0.18 U	IA-4-100109 10/1/2009 0.18 U	IA-4-100809 10/8/2009 0.18 U	IA-4-012810 1/28/2010 0.18 U	IA-4-020510 2/5/2010 0.18 U	IA-4-021210 2/12/2010 0.18 U	IA-4-021910 2/19/2010 0.18 U	IA-4-032610 3/26/2010 0.18 U	IA-4-043010 4/30/2010 0.18 U	IA-4-052810 5/28/2010 0.18 U	
Methyl-t-butyl ether	0.65	0.43	0.52	0.14 U	0.13 U	0.19	0.23	0.20 U	0.58	0.79	0.21	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.26	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
n-Heptane	0.62	0.30	0.22	0.18	0.14 J	0.14 J	0.27	0.33	0.78	0.87	0.33	0.22	0.22 U	0.22 U	0.42	0.28	0.4	0.22 U	0.31	0.22 U	0.22 U	0.22 U	0.22 U	0.30	0.44
o-Xylene	2.4 U	2.4 U	1.8	2.4 U	2.4 U	2.4 U	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.13 U	0.18 U	0.35 U	0.35 U	0.18 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.87 U
Propylene (Propene)	0.18	0.16	0.15	0.12 J	0.15 U	0.033 J	0.21 U	0.21 U	0.22	0.23	0.21 U	0.15 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.22
Styrene	0.24 U	0.30	0.12	1.90	0.24 U	0.26	7.3 [A]	0.98	4.4	3.4	3.4	2.4	7.3 [A]	0.75	0.34 U	2.0	1.1	0.34 U	0.34 U	0.34 U	1.4	0.34 U	0.34 U	0.44	0.44
Tetrachloroethene	0.10 U	0.13	0.16	0.1 U	0.1 U	0.1 U	1.3	1.2	1.3	0.47	0.34	0.21	0.25	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.19
Tetrahydrofuran	3.4	1.8	2.5	1.3	0.63	0.77	1.8	1.3	4.3	5.8	2.3	1.0	1.0	1.1	1.3	0.76	1.2	0.19 U	0.79	0.63	0.47	0.83	1.4	0.98	1.4
Toluene	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,2-Dichloroethene	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
trans-1,3-Dichloropropene	0.26	0.19 U	0.075	0.64	0.072 J	0.19 U	4.7	0.48	1.7	1.5	0.88	0.78	2.0	0.27 U	0.27 U	1.1	0.57	0.27 U	0.27 U	0.27 U	0.40	0.27 U	0.27 U	1.4	0.27 U
Trichloroethene	1.7	1.4	1.3	1.3	1	1.7	2.0	1.3	1.6	3.0	1.7	1.3	1.3	1.2	1.2	1.2	1.2	0.93	1.3	1.4	1.6	1.5	1.3	1.3	1.3
Trichlorofluoroethane	0.51	0.59	0.57	0.63	0.47 J	0.69 J	0.72	0.59	0.51	0.45	0.57	0.54	0.61	0.49	0.48	0.48	0.47	0.38 U	0.55	0.58	0.55	1.3	0.48	0.51	
Vinyl acetate	2.5 U	2.5 U	1.4 U	2.5 U	2.5 U	2.5 U	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.50 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.18 U
Vinyl chloride	0.090 U	0.09 U	0.026 U	0.09 U	0.09 U	0.09 U	0.29	0.13 U	0.20	0.22	0.13 U	0.10 U	0.20	0.13 U	0.13 U	0.16	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U

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 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																				
	IA-4-070110 7/1/2010	IA-4-091610 9/16/2010	IA-4-120710 12/7/2010	IA-4-021711 2/17/2011	IA-4-060211 6/2/2011	IA-4-091511 9/15/2011	IA-4-120811 12/8/2011	IA-4-030812 3/8/2012	IA-4-061412 6/14/2012	IA-4-091312 9/13/2012	IA-4-010313 1/3/2013	IA-4-031513 3/15/2013	IA-4-060713 6/7/2013	IA-4-090613 9/6/2013	IA-4-121313 12/13/2013	IA-4-030714 3/07/2014	IA-4-061314 6/13/2014	IA-4-091214 9/12/2014	IA-4-121914 12/19/2014	IA-4-032715 3/27/2015	IA-4-061115 6/11/2015
1,1,1-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.14	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.28	0.19 U	0.19 U
1,1,1,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U
1,1-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.069 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.45 U	0.45 U	0.45 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.26 U	0.52 U	0.52 U
1,2,4-Trimethylbenzene	0.41	0.44	0.25 U	0.49	0.25 U	0.49	0.25 U	0.49	0.25 U	0.38	0.90	0.13	0.47	0.20	0.17 U	0.14 U	0.56	0.26	0.17	0.14 U	0.25
1,2-Dibromobenzene (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.077 U	0.27 U	0.27 U
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U
1,2-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.063	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U
1,2-Dichlorofluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.15 U	0.15 U	0.15 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.098 U	0.27 U	0.27 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.15 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.098 U	0.27 U	0.27 U
1,3-Butadiene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.068 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.047	0.078 U	0.078 U
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U
1,4-Dioxane	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.083 U	0.21 U	0.21 U
2-Butanone	4.8	2.4	0.96	1.0 B	2.9 U	5.9 U	1.0	1.5	0.97	2.3	4.7	2.3	3.9	0.95	1.2	1.1	2.9	4.6	1.1 J	1.9 J	1.9 J
2-Hexanone	1.0	0.59	0.20 U	0.20 U	0.21 J	0.35	0.066	0.32	0.098	0.18	0.19	0.25	0.51	0.14 U	0.14 U	0.15	0.36	0.2	0.14 U	0.25	0.14 U
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.15 U	0.22 U	0.22 U	0.17 U	0.17 U	0.17 U	0.17 U	0.18	0.17 U	0.098 U	0.055 J	0.069 J	0.041 J
4-Methyl-2-pentanone	0.43	0.45	0.20 U	0.20 U	0.20 U	0.20 U	0.098	0.15	0.13	0.14 U	3.3	0.28	0.56	0.47	0.16	0.48	1.3	0.98 U	1	0.34	0.89
Acetone	31	19	13 B	12 B	12 B	15	7.4	6.8	9.1	12	12	44	36	18	29	29	37	38	27	42	28
Benzene	0.47	0.66	0.49	1.4	0.31	0.30	0.38	0.35	0.23	0.64	0.67	0.82	0.55	0.47	0.56	0.56	0.68	0.39	0.47	0.69	0.36
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.16 U	0.16 U	0.16 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.052 U	0.18 U	0.18 U
Bromodichloromethane	0.33 U	0.35 U	0.34 U	0.34 U	0.34 U	0.34 U	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U
Bromoform	0.51 U	0.51 U	0.52 U	0.52 U	0.52 U	0.52 U	0.31 U	0.31 U	0.31 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.14 U	0.24 U	0.24 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.14 U	0.24 U	0.24 U
Carbon tetrachloride	0.48	0.44	0.46	0.57 [P]	0.88 [P]	0.52	0.48	0.47	0.43	0.36	0.54	0.41	0.65 [P]	0.45	0.46	0.45	0.40	0.39	0.37	0.35	0.31
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.053 U	0.093 U	0.093 U
Chloroform	0.24 U	3.3	0.24 U	0.24 U	0.24 U	0.24 U	0.085	0.073 U	0.13	0.19	0.17 U	0.11	0.17 U	0.27	0.44	0.46	0.84	1.2	0.69	0.39	1.2
Chloromethane	1.2	1.0	0.95	0.95	1.1	1.5	1.4	1.0	1.3	1.3	1.1	1.3	1.6	1.0	1.1	1.4	1.2	0.89	0.97	1.2	1.8
cis-1,2-Dichloroethane	0.44	0.20 U	0.18	0.20 U	0.20 U	0.20 U	0.19	0.069 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U
Cyclohexane	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.10 U	0.10 U	0.10 U	0.26	2.1	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.069 U	0.12 U	0.12 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.085 U	0.30 U	0.30 U
Dichlorodifluoromethane	2.6	1.5	2.0	3.2	1.8	1.7	2.8	2.0	2.9	2.8	2.8	1.7	3.3	1.8	2.7	1.3	2.1	2.1	2.1	1.7	1.4
Ethanol	8.7	9.8	3.4	8.9	5.3	7.0	2.4	2.5	8.4	7.3	7.5	4.6	7.9	7.1	9.1	8.3	24.0	15.0	26.0	19.0	33.0
Ethyl acetate	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.16 U	0.21 U	0.38	2.4	0.13 U	0.73	0.94	0.13 U	0.13 U	0.88	0.26	0.38	0.46	0.69	0.69
Ethylbenzene	0.29	0.44	0.22 U	0.49	0.22 U	0.22 U	0.16	0.17	0.14	0.38	4.1	0.32	0.43	0.19	0.15 U	0.57	0.27	0.12	0.14 J	0.19	0.16
Hexachlorobutadiene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.32 U	0.32 U	0.32 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.21 U	0.37 U	0.37 U
Heptane	2.8	0.61	0.38	1.7	1.0	7.0 U	0.35	0.55	0.47	5.0	17	0.89	2.8	0.53	4.9 U	1.3	0.75	0.58 J	0.44 J	5.6	0.45 J
Isopropyl alcohol	1.8	8.3	0.48	1.7	1.2 U	4.9 U	2.9 U	2.9 U	2.9 U	1.4	2.6	3.4 U	4.0	1.6	8.4	4.4	3.9	4.8	8.2	7.1	3.9
m,p-Xylene	1.1	1.4	0.43 U	1.4	0.41 J	0.53	0.41	0.27	0.38	1.2	1.7	1.1	1.6	0.53	0.28	1.6	0.86	0.4	0.56	0.62	0.46
Methyl methacrylate	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.12 U	0.13	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.082 U	0.14 U	0.14 U
Methylene chloride	7.7	0.68	0.79	5.1	3.2	1.7 U	1.5	2.0	0.72	1.2	1.3	0.97	3.1	0.89	0.69	0.72	0.61	0.64 J	0.28 J	1.5	0.45 J

Table 3.  
Summary of Analytical Results - Air Sampling for Large Retail Space  
Former Gorham Manufacturing Site  
Providence, Rhode Island

Parameter (µg/m <sup>3</sup> )	Indoor Air - Large Retail Space																				
	IA-4-070110 7/1/2010 0.18 U	IA-4-091610 9/16/2010 0.18 U	IA-4-120710 12/7/2010 0.18 U	IA-4-021711 2/17/2011 0.18 U	IA-4-060211 6/2/2011 0.18 U	IA-4-091511 9/15/2011 0.18 U	IA-4-120811 12/8/2011 0.11 U	IA-4-030812 3/8/2012 0.11 U	IA-4-061412 6/14/2012 0.11 U	IA-4-091312 9/13/2012 0.19 U	IA-4-1/3/2013 1/3/2013 0.13 U	IA-4-031513 3/15/2013 0.13 U	IA-4-060713 6/7/2013 0.13 U	IA-4-090613 9/6/2013 0.13 U	IA-4-121313 12/13/13 0.13 U	IA-4-030714 03/07/14 0.13 U	IA-4-061314 6/13/2014 0.13 U	IA-4-091214 9/12/2014 0.072 U	IA-4-121914 12/19/2014 0.13 U	IA-4-032715 3/27/2015 0.13 U	IA-4-061115 6/11/2015 0.13 U
Methyl-t-butyl ether	0.22	0.32	0.20 U	0.51	0.20 U	0.18 U	0.11 U	0.12 U	0.11 U	0.41	1.6	0.32	0.53	0.16	0.14 U	0.66	0.39	0.17	0.11 J	0.22	0.17
n-Heptane	0.50	0.57	0.22 U	0.53	0.22 U	0.22 U	0.15	0.11	0.17	0.41	5.1	0.43	0.57	0.23	0.15 U	0.66	0.33	0.16	0.17	0.25	0.19
p-Xylene	1.1	0.95 U	0.86 U	0.86 U	0.86 U	3.4 U	2.1 U	2.1 U	2.1 U	1.7	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	3.0	1.4 U	2.4 U	2.4 U	2.4 U
Propylene (Propene)	0.29	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.077	0.092	0.56	0.093	0.52	0.099	0.15 U	0.15 U	0.15 U	0.23	0.46	0.4	0.15 J	0.19	0.38
Styrene	1.1	0.34 U	3.4	5.0	0.34 U	0.45	1.2	0.31	0.12	1.7	0.16	0.21	0.45	0.30	0.24 U	0.31	0.32	0.23	3.2	0.98	0.36
Tetrachloroethene	0.24	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.076	0.088 U	0.055	0.10 U	0.28	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.12	0.094	0.1 U	0.24	0.11
Tetrahydrofuran	1.0	2.0	0.43	2.7	0.56	0.95	1.6	0.32	0.80	2.9	4.8	1.5	3.0	1.4	0.75	3.4	1.9	1.4	1.4	1.4	1.2
Toluene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U
trans-1,2-Dichloroethene	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U
trans-1,3-Dichloropropene	0.44	0.27 U	1.8	0.27 U	0.27 U	0.27 U	0.35	0.15	0.052	0.12	0.19 U	0.057	0.19 U	0.19 U	0.19 U	0.24	0.19 U	0.054 U	1.2	0.083 J	0.19 U
Trichloroethene	1.9	2.4	1.2	1.8	1.4	1.8	1.3	0.87	1.5	1.7	2.8	1.2	2.2	1.3	1.5	1.3	1.4	1.3	1.3	1.4	1.4
Trichlorofluoromethane	0.59	0.43	0.54	0.70	0.71	0.52	0.71	0.44	0.56	0.59	0.60	0.66	1.6	0.65	0.58	0.49	0.54	0.55	0.62	0.52 J	0.65 J
Trichlorofluoroethane	0.18 U	0.36 U	0.38	0.18 U	3.5 U	0.18 U	0.11 U	0.21 U	0.21 U	0.25 U	0.25 U	0.25 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	1.4 U	2.5 U	2.5 U	2.5 U
Vinyl acetate	0.13 U	0.13 U	0.16	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.09 U	0.026 U	0.072 J	0.09 U	0.09 U
Vinyl chloride	0.13 U	0.13 U	0.16	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.09 U	0.026 U	0.072 J	0.09 U	0.09 U

Table 3.  
 Summary of Analytical Results - Air Sampling for Large Retail Space  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space									
	LRAIR01 5/15/2009	LRAIR02 5/15/2009	LRAIR03 5/15/2009	LRAIR04 5/15/2009	LRAIR05 5/15/2009	LRAIR06 5/15/2009	LRAIR07 5/15/2009	LRAIR08 5/15/2009	LRAIR09 5/15/2009	LRAIR10 5/15/2009
1,1,1-Trichloroethane	0.45	0.52	0.65	0.57	0.51	0.44	0.69	0.50	0.49	0.53
1,1,1,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2,2-Tetrachloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,2-Trichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trichlorobenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2,4-Trimethylbenzene	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dibromoethane (EDB)	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,2-Dichlorobenzene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloroethane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichloropropane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,2-Dichlorotetrafluoroethane	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3,5-Trimethylbenzene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,3-Butadiene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane										
2-Butanone	3.3	3.4	2.1	2.6	2.0	1.6	3.1	2.5	2.6	1.4
2-Hexanone	0.73	0.66	0.38	0.51	0.37	0.38	0.61	0.48	0.43	0.29
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.42	0.39	0.32	0.36	0.54	0.27	0.32	0.30	0.61	0.23
Aceitone	12	13	10	11	8.5	7.7	13	11	9.8	6.9
Benzene	0.54	0.60	0.67	0.55	0.56	0.51	0.53	0.60	0.51	0.57
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromotom	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	0.7 [a]	0.68 [a]	0.71 [a]	0.68 [a]	0.68 [a]	0.63 [a]	0.68 [a]	0.7 [a]	0.64 [a]	0.66 [a]
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.0	0.98	1.0	0.95	1.0	1.0	0.92	1.1	0.91	1.2
cis-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	2.5	2.3	2.6	2.4	2.7	2.4	2.4	2.8	2.3	2.7
Ethanol	65	9.0	6.5	5.9	6.0	5.6	5.9	14	44	14
Ethyl acetate	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	1.1	0.21	0.18 U	0.18	0.24	0.18 U	0.19	0.21	0.20	0.18 U
Isopropyl alcohol	3.3	3.4	3.7	3.5	3.6	3.4	4.4	3.6	2.8	3.2
m,p-Xylene	0.58	0.57	0.58	0.55	0.49	0.50	0.48	0.53	1.0	0.50
Methyl methacrylate										
Methylene chloride	5.9	4.5	1.5	1.6	1.9	1.6	1.5	1.6	1.6	1.4

Table 3.  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
 Former Gorham Manufacturing Site  
 Providence, Rhode Island

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space									
	LRAIR01 5/15/2009	LRAIR02 5/15/2009	LRAIR03 5/15/2009	LRAIR04 5/15/2009	LRAIR05 5/15/2009	LRAIR06 5/15/2009	LRAIR07 5/15/2009	LRAIR08 5/15/2009	LRAIR09 5/15/2009	LRAIR10 5/15/2009
Methyl-Butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.28	0.28	0.27	0.27	0.25	0.26	0.25	0.27	0.34	0.26
p-Xylene	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U
Propylene (Propene)	0.23	0.21 U	0.21 U	0.22	0.21 U	0.21 U	0.37	0.21 U	0.21 U	0.21 U
Styrene	0.47	0.47	0.54	0.66	0.64	0.60	0.73	0.53	0.46	0.46
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.20	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	0.73	0.7	0.58	0.59	0.51	0.53	0.57	0.53	0.54	0.47
trans-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	0.27 U	0.28	0.27	0.29	0.34	0.27	0.28	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	1.3	1.3	1.2	1.1	1.4	1.3	1.1	1.4	1.0	1.4
Trichlorofluoroethane	0.63	0.60	0.65	0.62	0.64	0.57	0.59	0.68	0.62	0.58
Vinyl acetate	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U

Notes:

[a] Carbon tetrachloride and tetrachloroethene are above the target air concentration, but are not compliance violations as indoor air concentrations are consistent with outdoor air concentrations that were sampled on the same day.

NA - not available

U - Not detected, value is the detection limit

B - Compounds detected in method blank as well as field sample

D - Result from diluted analyses

J - Indicates compound was detected at an estimated value.

ug/m<sup>3</sup> - micrograms per cubic meter

Prepared by/ Date: AKN 06/19/15

Checked by/ Date: HMM 07/10/15

**5** Bolded and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios



**Table 4.  
Vacuum Monitoring Results - Large Retail Space  
Former Gorham Manufacturing Site  
Providence, Rhode Island**

Date	Pressure Differential (inches of water)			
	VMW-1	VMW-2	VMW-3	VMW-4
2/3/2009	-0.20	-0.62	-0.15	-0.12
2/18/2009	-0.509	-0.738	-0.650	-0.253
2/26/2009	-0.511	-0.710	-0.665	-0.273
3/6/2009	-0.507	-0.610	-0.715	-0.251
3/6/2009*	-0.120	-0.195	-0.230	-0.028
3/31/2009	-0.148	-0.221	-0.244	-0.072
4/14/2009	-0.140	-0.210	-0.215	-0.081
5/15/2009	-0.133	-0.193	-0.208	-0.087
9/17/2009	-0.132	-0.172	-0.209	-0.087
9/24/2009	-0.146	-0.189	-0.254	-0.094
10/1/2009	-0.181	-0.232	-0.233	-0.097
10/8/2009	-0.197	-0.212	-0.255	-0.087
12/29/2009**	-0.021	-0.020	-0.160	-0.023
1/28/2010	-0.947	-0.642	-0.709	-0.237
2/5/2010	-0.497	-0.714	-0.510	-0.258
2/12/2010	-0.509	-0.706	-0.537	-0.261
2/19/2010	-0.526	-0.733	-0.667	-0.242
3/26/2010	-0.636	-0.860	-0.671	-0.331
4/30/2010	-0.519	-0.713	-0.378	-0.287
5/28/2010	-0.546	-0.727	+1.371	-0.279
7/1/2010	-0.505	-0.678	+1.568	-0.272
9/16/2010	-0.496	-0.654	+0.980	-0.272
12/7/2010	-0.126	-0.202	-0.155	-0.052
2/17/2011	-0.491	-0.683	-0.737	-0.263
6/2/2011	-0.561	-0.767	-0.393	-0.290
9/15/2011	-0.517	-0.710	+1.071	-0.260
12/8/2011	-0.609	-0.826	+1.502	-0.313
3/8/2012	-0.422	-0.680	+0.329	-0.288
6/14/2012	-0.372	-0.767	+2.389	-0.280
9/13/2012	-0.543	-1.021	-0.665	-0.283
1/3/2013	-0.495	-0.628	-1.141	-0.674
3/15/2013	-0.539	-0.636	-0.754	-0.254
6/7/2013	-0.121	-0.681	-0.787	-0.223
9/6/2013	-0.421	-0.743	-0.766	-0.265
12/13/2013	-0.435	-0.580	-0.031	-0.190
3/7/2014	-0.311	-0.541	-0.741	-0.157
6/13/2014	-0.538	-0.627	-0.010	-0.058
9/12/2014	-0.549	-0.528	-0.295	-0.002
12/19/2014	-0.492	-0.427	-0.002	-0.143
3/27/2015	-0.433	-0.655	-0.011	-0.108
6/11/2015	-0.49***	-0.66***	-0.5***	-0.15***

\* vacuum reduced at extraction wells

\*\* ASD system offline

\*\*\* Due to Digital Manometer reading high range only at the time of measurement, readings are in tenths of inches of water.

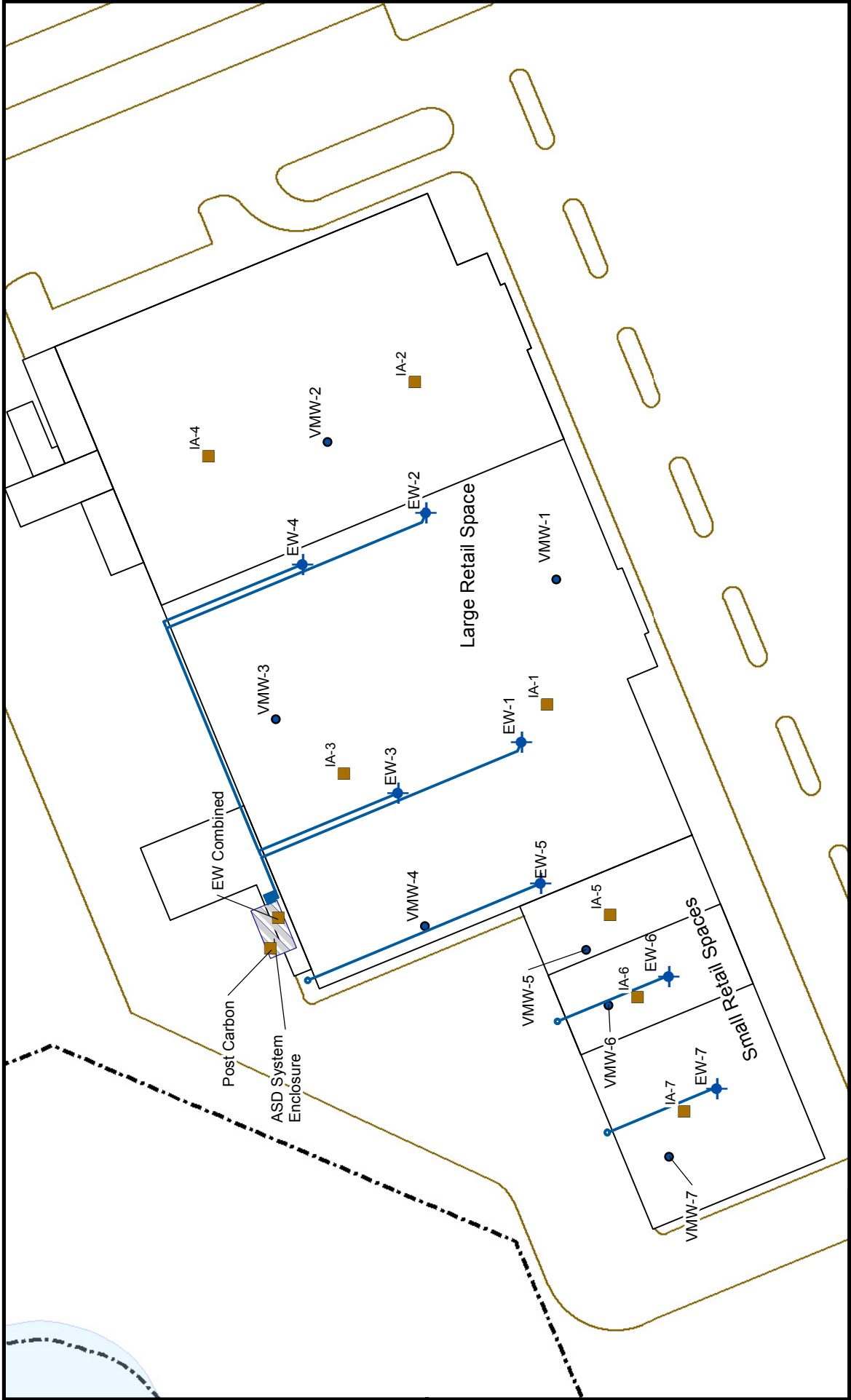
Prepared by/Date: MAM 07/14/15

Checked by/Date: 7/14/15



## FIGURES





**Figure 1**  
**Vapor Mitigation**  
**Sample Locations**  
**Former Gorham Manufacturing Facility**  
**333 Adelaide Avenue**  
**Providence, Rhode Island**

- Legend**
- Air Sample Location
  - Current Building
  - Vacuum Monitoring Well
  - Pavement Outline
  - ◆ Extraction Well
  - Effluent Location
  - Extraction Well Piping

All locations are approximate



Prepared/Date: BJR 04/15/13 | Checked/Date: MAM 04/15/13





## **APPENDIX A**

### **Laboratory Reports**





June 18, 2015

Mark Maggiore  
AMEC E&I, Inc.  
271 Mill Road  
Chelmsford, MA 01824

Project Location: Providence, RI  
Client Job Number:  
Project Number: 3652150005  
Laboratory Work Order Number: 15F0576

Enclosed are results of analyses for samples received by the laboratory on June 11, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "James M. Georgantas". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

James M. Georgantas  
Project Manager





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

AMEC E&I, Inc.  
271 Mill Road  
Chelmsford, MA 01824  
ATTN: Mark Maggiore

REPORT DATE: 6/18/2015

PURCHASE ORDER NUMBER: C012206368

PROJECT NUMBER: 3652150005

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 15F0576

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

PROJECT LOCATION: Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
IA-1-061115	15F0576-01	Indoor air		EPA TO-15	
IA-2-061115	15F0576-02	Indoor air		EPA TO-15	
IA-3-061115	15F0576-03	Indoor air		EPA TO-15	
IA-4-061115	15F0576-04	Indoor air		EPA TO-15	
IA-5-061115	15F0576-05	Indoor air		EPA TO-15	
IA-6-061115	15F0576-06	Indoor air		EPA TO-15	
IA-7-061115	15F0576-07	Indoor air		EPA TO-15	
AA-1-061115	15F0576-08	Ambient Air		EPA TO-15	
EW-5-061115	15F0576-09	Sub Slab		EPA TO-15	
EW-6-061115	15F0576-10	Sub Slab		EPA TO-15	
EW-7-061115	15F0576-11	Sub Slab		EPA TO-15	
EW-Combined-061115	15F0576-12	Sub Slab		EPA TO-15	

**CASE NARRATIVE SUMMARY**

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

**EPA TO-15**

**Qualifications:**

---

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

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

**1,3-Dichlorobenzene, Bromoform, Hexachlorobutadiene**

B124342-BS1

---

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

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

**Isopropanol, Styrene**

15F0576-01[IA-1-061115], 15F0576-02[IA-2-061115], 15F0576-03[IA-3-061115], 15F0576-04[IA-4-061115], 15F0576-05[IA-5-061115], 15F0576-06[IA-6-061115], 15F0576-07[IA-7-061115], 15F0576-08[AA-1-061115], 15F0576-09[EW-5-061115], 15F0576-10[EW-6-061115], 15F0576-11[EW-7-061115], 15F0576-12[EW-Combined-061115], B124342-BLK1, B124342-BS1, B124342-DUP1

---

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

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

**Acetone, Benzyl chloride, Isopropanol**

15F0576-01[IA-1-061115], 15F0576-02[IA-2-061115], 15F0576-03[IA-3-061115], 15F0576-04[IA-4-061115], 15F0576-05[IA-5-061115], 15F0576-06[IA-6-061115], 15F0576-07[IA-7-061115], 15F0576-08[AA-1-061115], 15F0576-09[EW-5-061115], 15F0576-10[EW-6-061115], 15F0576-11[EW-7-061115], 15F0576-12[EW-Combined-061115], B124342-BLK1, B124342-BS1, B124342-DUP1

---

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

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

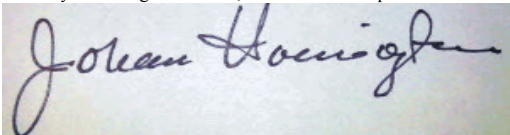
**1,2,4-Trichlorobenzene, Hexachlorobutadiene**

B124342-BS1

---

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

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



Johanna K. Harrington  
Manager, Laboratory Reporting

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-1-061115**  
**Sample ID: 15F0576-01**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 07:48

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1846  
 Canister Size: 6 liter  
 Flow Controller ID: 4205  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -3  
 Receipt Vacuum(in Hg): -2.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	3.2	1.4	0.49	V-05	7.7	3.3	0.702	6/12/15 19:31	TPH	
Benzene	0.073	0.035	0.018		0.23	0.11	0.702	6/12/15 19:31	TPH	
Benzyl chloride	ND	0.035	0.0068	V-05	ND	0.18	0.702	6/12/15 19:31	TPH	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/12/15 19:31	TPH	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/12/15 19:31	TPH	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/12/15 19:31	TPH	
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/12/15 19:31	TPH	
2-Butanone (MEK)	0.36	1.4	0.026	J	1.1	4.1	0.702	6/12/15 19:31	TPH	
Carbon Disulfide	0.072	0.35	0.012	J	0.22	1.1	0.702	6/12/15 19:31	TPH	
Carbon Tetrachloride	0.054	0.035	0.0085		0.34	0.22	0.702	6/12/15 19:31	TPH	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/12/15 19:31	TPH	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/12/15 19:31	TPH	
Chloroform	0.028	0.035	0.0082	J	0.14	0.17	0.702	6/12/15 19:31	TPH	
Chloromethane	0.58	0.070	0.015		1.2	0.14	0.702	6/12/15 19:31	TPH	
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/12/15 19:31	TPH	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/12/15 19:31	TPH	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/12/15 19:31	TPH	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/12/15 19:31	TPH	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/12/15 19:31	TPH	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/12/15 19:31	TPH	
Dichlorodifluoromethane (Freon 12)	0.47	0.035	0.015		2.3	0.17	0.702	6/12/15 19:31	TPH	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/12/15 19:31	TPH	
1,2-Dichloroethane	0.015	0.035	0.0098	J	0.060	0.14	0.702	6/12/15 19:31	TPH	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/12/15 19:31	TPH	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/12/15 19:31	TPH	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/12/15 19:31	TPH	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/12/15 19:31	TPH	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/12/15 19:31	TPH	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/12/15 19:31	TPH	
Ethanol	6.0	1.4	0.63		11	2.6	0.702	6/12/15 19:31	TPH	
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	6/12/15 19:31	TPH	
Ethylbenzene	0.024	0.035	0.0097	J	0.10	0.15	0.702	6/12/15 19:31	TPH	
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/12/15 19:31	TPH	
Heptane	0.030	0.035	0.011	J	0.12	0.14	0.702	6/12/15 19:31	TPH	
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	6/12/15 19:31	TPH	
Hexane	0.10	1.4	0.062	J	0.35	4.9	0.702	6/12/15 19:31	TPH	
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	6/12/15 19:31	TPH	
Isopropanol	0.80	1.4	0.043	L-03, V-05, J	2.0	3.4	0.702	6/12/15 19:31	TPH	

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-1-061115**  
**Sample ID: 15F0576-01**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 07:48

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1846  
 Canister Size: 6 liter  
 Flow Controller ID: 4205  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -3  
 Receipt Vacuum(in Hg): -2.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/12/15 19:31	TPH	
Methylene Chloride	0.15	0.35	0.043	J	0.51	1.2	0.702	6/12/15 19:31	TPH	
4-Methyl-2-pentanone (MIBK)	0.020	0.035	0.0084	J	0.080	0.14	0.702	6/12/15 19:31	TPH	
Propene	ND	1.4	0.11		ND	2.4	0.702	6/12/15 19:31	TPH	
Styrene	0.0098	0.035	0.0068	L-03, J	0.042	0.15	0.702	6/12/15 19:31	TPH	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/12/15 19:31	TPH	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	6/12/15 19:31	TPH	
Tetrachloroethylene	0.033	0.035	0.010	J	0.22	0.24	0.702	6/12/15 19:31	TPH	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	6/12/15 19:31	TPH	
Toluene	0.17	0.035	0.011		0.62	0.13	0.702	6/12/15 19:31	TPH	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	6/12/15 19:31	TPH	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/12/15 19:31	TPH	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	6/12/15 19:31	TPH	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/12/15 19:31	TPH	
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.012		1.5	0.79	0.702	6/12/15 19:31	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.082	0.14	0.0098	J	0.63	1.1	0.702	6/12/15 19:31	TPH	
1,2,4-Trimethylbenzene	0.029	0.035	0.0086	J	0.14	0.17	0.702	6/12/15 19:31	TPH	
1,3,5-Trimethylbenzene	0.014	0.035	0.0070	J	0.069	0.17	0.702	6/12/15 19:31	TPH	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	6/12/15 19:31	TPH	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/12/15 19:31	TPH	
m&p-Xylene	0.078	0.070	0.018		0.34	0.30	0.702	6/12/15 19:31	TPH	
o-Xylene	0.030	0.035	0.010	J	0.13	0.15	0.702	6/12/15 19:31	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	118	70-130	6/12/15 19:31
4-Bromofluorobenzene (2)	99.2	70-130	6/12/15 19:31

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-2-061115**  
**Sample ID: 15F0576-02**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 10:37

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1161  
 Canister Size: 6 liter  
 Flow Controller ID: 4193  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -4.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	12	1.4	0.49	V-05	29	3.3	0.702	6/12/15 20:15	TPH
Benzene	0.12	0.035	0.018		0.39	0.11	0.702	6/12/15 20:15	TPH
Benzyl chloride	ND	0.035	0.0068	V-05	ND	0.18	0.702	6/12/15 20:15	TPH
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/12/15 20:15	TPH
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/12/15 20:15	TPH
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/12/15 20:15	TPH
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/12/15 20:15	TPH
2-Butanone (MEK)	0.61	1.4	0.026	J	1.8	4.1	0.702	6/12/15 20:15	TPH
Carbon Disulfide	0.12	0.35	0.012	J	0.39	1.1	0.702	6/12/15 20:15	TPH
Carbon Tetrachloride	0.055	0.035	0.0085		0.35	0.22	0.702	6/12/15 20:15	TPH
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/12/15 20:15	TPH
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/12/15 20:15	TPH
Chloroform	0.13	0.035	0.0082		0.62	0.17	0.702	6/12/15 20:15	TPH
Chloromethane	0.62	0.070	0.015		1.3	0.14	0.702	6/12/15 20:15	TPH
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/12/15 20:15	TPH
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/12/15 20:15	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/12/15 20:15	TPH
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/12/15 20:15	TPH
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/12/15 20:15	TPH
1,4-Dichlorobenzene	0.016	0.035	0.0088	J	0.097	0.21	0.702	6/12/15 20:15	TPH
Dichlorodifluoromethane (Freon 12)	0.48	0.035	0.015		2.4	0.17	0.702	6/12/15 20:15	TPH
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/12/15 20:15	TPH
1,2-Dichloroethane	0.016	0.035	0.0098	J	0.065	0.14	0.702	6/12/15 20:15	TPH
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/12/15 20:15	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/12/15 20:15	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/12/15 20:15	TPH
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/12/15 20:15	TPH
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/12/15 20:15	TPH
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/12/15 20:15	TPH
Ethanol	120	1.4	0.63		220	2.6	0.702	6/12/15 20:15	TPH
Ethyl Acetate	0.13	0.035	0.026		0.49	0.13	0.702	6/12/15 20:15	TPH
Ethylbenzene	0.035	0.035	0.0097		0.15	0.15	0.702	6/12/15 20:15	TPH
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/12/15 20:15	TPH
Heptane	0.048	0.035	0.011		0.20	0.14	0.702	6/12/15 20:15	TPH
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	6/12/15 20:15	TPH
Hexane	0.12	1.4	0.062	J	0.44	4.9	0.702	6/12/15 20:15	TPH
2-Hexanone (MBK)	0.029	0.035	0.0090	J	0.12	0.14	0.702	6/12/15 20:15	TPH
Isopropanol	1.6	1.4	0.043	L-03, V-05	3.8	3.4	0.702	6/12/15 20:15	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-2-061115**  
**Sample ID: 15F0576-02**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 10:37

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1161  
 Canister Size: 6 liter  
 Flow Controller ID: 4193  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -4.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/12/15 20:15	TPH	
Methylene Chloride	0.13	0.35	0.043	J	0.45	1.2	0.702	6/12/15 20:15	TPH	
4-Methyl-2-pentanone (MIBK)	0.22	0.035	0.0084		0.90	0.14	0.702	6/12/15 20:15	TPH	
Propene	ND	1.4	0.11		ND	2.4	0.702	6/12/15 20:15	TPH	
Styrene	0.053	0.035	0.0068	L-03	0.23	0.15	0.702	6/12/15 20:15	TPH	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/12/15 20:15	TPH	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	6/12/15 20:15	TPH	
Tetrachloroethylene	0.060	0.035	0.010		0.40	0.24	0.702	6/12/15 20:15	TPH	
Tetrahydrofuran	0.039	0.035	0.015		0.12	0.10	0.702	6/12/15 20:15	TPH	
Toluene	0.34	0.035	0.011		1.3	0.13	0.702	6/12/15 20:15	TPH	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	6/12/15 20:15	TPH	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/12/15 20:15	TPH	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	6/12/15 20:15	TPH	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/12/15 20:15	TPH	
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.012		1.5	0.79	0.702	6/12/15 20:15	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.081	0.14	0.0098	J	0.62	1.1	0.702	6/12/15 20:15	TPH	
1,2,4-Trimethylbenzene	0.046	0.035	0.0086		0.23	0.17	0.702	6/12/15 20:15	TPH	
1,3,5-Trimethylbenzene	0.014	0.035	0.0070	J	0.069	0.17	0.702	6/12/15 20:15	TPH	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	6/12/15 20:15	TPH	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/12/15 20:15	TPH	
m&p-Xylene	0.10	0.070	0.018		0.45	0.30	0.702	6/12/15 20:15	TPH	
o-Xylene	0.044	0.035	0.010		0.19	0.15	0.702	6/12/15 20:15	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	117	70-130	6/12/15 20:15
4-Bromofluorobenzene (2)	97.9	70-130	6/12/15 20:15



**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-3-061115**  
**Sample ID: 15F0576-03**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 07:51

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1009  
 Canister Size: 6 liter  
 Flow Controller ID: 4204  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -3.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	4.3	1.4	0.49	V-05	10	3.3	0.702	6/12/15 20:59	TPH	
Benzene	0.087	0.035	0.018		0.28	0.11	0.702	6/12/15 20:59	TPH	
Benzyl chloride	ND	0.035	0.0068	V-05	ND	0.18	0.702	6/12/15 20:59	TPH	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/12/15 20:59	TPH	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/12/15 20:59	TPH	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/12/15 20:59	TPH	
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/12/15 20:59	TPH	
2-Butanone (MEK)	0.51	1.4	0.026	J	1.5	4.1	0.702	6/12/15 20:59	TPH	
Carbon Disulfide	0.029	0.35	0.012	J	0.092	1.1	0.702	6/12/15 20:59	TPH	
Carbon Tetrachloride	0.057	0.035	0.0085		0.36	0.22	0.702	6/12/15 20:59	TPH	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/12/15 20:59	TPH	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/12/15 20:59	TPH	
Chloroform	0.029	0.035	0.0082	J	0.14	0.17	0.702	6/12/15 20:59	TPH	
Chloromethane	0.81	0.070	0.015		1.7	0.14	0.702	6/12/15 20:59	TPH	
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/12/15 20:59	TPH	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/12/15 20:59	TPH	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/12/15 20:59	TPH	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/12/15 20:59	TPH	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/12/15 20:59	TPH	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/12/15 20:59	TPH	
Dichlorodifluoromethane (Freon 12)	0.47	0.035	0.015		2.3	0.17	0.702	6/12/15 20:59	TPH	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/12/15 20:59	TPH	
1,2-Dichloroethane	0.014	0.035	0.0098	J	0.057	0.14	0.702	6/12/15 20:59	TPH	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/12/15 20:59	TPH	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/12/15 20:59	TPH	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/12/15 20:59	TPH	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/12/15 20:59	TPH	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/12/15 20:59	TPH	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/12/15 20:59	TPH	
Ethanol	8.3	1.4	0.63		16	2.6	0.702	6/12/15 20:59	TPH	
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	6/12/15 20:59	TPH	
Ethylbenzene	0.028	0.035	0.0097	J	0.12	0.15	0.702	6/12/15 20:59	TPH	
4-Ethyltoluene	0.0091	0.035	0.0079	J	0.045	0.17	0.702	6/12/15 20:59	TPH	
Heptane	0.046	0.035	0.011		0.19	0.14	0.702	6/12/15 20:59	TPH	
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	6/12/15 20:59	TPH	
Hexane	0.13	1.4	0.062	J	0.45	4.9	0.702	6/12/15 20:59	TPH	
2-Hexanone (MBK)	0.035	0.035	0.0090		0.14	0.14	0.702	6/12/15 20:59	TPH	
Isopropanol	0.36	1.4	0.043	L-03, V-05, J	0.87	3.4	0.702	6/12/15 20:59	TPH	

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-3-061115**  
**Sample ID: 15F0576-03**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 07:51

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1009  
 Canister Size: 6 liter  
 Flow Controller ID: 4204  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -3.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/12/15 20:59		TPH
Methylene Chloride	0.15	0.35	0.043	J	0.54	1.2	0.702	6/12/15 20:59		TPH
4-Methyl-2-pentanone (MIBK)	0.032	0.035	0.0084	J	0.13	0.14	0.702	6/12/15 20:59		TPH
Propene	ND	1.4	0.11		ND	2.4	0.702	6/12/15 20:59		TPH
Styrene	0.0077	0.035	0.0068	L-03, J	0.033	0.15	0.702	6/12/15 20:59		TPH
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/12/15 20:59		TPH
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	6/12/15 20:59		TPH
Tetrachloroethylene	0.039	0.035	0.010		0.26	0.24	0.702	6/12/15 20:59		TPH
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	6/12/15 20:59		TPH
Toluene	0.20	0.035	0.011		0.77	0.13	0.702	6/12/15 20:59		TPH
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	6/12/15 20:59		TPH
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/12/15 20:59		TPH
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	6/12/15 20:59		TPH
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/12/15 20:59		TPH
Trichlorofluoromethane (Freon 11)	0.31	0.14	0.012		1.7	0.79	0.702	6/12/15 20:59		TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.090	0.14	0.0098	J	0.69	1.1	0.702	6/12/15 20:59		TPH
1,2,4-Trimethylbenzene	0.027	0.035	0.0086	J	0.13	0.17	0.702	6/12/15 20:59		TPH
1,3,5-Trimethylbenzene	0.016	0.035	0.0070	J	0.079	0.17	0.702	6/12/15 20:59		TPH
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	6/12/15 20:59		TPH
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/12/15 20:59		TPH
m&p-Xylene	0.091	0.070	0.018		0.39	0.30	0.702	6/12/15 20:59		TPH
o-Xylene	0.032	0.035	0.010	J	0.14	0.15	0.702	6/12/15 20:59		TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	121	70-130	6/12/15 20:59
4-Bromofluorobenzene (2)	105	70-130	6/12/15 20:59

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
 Field Sample #: IA-4-061115  
 Sample ID: 15F0576-04  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 10:39

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1163  
 Canister Size: 6 liter  
 Flow Controller ID: 4192  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	12	1.4	0.49	V-05	28	3.3	0.702	6/12/15 21:42	TPH	
Benzene	0.11	0.035	0.018		0.36	0.11	0.702	6/12/15 21:42	TPH	
Benzyl chloride	ND	0.035	0.0068	V-05	ND	0.18	0.702	6/12/15 21:42	TPH	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/12/15 21:42	TPH	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/12/15 21:42	TPH	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/12/15 21:42	TPH	
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/12/15 21:42	TPH	
2-Butanone (MEK)	0.66	1.4	0.026	J	1.9	4.1	0.702	6/12/15 21:42	TPH	
Carbon Disulfide	0.11	0.35	0.012	J	0.35	1.1	0.702	6/12/15 21:42	TPH	
Carbon Tetrachloride	0.050	0.035	0.0085		0.31	0.22	0.702	6/12/15 21:42	TPH	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/12/15 21:42	TPH	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/12/15 21:42	TPH	
Chloroform	0.24	0.035	0.0082		1.2	0.17	0.702	6/12/15 21:42	TPH	
Chloromethane	0.85	0.070	0.015		1.8	0.14	0.702	6/12/15 21:42	TPH	
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/12/15 21:42	TPH	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/12/15 21:42	TPH	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/12/15 21:42	TPH	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/12/15 21:42	TPH	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/12/15 21:42	TPH	
1,4-Dichlorobenzene	0.020	0.035	0.0088	J	0.12	0.21	0.702	6/12/15 21:42	TPH	
Dichlorodifluoromethane (Freon 12)	0.43	0.035	0.015		2.1	0.17	0.702	6/12/15 21:42	TPH	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/12/15 21:42	TPH	
1,2-Dichloroethane	0.013	0.035	0.0098	J	0.051	0.14	0.702	6/12/15 21:42	TPH	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/12/15 21:42	TPH	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/12/15 21:42	TPH	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/12/15 21:42	TPH	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/12/15 21:42	TPH	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/12/15 21:42	TPH	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/12/15 21:42	TPH	
Ethanol	180	1.4	0.63		330	2.6	0.702	6/12/15 21:42	TPH	
Ethyl Acetate	0.19	0.035	0.026		0.69	0.13	0.702	6/12/15 21:42	TPH	
Ethylbenzene	0.036	0.035	0.0097		0.16	0.15	0.702	6/12/15 21:42	TPH	
4-Ethyltoluene	0.0084	0.035	0.0079	J	0.041	0.17	0.702	6/12/15 21:42	TPH	
Heptane	0.041	0.035	0.011		0.17	0.14	0.702	6/12/15 21:42	TPH	
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	6/12/15 21:42	TPH	
Hexane	0.13	1.4	0.062	J	0.45	4.9	0.702	6/12/15 21:42	TPH	
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	6/12/15 21:42	TPH	
Isopropanol	1.6	1.4	0.043	L-03, V-05	3.9	3.4	0.702	6/12/15 21:42	TPH	

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-4-061115**  
**Sample ID: 15F0576-04**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 10:39

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1163  
 Canister Size: 6 liter  
 Flow Controller ID: 4192  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analized		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/12/15 21:42	TPH	
Methylene Chloride	0.13	0.35	0.043	J	0.45	1.2	0.702	6/12/15 21:42	TPH	
4-Methyl-2-pentanone (MIBK)	0.24	0.035	0.0084		0.97	0.14	0.702	6/12/15 21:42	TPH	
Propene	ND	1.4	0.11		ND	2.4	0.702	6/12/15 21:42	TPH	
Styrene	0.088	0.035	0.0068	L-03	0.38	0.15	0.702	6/12/15 21:42	TPH	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/12/15 21:42	TPH	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	6/12/15 21:42	TPH	
Tetrachloroethylene	0.053	0.035	0.010		0.36	0.24	0.702	6/12/15 21:42	TPH	
Tetrahydrofuran	0.037	0.035	0.015		0.11	0.10	0.702	6/12/15 21:42	TPH	
Toluene	0.33	0.035	0.011		1.2	0.13	0.702	6/12/15 21:42	TPH	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	6/12/15 21:42	TPH	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/12/15 21:42	TPH	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	6/12/15 21:42	TPH	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/12/15 21:42	TPH	
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.012		1.4	0.79	0.702	6/12/15 21:42	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.084	0.14	0.0098	J	0.65	1.1	0.702	6/12/15 21:42	TPH	
1,2,4-Trimethylbenzene	0.040	0.035	0.0086		0.20	0.17	0.702	6/12/15 21:42	TPH	
1,3,5-Trimethylbenzene	0.013	0.035	0.0070	J	0.066	0.17	0.702	6/12/15 21:42	TPH	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	6/12/15 21:42	TPH	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/12/15 21:42	TPH	
m&p-Xylene	0.11	0.070	0.018		0.46	0.30	0.702	6/12/15 21:42	TPH	
o-Xylene	0.043	0.035	0.010		0.19	0.15	0.702	6/12/15 21:42	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	119	70-130	6/12/15 21:42
4-Bromofluorobenzene (2)	102	70-130	6/12/15 21:42

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-5-061115**  
**Sample ID: 15F0576-05**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 09:29

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1320  
 Canister Size: 6 liter  
 Flow Controller ID: 4077  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -8.4  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	5.2	1.4	0.49	V-05	12	3.3	0.702	6/12/15 22:26	TPH
Benzene	0.10	0.035	0.018		0.33	0.11	0.702	6/12/15 22:26	TPH
Benzyl chloride	ND	0.035	0.0068	V-05	ND	0.18	0.702	6/12/15 22:26	TPH
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/12/15 22:26	TPH
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/12/15 22:26	TPH
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/12/15 22:26	TPH
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/12/15 22:26	TPH
2-Butanone (MEK)	0.47	1.4	0.026	J	1.4	4.1	0.702	6/12/15 22:26	TPH
Carbon Disulfide	0.031	0.35	0.012	J	0.096	1.1	0.702	6/12/15 22:26	TPH
Carbon Tetrachloride	0.058	0.035	0.0085		0.37	0.22	0.702	6/12/15 22:26	TPH
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/12/15 22:26	TPH
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/12/15 22:26	TPH
Chloroform	0.029	0.035	0.0082	J	0.14	0.17	0.702	6/12/15 22:26	TPH
Chloromethane	0.63	0.070	0.015		1.3	0.14	0.702	6/12/15 22:26	TPH
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/12/15 22:26	TPH
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/12/15 22:26	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/12/15 22:26	TPH
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/12/15 22:26	TPH
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/12/15 22:26	TPH
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/12/15 22:26	TPH
Dichlorodifluoromethane (Freon 12)	0.41	0.035	0.015		2.0	0.17	0.702	6/12/15 22:26	TPH
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/12/15 22:26	TPH
1,2-Dichloroethane	0.016	0.035	0.0098	J	0.065	0.14	0.702	6/12/15 22:26	TPH
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/12/15 22:26	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/12/15 22:26	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/12/15 22:26	TPH
1,2-Dichloropropane	0.022	0.035	0.012	J	0.10	0.16	0.702	6/12/15 22:26	TPH
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/12/15 22:26	TPH
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/12/15 22:26	TPH
Ethanol	13	1.4	0.63		25	2.6	0.702	6/12/15 22:26	TPH
Ethyl Acetate	0.048	0.035	0.026		0.17	0.13	0.702	6/12/15 22:26	TPH
Ethylbenzene	0.028	0.035	0.0097	J	0.12	0.15	0.702	6/12/15 22:26	TPH
4-Ethyltoluene	0.0084	0.035	0.0079	J	0.041	0.17	0.702	6/12/15 22:26	TPH
Heptane	0.041	0.035	0.011		0.17	0.14	0.702	6/12/15 22:26	TPH
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	6/12/15 22:26	TPH
Hexane	0.12	1.4	0.062	J	0.42	4.9	0.702	6/12/15 22:26	TPH
2-Hexanone (MBK)	0.039	0.035	0.0090		0.16	0.14	0.702	6/12/15 22:26	TPH
Isopropanol	3.8	1.4	0.043	L-03, V-05	9.4	3.4	0.702	6/12/15 22:26	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-5-061115**  
**Sample ID: 15F0576-05**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 09:29

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1320  
 Canister Size: 6 liter  
 Flow Controller ID: 4077  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -8.4  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
		RL	MDL		Results	RL			
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/12/15 22:26	TPH
Methylene Chloride	0.14	0.35	0.043	J	0.48	1.2	0.702	6/12/15 22:26	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	6/12/15 22:26	TPH
Propene	ND	1.4	0.11		ND	2.4	0.702	6/12/15 22:26	TPH
Styrene	0.022	0.035	0.0068	L-03, J	0.096	0.15	0.702	6/12/15 22:26	TPH
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/12/15 22:26	TPH
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	6/12/15 22:26	TPH
Tetrachloroethylene	0.029	0.035	0.010	J	0.20	0.24	0.702	6/12/15 22:26	TPH
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	6/12/15 22:26	TPH
Toluene	0.20	0.035	0.011		0.75	0.13	0.702	6/12/15 22:26	TPH
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	6/12/15 22:26	TPH
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/12/15 22:26	TPH
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	6/12/15 22:26	TPH
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/12/15 22:26	TPH
Trichlorofluoromethane (Freon 11)	0.27	0.14	0.012		1.5	0.79	0.702	6/12/15 22:26	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.088	0.14	0.0098	J	0.67	1.1	0.702	6/12/15 22:26	TPH
1,2,4-Trimethylbenzene	0.025	0.035	0.0086	J	0.12	0.17	0.702	6/12/15 22:26	TPH
1,3,5-Trimethylbenzene	0.0077	0.035	0.0070	J	0.038	0.17	0.702	6/12/15 22:26	TPH
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	6/12/15 22:26	TPH
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/12/15 22:26	TPH
m&p-Xylene	0.082	0.070	0.018		0.36	0.30	0.702	6/12/15 22:26	TPH
o-Xylene	0.029	0.035	0.010	J	0.13	0.15	0.702	6/12/15 22:26	TPH

Surrogates	% Recovery	% REC Limits	Date/Time Analyzed
4-Bromofluorobenzene (1)	117	70-130	6/12/15 22:26
4-Bromofluorobenzene (2)	100	70-130	6/12/15 22:26

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-6-061115**  
**Sample ID: 15F0576-06**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 09:35

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1062  
 Canister Size: 6 liter  
 Flow Controller ID: 4085  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -26  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): 0  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	4.7	1.4	0.49	V-05	11	3.3	0.702	6/12/15 23:10	TPH
Benzene	0.072	0.035	0.018		0.23	0.11	0.702	6/12/15 23:10	TPH
Benzyl chloride	ND	0.035	0.0068	V-05	ND	0.18	0.702	6/12/15 23:10	TPH
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/12/15 23:10	TPH
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/12/15 23:10	TPH
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/12/15 23:10	TPH
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/12/15 23:10	TPH
2-Butanone (MEK)	0.41	1.4	0.026	J	1.2	4.1	0.702	6/12/15 23:10	TPH
Carbon Disulfide	0.027	0.35	0.012	J	0.083	1.1	0.702	6/12/15 23:10	TPH
Carbon Tetrachloride	0.059	0.035	0.0085		0.37	0.22	0.702	6/12/15 23:10	TPH
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/12/15 23:10	TPH
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/12/15 23:10	TPH
Chloroform	0.031	0.035	0.0082	J	0.15	0.17	0.702	6/12/15 23:10	TPH
Chloromethane	0.60	0.070	0.015		1.2	0.14	0.702	6/12/15 23:10	TPH
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/12/15 23:10	TPH
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/12/15 23:10	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/12/15 23:10	TPH
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/12/15 23:10	TPH
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/12/15 23:10	TPH
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/12/15 23:10	TPH
Dichlorodifluoromethane (Freon 12)	0.52	0.035	0.015		2.6	0.17	0.702	6/12/15 23:10	TPH
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/12/15 23:10	TPH
1,2-Dichloroethane	0.013	0.035	0.0098	J	0.054	0.14	0.702	6/12/15 23:10	TPH
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/12/15 23:10	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/12/15 23:10	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/12/15 23:10	TPH
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/12/15 23:10	TPH
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/12/15 23:10	TPH
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/12/15 23:10	TPH
Ethanol	15	1.4	0.63		29	2.6	0.702	6/12/15 23:10	TPH
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	6/12/15 23:10	TPH
Ethylbenzene	0.029	0.035	0.0097	J	0.13	0.15	0.702	6/12/15 23:10	TPH
4-Ethyltoluene	0.011	0.035	0.0079	J	0.055	0.17	0.702	6/12/15 23:10	TPH
Heptane	0.034	0.035	0.011	J	0.14	0.14	0.702	6/12/15 23:10	TPH
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	6/12/15 23:10	TPH
Hexane	0.092	1.4	0.062	J	0.32	4.9	0.702	6/12/15 23:10	TPH
2-Hexanone (MBK)	0.029	0.035	0.0090	J	0.12	0.14	0.702	6/12/15 23:10	TPH
Isopropanol	1.9	1.4	0.043	L-03, V-05	4.7	3.4	0.702	6/12/15 23:10	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-6-061115**  
**Sample ID: 15F0576-06**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 09:35

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1062  
 Canister Size: 6 liter  
 Flow Controller ID: 4085  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -26  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): 0  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
		RL	MDL		Results	RL			
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/12/15 23:10	TPH
Methylene Chloride	0.12	0.35	0.043	J	0.41	1.2	0.702	6/12/15 23:10	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	6/12/15 23:10	TPH
Propene	ND	1.4	0.11		ND	2.4	0.702	6/12/15 23:10	TPH
Styrene	0.022	0.035	0.0068	L-03, J	0.093	0.15	0.702	6/12/15 23:10	TPH
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/12/15 23:10	TPH
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	6/12/15 23:10	TPH
Tetrachloroethylene	0.031	0.035	0.010	J	0.21	0.24	0.702	6/12/15 23:10	TPH
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	6/12/15 23:10	TPH
Toluene	0.20	0.035	0.011		0.77	0.13	0.702	6/12/15 23:10	TPH
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	6/12/15 23:10	TPH
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/12/15 23:10	TPH
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	6/12/15 23:10	TPH
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/12/15 23:10	TPH
Trichlorofluoromethane (Freon 11)	0.27	0.14	0.012		1.5	0.79	0.702	6/12/15 23:10	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.088	0.14	0.0098	J	0.67	1.1	0.702	6/12/15 23:10	TPH
1,2,4-Trimethylbenzene	0.027	0.035	0.0086	J	0.13	0.17	0.702	6/12/15 23:10	TPH
1,3,5-Trimethylbenzene	0.011	0.035	0.0070	J	0.052	0.17	0.702	6/12/15 23:10	TPH
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	6/12/15 23:10	TPH
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/12/15 23:10	TPH
m&p-Xylene	0.081	0.070	0.018		0.35	0.30	0.702	6/12/15 23:10	TPH
o-Xylene	0.031	0.035	0.010	J	0.13	0.15	0.702	6/12/15 23:10	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	118	70-130	6/12/15 23:10
4-Bromofluorobenzene (2)	100	70-130	6/12/15 23:10



**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: IA-7-061115**  
**Sample ID: 15F0576-07**  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 10:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1057  
 Canister Size: 6 liter  
 Flow Controller ID: 4088  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -8.4  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	10	1.4	0.49	V-05	24	3.3	0.702	6/12/15 23:54	TPH
Benzene	0.084	0.035	0.018		0.27	0.11	0.702	6/12/15 23:54	TPH
Benzyl chloride	ND	0.035	0.0068	V-05	ND	0.18	0.702	6/12/15 23:54	TPH
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/12/15 23:54	TPH
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/12/15 23:54	TPH
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/12/15 23:54	TPH
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/12/15 23:54	TPH
2-Butanone (MEK)	0.57	1.4	0.026	J	1.7	4.1	0.702	6/12/15 23:54	TPH
Carbon Disulfide	0.032	0.35	0.012	J	0.10	1.1	0.702	6/12/15 23:54	TPH
Carbon Tetrachloride	0.057	0.035	0.0085		0.36	0.22	0.702	6/12/15 23:54	TPH
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/12/15 23:54	TPH
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/12/15 23:54	TPH
Chloroform	0.039	0.035	0.0082		0.19	0.17	0.702	6/12/15 23:54	TPH
Chloromethane	0.64	0.070	0.015		1.3	0.14	0.702	6/12/15 23:54	TPH
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/12/15 23:54	TPH
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/12/15 23:54	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/12/15 23:54	TPH
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/12/15 23:54	TPH
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/12/15 23:54	TPH
1,4-Dichlorobenzene	0.025	0.035	0.0088	J	0.15	0.21	0.702	6/12/15 23:54	TPH
Dichlorodifluoromethane (Freon 12)	0.39	0.035	0.015		1.9	0.17	0.702	6/12/15 23:54	TPH
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/12/15 23:54	TPH
1,2-Dichloroethane	0.047	0.035	0.0098		0.19	0.14	0.702	6/12/15 23:54	TPH
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/12/15 23:54	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/12/15 23:54	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/12/15 23:54	TPH
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/12/15 23:54	TPH
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/12/15 23:54	TPH
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/12/15 23:54	TPH
Ethanol	56	1.4	0.63		110	2.6	0.702	6/12/15 23:54	TPH
Ethyl Acetate	0.11	0.035	0.026		0.39	0.13	0.702	6/12/15 23:54	TPH
Ethylbenzene	0.044	0.035	0.0097		0.19	0.15	0.702	6/12/15 23:54	TPH
4-Ethyltoluene	0.014	0.035	0.0079	J	0.069	0.17	0.702	6/12/15 23:54	TPH
Heptane	0.033	0.035	0.011	J	0.14	0.14	0.702	6/12/15 23:54	TPH
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	6/12/15 23:54	TPH
Hexane	0.10	1.4	0.062	J	0.36	4.9	0.702	6/12/15 23:54	TPH
2-Hexanone (MBK)	0.042	0.035	0.0090		0.17	0.14	0.702	6/12/15 23:54	TPH
Isopropanol	4.5	1.4	0.043	L-03, V-05	11	3.4	0.702	6/12/15 23:54	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
 Field Sample #: IA-7-061115  
 Sample ID: 15F0576-07  
 Sample Matrix: Indoor air  
 Sampled: 6/11/2015 10:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1057  
 Canister Size: 6 liter  
 Flow Controller ID: 4088  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -8.4  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Methyl tert-Butyl Ether (MTBE)	0.018	0.035	0.011	J	0.063	0.13	0.702	6/12/15 23:54	TPH
Methylene Chloride	0.17	0.35	0.043	J	0.58	1.2	0.702	6/12/15 23:54	TPH
4-Methyl-2-pentanone (MIBK)	0.036	0.035	0.0084		0.15	0.14	0.702	6/12/15 23:54	TPH
Propene	ND	1.4	0.11		ND	2.4	0.702	6/12/15 23:54	TPH
Styrene	0.068	0.035	0.0068	L-03	0.29	0.15	0.702	6/12/15 23:54	TPH
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/12/15 23:54	TPH
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	6/12/15 23:54	TPH
Tetrachloroethylene	0.037	0.035	0.010		0.25	0.24	0.702	6/12/15 23:54	TPH
Tetrahydrofuran	0.052	0.035	0.015		0.15	0.10	0.702	6/12/15 23:54	TPH
Toluene	0.28	0.035	0.011		1.0	0.13	0.702	6/12/15 23:54	TPH
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	6/12/15 23:54	TPH
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/12/15 23:54	TPH
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	6/12/15 23:54	TPH
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/12/15 23:54	TPH
Trichlorofluoromethane (Freon 11)	0.27	0.14	0.012		1.5	0.79	0.702	6/12/15 23:54	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.085	0.14	0.0098	J	0.65	1.1	0.702	6/12/15 23:54	TPH
1,2,4-Trimethylbenzene	0.043	0.035	0.0086		0.21	0.17	0.702	6/12/15 23:54	TPH
1,3,5-Trimethylbenzene	0.017	0.035	0.0070	J	0.083	0.17	0.702	6/12/15 23:54	TPH
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	6/12/15 23:54	TPH
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/12/15 23:54	TPH
m&p-Xylene	0.11	0.070	0.018		0.48	0.30	0.702	6/12/15 23:54	TPH
o-Xylene	0.043	0.035	0.010		0.19	0.15	0.702	6/12/15 23:54	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	117	70-130	6/12/15 23:54
4-Bromofluorobenzene (2)	100	70-130	6/12/15 23:54

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: AA-1-061115**  
**Sample ID: 15F0576-08**  
 Sample Matrix: Ambient Air  
 Sampled: 6/11/2015 10:59

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1621  
 Canister Size: 6 liter  
 Flow Controller ID: 4067  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -3  
 Receipt Vacuum(in Hg): -2.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	4.3	1.4	0.49	V-05	10	3.3	0.702	6/13/15	0:38	TPH
Benzene	0.13	0.035	0.018		0.41	0.11	0.702	6/13/15	0:38	TPH
Benzyl chloride	ND	0.035	0.0068	V-05	ND	0.18	0.702	6/13/15	0:38	TPH
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/13/15	0:38	TPH
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/13/15	0:38	TPH
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/13/15	0:38	TPH
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/13/15	0:38	TPH
2-Butanone (MEK)	0.72	1.4	0.026	J	2.1	4.1	0.702	6/13/15	0:38	TPH
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	6/13/15	0:38	TPH
Carbon Tetrachloride	0.058	0.035	0.0085		0.36	0.22	0.702	6/13/15	0:38	TPH
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/13/15	0:38	TPH
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/13/15	0:38	TPH
Chloroform	0.023	0.035	0.0082	J	0.11	0.17	0.702	6/13/15	0:38	TPH
Chloromethane	0.56	0.070	0.015		1.2	0.14	0.702	6/13/15	0:38	TPH
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/13/15	0:38	TPH
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/13/15	0:38	TPH
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/13/15	0:38	TPH
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/13/15	0:38	TPH
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/13/15	0:38	TPH
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/13/15	0:38	TPH
Dichlorodifluoromethane (Freon 12)	0.47	0.035	0.015		2.3	0.17	0.702	6/13/15	0:38	TPH
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/13/15	0:38	TPH
1,2-Dichloroethane	0.013	0.035	0.0098	J	0.054	0.14	0.702	6/13/15	0:38	TPH
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/13/15	0:38	TPH
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/13/15	0:38	TPH
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/13/15	0:38	TPH
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/13/15	0:38	TPH
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/13/15	0:38	TPH
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/13/15	0:38	TPH
Ethanol	2.6	1.4	0.63		4.8	2.6	0.702	6/13/15	0:38	TPH
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	6/13/15	0:38	TPH
Ethylbenzene	0.024	0.035	0.0097	J	0.10	0.15	0.702	6/13/15	0:38	TPH
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/13/15	0:38	TPH
Heptane	ND	0.035	0.011		ND	0.14	0.702	6/13/15	0:38	TPH
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	6/13/15	0:38	TPH
Hexane	0.084	1.4	0.062	J	0.29	4.9	0.702	6/13/15	0:38	TPH
2-Hexanone (MBK)	0.041	0.035	0.0090		0.17	0.14	0.702	6/13/15	0:38	TPH
Isopropanol	0.18	1.4	0.043	L-03, V-05, J	0.44	3.4	0.702	6/13/15	0:38	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: AA-1-061115**  
**Sample ID: 15F0576-08**  
 Sample Matrix: Ambient Air  
 Sampled: 6/11/2015 10:59

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1621  
 Canister Size: 6 liter  
 Flow Controller ID: 4067  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -3  
 Receipt Vacuum(in Hg): -2.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/13/15 0:38	TPH	
Methylene Chloride	0.14	0.35	0.043	J	0.47	1.2	0.702	6/13/15 0:38	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	6/13/15 0:38	TPH	
Propene	ND	1.4	0.11		ND	2.4	0.702	6/13/15 0:38	TPH	
Styrene	ND	0.035	0.0068	L-03	ND	0.15	0.702	6/13/15 0:38	TPH	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/13/15 0:38	TPH	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	6/13/15 0:38	TPH	
Tetrachloroethylene	0.043	0.035	0.010		0.29	0.24	0.702	6/13/15 0:38	TPH	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	6/13/15 0:38	TPH	
Toluene	0.14	0.035	0.011		0.51	0.13	0.702	6/13/15 0:38	TPH	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	6/13/15 0:38	TPH	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/13/15 0:38	TPH	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	6/13/15 0:38	TPH	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/13/15 0:38	TPH	
Trichlorofluoromethane (Freon 11)	0.27	0.14	0.012		1.5	0.79	0.702	6/13/15 0:38	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.084	0.14	0.0098	J	0.65	1.1	0.702	6/13/15 0:38	TPH	
1,2,4-Trimethylbenzene	0.012	0.035	0.0086	J	0.059	0.17	0.702	6/13/15 0:38	TPH	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	6/13/15 0:38	TPH	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	6/13/15 0:38	TPH	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/13/15 0:38	TPH	
m&p-Xylene	0.056	0.070	0.018	J	0.24	0.30	0.702	6/13/15 0:38	TPH	
o-Xylene	0.025	0.035	0.010	J	0.11	0.15	0.702	6/13/15 0:38	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	116	70-130	6/13/15 0:38
4-Bromofluorobenzene (2)	101	70-130	6/13/15 0:38

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: EW-5-061115**  
**Sample ID: 15F0576-09**  
 Sample Matrix: Sub Slab  
 Sampled: 6/11/2015 08:22

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1031  
 Canister Size: 6 liter  
 Flow Controller ID: 4076  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -26  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -4.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	8.8	4.0	1.4	V-05	21	9.5	2	6/13/15	2:00	TPH
Benzene	0.11	0.10	0.052		0.35	0.32	2	6/13/15	2:00	TPH
Benzyl chloride	ND	0.10	0.019	V-05	ND	0.52	2	6/13/15	2:00	TPH
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	6/13/15	2:00	TPH
Bromoform	ND	0.10	0.019		ND	1.0	2	6/13/15	2:00	TPH
Bromomethane	ND	0.10	0.069		ND	0.39	2	6/13/15	2:00	TPH
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	6/13/15	2:00	TPH
2-Butanone (MEK)	3.1	4.0	0.075	J	9.1	12	2	6/13/15	2:00	TPH
Carbon Disulfide	0.31	1.0	0.034	J	0.98	3.1	2	6/13/15	2:00	TPH
Carbon Tetrachloride	0.052	0.10	0.024	J	0.33	0.63	2	6/13/15	2:00	TPH
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	6/13/15	2:00	TPH
Chloroethane	ND	0.10	0.038		ND	0.26	2	6/13/15	2:00	TPH
Chloroform	0.034	0.10	0.023	J	0.17	0.49	2	6/13/15	2:00	TPH
Chloromethane	ND	0.20	0.044		ND	0.41	2	6/13/15	2:00	TPH
Cyclohexane	ND	0.10	0.057		ND	0.34	2	6/13/15	2:00	TPH
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	6/13/15	2:00	TPH
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	6/13/15	2:00	TPH
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	6/13/15	2:00	TPH
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	6/13/15	2:00	TPH
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	6/13/15	2:00	TPH
Dichlorodifluoromethane (Freon 12)	0.67	0.10	0.043		3.3	0.49	2	6/13/15	2:00	TPH
1,1-Dichloroethane	ND	0.10	0.028		ND	0.40	2	6/13/15	2:00	TPH
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	6/13/15	2:00	TPH
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	6/13/15	2:00	TPH
cis-1,2-Dichloroethylene	ND	0.10	0.038		ND	0.40	2	6/13/15	2:00	TPH
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	6/13/15	2:00	TPH
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	6/13/15	2:00	TPH
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/13/15	2:00	TPH
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/13/15	2:00	TPH
Ethanol	7.8	4.0	1.8		15	7.5	2	6/13/15	2:00	TPH
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	6/13/15	2:00	TPH
Ethylbenzene	0.034	0.10	0.028	J	0.15	0.43	2	6/13/15	2:00	TPH
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	6/13/15	2:00	TPH
Heptane	ND	0.10	0.032		ND	0.41	2	6/13/15	2:00	TPH
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	6/13/15	2:00	TPH
Hexane	0.38	4.0	0.18	J	1.4	14	2	6/13/15	2:00	TPH
2-Hexanone (MBK)	0.084	0.10	0.026	J	0.34	0.41	2	6/13/15	2:00	TPH
Isopropanol	ND	4.0	0.12	L-03, V-05	ND	9.8	2	6/13/15	2:00	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
 Field Sample #: EW-5-061115  
 Sample ID: 15F0576-09  
 Sample Matrix: Sub Slab  
 Sampled: 6/11/2015 08:22

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1031  
 Canister Size: 6 liter  
 Flow Controller ID: 4076  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -26  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -4.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	6/13/15 2:00	TPH	
Methylene Chloride	0.54	1.0	0.12	J	1.9	3.5	2	6/13/15 2:00	TPH	
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	6/13/15 2:00	TPH	
Propene	ND	4.0	0.31		ND	6.9	2	6/13/15 2:00	TPH	
Styrene	ND	0.10	0.019	L-03	ND	0.43	2	6/13/15 2:00	TPH	
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	6/13/15 2:00	TPH	
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	6/13/15 2:00	TPH	
Tetrachloroethylene	0.036	0.10	0.028	J	0.24	0.68	2	6/13/15 2:00	TPH	
Tetrahydrofuran	0.63	0.10	0.042		1.9	0.29	2	6/13/15 2:00	TPH	
Toluene	0.22	0.10	0.031		0.83	0.38	2	6/13/15 2:00	TPH	
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	6/13/15 2:00	TPH	
1,1,1-Trichloroethane	0.034	0.10	0.018	J	0.19	0.55	2	6/13/15 2:00	TPH	
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	6/13/15 2:00	TPH	
Trichloroethylene	ND	0.10	0.030		ND	0.54	2	6/13/15 2:00	TPH	
Trichlorofluoromethane (Freon 11)	0.30	0.40	0.035	J	1.7	2.2	2	6/13/15 2:00	TPH	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.084	0.40	0.028	J	0.64	3.1	2	6/13/15 2:00	TPH	
1,2,4-Trimethylbenzene	0.044	0.10	0.025	J	0.22	0.49	2	6/13/15 2:00	TPH	
1,3,5-Trimethylbenzene	0.022	0.10	0.020	J	0.11	0.49	2	6/13/15 2:00	TPH	
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	6/13/15 2:00	TPH	
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	6/13/15 2:00	TPH	
m&p-Xylene	0.12	0.20	0.050	J	0.54	0.87	2	6/13/15 2:00	TPH	
o-Xylene	0.058	0.10	0.029	J	0.25	0.43	2	6/13/15 2:00	TPH	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	117	70-130	6/13/15 2:00
4-Bromofluorobenzene (2)	101	70-130	6/13/15 2:00

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: EW-6-061115**  
**Sample ID: 15F0576-10**  
 Sample Matrix: Sub Slab  
 Sampled: 6/11/2015 09:40

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1848  
 Canister Size: 6 liter  
 Flow Controller ID: 4086  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	15	4.0	1.4	V-05	35	9.5	2	6/13/15	2:38	TPH
Benzene	0.17	0.10	0.052		0.56	0.32	2	6/13/15	2:38	TPH
Benzyl chloride	ND	0.10	0.019	V-05	ND	0.52	2	6/13/15	2:38	TPH
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	6/13/15	2:38	TPH
Bromoform	ND	0.10	0.019		ND	1.0	2	6/13/15	2:38	TPH
Bromomethane	ND	0.10	0.069		ND	0.39	2	6/13/15	2:38	TPH
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	6/13/15	2:38	TPH
2-Butanone (MEK)	4.3	4.0	0.075		13	12	2	6/13/15	2:38	TPH
Carbon Disulfide	4.4	1.0	0.034		14	3.1	2	6/13/15	2:38	TPH
Carbon Tetrachloride	0.058	0.10	0.024	J	0.36	0.63	2	6/13/15	2:38	TPH
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	6/13/15	2:38	TPH
Chloroethane	ND	0.10	0.038		ND	0.26	2	6/13/15	2:38	TPH
Chloroform	0.092	0.10	0.023	J	0.45	0.49	2	6/13/15	2:38	TPH
Chloromethane	1.7	0.20	0.044		3.6	0.41	2	6/13/15	2:38	TPH
Cyclohexane	ND	0.10	0.057		ND	0.34	2	6/13/15	2:38	TPH
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	6/13/15	2:38	TPH
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	6/13/15	2:38	TPH
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	6/13/15	2:38	TPH
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	6/13/15	2:38	TPH
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	6/13/15	2:38	TPH
Dichlorodifluoromethane (Freon 12)	0.56	0.10	0.043		2.7	0.49	2	6/13/15	2:38	TPH
1,1-Dichloroethane	0.62	0.10	0.028		2.5	0.40	2	6/13/15	2:38	TPH
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	6/13/15	2:38	TPH
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	6/13/15	2:38	TPH
cis-1,2-Dichloroethylene	0.062	0.10	0.038	J	0.25	0.40	2	6/13/15	2:38	TPH
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	6/13/15	2:38	TPH
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	6/13/15	2:38	TPH
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/13/15	2:38	TPH
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/13/15	2:38	TPH
Ethanol	14	4.0	1.8		27	7.5	2	6/13/15	2:38	TPH
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	6/13/15	2:38	TPH
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	6/13/15	2:38	TPH
4-Ethyltoluene	0.024	0.10	0.023	J	0.12	0.49	2	6/13/15	2:38	TPH
Heptane	ND	0.10	0.032		ND	0.41	2	6/13/15	2:38	TPH
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	6/13/15	2:38	TPH
Hexane	ND	4.0	0.18		ND	14	2	6/13/15	2:38	TPH
2-Hexanone (MBK)	0.044	0.10	0.026	J	0.18	0.41	2	6/13/15	2:38	TPH
Isopropanol	2.0	4.0	0.12	L-03, V-05, J	5.0	9.8	2	6/13/15	2:38	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: EW-6-061115**  
**Sample ID: 15F0576-10**  
 Sample Matrix: Sub Slab  
 Sampled: 6/11/2015 09:40

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1848  
 Canister Size: 6 liter  
 Flow Controller ID: 4086  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	6/13/15	2:38	TPH
Methylene Chloride	ND	1.0	0.12		ND	3.5	2	6/13/15	2:38	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	6/13/15	2:38	TPH
Propene	ND	4.0	0.31		ND	6.9	2	6/13/15	2:38	TPH
Styrene	0.022	0.10	0.019	L-03, J	0.094	0.43	2	6/13/15	2:38	TPH
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	6/13/15	2:38	TPH
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	6/13/15	2:38	TPH
Tetrachloroethylene	0.16	0.10	0.028		1.1	0.68	2	6/13/15	2:38	TPH
Tetrahydrofuran	200	2.0	0.84		600	5.9	40	6/12/15	17:02	TPH
Toluene	0.17	0.10	0.031		0.66	0.38	2	6/13/15	2:38	TPH
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	6/13/15	2:38	TPH
1,1,1-Trichloroethane	2.4	0.10	0.018		13	0.55	2	6/13/15	2:38	TPH
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	6/13/15	2:38	TPH
Trichloroethylene	4.6	0.10	0.030		25	0.54	2	6/13/15	2:38	TPH
Trichlorofluoromethane (Freon 11)	2.1	0.40	0.035		12	2.2	2	6/13/15	2:38	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.076	0.40	0.028	J	0.58	3.1	2	6/13/15	2:38	TPH
1,2,4-Trimethylbenzene	0.048	0.10	0.025	J	0.24	0.49	2	6/13/15	2:38	TPH
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	6/13/15	2:38	TPH
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	6/13/15	2:38	TPH
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	6/13/15	2:38	TPH
m&p-Xylene	0.068	0.20	0.050	J	0.30	0.87	2	6/13/15	2:38	TPH
o-Xylene	ND	0.10	0.029		ND	0.43	2	6/13/15	2:38	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	117	70-130	6/12/15 17:02
4-Bromofluorobenzene (1)	118	70-130	6/13/15 2:38
4-Bromofluorobenzene (2)	102	70-130	6/13/15 2:38



**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: EW-7-061115**  
**Sample ID: 15F0576-11**  
 Sample Matrix: Sub Slab  
 Sampled: 6/11/2015 10:01

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1826  
 Canister Size: 6 liter  
 Flow Controller ID: 4089  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -9  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	3.1	4.0	1.4	V-05, J	7.4	9.5	2	6/13/15	3:17	TPH
Benzene	0.71	0.10	0.052		2.3	0.32	2	6/13/15	3:17	TPH
Benzyl chloride	ND	0.10	0.019	V-05	ND	0.52	2	6/13/15	3:17	TPH
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	6/13/15	3:17	TPH
Bromoform	ND	0.10	0.019		ND	1.0	2	6/13/15	3:17	TPH
Bromomethane	ND	0.10	0.069		ND	0.39	2	6/13/15	3:17	TPH
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	6/13/15	3:17	TPH
2-Butanone (MEK)	2.8	4.0	0.075	J	8.3	12	2	6/13/15	3:17	TPH
Carbon Disulfide	5.1	1.0	0.034		16	3.1	2	6/13/15	3:17	TPH
Carbon Tetrachloride	0.052	0.10	0.024	J	0.33	0.63	2	6/13/15	3:17	TPH
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	6/13/15	3:17	TPH
Chloroethane	0.48	0.10	0.038		1.3	0.26	2	6/13/15	3:17	TPH
Chloroform	0.53	0.10	0.023		2.6	0.49	2	6/13/15	3:17	TPH
Chloromethane	ND	0.20	0.044		ND	0.41	2	6/13/15	3:17	TPH
Cyclohexane	ND	0.10	0.057		ND	0.34	2	6/13/15	3:17	TPH
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	6/13/15	3:17	TPH
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	6/13/15	3:17	TPH
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	6/13/15	3:17	TPH
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	6/13/15	3:17	TPH
1,4-Dichlorobenzene	0.028	0.10	0.025	J	0.17	0.60	2	6/13/15	3:17	TPH
Dichlorodifluoromethane (Freon 12)	0.46	0.10	0.043		2.3	0.49	2	6/13/15	3:17	TPH
1,1-Dichloroethane	0.93	0.10	0.028		3.7	0.40	2	6/13/15	3:17	TPH
1,2-Dichloroethane	0.040	0.10	0.028	J	0.16	0.40	2	6/13/15	3:17	TPH
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	6/13/15	3:17	TPH
cis-1,2-Dichloroethylene	0.63	0.10	0.038		2.5	0.40	2	6/13/15	3:17	TPH
trans-1,2-Dichloroethylene	1.2	0.10	0.026		4.9	0.40	2	6/13/15	3:17	TPH
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	6/13/15	3:17	TPH
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/13/15	3:17	TPH
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/13/15	3:17	TPH
Ethanol	22	4.0	1.8		42	7.5	2	6/13/15	3:17	TPH
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	6/13/15	3:17	TPH
Ethylbenzene	0.052	0.10	0.028	J	0.23	0.43	2	6/13/15	3:17	TPH
4-Ethyltoluene	0.024	0.10	0.023	J	0.12	0.49	2	6/13/15	3:17	TPH
Heptane	0.036	0.10	0.032	J	0.15	0.41	2	6/13/15	3:17	TPH
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	6/13/15	3:17	TPH
Hexane	ND	4.0	0.18		ND	14	2	6/13/15	3:17	TPH
2-Hexanone (MBK)	0.092	0.10	0.026	J	0.38	0.41	2	6/13/15	3:17	TPH
Isopropanol	2.7	4.0	0.12	L-03, V-05, J	6.6	9.8	2	6/13/15	3:17	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: EW-7-061115**  
**Sample ID: 15F0576-11**  
 Sample Matrix: Sub Slab  
 Sampled: 6/11/2015 10:01

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1826  
 Canister Size: 6 liter  
 Flow Controller ID: 4089  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -9  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	6/13/15	3:17	TPH
Methylene Chloride	ND	1.0	0.12		ND	3.5	2	6/13/15	3:17	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	6/13/15	3:17	TPH
Propene	0.92	4.0	0.31	J	1.6	6.9	2	6/13/15	3:17	TPH
Styrene	0.11	0.10	0.019	L-03	0.46	0.43	2	6/13/15	3:17	TPH
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	6/13/15	3:17	TPH
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	6/13/15	3:17	TPH
Tetrachloroethylene	13	0.10	0.028		89	0.68	2	6/13/15	3:17	TPH
Tetrahydrofuran	240	2.0	0.84		720	5.9	40	6/12/15	17:37	TPH
Toluene	0.26	0.10	0.031		0.99	0.38	2	6/13/15	3:17	TPH
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	6/13/15	3:17	TPH
1,1,1-Trichloroethane	2.6	0.10	0.018		14	0.55	2	6/13/15	3:17	TPH
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	6/13/15	3:17	TPH
Trichloroethylene	31	0.10	0.030		170	0.54	2	6/13/15	3:17	TPH
Trichlorofluoromethane (Freon 11)	60	0.40	0.035		340	2.2	2	6/13/15	3:17	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.096	0.40	0.028	J	0.74	3.1	2	6/13/15	3:17	TPH
1,2,4-Trimethylbenzene	0.090	0.10	0.025	J	0.44	0.49	2	6/13/15	3:17	TPH
1,3,5-Trimethylbenzene	0.046	0.10	0.020	J	0.23	0.49	2	6/13/15	3:17	TPH
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	6/13/15	3:17	TPH
Vinyl Chloride	0.56	0.10	0.043		1.4	0.26	2	6/13/15	3:17	TPH
m&p-Xylene	0.12	0.20	0.050	J	0.50	0.87	2	6/13/15	3:17	TPH
o-Xylene	0.050	0.10	0.029	J	0.22	0.43	2	6/13/15	3:17	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	117	70-130	6/12/15 17:37
4-Bromofluorobenzene (1)	122	70-130	6/13/15 3:17
4-Bromofluorobenzene (2)	104	70-130	6/13/15 3:17

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: EW-Combined-061115**  
**Sample ID: 15F0576-12**  
 Sample Matrix: Sub Slab  
 Sampled: 6/11/2015 10:57

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1314  
 Canister Size: 6 liter  
 Flow Controller ID: 4066  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -26  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -5.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Acetone	ND	4.0	1.4	V-05	ND	9.5	2	6/13/15	3:55	TPH
Benzene	0.11	0.10	0.052		0.36	0.32	2	6/13/15	3:55	TPH
Benzyl chloride	ND	0.10	0.019	V-05	ND	0.52	2	6/13/15	3:55	TPH
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	6/13/15	3:55	TPH
Bromoform	ND	0.10	0.019		ND	1.0	2	6/13/15	3:55	TPH
Bromomethane	ND	0.10	0.069		ND	0.39	2	6/13/15	3:55	TPH
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	6/13/15	3:55	TPH
2-Butanone (MEK)	0.40	4.0	0.075	J	1.2	12	2	6/13/15	3:55	TPH
Carbon Disulfide	0.12	1.0	0.034	J	0.37	3.1	2	6/13/15	3:55	TPH
Carbon Tetrachloride	0.078	0.10	0.024	J	0.49	0.63	2	6/13/15	3:55	TPH
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	6/13/15	3:55	TPH
Chloroethane	0.39	0.10	0.038		1.0	0.26	2	6/13/15	3:55	TPH
Chloroform	1.3	0.10	0.023		6.4	0.49	2	6/13/15	3:55	TPH
Chloromethane	ND	0.20	0.044		ND	0.41	2	6/13/15	3:55	TPH
Cyclohexane	ND	0.10	0.057		ND	0.34	2	6/13/15	3:55	TPH
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	6/13/15	3:55	TPH
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	6/13/15	3:55	TPH
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	6/13/15	3:55	TPH
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	6/13/15	3:55	TPH
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	6/13/15	3:55	TPH
Dichlorodifluoromethane (Freon 12)	0.58	0.10	0.043		2.9	0.49	2	6/13/15	3:55	TPH
1,1-Dichloroethane	26	0.10	0.028		100	0.40	2	6/13/15	3:55	TPH
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	6/13/15	3:55	TPH
1,1-Dichloroethylene	12	0.10	0.024		46	0.40	2	6/13/15	3:55	TPH
cis-1,2-Dichloroethylene	13	0.10	0.038		52	0.40	2	6/13/15	3:55	TPH
trans-1,2-Dichloroethylene	0.29	0.10	0.026		1.1	0.40	2	6/13/15	3:55	TPH
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	6/13/15	3:55	TPH
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/13/15	3:55	TPH
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/13/15	3:55	TPH
Ethanol	2.7	4.0	1.8	J	5.1	7.5	2	6/13/15	3:55	TPH
Ethyl Acetate	0.37	0.10	0.075		1.3	0.36	2	6/13/15	3:55	TPH
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	6/13/15	3:55	TPH
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	6/13/15	3:55	TPH
Heptane	ND	0.10	0.032		ND	0.41	2	6/13/15	3:55	TPH
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	6/13/15	3:55	TPH
Hexane	ND	4.0	0.18		ND	14	2	6/13/15	3:55	TPH
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	6/13/15	3:55	TPH
Isopropanol	1.6	4.0	0.12	L-03, V-05, J	3.8	9.8	2	6/13/15	3:55	TPH

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 6/11/2015  
**Field Sample #: EW-Combined-061115**  
**Sample ID: 15F0576-12**  
 Sample Matrix: Sub Slab  
 Sampled: 6/11/2015 10:57

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1314  
 Canister Size: 6 liter  
 Flow Controller ID: 4066  
 Sample Type: 30 min

**Work Order: 15F0576**  
 Initial Vacuum(in Hg): -26  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -5.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Methyl tert-Butyl Ether (MTBE)	0.056	0.10	0.031	J	0.20	0.36	2	6/13/15	3:55	TPH
Methylene Chloride	ND	1.0	0.12		ND	3.5	2	6/13/15	3:55	TPH
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	6/13/15	3:55	TPH
Propene	ND	4.0	0.31		ND	6.9	2	6/13/15	3:55	TPH
Styrene	ND	0.10	0.019	L-03	ND	0.43	2	6/13/15	3:55	TPH
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	6/13/15	3:55	TPH
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	6/13/15	3:55	TPH
Tetrachloroethylene	210	2.0	0.57		1400	14	40	6/12/15	18:12	TPH
Tetrahydrofuran	0.22	0.10	0.042		0.65	0.29	2	6/13/15	3:55	TPH
Toluene	0.040	0.10	0.031	J	0.15	0.38	2	6/13/15	3:55	TPH
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	6/13/15	3:55	TPH
1,1,1-Trichloroethane	220	2.0	0.36		1200	11	40	6/12/15	18:12	TPH
1,1,2-Trichloroethane	0.052	0.10	0.030	J	0.28	0.55	2	6/13/15	3:55	TPH
Trichloroethylene	250	2.0	0.59		1300	11	40	6/12/15	18:12	TPH
Trichlorofluoromethane (Freon 11)	30	0.40	0.035		170	2.2	2	6/13/15	3:55	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.12	0.40	0.028	J	0.89	3.1	2	6/13/15	3:55	TPH
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	6/13/15	3:55	TPH
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	6/13/15	3:55	TPH
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	6/13/15	3:55	TPH
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	6/13/15	3:55	TPH
m&p-Xylene	ND	0.20	0.050		ND	0.87	2	6/13/15	3:55	TPH
o-Xylene	ND	0.10	0.029		ND	0.43	2	6/13/15	3:55	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	115	70-130	6/12/15 18:12
4-Bromofluorobenzene (1)	115	70-130	6/13/15 3:55
4-Bromofluorobenzene (2)	99.4	70-130	6/13/15 3:55

**Sample Extraction Data**

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
15F0576-01 [IA-1-061115]	B124342	1.5	1	N/A	1000	400	855	06/12/15
15F0576-02 [IA-2-061115]	B124342	1.5	1	N/A	1000	400	855	06/12/15
15F0576-03 [IA-3-061115]	B124342	1.5	1	N/A	1000	400	855	06/12/15
15F0576-04 [IA-4-061115]	B124342	1.5	1	N/A	1000	400	855	06/12/15
15F0576-05 [IA-5-061115]	B124342	1.5	1	N/A	1000	400	855	06/12/15
15F0576-06 [IA-6-061115]	B124342	1.5	1	N/A	1000	400	855	06/12/15
15F0576-07 [IA-7-061115]	B124342	1.5	1	N/A	1000	400	855	06/12/15
15F0576-08 [AA-1-061115]	B124342	1.5	1	N/A	1000	400	855	06/12/15
15F0576-09 [EW-5-061115]	B124342	1.5	1	N/A	1000	400	300	06/12/15
15F0576-10 [EW-6-061115]	B124342	1.5	1	N/A	1000	400	300	06/12/15
15F0576-10RE1 [EW-6-061115]	B124342	1.5	1	N/A	1000	400	15	06/12/15
15F0576-11 [EW-7-061115]	B124342	1.5	1	N/A	1000	400	300	06/12/15
15F0576-11RE1 [EW-7-061115]	B124342	1.5	1	N/A	1000	400	15	06/12/15
15F0576-12 [EW-Combined-061115]	B124342	1.5	1	N/A	1000	400	300	06/12/15
15F0576-12RE1 [EW-Combined-061115]	B124342	1.5	1	N/A	1000	400	15	06/12/15

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit	

Batch B124342 - TO-15 Prep

Blank (B124342-BLK1)

Prepared & Analyzed: 06/12/15

Acetone	ND	1.0								V-05
Benzene	ND	0.025								
Benzyl chloride	ND	0.025								V-05
Bromodichloromethane	ND	0.025								
Bromoform	ND	0.025								
Bromomethane	ND	0.025								
1,3-Butadiene	ND	0.025								
2-Butanone (MEK)	ND	1.0								
Carbon Disulfide	ND	0.25								
Carbon Tetrachloride	ND	0.025								
Chlorobenzene	ND	0.025								
Chloroethane	ND	0.025								
Chloroform	ND	0.025								
Chloromethane	ND	0.050								
Cyclohexane	ND	0.025								
Dibromochloromethane	ND	0.025								
1,2-Dibromoethane (EDB)	ND	0.025								
1,2-Dichlorobenzene	ND	0.025								
1,3-Dichlorobenzene	ND	0.025								
1,4-Dichlorobenzene	ND	0.025								
Dichlorodifluoromethane (Freon 12)	ND	0.025								
1,1-Dichloroethane	ND	0.025								
1,2-Dichloroethane	ND	0.025								
1,1-Dichloroethylene	ND	0.025								
cis-1,2-Dichloroethylene	ND	0.025								
trans-1,2-Dichloroethylene	ND	0.025								
1,2-Dichloropropane	ND	0.025								
cis-1,3-Dichloropropene	ND	0.025								
trans-1,3-Dichloropropene	ND	0.025								
Ethanol	ND	1.0								
Ethyl Acetate	ND	0.025								
Ethylbenzene	ND	0.025								
4-Ethyltoluene	ND	0.025								
Heptane	ND	0.025								
Hexachlorobutadiene	ND	0.025								
Hexane	ND	1.0								
2-Hexanone (MBK)	ND	0.025								
Isopropanol	ND	1.0								L-03, V-05
Methyl tert-Butyl Ether (MTBE)	ND	0.025								
Methylene Chloride	ND	0.25								
Methyl methacrylate	ND	0.025								
4-Methyl-2-pentanone (MIBK)	ND	0.025								
Propene	ND	1.0								
Styrene	ND	0.025								L-03
1,1,1,2-Tetrachloroethane	ND	0.046								
1,1,2,2-Tetrachloroethane	ND	0.025								

**QUALITY CONTROL**

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

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		

**Batch B124342 - TO-15 Prep**

**Blank (B124342-BLK1)**

Prepared & Analyzed: 06/12/15

Tetrachloroethylene	ND	0.025									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.025									
1,1,2-Trichloroethane	ND	0.025									
Trichloroethylene	ND	0.025									
Trichlorofluoromethane (Freon 11)	ND	0.10									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10									
1,2,4-Trimethylbenzene	ND	0.025									
1,3,5-Trimethylbenzene	ND	0.025									
Vinyl Acetate	ND	0.50									
Vinyl Chloride	ND	0.025									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>9.39</i>				<i>8.00</i>		<i>117</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>8.00</i>				<i>8.00</i>		<i>99.9</i>	<i>70-130</i>			

**LCS (B124342-BS1)**

Prepared & Analyzed: 06/12/15

Acetone	4.51				5.00		90.2	70-130			V-05
Benzene	4.10				5.00		82.0	70-130			
Benzyl chloride	3.69				5.00		73.9	70-130			V-05
Bromodichloromethane	4.03				5.00		80.6	70-130			
Bromoform	6.82				5.00		<b>136</b> *	70-130			L-01
Bromomethane	6.32				5.00		126	70-130			
1,3-Butadiene	4.97				5.00		99.4	70-130			
2-Butanone (MEK)	5.05				5.00		101	70-130			
Carbon Disulfide	4.29				5.00		85.8	70-130			
Carbon Tetrachloride	4.16				5.00		83.3	70-130			
Chlorobenzene	6.08				5.00		122	70-130			
Chloroethane	5.55				5.00		111	70-130			
Chloroform	5.05				5.00		101	70-130			
Chloromethane	4.19				5.00		83.8	70-130			
Cyclohexane	3.86				5.00		77.2	70-130			
Dibromochloromethane	6.30				5.00		126	70-130			
1,2-Dibromoethane (EDB)	5.78				5.00		116	70-130			
1,2-Dichlorobenzene	6.28				5.00		126	70-130			
1,3-Dichlorobenzene	6.54				5.00		<b>131</b> *	70-130			L-01
1,4-Dichlorobenzene	6.48				5.00		130	70-130			
Dichlorodifluoromethane (Freon 12)	5.91				5.00		118	70-130			
1,1-Dichloroethane	4.46				5.00		89.2	70-130			
1,2-Dichloroethane	4.56				5.00		91.2	70-130			
1,1-Dichloroethylene	4.66				5.00		93.3	70-130			
cis-1,2-Dichloroethylene	4.52				5.00		90.5	70-130			
trans-1,2-Dichloroethylene	4.20				5.00		84.0	70-130			
1,2-Dichloropropane	3.76				5.00		75.2	70-130			

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	%REC	RPD	RPD	Flag
	Results	RL	Results	RL	ppbv	Result	Limits	RPD	Limit		
<b>Batch B124342 - TO-15 Prep</b>											
<b>LCS (B124342-BS1)</b>					Prepared & Analyzed: 06/12/15						
cis-1,3-Dichloropropene	3.89				5.00		77.7	70-130			
trans-1,3-Dichloropropene	3.96				5.00		79.2	70-130			
Ethanol	6.36				5.00		127	70-130			
Ethyl Acetate	6.19				5.00		124	70-130			
Ethylbenzene	5.94				5.00		119	70-130			
4-Ethyltoluene	5.43				5.00		109	70-130			
Heptane	4.32				5.00		86.3	70-130			
Hexachlorobutadiene	6.75				5.00		<b>135</b> *	70-130			L-01, V-06
Hexane	5.36				5.00		107	70-130			
2-Hexanone (MBK)	4.57				5.00		91.4	70-130			
Isopropanol	2.58				5.00		<b>51.6</b> *	70-130			L-03, V-05
Methyl tert-Butyl Ether (MTBE)	4.32				5.00		86.5	70-130			
Methylene Chloride	4.79				5.00		95.8	70-130			
Methyl methacrylate	3.77				5.00		75.3	70-130			
4-Methyl-2-pentanone (MIBK)	3.91				5.00		78.2	70-130			
Propene	5.98				5.00		120	70-130			
Styrene	2.50				5.00		<b>50.1</b> *	70-130			L-03
1,1,1,2-Tetrachloroethane	0.971				0.910		107	70-130			
1,1,2,2-Tetrachloroethane	5.58				5.00		112	70-130			
Tetrachloroethylene	6.21				5.00		124	70-130			
Tetrahydrofuran	4.79				5.00		95.8	70-130			
Toluene	5.66				5.00		113	70-130			
1,2,4-Trichlorobenzene	6.30				5.00		126	70-130			V-06
1,1,1-Trichloroethane	3.91				5.00		78.2	70-130			
1,1,2-Trichloroethane	5.53				5.00		111	70-130			
Trichloroethylene	4.09				5.00		81.9	70-130			
Trichlorofluoromethane (Freon 11)	5.29				5.00		106	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.41				5.00		108	70-130			
1,2,4-Trimethylbenzene	4.70				5.00		94.0	70-130			
1,3,5-Trimethylbenzene	4.38				5.00		87.7	70-130			
Vinyl Acetate	5.18				5.00		104	70-130			
Vinyl Chloride	5.10				5.00		102	70-130			
m&p-Xylene	11.7				10.0		117	70-130			
o-Xylene	5.68				5.00		114	70-130			
Surrogate: 4-Bromofluorobenzene (1)	9.95				8.00		124	70-130			
Surrogate: 4-Bromofluorobenzene (2)	8.18				8.00		102	70-130			



**QUALITY CONTROL**

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

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag
	Results	RL	Results	RL						
<b>Batch B124342 - TO-15 Prep</b>										
<b>Duplicate (B124342-DUP1)</b>		<b>Source: 15F0576-08</b>				<b>Prepared: 06/12/15 Analyzed: 06/13/15</b>				
Acetone	4.4	1.4	10	3.3		4.3		2.77	25	V-05
Benzene	0.13	0.035	0.41	0.11		0.13		2.19	25	
Benzyl chloride	ND	0.035	ND	0.18		ND			25	V-05
Bromodichloromethane	ND	0.035	ND	0.24		ND			25	
Bromoform	ND	0.035	ND	0.36		ND			25	
Bromomethane	ND	0.035	ND	0.14		ND			25	
1,3-Butadiene	ND	0.035	ND	0.078		ND			25	
2-Butanone (MEK)	0.77	1.4	2.3	4.1		0.72		6.14	25	J
Carbon Disulfide	0.028	0.35	0.087	1.1		ND			25	J
Carbon Tetrachloride	0.056	0.035	0.35	0.22		0.058		2.47	25	
Chlorobenzene	ND	0.035	ND	0.16		ND			25	
Chloroethane	ND	0.035	ND	0.093		ND			25	
Chloroform	0.023	0.035	0.11	0.17		0.023		0.00	25	J
Chloromethane	0.70	0.070	1.4	0.14		0.56		22.5	25	
Cyclohexane	ND	0.035	ND	0.12		ND			25	
Dibromochloromethane	ND	0.035	ND	0.30		ND			25	
1,2-Dibromoethane (EDB)	ND	0.035	ND	0.27		ND			25	
1,2-Dichlorobenzene	ND	0.035	ND	0.21		ND			25	
1,3-Dichlorobenzene	ND	0.035	ND	0.21		ND			25	
1,4-Dichlorobenzene	ND	0.035	ND	0.21		ND			25	
Dichlorodifluoromethane (Freon 12)	0.42	0.035	2.1	0.17		0.47		12.3	25	
1,1-Dichloroethane	ND	0.035	ND	0.14		ND			25	
1,2-Dichloroethane	0.014	0.035	0.057	0.14		0.013		5.13	25	J
1,1-Dichloroethylene	ND	0.035	ND	0.14		ND			25	
cis-1,2-Dichloroethylene	ND	0.035	ND	0.14		ND			25	
trans-1,2-Dichloroethylene	ND	0.035	ND	0.14		ND			25	
1,2-Dichloropropane	ND	0.035	ND	0.16		ND			25	
cis-1,3-Dichloropropene	ND	0.035	ND	0.16		ND			25	
trans-1,3-Dichloropropene	ND	0.035	ND	0.16		ND			25	
Ethanol	2.7	1.4	5.0	2.6		2.6		4.02	25	
Ethyl Acetate	ND	0.035	ND	0.13		ND			25	
Ethylbenzene	0.022	0.035	0.094	0.15		0.024		9.23	25	J
4-Ethyltoluene	ND	0.035	ND	0.17		ND			25	
Heptane	0.025	0.035	0.10	0.14		ND			25	J
Hexachlorobutadiene	ND	0.035	ND	0.37		ND			25	
Hexane	0.093	1.4	0.33	4.9		0.084		11.1	25	J
2-Hexanone (MBK)	0.043	0.035	0.18	0.14		0.041		3.33	25	
Isopropanol	ND	1.4	ND	3.4		0.18			25	L-03, V-05
Methyl tert-Butyl Ether (MTBE)	ND	0.035	ND	0.13		ND			25	
Methylene Chloride	0.13	0.35	0.47	1.2		0.14		1.04	25	J
Methyl methacrylate	ND	0.035	ND	0.14		ND			25	
4-Methyl-2-pentanone (MIBK)	ND	0.035	ND	0.14		ND			25	
Propene	ND	1.4	ND	2.4		ND			25	
Styrene	ND	0.035	ND	0.15		ND			25	L-03
1,1,1,2-Tetrachloroethane	ND	0.064	ND	0.44		ND			25	
1,1,2,2-Tetrachloroethane	ND	0.035	ND	0.24		ND			25	

**QUALITY CONTROL**

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

Analyte	ppbv		ug/m3		Spike Level ppbv	Source Result	%REC Limits	RPD	RPD Limit	Flag
	Results	RL	Results	RL						
<b>Batch B124342 - TO-15 Prep</b>										
<b>Duplicate (B124342-DUP1)</b>	<b>Source: 15F0576-08</b>				<b>Prepared: 06/12/15 Analyzed: 06/13/15</b>					
Tetrachloroethylene	0.043	0.035	0.29	0.24		0.043		0.00	25	
Tetrahydrofuran	ND	0.035	ND	0.10		ND			25	
Toluene	0.14	0.035	0.52	0.13		0.14		2.56	25	
1,2,4-Trichlorobenzene	ND	0.035	ND	0.26		ND			25	
1,1,1-Trichloroethane	ND	0.035	ND	0.19		ND			25	
1,1,2-Trichloroethane	ND	0.035	ND	0.19		ND			25	
Trichloroethylene	ND	0.035	ND	0.19		ND			25	
Trichlorofluoromethane (Freon 11)	0.28	0.14	1.6	0.79		0.27		4.10	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.091	0.14	0.70	1.1		0.084		8.00	25	J
1,2,4-Trimethylbenzene	0.012	0.035	0.059	0.17		0.012		0.00	25	J
1,3,5-Trimethylbenzene	ND	0.035	ND	0.17		ND			25	
Vinyl Acetate	ND	0.70	ND	2.5		ND			25	
Vinyl Chloride	ND	0.035	ND	0.090		ND			25	
m&p-Xylene	0.056	0.070	0.24	0.30		0.056		0.00	25	J
o-Xylene	0.023	0.035	0.10	0.15		0.025		5.88	25	J
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>9.44</i>					<i>8.00</i>		<i>118</i>	<i>70-130</i>	
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>8.02</i>					<i>8.00</i>		<i>100</i>	<i>70-130</i>	

**FLAG/QUALIFIER SUMMARY**

- \* QC result is outside of established limits.
  - † Wide recovery limits established for difficult compound.
  - ‡ Wide RPD limits established for difficult compound.
  - # Data exceeded client recommended or regulatory level
- Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
- J Detected but below the Reporting Limit (lowest calibration standard); therefore, result is an estimated concentration (CLP J-Flag).
  - L-01 Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
  - L-03 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
  - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
  - V-06 Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Acetone	AIHA,NY,ME
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2015
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2015
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2015
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015



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

**AIR SAMPLE CHAIN OF CUSTODY**

**RECORD**

**15 F0576**

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Page 1 of 2  
 D00#284  
 Rev. Feb 2014

Company Name: Ameo Foster Meele  
 Address: 271 Mill Rd.  
Chelmsford, MA 01824  
 Attention: Mark Maguire  
 Project Location: Providence, RI  
 Sampled By: Maguire

Telephone: 978-610-9000  
 Project #: 365215005  
 Client PO #: 6012206368

**DATA DELIVERY (check one):**  
 FAX  EMAIL  WEBSITE CLIENT  
 Fax #:  
 Email: mark.maguire@ameofoster.com  
 Format:  XCEL  PDF  GIS KEY  OTHER Eqw

Proposal Provided? (F or Billing purposes)  
 Yes  No

Field ID	Sample Description	Media	Lab #	proposal date		ONLY USE WHEN USING PUMPS			Matrix Code*	Flow Controller ID
				Date Time	Stop Date Time	Total Minutes Sampled	Flow Rate M <sup>3</sup> /Min. or L/Min.	Volume Liters or M <sup>3</sup>		
	IA-1-061115	S	01	6-11-15 718	6-11-15 748	30	0.2	6	IA	X
	IA-2-061115	S	02	6-11-15 1007	6-11-15 1037	30	0.2	6	IA	X
	IA-3-061115	S	03	6-11-15 721	6-11-15 751	30	0.2	6	IA	X
	IA-4-061115	S	04	6-11-15 1009	6-11-15 1039	30	0.2	6	IA	X
	IA-5-061115	S	05	6-11-15 859	6-11-15 909	30	0.2	6	IA	X
	IA-6-061115	S	06	6-11-15 905	6-11-15 935	30	0.2	6	IA	X
	IA-7-061115	S	07	6-11-15 430	6-11-15 1000	30	0.2	6	IA	X
	AA-1-061115	S	08	6-11-15 1029	6-11-15 1059	30	0.2	6	AB	X

Laboratory Comments:

CLIENT COMMENTS:

ANALYSIS REQUESTED	"Hg		Summa Canister ID	Flow Controller ID
	Int	Ext		
			1846	4205
			1161	4193
			1009	4204
			1163	4192
			1380	4077
			1062	4085
			1057	4088
			1621	4067

Please fill out completely, sign, date and retain the yellow copy for your record.  
 Summa canisters and flow controllers must be returned within 14 days of receipt or rental fees will apply.  
 For summa canister and flow controller information please refer to Con-Test's Air Media Agreement.

Relinquished by (signature): [Signature] Date/Time: 6-11-15 11:25

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

Relinquished by (signature): [Signature] Date/Time: 16:00

Received by (signature): [Signature] Date/Time: 16:00

**Special Requirements**  
 Regulations:  Industrial  
 Data Enhancement/RCP?  Y  N  
 Enhanced Data Package  Y  N  
 (Surcharge Applies)  
 Required Detection Limits: CT  
 Other: \_\_\_\_\_

**Turnaround\*\***  
 7-Day  
 10-Day  
 Other \_\_\_\_\_  
**RUSH\***  
 24-Hr  48-Hr  
 72-Hr  4-Day  
 \*Approval Required

**Matrix Code:**  
 SG= SOIL GAS  
 IA= INDOOR AIR  
 AMB= AMBIENT  
 SS= SUB SLAB  
 D= DUP  
 BL= BLANK  
 O= other

**Media Codes:**  
 S= summa can  
 T= tediator bag  
 P= PUF  
 T= tube  
 F= filter  
 C= cassette  
 O= other

**\*\* TURNDOWN TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNDOWN TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT. NELAC & AIHA-LAP, LLC Accredited/WBE/DBE Certified**



Phone: 413-525-2332  
 Fax: 413-525-6495  
 Email: info@contestlabs.com

**AIR SAMPLE CHAIN OF CUSTODY RECORD**  
**15 F0576**

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Page 2 of 2  
 DOC#284  
 Rev. Feb 2014

Company Name: Ameo Foster Wheeler  
 Address: 271 Mill Rd.  
Chelmsford, MA 01824  
 Attention: Mark Messier  
 Project Location: Providence, RI  
 Sampled By: M. Messier

Telephone: 978 672-9050  
 Project # 3652150005  
 Client PO # 0012206368

**DATA DELIVERY (check one):**  
 FAX  EMAIL  WEBSITE CLIENT  
 Fax #: \_\_\_\_\_  
 Email: mark.messier@amw.com  
 Format:  EXCEL  PDF  GIS KEY  OTHER \_\_\_\_\_

Proposal Provided? (For Billing purposes)  
 Yes  No

Field ID	Sample Description	Media	Lab #	Date		Date Sampled		ONLY USE WHEN USING PUMPS		Volume (Liters or M <sup>3</sup> )	Matrix Code*	"Hg	ANALYSIS REQUESTED
				Start Date/Time	Stop Date/Time	Total Minutes Sampled	Flow Rate (L/Min)						
	EW-5-061115	S	09	6-11-15 7:52	6-11-15 8:22	30	0.2	6	SS	X	26.4	1031	4076
	EW-6-061115	S	10	6-11-15 9:10	6-11-15 9:40	30	0.2	6	SS	X	29.7	1848	4086
	EW-7-061115	S	11	6-11-15 9:31	6-11-15 10:01	30	0.2	6	SS	X	29.5	1826	4089
	EW-Camb.vol-061115	S	12	6-11-15 10:27	6-11-15 10:57	30	0.2	6	SS	X	26.5	1314	4066

Laboratory Comments: \_\_\_\_\_  
 CLIENT COMMENTS: \_\_\_\_\_

Relinquished by (signature): \_\_\_\_\_ Date/Time: 6-11-15 11:25  
 Received by (signature): \_\_\_\_\_ Date/Time: 11:25  
 Relinquished by (signature): \_\_\_\_\_ Date/Time: 16:00  
 Received by (signature): \_\_\_\_\_ Date/Time: 16:00

**Special Requirements**  
 Regulations: CT Industrial  
 Data Enhancement/RCP?  Y  N  
 Enhanced Data Package  Y  N  
 (Surcharge Applies)  
 Required Detection Limits: CT  
 Other: \_\_\_\_\_

**Turnaround\*\***  
 7-Day  
 10-Day  
 Other \_\_\_\_\_  
**RUSH\***  
 24-Hr  48-Hr  
 72-Hr  4-Day  
 \*Approval Required

**Matrix Code:**  
 SG = SOIL GAS  
 IA = INDOOR AIR  
 AMB = AMBIENT  
 SS = SUB SLAB  
 D = DUP  
 BL = BLANK  
 O = other

**Media Codes:**  
 S = summa can  
 T = tediabag  
 P = PUF  
 T = tube  
 F = filter  
 C = cassette  
 O = other

**\*\* TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT. NELAC & AIHA-LAP, LLC Accredited/WBE/DBE Certified**



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

**AIR Only Receipt Checklist**

CLIENT NAME: Amec Foster Wheeler RECEIVED BY: KB DATE: 6/11/15

- 1) Was the chain(s) of custody relinquished and signed?  Yes  No
- 2) Does the chain agree with the samples?  Yes  No  
 If not, explain:
- 3) Are all the samples in good condition? Yes  No  
 If not, explain: "IA-6..." received w/ valve open,
- 4) Are there any samples "On Hold"? Yes  No Stored where:   
 Final Pressure: -7" Receipt Pres.: 0"
- 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes  No  
 Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

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

7) Number of cans Individually Certified or Batch Certified? \_\_\_\_\_

Containers received at Con-Test		
	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)	13	6L
Tedlar Bags		
TO-17 Tubes		
Regulators	13	30 min.
Restrictors		
Hg/Hopcalite Tube (NIOSH 6009)		
(TO-4A/ TO-10A/TO-13) PUFs		
PCB Florisil Tubes (NIOSH 5503)		
Air cassette		
PM 2.5/PM 10		
TO-11A Cartridges		
Other		

Unused Summas/PUF Media:  
1063      -29"

Unused Regulators:  
4206

- 1) Was all media (used & unused) checked into the WASP?
- 2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?

Laboratory Comments:	1057 1848	4205 4077 4076	
	1846 1009 1320 1621 1826	4193 4085 4086	
	1161 1163 1062 1031 1314	4204 4088 4089	
		4192 4067 4066	



**Login Sample Receipt Checklist**

**(Rejection Criteria Listing - Using Sample Acceptance Policy)**

**Any False statement will be brought to the attention of Client**

Question	Answer (True/False)		Comment
	T/F/NA		
1) The coolers'/boxes' custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	F		See page 1
3) Samples were received on ice.	F		
4) Cooler Temperature is acceptable.	NA		
5) Cooler Temperature is recorded.	NA		
6) COC is filled out in ink and legible.	T		
7) COC is filled out with all pertinent information.	T		
8) Field Sampler's name present on COC.	T		
9) Samples are received within Holding Time.	T		
10) Sample containers have legible labels.	T		
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	F		See page 1
12) Sample collection date/times are provided.	T		
13) Appropriate sample/media containers are used.	T		
14) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
15) Trip blanks provided if applicable.	NA		

Doc #278 Rev. 5 October 2014

Who notified of False statements?

Log-In Technician Initials: KB

Date/Time: 6/11/15  
Date/Time: 16:00



## **APPENDIX B**

### **Analytical Laboratory Detection Limits**



## Analytical Method Information

Analyte	MDL	Reporting	Surrogate	Duplicate	Matrix Spike		Blank Spike / LCS	
		Limit	%R	RPD	%R	RPD	%R	RPD
<b>TO-15 ppbv low level in Air (EPA TO-15)</b>								
Preservation: NA								
Container: SUMMA Canister								
Amount Required:								
Hold Time: 30 days								
Acetone	0.69	2.0 ppbv		25				70 - 130
Benzene	0.026	0.050 ppbv		25				70 - 130
Benzyl chloride	0.0097	0.050 ppbv		25				70 - 130
Bromodichloromethane	0.011	0.050 ppbv		25				70 - 130
Bromoform	0.0096	0.050 ppbv		25				70 - 130
Bromomethane	0.034	0.050 ppbv		25				70 - 130
1,3-Butadiene	0.026	0.050 ppbv		25				70 - 130
2-Butanone (MEK)	0.037	2.0 ppbv		25				70 - 130
Carbon Disulfide	0.017	0.50 ppbv		25				70 - 130
Carbon Tetrachloride	0.012	0.050 ppbv		25				70 - 130
Chlorobenzene	0.017	0.050 ppbv		25				70 - 130
Chloroethane	0.019	0.050 ppbv		25				70 - 130
Chloroform	0.012	0.050 ppbv		25				70 - 130
Chloromethane	0.022	0.10 ppbv		25				70 - 130
Cyclohexane	0.029	0.050 ppbv		25				70 - 130
Dibromochloromethane	0.013	0.050 ppbv		25				70 - 130
1,2-Dibromoethane (EDB)	0.011	0.050 ppbv		25				70 - 130
1,2-Dichlorobenzene	0.013	0.050 ppbv		25				70 - 130
1,3-Dichlorobenzene	0.011	0.050 ppbv		25				70 - 130
1,4-Dichlorobenzene	0.013	0.050 ppbv		25				70 - 130
Dichlorodifluoromethane (Freon 12)	0.022	0.050 ppbv		25				70 - 130
1,1-Dichloroethane	0.014	0.050 ppbv		25				70 - 130
1,2-Dichloroethane	0.014	0.050 ppbv		25				70 - 130
1,1-Dichloroethylene	0.012	0.050 ppbv		25				70 - 130
cis-1,2-Dichloroethylene	0.019	0.050 ppbv		25				70 - 130
trans-1,2-Dichloroethylene	0.013	0.050 ppbv		25				70 - 130
1,2-Dichloropropane	0.017	0.050 ppbv		25				70 - 130
cis-1,3-Dichloropropene	0.013	0.050 ppbv		25				70 - 130
trans-1,3-Dichloropropene	0.013	0.050 ppbv		25				70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Fr	0.012	0.050 ppbv		25				70 - 130
1,4-Dioxane	0.32	0.50 ppbv		25				70 - 130
Ethanol	0.89	2.0 ppbv		25				70 - 130
Ethyl Acetate	0.037	0.050 ppbv		25				70 - 130
Ethylbenzene	0.014	0.050 ppbv		25				70 - 130
4-Ethyltoluene	0.011	0.050 ppbv		25				70 - 130
Heptane	0.016	0.050 ppbv		25				70 - 130
Hexachlorobutadiene	0.019	0.050 ppbv		25				70 - 130
Hexane	0.088	2.0 ppbv		25				70 - 130
2-Hexanone (MBK)	0.013	0.050 ppbv		25				70 - 130
Isopropanol	0.061	2.0 ppbv		25				70 - 130
Methyl tert-Butyl Ether (MTBE)	0.015	0.050 ppbv		25				70 - 130
Methylene Chloride	0.061	0.50 ppbv		25				70 - 130
4-Methyl-2-pentanone (MIBK)	0.012	0.050 ppbv		25				70 - 130
Naphthalene	0.027	0.050 ppbv		25				70 - 130
Propene	0.15	2.0 ppbv		25				70 - 130
Styrene	0.0097	0.050 ppbv		25				70 - 130

Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike		Blank Spike / LCS	
					%R	RPD	%R	RPD
1,1,2,2-Tetrachloroethane	0.012	0.050 ppbv		25			70 - 130	
Tetrachloroethylene	0.014	0.050 ppbv		25			70 - 130	
Tetrahydrofuran	0.021	0.050 ppbv		25			70 - 130	
Toluene	0.016	0.050 ppbv		25			70 - 130	
1,2,4-Trichlorobenzene	0.019	0.050 ppbv		25			70 - 130	
1,1,1-Trichloroethane	0.0090	0.050 ppbv		25			70 - 130	
1,1,2-Trichloroethane	0.015	0.050 ppbv		25			70 - 130	
Trichloroethylene	0.015	0.050 ppbv		25			70 - 130	
Trichlorofluoromethane (Freon 11)	0.017	0.050 ppbv		25			70 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.014	0.050 ppbv		25			70 - 130	
1,2,4-Trimethylbenzene	0.012	0.050 ppbv		25			70 - 130	
1,3,5-Trimethylbenzene	0.010	0.050 ppbv		25			70 - 130	
Vinyl Acetate	0.025	1.0 ppbv		25			70 - 130	
Vinyl Chloride	0.021	0.050 ppbv		25			70 - 130	
m&p-Xylene	0.025	0.10 ppbv		25			70 - 130	
o-Xylene	0.014	0.050 ppbv		25			70 - 130	
surr: 4-Bromofluorobenzene (1)			70 - 130					
Bromochloromethane (1)								
1,4-Difluorobenzene (1)								
Chlorobenzene-d5 (1)								