



August 12, 2014

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, 2014  
Retail Complex, Active Sub-Slab Depressurization System  
Former Gorham Manufacturing Facility  
333 Adelaide Avenue, Providence, Rhode Island  
AMEC Project No. 3650080114**

Dear Mr. Martella:

This letter report presents the results of quarterly compliance sampling and analysis conducted by AMEC Environment and Infrastructure, Inc. (AMEC) at the retail complex located at the Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island (the Site). The reporting period is from April 2014 through June 2014 and includes one quarterly compliance sampling event (June 13, 2014).

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 13, 2014.

Table 1 summarizes the analytical results at the small retail spaces 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 Target Air Concentrations (TAC), which were identified as action levels in the Orders of Approval. The laboratory report (14F0657) associated with the June 14 07, 2014 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 small retail space. 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 were in compliance with action levels for the June 13, 2014 quarterly sampling event in the small retail space (sample locations IA-5 through IA-7).
- The eastern small retail space (indoor air sample location IA-5) remains unoccupied.
- The center small retail space (sample location IA-6) remains unoccupied.
- The western small retail space (sample location IA-7) is intermittently occupied.
- 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 13, 2014. 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 Target Air Concentrations (TAC), which were identified as action levels in the Orders of Approval. The laboratory report (14F0657) associated with June 13, 2014 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 at an outdoor upwind location. 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). Although the concentration of chloroform in the samples collected from location IA-2 through IA-4 during the quarterly sampling was slightly above the action level, Chloroform is not one of the compounds for which the vapor mitigation system was installed. The chloroform appears to be unrelated to the vapor intrusion pathway and the concentrations of chloroform above the action level does not constitute a violation of the action levels contained in the order.
- 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 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 and maintained monthly by Clean Harbors Environmental Services. There were several low flow conditions reported on radon fan 2 during the period. Upon inspection, there were no identified causes for the alarms and the alarms were successfully reset remotely each time by Clean Harbors. Clean Harbors verified that radon fan 2 was operational during every monthly maintenance visit. It is suspected that the current relay sensor for radon fan 2 was likely the cause for the alarms. Clean Harbors will continue to monitor radon fan 2 during each maintenance visit.

## Next Reporting Period

The next quarterly report (third quarter 2014) will cover the monitoring period from July 2014 through September 2014. The report will be prepared and submitted to the Rhode Island Department of Environmental Management (RIDEM) in October 2014.

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 Environment & Infrastructure, Inc.**



Mark Maggiore  
Environmental Scientist



Charles Collet, P.E.  
Senior Principal/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 Gralmek, City of Providence  
G. Simpson, Textron, Inc. (Electronic)  
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## **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 011609 1/16/2009	AA-1- 020309 2/3/2009	AA-1- 021109 2/11/2009	AA-1- 021809 2/18/2009	AA-1- 022609 2/26/2009	AA-1- 030609 3/6/2009	AA-1- 033109 3/31/2009	AA-1- 041409 4/14/2009	AA-1- 042409 4/24/2009	AA-1- 051509 5/15/2009	AA-1- 061109 6/11/2009	AA-1- 091709 9/17/2009	AA-1- 092409 9/24/2009	AA-1- 100109 10/1/2009	AA-1- 100809 10/8/2009	AA-1- 122909 12/29/2009	AA-1- 012810 1/28/2010	AA-1- 020510 2/5/2010	AA-1- 021210 2/12/2010	
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	0.19 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	
1,1,1,2-Tetrachloroethane																				
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	0.24 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-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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-Dichloroethane	0.20 U	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	
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 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	
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.75 U	0.37 U	0.37 U	0.37 U	
1,2,4-Trimethylbenzene	0.25 U	0.28	0.52	1.8	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.29	0.30	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 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	0.27 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-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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-Dichloroethane	0.20 U	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	
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 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	0.23 U	0.23 U	0.23 U	
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 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	0.35 U	0.35 U	0.35 U	0.35 U	
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.50	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	0.25 U	0.25 U	0.25 U	0.25 U	
1,3-Butadiene	0.11 U	0.11 U	0.17	1.3	0.11 U	0.11 U	0.11 U	0.080 U	0.11 U	0.11 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 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	0.21 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	0.30 U	0.30 U	0.30 U	0.53	0.30 U	0.30 U	0.30 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																				
2-Butanone	0.58	1.2	2.4	3.2	1.6	0.67	1.7	0.11 U	1.6	1.6	1.1	1.7	0.84	1.2	1.2	2.0	0.81	1.6	1.6	
2-Hexanone	0.20 U	0.22	0.57	0.35	0.20 U	0.20 U	0.20 U	0.14 U	0.26	0.39	0.20 U	0.34	0.20 U	0.33	0.23	0.20 U	0.20 U	0.32	0.20 U	
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.6	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	0.25 U	0.25 U	0.25 U	0.25 U	
4-Methyl-2-pentanone	0.20 U	0.20 U	0.27	0.63	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	0.34	
Acetone	7.3	8.0	15	22	8.4	5.9	12	1.1	27	9.5	10	10	9.6	5.4	17	11	3.5	7.6	5.0	
Benzene	0.69	0.62	1.3	4.7	0.43	0.69	0.46	0.12 U	0.30	0.40	0.49	0.38	0.35	0.25	0.20	0.42	0.79	0.68	0.63	
Benzyl chloride	0.26 U	0.26 U	0.26 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	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	0.24 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	0.33 U	0.33 U	
Bromoform	0.51 U	0.51 U	0.51 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	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	0.14 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	0.12 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	0.28	0.16 U	0.16 U	
Carbon tetrachloride	0.38	0.44	0.52	0.56	0.43	0.61	0.47	0.22 U	0.41	0.78	0.43	0.40	0.40	0.43	0.46	0.39	0.42	0.39	0.31 U	
Chlorobenzene	0.23 U	0.23 U	0.23 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	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	0.10 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	
Chloroform	0.24 U	0.24 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	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	
Chloromethane	1.1	0.90	1.4	1.5	1.1	1.1	1.3	1.1	1.2	1.1	1.2	0.85	1.1	0.97	0.96	1.6	1.1	1.2	1.3	
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	0.14 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	
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	0.16 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	
Cyclohexane	0.17 U	0.17 U	0.35	1.1	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	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	0.31 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	0.43 U	0.43 U	0.43 U	
Dichlorodifluoromethane	2.0	2.2	2.6	2.7	2.6	2.6	2.8	2.0	2.5	2.7	2.6	2.1	2.1	2.2	2.1	2.1	2.3	2.4	2.5	
Ethanol	4.0	5.4	10	47	4.3	3.5	4.7	0.81	4.9	4.8	8.6	6.6	4.6	3.9	4.9	3.8	5.4	5.1	7.2	
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.31	0.37 U	0.18 U	0.18 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	0.18 U	0.18 U	0.18 U	0.18 U	
Ethylbenzene	0.22 U	0.25	0.52	2.0	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.24	0.22 U	0.23	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	0.75 U	1.1 U	1.1 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	1.1 U	0.53 U	0.53 U	0.53 U	
Hexane	1.5	0.75	1.1	2.9	0.38	2.8	2.2	0.13 U	0.56	0.37	0.59	0.48	1.4	0.45	4.5	0.62	0.36	0.53	0.91	
Isopropyl alcohol	1.4	1.4	1.8	4.3	1.4	0.67	1.4	0.18 U	14	1.0	2.5	2.8	0.87	0.63	0.25 U	0.54	0.56	2.7	1.5	
m,p-Xylene	0.43 U	0.72	1.4	6.4	0.44	0.43 U	0.43 U	0.31 U	0.43 U	0.49	0.73	0.62	0.59	0.43 U	0.43 U	0.43 U	0.43 U	0.50	0.47	

**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 011609 1/16/2009	AA-1- 020309 2/3/2009	AA-1- 021109 2/11/2009	AA-1- 021809 2/18/2009	AA-1- 022609 2/26/2009	AA-1- 030609 3/6/2009	AA-1- 033109 3/31/2009	AA-1- 041409 4/14/2009	AA-1- 042409 4/24/2009	AA-1- 051509 5/15/2009	AA-1- 061109 6/11/2009	AA-1- 091709 9/17/2009	AA-1- 092409 9/24/2009	AA-1- 100109 10/1/2009	AA-1- 100809 10/8/2009	AA-1- 122909 12/29/2009	AA-1- 012810 1/28/2010	AA-1- 020510 2/5/2010	AA-1- 021210 2/12/2010
Methyl methacrylate																			
Methylene chloride	5.5	3.1	0.65	1.5	0.78	7.4	15	2.1	2.8	1.7	1.9	0.70 U	4.2	0.70 U	23	4.6	1.3	1.9	1.7
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	0.13 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
n-Heptane	0.20 U	0.27	0.92	1.6	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.40	0.23	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.26	0.20 U	0.20 U
o-Xylene	0.22 U	0.27	0.53	2.2	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.24	0.27	0.23	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Propylene (Propene)	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.090 U	0.090 U	0.13 U	0.18 U	0.090 U	0.090 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
Styrene	0.21 U	0.21 U	0.21 U	0.28	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	0.34 U	0.34 U	0.73	0.77	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.52	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.11 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	1.2	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	0.94	1.5	3.2	14	0.71	0.99	0.82	0.14 U	0.72	2.6	2.1	1.9	2.0	0.61	0.50	0.78	0.94	0.64	0.97
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	0.14 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	0.22 U	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	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	0.27 U	0.27 U	0.27 U	0.39	0.27 U	0.27 U	0.27 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	0.30
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
Trichlorotrifluoroethane	0.68	0.53	0.50	0.47	0.64	0.48	0.51	0.27 U	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 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.18 U	0.50 U	0.71 U	0.18 U	0.18 U	0.71 U	0.71 U	0.71 U	0.71 U	0.36 U	0.71 U	0.71 U	0.71 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.10 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 (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-1-021711 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
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	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U
1,1,1,2-Tetrachloroethane										0.62 U		0.37 U	0.37 U	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
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	0.10 U	0.21 U	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
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	0.16 U	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
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	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
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	0.14 U	0.13 U	0.14 U	0.14 U	0.16
1,2,4-Trichlorobenzene	0.37 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.62	0.45 U	0.12	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
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.94	0.25 U	1.1	0.25 U	0.25 U	0.16	0.15 U	0.15 U	0.26	0.17 U	0.069	0.21	0.17 U	0.19	0.17 U	0.17 U	0.51
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	0.23 U	0.12 U	0.23 U	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
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	0.18 U	0.18 U	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
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	0.061 U	0.046	0.14 U	0.14 U	0.057	0.14 U	0.14 U	0.14 U	0.14 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	0.23 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
1,2-Dichlorotetrafluoroethane	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	0.28	0.25 U	0.33	0.25 U	0.25 U	0.068	0.15 U	0.15 U	0.16	0.17 U	0.17 U	0.17 U	0.17 U	0.047	0.17 U	0.17 U	0.18
1,3-Butadiene	0.23 U	0.11 U	0.23 U	0.11 U	0.11 U	0.29	0.11 U	0.11 U	0.11 U	0.11 U	0.066 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.075 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	0.30 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	0.20 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	0.18 U	0.18 U	0.18 U	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
1,4-Dioxane										0.18 U												
2-Butanone	0.88	1.5	1.4	2.4	2.3	2.7	0.37	1.8 B	2.9 U	5.9 U	0.35	1.4	1.1	2.0	0.89	1.9	3.9	3.7	0.94	0.82	1.4	2.2
2-Hexanone	0.20 U	0.29	0.29	0.49	0.49	0.41	0.20 U	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
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.30	0.25 U	0.34	0.25 U	0.25 U	0.053	0.15 U	0.15 U	0.093	0.17 U	0.17 U	0.17 U	0.17 U	0.063	0.17 U	0.17 U	0.18
4-Methyl-2-pentanone	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	2.8	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.12 U	0.23	0.10	0.14 U	0.083	0.24	0.14 U	0.14 U	0.14 U	0.14 U	0.20
Acetone	3.7	9.5	12	20	13	14	5.7 B	19 B	8.7 B	20	4.9	9.4	10	12	8.7	18	28	16	12	26	9.3	22
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	0.94
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	0.16 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
Bromodichloromethane	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	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U
Bromoform	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	0.31 U	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
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	0.12 U	0.12 U	0.12 U	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
Carbon disulfide	0.44	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.38	0.16 U	0.16 U	1.6 U	0.058	0.93 U	0.11	1.1 U	1.1 U	0.052	1.1 U	1.1 U	1.1 U	1.1 U	1.1 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	0.49	0.43	0.43	0.36	0.52	0.41	0.55	0.47	0.43	0.45	0.22	0.42
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	0.16 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	0.093 U	0.089 U	0.093 U	0.093 U	0.11
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	0.073 U	0.067	0.096	0.17 U	0.21	0.17 U	0.17 U	0.10	0.17 U	0.17 U	0.17 U
Chloromethane	1.1	1.4	0.78	1.1	0.96	0.99	0.94	1.0	0.96	1.4	0.062 U	1.1	1.5	1.1	1.0	1.6	1.4	1.1	0.96	1.1	1.3	1.4
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	0.059 U	0.12 U	0.14 U	0.14 U	0.092	0.14 U	0.16	0.13 U	0.14 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	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	0.16 U	0.15 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	0.46	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	0.12 U	0.31
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	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.29 U	0.30 U	0.30 U	0.30 U
Dichlorodifluoromethane	2.9	1.8	2.1	2.5	2.4	2.9	1.9	3.1	1.9	1.7	2.5	2.0	2.4	2.8	2.5	1.7	3.0	2.0	1.8	2.7	1.4	2.0
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	1.2	6.1	6.7	6.7	5.4	9.0	17
Ethyl acetate	1.1	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	0.46	0.56	0.43	0.67	0.35	1.1	0.56	17	0.12 U	0.13 U	0.18	0.13 U
Ethylbenzene	0.22 U	0.22 U	0.22 U	0.22 U	0.82	1.4	0.22 U	1.1	0.22 U	0.22 U	0.31	0.13 U	0.065	0.19	0.15 U	0.12	0.16	0.15 U	0.21	0.15 U	0.16	0.44
Hexachlorobutadiene	0.53 U	1.1 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	0.32 U	0.32 U	0.32 U	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
Hexane	0.24	0.23	1.1	0.51	0.37	1.2	0.35 U	3.3	0.88	7.0 U	0.47	0.54	1.3	0.67	1.4	1.3	1.8	2.3	0.81	0.32	0.44	1.2
Isopropyl alcohol	0.80	0.73	0.69	1.6	0.79	0.25 U	0.29	2.4	1.2 U	4.9 U	0.60	0.88	2.9 U	0.58	0.47	0.52	1.3	6.2	3.3 U	0.77	0.92	3.1
m,p-Xylene	0.43 U	0.49	0.43 U	0.43 U	2.2	3.7	0.43 U	3.3	0.43 U	0.43 U	0.41	0.17	0.18	0.64	0.30 U	0.34	0.58	0.21	0.53	0.30 U	0.42	1.4



**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-1-021711 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
Methyl methacrylate						0.20 U	0.48	0.20 U	0.20 U	0.12 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	0.14 U
Methylene chloride	0.70 U	0.70 U	0.70 U	0.35 U	1.1	1.1	0.66	3.0	2.3	1.7 U	1.5	1.6	3.0	2.1	4.4	2.9	2.3	9.1	1.0	0.76	0.55	1.2
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	0.18 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	0.12 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.91	0.20 U	0.95	0.20 U	0.20 U	0.12	0.089	0.11	0.18	0.14 U	0.12	0.21	0.15	0.18	0.14 U	0.21	0.62
o-Xylene	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	0.086	0.078	0.31	0.15 U	0.12	0.20	0.15 U	0.24	0.15 U	0.17	0.50
Propylene (Propene)	0.35 U	0.35 U	0.35 U	0.87 U	0.87 U	1.9	0.86 U	0.86 U	0.86 U	3.4 U	2.1 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
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	0.15 U	0.16
Tetrachloroethene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.49	0.34 U	5.3	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	0.40
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
Toluene	0.46	1.1	0.75	0.63	0.57	10	0.19 U	5.3	0.52	0.47	0.56	0.37	0.42	0.81	0.48	0.74	1.2	1.4	1.3	0.35	1.2	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	0.12 U	0.059 U	0.12 U	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
trans-1,3-Dichloropropene	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	0.16 U	0.15 U	0.16 U	0.16 U	0.16 U
Trichloroethene	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	0.19 U	0.11	0.19 U	0.19 U	0.19 U
Trichlorofluoromethane	1.5	1.5	1.2	1.4	1.3	11	1.2	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
Trichlorotrifluoroethane	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	0.66	1.0	0.60	0.55	0.55	0.46	0.54
Vinyl acetate	0.71 U	0.36 U	0.71 U	0.18 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	2.4 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	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.087 U	0.090 U	0.090 U	0.090 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-5-070110 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
1,1,1-Trichloroethane	190000	41000	17000	7100	1800	2600	3100	1900	3500	920	540	550	460	210 D	400 D	340 D	430	130
1,1,1,2-Tetrachloroethane																	25 U	
1,1,2,2-Tetrachloroethane	6.8 U	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	6.8 U	1.4 UD	1.4 UD	6.9 UD	14 U	3.4 U
1,1,2-Trichloroethane	5.4 U	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	5.4 U	1.1 UD	1.1 UD	5.5 UD	11 U	2.7 U
1,1-Dichloroethane	11000	1900	890	770	190	360	450	430	230	100	50	53	42	29 D	34 D	33 D	44	16
1,1-Dichloroethene	2500	290	130	190	61	160	160	160	98	30	18	21	15	13 D	15 D	11 D	14	5.0
1,2,4-Trichlorobenzene	7.4 U	7.4 U	7.4 U	7.4 U	1.9 U	74 U	3.7 U	3.7 U	3.7 U	7.5 U	15 U	3.7 U	7.4 U	1.5 UD	1.5 UD	7.4 UD	30 U	7.4 U
1,2,4-Trimethylbenzene	5.0 U	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	5.0 U	0.98 UD	0.98 UD	4.9 UD	9.8 U	2.5 U
1,2-Dibromoethane (EDB)	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 UD	1.5 UD	7.7 UD	15 U	3.8 U
1,2-Dichlorobenzene	6.0 U	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	6.0 U	1.2 UD	1.2 UD	6.0 UD	12 U	3.0 U
1,2-Dichloroethane	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	0.81 UD	0.81 UD	4.0 UD	8.1 U	2.0 U
1,2-Dichloropropane	4.6 U	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	4.6 U	0.92 UD	0.92 UD	4.6 UD	9.2 U	2.3 U
1,2-Dichlorotetrafluoroethane	7.0 U	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	7.0 U					
1,3,5-Trimethylbenzene	5.0 U	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	5.0 U	0.98 UD	0.98 UD	4.9 UD	9.8 U	2.5 U
1,3-Butadiene	2.2 U	2.2 U	2.2 U	2.2 U	0.55 U	22 U	1.1 U	1.1 U	2.3 U	1.1 U	2.2 U	1.1 U	2.2 U	0.44 UD	0.44 UD	2.2 UD	4.4 U	1.1 U
1,3-Dichlorobenzene	6.0 U	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	6.0 U	1.2 UD	1.2 UD	6.0 UD	12 U	3.0 U
1,4-Dichlorobenzene	6.0 U	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	6.0 U	1.2 UD	1.2 UD	6.0 UD	12 U	3.0 U
1,4-Dioxane																	7.2 U	
2-Butanone	6.3	89	75	170	3700	64000	100000	230000	110000	7800	18000	28000	15000	4000 D	7200 BD	17000 D	13000	2700
2-Hexanone	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	40 U	2.7	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	4.0 U	0.82 UD	0.82 UD	82 UD	8.2 U	2.0 U
4-Ethyltoluene	5.0 U	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	5.0 U	0.98 UD	0.98 UD	4.9 UD	9.8 U	2.5 U
4-Methyl-2-pentanone	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 UD	0.82 UD	4.1 UD	8.2 U	2.0 U
Acetone	530	32	52	29	460	5600	14000	6900	9200	1700	3200	6000	4500	2000 BD	1800 BD	2200 BD	3400	710
Benzene	13	12	6.2	4.8	5.6	32 U	11	7.1	11	6.3	5.5	8.2	5.0	4.2 D	4.5 D	4.2 D	6.4 U	2.8
Benzyl chloride	5.2 U	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	5.2 U	1.0 UD	1.0 UD	5.2 UD	10 U	2.6 U
Bromodichloromethane	6.6 U	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	6.6 U	1.3 UD	1.3 UD	6.7 UD	13 U	3.4 U
Bromoform	11 U	11 U	11 U	11 U	2.6 U	110 U	5.1 U	5.1 U	5.1 U	5.1 U	11 U	5.1 U	11 U	2.1 UD	2.1 UD	10 UD	21 U	5.2 U
Bromomethane	3.8 U	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	3.8 U	0.78 UD	0.78 UD	3.9 UD	7.8 U	1.9 U
Carbon disulfide	3.2 U	3.2 U	3.2 U	3.2 U	0.80 U	230	4.0	5.4	8.2	2.9	5.7	12	14	8.0 D	15 D	22 D	62 U	13
Carbon tetrachloride	6.2 U	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	6.2 U	1.3 UD	1.3 UD	6.3 UD	13 U	1.2
Chlorobenzene	4.6 U	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	4.6 U	0.92 UD	0.92 UD	4.6 UD	9.2 U	2.3 U
Chloroethane	260	23	16	11	4.5	26 U	11	15	7.0	6.5	3.5	3.6	5.5	3.1 D	3.4 D	2.6 UD	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	2.4 U	4.8 U	1.1 D	1.2 D	4.9 UD	9.8 U	1.1
Chloromethane	2.0 U	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	2.0 U	0.41 UD	0.41 UD	2.1 UD	4.1 U	1.0 U
cis-1,2-Dichloroethene	2900	710	400	410	100	150	270	250	170	58	32	43	31	17 D	27 D	27 D	35	11
cis-1,3-Dichloropropene	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 UD	0.91 UD	4.5 UD	9.1 U	2.3 U
Cyclohexane	3.4 U	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	3.4 U	0.69 UD	0.69 UD	3.4 UD	6.9 U	1.7 U
Dibromochloromethane	8.6 U	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	8.6 U	1.7 UD	1.7 UD	8.5 UD	17 U	4.3 U
Dichlorodifluoromethane	5.0 U	5.0 U	5.0 U	5.0 U	2.7	50 U	3.0	3.2	2.5 U	2.5 U	5.0 U	2.5	5.0 U	2.4 D	3.7 D	4.9 UD	9.9 U	2.8
Ethanol	320	36	46	33	22	130	30	26	3.8 U	45	28	68	89	23 D	19 D	24 JD	150 U	12
Ethyl acetate	7.3 U	3.6 U	3.6 U	7.3 U	0.90 U	73 U	1.8 U	1.8 U	1.8 U	1.8 U	3.6 U	1.8 U	6.8	3.4 D	0.72 UD	3.8 D	7.2 U	3.6
Ethylbenzene	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 UD	0.87 UD	4.3 UD	8.7 U	2.2 U
Hexachlorobutadiene	22 U	22 U	22 U	22 U	5.4 U	220 U	11 U	11 U	5.3 U	11 U	22 U	5.3 U	11 U	2.1 UD	2.1 UD	11 UD	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	1.8 U	3.6 U	1.8 U	7.1 U	1.4 UD	0.70 UD	3.5 UD	280 U	70 U
Isopropyl alcohol	190	5.1	4.6	5.0 U	4.6	290	24	57	35	2.5 U	20	54	59	11 D	13 D	25 UD	200 U	49 U
m,p-Xylene	8.6 U	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	8.6 U	1.7 UD	1.7 UD	8.7 UD	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-5-022609 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-5-070110 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															0.82 UD	4.1 UD	8.2 U	2.0 U
Methylene chloride	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 UD	2.0 D	6.9 UD	69 U	4.2
Methyl-t-butyl ether	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 UD	0.72 UD	3.6 UD	7.2 U	1.8 U
n-Heptane	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 UD	0.82 UD	4.1 UD	8.2 U	2.0 U
o-Xylene	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 UD	0.87 UD	4.3 UD	8.7 U	2.2 U
Propylene (Propene)	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	8.7 U	6.9 U	1.4 UD	3.4 UD	17 UD	140 U	4.1
Styrene	4.2 U	17	4.2 U	4.2 U	1.7	42 U	2.2	2.1 U	2.1 U	2.1 U	4.2 U	2.1 U	4.2 U	0.85 UD	0.85 UD	4.3 UD	8.5 U	2.1 U
Tetrachloroethene	210	310	190	97	8.0	68 U	21	25	19	8.9	6.8 U	6.7	6.8 U	4.0 D	4100 D	6.8 UD	14 U	3.5
Tetrahydrofuran	16	110	69	140	2200	42000	61000	150000	94000	9700	23000	37000	29000	8200 D	11000 D	30000 D	41000	11000
Toluene	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 UD	1.6 D	3.8 UD	7.5 U	0.90
trans-1,2-Dichloroethene	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 UD	0.79 UD	4.0 UD	7.9 U	2.0 U
trans-1,3-Dichloropropene	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 UD	0.91 UD	4.5 UD	9.1 U	2.3 U
Trichloroethene	51000	20000	14000	8900	2400	3800	4400	2700	6800	1600	1100	1200	1100	410 D	660 D	790 D	940	290
Trichlorofluoromethane	3500	200	120	67	16	56 U	27	41	2.8 U	53	7.0	7.4	5.8	5.1 D	5.8 D	5.6 UD	11 U	3.4
Trichlorotrifluoroethane	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 UD	1.5 UD	7.7 UD	15 U	3.8 U
Vinyl acetate	15 U	3.6 U	3.6 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 UD	0.70 UD	70 UD	7.0 U	1.8 U
Vinyl chloride	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 D	3.7 D	3.3 D	6.2	1.3 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										Extraction Well - Center Small Retail Space												
	EW-5-030812 3/8/2012	EW-5-061412 6/14/2012	EW-5-091312 9/13/2012	EW-5-010313 1/3/2013	EW-5-031513 3/15/2013	EW-5-060713 6/7/2013	EW-5-090613 9/6/2013	EW-5-121313 12/13/2013	EW-5-030714 3/7/2014	EW-5-061314 6/13/2014	EW-6-020309 2/3/2009	EW-6-021109 2/11/2009	EW-6-021809 2/18/2009	EW-6-022609 2/26/2009	EW-6-030609 3/6/2009	EW-6-041409 4/14/2009	EW-6-051509 5/15/2009	EW-6-061109 6/11/2009	EW-6-091709 9/17/2009	EW-6-122909 12/29/2009	EW-6-070110 7/1/2010	EW-6-091610 9/16/2010	EW-6-120710 12/7/2010
1,1,1-Trichloroethane	81	100	190	0.55 U	0.55 U	59	180	40	68	54	69000	32000	21000	16000	16000	5600	8200	5700	5400	1100	430	390	130 D
1,1,1,2-Tetrachloroethane	12 U	1.2 U	1.2 U	1.2 U		1.2 U	0.39 J	1.2 U	1.2 U	1.2 U													
1,1,2,2-Tetrachloroethane	3.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.32 U	0.69 U	0.69 U	0.69 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	68 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	6.8 U	0.69 UD
1,1,2-Trichloroethane	2.7 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.26 U	0.55 U	0.55 U	0.55 U	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	54 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	5.4 U	0.55 UD
1,1-Dichloroethane	11	12	21	0.40 U	0.40 U	6.4	20	4.8	7.0	7.4	5200	2500	2100	2200	1600	780	1200	1100	930	580	47	38	21 D
1,1-Dichloroethene	4.5	4.5	6.9	0.40 U	0.40 U	1.7	4.7	1.5	1.8	2.0	850	210	100	110	55	74	87	83	80	6.4	3.5	4.0 U	0.40 UD
1,2,4-Trichlorobenzene	15 U	1.5 U	1.5 U	1.5 U	1.5 U	0.74 U	0.35 U	0.74 U	0.74 U	0.74 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	74 U	3.7 U	3.7 U	3.7 U	7.5 U	3.7 U	7.4 U	0.74 UD
1,2,4-Trimethylbenzene	4.9 U	0.20	0.63	0.49 U	0.49 U	0.49 U	0.37	0.49 U	0.49 U	0.49 U	5.0 U	5.0 U	5.0 U	16	6.2	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	0.49 UD
1,2-Dibromoethane (EDB)	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.36 U	0.77 U	0.77 U	0.77 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	76 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	7.6 U	0.77 UD
1,2-Dichlorobenzene	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.28 U	0.60 U	0.60 U	0.60 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	60 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	0.60 UD
1,2-Dichloroethane	2.0 U	0.17	0.40 U	0.40 U	0.40 U	0.40 U	0.19 U	0.40 U	0.40 U	0.40 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	0.40 UD
1,2-Dichloropropane	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.22 U	0.46 U	0.46 U	0.46 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	46 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6 U	0.46 UD
1,2-Dichlorotetrafluoroethane											7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	70 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	7.0 U	
1,3,5-Trimethylbenzene	4.9 U	0.49 U	0.19	0.49 U	0.49 U	0.49 U	0.23 U	0.49 U	0.49 U	0.49 U	5.0 U	5.0 U	5.0 U	7.3	5.0 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	0.49 UD
1,3-Butadiene	2.2 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.10 U	0.22 U	0.22 U	0.22 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	22 U	1.1 U	1.1 U	2.3 U	1.1 U	1.1 U	2.2 U	0.22 UD
1,3-Dichlorobenzene	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.28 U	0.60 U	0.60 U	0.60 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	60 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	0.60 UD
1,4-Dichlorobenzene	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.28 U	0.60 U	0.60 U	0.60 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	60 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	0.60 UD
1,4-Dioxane																							
2-Butanone	1800	870	840	9.5	1.7	1900	31000	680	1200	2100	120	280	300	130	97	160	37	65	8.7	23	1800	110	20 D
2-Hexanone	4.1 U	0.43	0.41 U	0.41 U	0.41 U	0.41 U	0.49	0.41 U	0.53	0.41 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	0.41 UD
4-Ethyltoluene	4.9 U	0.49 U	0.18	0.49 U	0.49 U	0.49 U	0.23 U	0.49 U	0.49 U	0.49 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	0.49 UD
4-Methyl-2-pentanone	4.1 U	0.27	0.34	0.41 U	0.41 U	0.41 U	0.56	0.41 U	0.41 U	0.46	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	0.41 UD
Acetone	400	440	670	11	8.5	610	6800	210	380	610	580	64	81	33	22	410	16	20	4.8 U	27	490	70	15 BD
Benzene	2.0	1.1	3.7	0.54	0.47	1.0	7.1	2.4	3.8	3.0	5.2	5.2	4.1	3.2 U	3.2 U	32 U	1.7	1.6 U	1.6 U	1.6 U	1.6 U	3.2 U	0.92 D
Benzyl chloride	5.2 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.24 U	0.52 U	0.52 U	0.52 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	5.2 U	0.52 UD
Bromodichloromethane	3.4 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.31 U	0.67 U	0.67 U	0.67 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	66 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	6.6 U	0.67 UD
Bromoform	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.48 U	1.0 U	1.0 U	1.0 U	11 U	11 U	11 U	11 U	11 U	110 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	11 U	1.0 UD
Bromomethane	3.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.18 U	0.39 U	0.39 U	0.39 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	38 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8 U	0.39 UD
Carbon disulfide	11	25	49	3.1 U	3.1 U	19	77	8.9	26	35	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	180	1.6 U	1.6 U	1.6 U	1.6 U	8.0	12	0.66 D
Carbon tetrachloride	3.1 U	0.40	0.38	0.63 U	0.39	0.63 U	0.47	0.63 U	0.63 U	0.63 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	62 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	6.2 U	0.63 UD
Chlorobenzene	4.6 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.22 U	0.46 U	0.46 U	0.46 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	46 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6 U	0.46 UD
Chloroethane	2.6 U	2.9	5.3	0.26 U	0.26 U	1.5	4.0	0.86	1.9	1.9	140	50	34	18	13	26 U	13	14	11	4.0	1.3 U	2.8	0.26 UD
Chloroform	2.4 U	0.98	1.1	0.49 U	0.49 U	0.59	1.6	0.49 U	0.59	0.76	42	24	19	29	21	50	14	12	12	7.2	3.7	4.8 U	2.4 D
Chloromethane	2.1 U	0.21 U	0.21 U	1.0	1.1	0.41 U	0.19 U	0.41 U	0.41 U	0.41 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	34	1.0 U	1.0 U	1.0 U	1.0 U	38	40	0.21 UD
cis-1,2-Dichloroethene	6.9	8.6	14	0.40 U	0.40 U	4.3	13	1.9	4.1	4.3	700	360	220	250	150	120	190	170	130	36	11	7.9	2.3 D
cis-1,3-Dichloropropene	2.3 U	0.45 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	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	44 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4 U	0.45 UD
Cyclohexane	3.4 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.16 U	0.34 U	0.34 U	0.34 U	3.4 U	5.3	3.4 U	3.4 U	3.4 U	34 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	3.4 U	0.34 UD
Dibromochloromethane	4.3 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.40 U	0.85 U	0.85 U	0.85 U	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	86 U	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	8.6 U	0.85 UD
Dichlorodifluoromethane	4.9 U	2.9	2.6	2.5	2.5	2.1	1.7	2.5	2.1	2.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50 U	3.6	3.9	2.7	2.5 U	2.5 U	5.0 U	2.3 D
Ethanol	290	14	100	9.9	3.5	13	3.5 U	39	43	32	360	38	73	38	25	110	18	14	6.7	18	15	19 U	4.6 D
Ethyl acetate	26	4.2	30	0.36 U	1.2	2.6	0.17 U	5.5	4.8	3.4	7.3 U	3.6 U	3.6 U	7.3 U	3.6 U	73 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.6 U	0.36 UD
Ethylbenzene	4.3 U	0.12	0.69	0.43 U	0.43 U	0.43 U	0.41	0.43 U	0.43 U	0.43 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	44 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4 U	0.43 UD
Hexachlorobutadiene	11 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.50 U	1.1 U	1.1 U	1.1 U	22 U	22 U	22 U	22 U	22 U	220 U	11 U	11 U	5.3 U	11 U	5.3 U	11 U	1.1 UD
Hexane	9.4	4.3	2.0	0.74	2.2	14 U	6.6 U	14. U	14 U	14 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	36 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	7.1 U	0.7 UD
Isopropyl alcohol	13	9.8 U	11	1.1	9.8 U	9.8 U	4.6 U	2.9	6.0	11	210	18	33	15	10	230	8.2	11	20	2.5 U	1.2 U	9.4	0.49 UD
m,p-Xylene	5.4	0.87 U	1.9	0.75	0.87 U	0.87 U	1.2	0.87 U	0.56	0.81	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	120	4.3 U	4.3 U	4.3 U	4.3 U	4.3 U	8.6 U	0.87 UD

**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											Extraction Well - Center Small Retail Space												
	EW-5-030812 3/8/2012	EW-5-061412 6/14/2012	EW-5-091312 9/13/2012	EW-5-010313 1/3/2013	EW-5-031513 3/15/2013	EW-5-060713 6/7/2013	EW-5-090613 9/6/2013	EW-5-121313 12/13/2013	EW-5-030714 3/7/2014	EW-5-061314 6/13/2014	EW-6-020309 2/3/2009	EW-6-021109 2/11/2009	EW-6-021809 2/18/2009	EW-6-022609 2/26/2009	EW-6-030609 3/6/2009	EW-6-041409 4/14/2009	EW-6-051509 5/15/2009	EW-6-061109 6/11/2009	EW-6-091709 9/17/2009	EW-6-122909 12/29/2009	EW-6-070110 7/1/2010	EW-6-091610 9/16/2010	EW-6-120710 12/7/2010	
Methyl methacrylate	4.1 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.19 U	0.41 U	0.41 U	0.41 U														
Methylene chloride	15	11	2.5	1.8	6.9	1.1	3.4	1.1	0.79	0.99	7.0 U	7.0 U	7.5	7.0 U	7.0 U	780	12	15	7.0 U	27	10	7.0 U	1.3 D	
Methyl-t-butyl ether	3.6 U	0.36 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	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	36 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	3.6 U	0.36 UD	
n-Heptane	4.1 U	0.41 U	0.52	0.41 U	0.41 U	0.41 U	0.19 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	40 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	0.41 UD	
o-Xylene	4.3 U	0.14	0.73	0.43 U	0.43 U	0.43 U	0.50	0.43 U	0.43 U	0.43 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	44 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4 U	0.43 UD	
Propylene (Propene)	15	6.9 U	3.9	6.9 U	6.9 U	6.9 U	2.3	6.9 U	6.9 U	6.9 U	3.5 U	1.8 U	1.8 U	3.5 U	1.8 U	35 U	0.90 U	0.90 U	3.5 U	3.5 U	8.7 U	6.9 U	0.69 UD	
Styrene	4.3 U	0.46	0.38	0.43 U	0.43 U	0.43 U	0.35	0.43 U	0.43 U	0.43 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	42 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	4.2 U	0.43 UD	
Tetrachloroethene	3.4 U	0.92	2.1	0.68 U	0.68 U	0.71	1.7	0.68 U	0.69	1.2	330	290	130	290	190	300	190	210	250	68	34	23	8.1 D	
Tetrahydrofuran	4500	7700	1000	0.29 U	0.29 U	2300	26000	1000	2900	2600	75	480	260	730	570	130	110	87	9.1	31	42000	53000	480 D	
Toluene	37	0.58	5.6	0.66	0.40	0.43	4.2	0.44	1.4	1.7	12	3.8 U	3.8 U	3.8 U	3.8 U	38 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8 U	0.38 UD	
trans-1,2-Dichloroethene	2.0 U	0.40 U	0.18	0.40 U	0.40 U	0.40 U	0.19 U	0.40 U	0.40 U	0.40 U	12	6.3	4.2	6.4	4.0 U	40 U	2.6	2.7	2.0	2.1	2.0 U	4.0 U	0.4 UD	
trans-1,3-Dichloropropene	2.3 U	0.45 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	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	44 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	4.4 U	0.45 UD	
Trichloroethene	170	220	400	0.54 U	0.54 U	150	770	80	190	160	12000	6900	4200	4400	4800	3900	5400	4700	6100	2000	730	650	250 D	
Trichlorofluoromethane	5.6 U	4.9	8.5	2.4	1.4	2.9	4.6	3.6	2.7	3.4	2300	870	630	350	250	150	230	440	700	320	6.7	25	28 D	
Trichlorotrifluoroethane	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	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	76 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	7.6 U	0.77 UD	
Vinyl acetate	7.0 U	0.70 U	0.70 U	0.70 U	0.70 U	7.0 U	3.3 U	7.0 U	7.0 U	7 U	15 U	3.6 U	3.6 U	15 U	3.6 U	150 U	1.8 U	1.8 U	7.1 U	3.6 U	1.8 U	7.1 U	0.7 UD	
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	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	26 U	1.3 U	1.3 U	1.3 U	1.3 U	1.7	2.9	0.26 UD	

**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-6-021711 2/17/2011	EW-6-060211 6/2/2011	EW-6-091511 9/15/2011	EW-6-120811 12/8/2011	EW-6-030812 3/8/2012	EW-6-061412 6/14/2012	EW-6-0913412 9/13/2012	EW-6-010313 1/3/2013	EW-6-031513 3/15/2013	EW-6-060713 6/7/2013	EW-6-090613 9/6/2013	EW-6-121313 12/13/2013	EW-6-030714 3/7/2014	EW-6-061314 6/13/2014	EW-7-020309 2/3/2009	EW-7-021109 2/11/2009	EW-7-021809 2/18/2009	EW-7-022609 2/26/2009	EW-7-030609 3/6/2009	EW-7-041409 4/14/2009	EW-7-051509 5/15/2009	EW-7-061109 6/11/2009
1,1,1-Trichloroethane	0.55 UD	80	230	33	0.27 U	75	0.55 U	0.55 U	0.55 U	4.3	71	18	13	26	5600	8500	7800	8200	8100	1600	3600	2600
1,1,1,2-Tetrachloroethane			25 U		1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.44 U	1.2 U	1.2 U	1.2 U								
1,1,2,2-Tetrachloroethane	0.69 UD	6.9 U	14 U	3.4 U	0.34 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.24 U	0.69 U	0.69 U	0.69 U	6.8 U	1.4 U	1.7 U	1.7 U	1.7 U	6.8 U	3.4 U	3.4 U
1,1,2-Trichloroethane	0.55 UD	5.5 U	11 U	2.7 U	0.27 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.19 U	0.55 U	0.55 U	0.55 U	5.4 U	1.1 U	1.4 U	1.4 U	1.4 U	5.4 U	2.7 U	2.7 U
1,1-Dichloroethane	0.40 UD	12	27	6.4	0.20 U	9.6	0.40 U	0.40 U	0.40 U	0.78	13	2.7	2.2	4.7	1700	1800	1600	2100	1700	590	1000	1100
1,1-Dichloroethene	0.40 UD	4.0 U	7.9 U	2.0 U	0.20 U	0.84	0.40 U	0.40 U	0.40 U	0.40 U	1.1	0.40 U	0.40 U	0.40 U	14	15	8.5	9.4	6.6	4.0 U	4.2	4.2
1,2,4-Trichlorobenzene	0.74 UD	7.4 U	30 U	7.4 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	0.74 U	0.26 U	0.74 U	0.74 U	0.74 U	7.4 U	1.5 U	1.9 U	1.9 U	1.9 U	7.4 U	3.7 U	3.7 U
1,2,4-Trimethylbenzene	0.49 UD	4.9 U	9.8 U	2.5 U	0.49 U	0.26	0.60	0.49 U	0.49 U	0.49 U	0.59	0.49 U	0.49 U	0.49 U	5.0 U	1.0 U	1.3 U	1.3 U	1.3 U	5.0 U	2.5 U	2.5 U
1,2-Dibromoethane (EDB)	0.77 UD	7.7 U	15 U	3.8 U	0.38 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.27 U	0.77 U	0.77 U	0.77 U	7.6 U	1.6 U	1.9 U	1.9 U	1.9 U	7.6 U	3.8 U	3.8 U
1,2-Dichlorobenzene	0.60 UD	6.0 U	12 U	3.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	6.0 U	1.2 U	1.5 U	1.5 U	1.5 U	6.0 U	3.0 U	3.0 U
1,2-Dichloroethane	0.40 UD	4.0 U	8.1 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	0.40 U	0.40 U	4.0 U	0.80 U	1.0 U	1.0 U	1.0 U	4.0 U	2.0 U	2.0 U
1,2-Dichloropropane	0.46 UD	4.6 U	9.2 U	2.3 U	0.23 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	0.46 U	0.46 U	0.46 U	4.6 U	0.92 U	1.2 U	1.2 U	1.2 U	4.6 U	2.3 U	2.3 U
1,2-Dichlorotetrafluoroethane															7.0 U	1.4 U	1.8 U	1.8 U	1.8 U	7.0 U	3.5 U	3.5 U
1,3,5-Trimethylbenzene	0.49 UD	4.9 U	9.8 U	2.5 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.30	0.49 U	0.49 U	0.49 U	5.0 U	1.0 U	1.3 U	1.3 U	1.3 U	5.0 U	2.5 U	2.5 U
1,3-Butadiene	0.22 UD	2.2 U	4.4 U	1.1 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.078 U	0.22 U	0.22 U	0.22 U	2.2 U	0.44 U	0.55 U	0.55 U	0.55 U	2.2 U	1.1 U	1.1 U
1,3-Dichlorobenzene	0.60 UD	6.0 U	12 U	3.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	6.0 U	1.2 U	1.5 U	1.5 U	1.5 U	6.0 U	3.0 U	3.0 U
1,4-Dichlorobenzene	0.60 UD	6.0 U	12 U	3.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	6.0 U	1.2 U	1.5 U	1.5 U	1.5 U	6.0 U	3.0 U	3.0 U
1,4-Dioxane			7.2 U																			
2-Butanone	1.9 BD	59 U	240 U	13	2.1	200	3.7	0.84	1.9	120	95	4.0	4.0	6.8	8.7	12	7.3	8.5	5.5	4.5	7.1	16
2-Hexanone	0.41 UD	82 U	8.2 U	2.0 U	0.41 U	0.70	0.52	0.41 U	0.41 U	0.41 U	0.38	0.41 U	0.41 U	0.41 U	4.0 U	0.80 U	1.0 U	1.0 U	1.0 U	4.0 U	2.0 U	2.0 U
4-Ethyltoluene	0.49 UD	4.9 U	9.8 U	2.5 U	0.49 U	0.49 U	0.28	0.49 U	0.49 U	0.49 U	0.17 U	0.49 U	0.49 U	0.49 U	5.0 U	1.0 U	1.3 U	1.3 U	1.3 U	5.0 U	2.5 U	2.5 U
4-Methyl-2-pentanone	0.41 UD	4.1 U	8.2 U	2.0 U	0.41 U	0.35	0.41 U	0.41 U	0.41 U	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	4.0 U	0.80 U	1.0 U	1.0 U	1.0 U	4.0 U	2.0 U	2.0 U
Acetone	15 BD	48 U	190 U	21	9.9	36	25	6.4	6.3	42	35	17	16	27	580	38	58	30	24	15	24	24
Benzene	1.1 D	3.2 U	6.4 U	1.6 U	0.31	1.2	0.77	0.39	0.40	0.32 U	1.2	0.42	0.96	0.73	3.2 U	3.9	4.5	1.9	2.3	3.2 U	2.6	2.8
Benzyl chloride	0.52 UD	5.2 U	10 U	2.6 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.18 U	0.52 U	0.52 U	0.52 U	5.2 U	1.1 U	1.3 U	1.3 U	1.3 U	5.2 U	2.6 U	2.6 U
Bromodichloromethane	0.67 UD	6.7 U	13 U	3.4 U	0.34 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.24 U	0.67 U	0.67 U	0.67 U	6.6 U	1.4 U	1.7 U	1.7 U	1.7 U	6.6 U	3.3 U	3.3 U
Bromoform	1.0 UD	10 U	21 U	5.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	11 U	2.1 U	2.6 U	2.6 U	2.6 U	11 U	5.1 U	5.1 U
Bromomethane	0.39 UD	3.9 U	7.8 U	1.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.14	0.39 U	0.39 U	0.39 U	3.8 U	0.76 U	0.95 U	0.95 U	0.95 U	3.8 U	1.9 U	1.9 U
Carbon disulfide	0.31 UD	11 D	62 U	7.1	3.1 U	29	3.1 U	3.1 U	3.1 U	0.35	74	5.6	6.3	31	5.7	3.4	2.7	3.7	3.3	3.2 U	3.2	2.7
Carbon tetrachloride	0.63 UD	6.3 UD	13 U	3.1 U	0.39	0.34	0.40	0.63 U	0.23	0.63 U	0.48	0.63 U	0.63 U	0.63 U	6.2 U	1.3 U	1.6 U	1.6 U	1.6 U	6.2 U	3.1 U	3.1 U
Chlorobenzene	0.46 UD	4.6 UD	9.2 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	0.46 U	0.46 U	0.46 U	4.6 U	0.92 U	1.2 U	1.2 U	1.2 U	4.6 U	2.3 U	2.3 U
Chloroethane	0.26 UD	2.6 UD	5.3 U	1.3 U	0.26 U	1.4	0.26 U	0.26 U	0.26 U	0.26 U	1.7	0.26 U	0.26 U	0.67	170	150	88	41	33	7.1	9.6	10
Chloroform	0.49 UD	4.9 UD	9.8 U	1.0	0.36	0.92	0.21	0.49 U	0.49 U	0.49 U	1.7	0.49 U	0.49 U	0.64	4.8 U	1.0	1.2 U	1.3	1.2 U	4.8 U	2.7	2.6
Chloromethane	1.0 D	16 D	45	2.9	1.5	7.8	1.3	1.1	1.2	1.3	35	3.4	1.8	3.3	2.0 U	0.40 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	0.40 UD	4.0 UD	7.9 U	0.83	0.20 U	2.8	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.71	1100	1300	1200	1700	1200	520	1100	1200
cis-1,3-Dichloropropene	0.45 UD	4.5 UD	9.1 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	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 U
Cyclohexane	0.34 UD	3.4 UD	6.9 U	1.7 U	0.34 U	0.34 U	0.49	0.34 U	0.34 U	0.34 U	0.12 U	0.34 U	0.34 U	0.34 U	3.4 U	5.6	5.0	3.7	2.1	3.4 U	1.7 U	1.7 U
Dibromochloromethane	0.85 UD	8.5 UD	17 U	4.3 U	0.43 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.30 U	0.85 U	0.85 U	0.85 U	8.6 U	1.8 U	2.2 U	2.2 U	2.2 U	8.6 U	4.3 U	4.3 U
Dichlorodifluoromethane	3.6 D	4.9 UD	9.9 U	3.0	2.2	2.9	2.9	2.6	2.5	2.3	1.3	2.6	2.3	2.0	5.0 U	2.5	3.2	770	2.6	5.0 U	2.9	3.3
Ethanol	11 D	38 UD	150 U	38 U	29	5.8	68	8.6	3.5	13	14	4.3	7.5 U	6.9	350	26	29	17	15	3.8 U	19	18
Ethyl acetate	0.36 UD	3.6 UD	7.2 U	1.8 U	0.52	1.2	24	0.36 U	0.36 U	0.94	0.13 U	0.36 U	0.36 U	0.36 U	7.3 U	0.72 U	0.90 U	1.9 U	0.90 U	7.3 U	1.8 U	1.8 U
Ethylbenzene	0.43 UD	4.3 UD	8.7 U	2.2 U	0.43 U	0.18	0.66	0.43 U	0.43 U	0.43 U	0.38	0.43 U	0.43 U	0.43 U	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 U
Hexachlorobutadiene	1.1 UD	11 UD	21 U	5.3 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.37 U	1.1 U	1.1 U	1.1 U	22 U	4.3 U	5.4 U	5.4 U	5.4 U	22 U	11 U	11 U
Hexane	1.3 D	3.5 UD	280 U	70 U	1.4	1.2	7.6	14. U	0.60	1.6	0.89	14. U	14 U	14 U	10	10	7.6	5.5	3.1	3.6 U	4.0	2.1
Isopropyl alcohol	2.9 D	25 UD	200 U	49 U	1.3	9.8 U	7.6	0.69	9.8 U	9.8 U	3.4 U	9.8 U	9.8 U	1.1	210	18	21	12	8.5	5.0 U	12	17
m,p-Xylene	0.94 D	8.7 UD	17 U	4.3 U	0.87 U	0.24	1.9	0.87 U	0.87 U	0.87 U	0.76	0.87 U	0.87 U	0.52	8.6 U	1.8 U	2.2 U	2.2 U	2.2 U	8.6 U	4.3 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 - Center Small Retail Space														Extraction Well - Western Small Retail Space							
	EW-6-021711 2/17/2011	EW-6-060211 6/2/2011	EW-6-091511 9/15/2011	EW-6-120811 12/8/2011	EW-6-030812 3/8/2012	EW-6-061412 6/14/2012	EW-6-0913412 9/13/2012	EW-6-010313 1/3/2013	EW-6-031513 3/15/2013	EW-6-060713 6/7/2013	EW-6-090613 9/6/2013	EW-6-121313 12/13/2013	EW-6-030714 3/7/2014	EW-6-061314 6/13/2014	EW-7-020309 2/3/2009	EW-7-021109 2/11/2009	EW-7-021809 2/18/2009	EW-7-022609 2/26/2009	EW-7-030609 3/6/2009	EW-7-041409 4/14/2009	EW-7-051509 5/15/2009	EW-7-061109 6/11/2009
Methyl methacrylate	0.41 UD	4.1 UD	8.2 U	2.0 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U								
Methylene chloride	2.8 D	6.9 UD	69 U	3.6	4.8	2.5	14	2.1	1.4	3.8	0.84	0.99	0.89	1.2	9.3	2.6	8.0	1.8	1.8 U	20	29	16
Methyl-t-butyl ether	0.36 UD	3.6 UD	7.2 U	1.8 U	0.36 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	3.6 U	3.5	2.9	4.9	3.1	3.6 U	1.8 U	1.8 U
n-Heptane	0.41 UD	4.1 UD	8.2 U	2.0 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.45	0.41 U	0.41 U	0.41 U	4.0 U	1.4	1.0 U	1.0 U	1.0 U	4.0 U	2.0 U	2.0 U
o-Xylene	0.43 UD	4.3 UD	8.7 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	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 U
Propylene (Propene)	1.7 UD	17 UD	140 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	1.0	3.5 U	160	110	0.87 U	0.45 U	3.5 U	0.90 U	0.90 U
Styrene	0.43 UD	4.3 UD	8.5 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	4.2 U	0.84 U	1.1 U	1.1 U	1.1 U	4.2 U	2.1 U	2.1 U
Tetrachloroethene	1.2 D	6.8 UD	17	2.4	0.76	4.6	0.88	0.68 U	0.68 U	0.68 U	8.3	1.5	1.1	3.3	66	69	56	84	69	40	140	230
Tetrahydrofuran	0.29 UD	13000 D	32000	3900	3.7	8100	0.29 U	0.29 U	0.27	58	35000	650	54	1200	41	23	12	14	7.5	3.0 U	5.6	15
Toluene	2.4 D	3.8 UD	9.8	1.9 U	0.36	0.70	5.3	0.46	0.31	0.50	2.5	0.38 U	1.0	1.0	14	2.9	3.6	1.7	0.95 U	3.8 U	1.9 U	1.9 U
trans-1,2-Dichloroethene	0.40 UD	4.0 UD	7.9 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	0.40 U	0.40 U	150	140	90	90	80	48	120	140
trans-1,3-Dichloropropene	0.45 UD	4.5 UD	9.1 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	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 U
Trichloroethene	0.54 UD	190 D	390	66	0.27 U	180	0.21	0.54 U	0.54 U	5.7	150	36	28	60	230	210	180	180	200	110	330	420
Trichlorofluoromethane	1.7 D	11 D	34	11	1.0	15	2.0	1.9	1.3	4.7	6.2	12	6.9	14	1800	1400	900	690	640	190	310	660
Trichlorotrifluoroethane	0.86 D	7.7 UD	15 U	3.8 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	7.6 U	1.6 U	1.9 U	1.9 U	1.9 U	7.6 U	3.8 U	3.8 U
Vinyl acetate	0.35 UD	70 UD	7.0 U	1.8 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	7.0 U	2.5 U	7.0 U	7.0 U	7.0 U	15 U	0.72 U	0.90 U	3.6 U	0.90 U	15 U	1.8 U	1.8 U
Vinyl chloride	0.26 UD	2.6 UD	5.1 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	0.65	280	370	180	48	21	2.6 U	2.7	3.2

**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 - Western Small Retail Space																				
	EW-7-091709 9/17/2009	EW-7-122909 12/29/2009	EW-7-032610 3/26/2010	EW-7-070110 7/1/2010	EW-7-091610 9/16/2010	EW-7-120710 12/7/2010	EW-7-021711 2/17/2011	EW-7-060211 6/2/2011	EW-7-091511 9/15/2011	EW-7-120811 12/8/2011	EW-7-030812 3/8/2012	EW-7-061412 6/14/2012	EW-7-091312 9/13/2012	EW-7-010313 1/3/2013	EW-7-031513 3/15/2013	EW-7-060713 6/7/2013	EW-7-090613 9/6/2013	EW-7-100313 10/3/2013	EW-7-121313 12/13/2013	EW-7-030714 3/7/2014	EW-7-061314 6/13/2014
1,1,1-Trichloroethane	1400	340	51	250	290	160 D	110 D	5.5 UD	110	66	11	47	95	0.55 U	3.1	15	76	52	41	30	15
1,1,1,2-Tetrachloroethane									2.5 U		12 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.44 U	1.2 U	1.2 U	1.2 U	1.2 U
1,1,2,2-Tetrachloroethane	3.4 U	3.4 U	0.68 U	0.68 U	0.68 U	0.69 UD	0.69 UD	6.9 UD	1.4 U	0.69 U	3.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.24 U	0.69 U	0.69 U	0.69 U	0.69 U
1,1,2-Trichloroethane	2.7 U	2.7 U	0.54 U	0.54 U	0.54 U	0.55 UD	0.55 UD	5.5 UD	1.1 U	0.55 U	2.7 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.19 U	0.55 U	0.55 U	0.55 U	0.55 U
1,1-Dichloroethane	970	470	85	320	340	220 D	150 D	45 D	150	80	6.4	42	100	0.40 U	2.0	7.0	51	25	12	6.9	5.4
1,1-Dichloroethene	4.5	2.0 U	0.40 U	0.81	0.94	0.63 D	0.40 UD	4.0 UD	0.79 U	0.13	2.0 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.14 U	0.40 U	0.40 U	0.40 U	0.40 U
1,2,4-Trichlorobenzene	3.7 U	7.5 U	1.5 U	0.74 U	0.74 U	0.74 UD	0.74 UD	7.4 UD	3.0 U	1.5 U	15 U	1.5 U	1.5 U	1.5 U	1.5 U	0.74 U	0.26 U	0.74 U	0.74 U	0.74 U	0.74 U
1,2,4-Trimethylbenzene	2.5 U	2.5 U	2.5	0.50 U	0.50 U	0.49 UD	0.49 UD	4.9 UD	0.98 U	0.32	4.9 U	0.32	0.97	0.92	0.30	0.49 U	0.50	0.77	0.58	0.49 U	0.49 U
1,2-Dibromoethane (EDB)	3.8 U	3.8 U	0.76 U	0.76 U	0.76 U	0.77 UD	0.77 UD	7.7 UD	1.5 U	0.77 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.27 U	0.77 U	0.77 U	0.77 U	0.77 U
1,2-Dichlorobenzene	3.0 U	3.0 U	0.60 U	0.60 U	0.60 U	0.60 UD	0.60 UD	6.0 UD	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	0.60 U
1,2-Dichloroethane	2.0 U	2.0 U	0.40 U	0.40 U	0.40 U	0.40 UD	0.40 UD	4.0 UD	0.81 U	0.40 U	2.0 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.14 U	0.40 U	0.40 U	0.40 U	0.40 U
1,2-Dichloropropane	2.3 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 UD	0.46 UD	4.6 UD	0.92 U	0.46 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane	3.5 U	3.5 U	0.70 U	0.70 U	0.70 U																
1,3,5-Trimethylbenzene	2.5 U	2.5 U	1.1	0.50 U	0.50 U	0.49 UD	0.49 UD	4.9 UD	0.98 U	0.49 U	4.9 U	0.49 U	0.50	0.49 U	0.49 U	0.49 U	0.24	0.32	0.49 U	0.49 U	0.49 U
1,3-Butadiene	2.3 U	1.1 U	0.22 U	0.22 U	0.22 U	0.22 UD	0.22 UD	2.2 UD	0.44 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.078 U	0.22 U	0.22 U	0.22 U	0.22 U
1,3-Dichlorobenzene	3.0 U	3.0 U	0.60 U	0.60 U	0.60 U	0.60 UD	0.60 UD	6.0 UD	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	0.60 U
1,4-Dichlorobenzene	3.0 U	3.0 U	0.60 U	0.60 U	0.60 U	0.60 UD	0.60 UD	6.0 UD	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	0.60 U
1,4-Dioxane									0.72 U												
2-Butanone	4.9	3.5	31	3.8	1.8	4.1 D	5.3 BD	59 UD	24 U	6.2	100	14	3.6	18	210	99	12	8.5	5.9	3.8	9.3
2-Hexanone	2.0 U	2.0 U	0.40 U	1.0	0.40 U	0.41 UD	0.41 UD	82 UD	0.82 U	0.14	4.1 U	0.28	0.64	0.41 U	0.39	0.41 U	0.51	0.41 U	0.41 U	0.41 U	0.49
4-Ethyltoluene	2.5 U	2.5 U	0.50 U	0.50 U	0.50 U	0.49 UD	0.49 UD	4.9 UD	0.98 U	0.49 U	4.9 U	0.49 U	0.21	0.49 U	0.49 U	0.49 U	0.17 U	0.27	0.49 U	0.49 U	0.49 U
4-Methyl-2-pentanone	2.0 U	2.0 U	0.40 U	0.40 U	0.40 U	0.41 UD	0.41 UD	4.1 UD	0.82 U	0.13	4.1 U	1.6	0.31	0.55	0.41 U	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	0.41 U
Acetone	7.9	49	26	25	12	42 BD	35 BD	48 UD	23	12	46	31	17	23	55	28	24	35	14	6.9	19
Benzene	3.0	2.2	1.5	1.7	2.1	1.4 D	1.6 D	3.2 UD	2.5	1.6	3.2 U	1.5	1.2	0.89	0.54	0.61	1.9	1.9	0.86	1.3	1.1
Benzyl chloride	2.6 U	2.6 U	0.52 U	0.52 U	0.52 U	0.52 UD	0.52 UD	5.2 UD	1.0 U	0.52 U	5.2 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.18 U	0.52 U	0.52 U	0.52 U	0.52 U
Bromodichloromethane	3.3 U	3.3 U	0.66 U	0.66 U	0.66 U	0.67 UD	0.67 UD	6.7 UD	1.3 U	0.67 U	3.4 U	3.2	0.67 U	0.67 U	0.67 U	0.67 U	0.24 U	0.67 U	0.67 U	0.67 U	0.67 U
Bromoform	5.1 U	5.1 U	1.1 U	1.1 U	1.1 U	1.0 UD	1.0 UD	10 UD	2.1 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	1.9 U	1.9 U	0.38 U	0.38 U	0.38 U	0.39 UD	0.39 UD	3.9 UD	0.78 U	0.39 U	3.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.14 U	0.39 U	0.39 U	0.39 U	0.39 U
Carbon disulfide	2.1	1.6 U	1.5	0.93	0.90	0.78 D	0.31 UD	3.1 UD	6.2 U	3.1 U	31 U	0.41	3.1 U	3.1 U	0.57	7.4	0.42	3.1 U	4.6	7.4	12
Carbon tetrachloride	3.1 U	3.1 U	0.62 U	0.62 U	0.62 U	0.63 UD	0.63 UD	6.3 UD	1.3 U	0.34	3.1 U	0.30	0.33	0.78	0.47	0.63 U	0.38	0.40	0.63 U	0.63 U	0.63 U
Chlorobenzene	2.3 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 UD	0.46 UD	4.6 UD	0.92 U	0.46 U	4.6 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	0.46 U	0.46 U	0.46 U	0.46 U
Chloroethane	8.1	6.5	1.6	2.2	3.6	2.0 D	0.26 UD	2.6 UD	1.9	0.26 U	2.6 U	0.82	0.26 U	0.26 U	0.26 U	0.92	0.093 U	0.61	0.63	1.6	1.4
Chloroform	4.6	2.7	1.1	4.2	4.4	3.9 D	3.0 D	4.9 UD	5.0	3.8	2.4 U	3.1	4.1	0.49 U	0.36	2.0	6.6	2.7	2.6	2.0	2.4
Chloromethane	1.0 U	1.0 U	0.20 U	0.20 U	0.20 U	0.21 UD	0.21 UD	2.1 UD	0.41 U	0.21 U	2.1 U	0.21 U	0.21 U	1.4	0.21 U	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	0.41 U
cis-1,2-Dichloroethene	1300	680	120	660	490	350 D	250 D	65 D	210	99	5.1	53	120	0.40 U	1.4	5.1	54	24	6.0	5.0	4.7
cis-1,3-Dichloropropene	2.2 U	2.2 U	0.44 U	0.44 U	0.44 U	0.45 UD	0.45 UD	4.5 UD	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
Cyclohexane	1.7 U	1.7 U	0.34 U	0.34 U	0.41	0.34 UD	0.34 UD	3.4 UD	0.69 U	0.34 U	3.4 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.12 U	0.34 U	0.34 U	0.34 U	0.34 U
Dibromochloromethane	4.3 U	4.3 U	0.86 U	0.86 U	0.86 U	0.85 UD	0.85 UD	8.5 UD	1.7 U	0.85 U	4.3 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.30 U	0.85 U	0.85 U	0.85 U	0.85 U
Dichlorodifluoromethane	2.5 U	2.5 U	1.5	2.2	1.5	2.1 D	0.49 UD	4.9 UD	2.7	2.6	4.9 U	3.0	0.49 U	2.7	2.5	2.0	1.5	0.49 U	2.4	2.0	1.9
Ethanol	12	18	37	31	1.9 U	1.9 UD	18 D	38 UD	22	23	160	31	140	1200	27	22	14	30	12	13	32
Ethyl acetate	1.8 U	1.8 U	0.36 U	0.36 U	0.36 U	0.36 UD	0.36 UD	3.6 UD	0.72 U	0.36 U	11	0.63	0.36 U	0.36 U	3.0	3.6	0.13 U	0.36 U	0.94	0.36 U	0.36 U
Ethylbenzene	2.2 U	2.2 U	0.57	0.44 U	0.44 U	0.43 UD	0.43 UD	4.3 UD	0.87 U	0.26	4.3 U	0.21	0.47	0.44	0.13	0.43 U	0.44	0.56	0.43 U	0.43 U	0.43 U
Hexachlorobutadiene	5.3 U	11 U	2.2 U	1.1 U	1.1 U	1.1 UD	1.1 UD	11 UD	2.1 U	1.1 U	11 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.37 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	1.8 U	1.8 U	0.36 U	0.97	0.71 U	0.87 D	0.35 UD	3.5 UD	28 U	14 U	4.0	0.55	14 U	1.5	3.5	0.78	0.90	0.90	14 U	14 U	14 U
Isopropyl alcohol	2.5 U	2.5 U	80	2.2	2.6	2.8 D	0.25 UD	25 UD	30	9.8 U	98 U	14	9.8 U	12	9.8 U	9.8 U	3.4 U	17	13	9.8 U	1.8
m,p-Xylene	4.3 U	4.3 U	1.4	0.93	1.0	0.87 UD	0.87 UD	8.7 UD	1.7 U	0.82	8.7 U	0.45	1.3	1.5	0.33	0.50	1.0	1.5	0.87 U	0.49	0.90



**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 - Western Small Retail Space																				
	EW-7-091709 9/17/2009	EW-7-122909 12/29/2009	EW-7-032610 3/26/2010	EW-7-070110 7/1/2010	EW-7-091610 9/16/2010	EW-7-120710 12/7/2010	EW-7-021711 2/17/2011	EW-7-060211 6/2/2011	EW-7-091511 9/15/2011	EW-7-120811 12/8/2011	EW-7-030812 3/8/2012	EW-7-061412 6/14/2012	EW-7-091312 9/13/2012	EW-7-010313 1/3/2013	EW-7-031513 3/15/2013	EW-7-060713 6/7/2013	EW-7-090613 9/6/2013	EW-7-100313 10/3/2013	EW-7-121313 12/13/2013	EW-7-030714 3/7/2014	EW-7-061314 6/13/2014
Methyl methacrylate							0.41 UD	4.1 UD	0.82 U	0.41 U	4.1 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	0.41 U
Methylene chloride	7.0 U	27	1.4 U	2.4	0.81	1.9 D	2.4 D	6.9 UD	6.9 U	1.5	33	2.1	5.4	5.6	10	1.5	1.7	1.7	1.1	0.82	0.85
Methyl-t-butyl ether	1.8 U	1.8 U	0.36 U	0.36 U	0.36 U	0.36 UD	0.36 UD	3.6 UD	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
n-Heptane	2.0 U	2.0 U	0.40 U	0.40 U	0.40 U	0.41 UD	0.41 UD	4.1 UD	0.82 U	0.22	4.1 U	0.49	0.75	0.41 U	0.41 U	0.41 U	0.59	1.1	0.41 U	0.44	2.2
o-Xylene	2.2 U	2.2 U	0.65	0.44 U	0.44 U	0.43 UD	0.43 UD	4.3 UD	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
Propylene (Propene)	3.5 U	3.5 U	0.69 U	1.8 U	0.69 U	0.69 UD	1.7 UD	17 UD	14 U	6.9 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	1.1
Styrene	2.1 U	2.1 U	0.42 U	0.67	0.47	0.43 UD	0.43 UD	4.3 UD	0.85 U	0.49	4.3 U	0.66	0.41	0.43 U	0.14	0.43 U	0.41	0.45	0.43 U	0.43 U	0.45
Tetrachloroethene	410	130	74	510	610	190 D	110 D	120 D	450	170	5.6	130	200	1.3	3.0	100	410	150	140	81	110
Tetrahydrofuran	4.1	1.5 U	2800	0.70	18	6.1 D	2.7 D	3900 D	7.9	9.9	1000	13	1.1	8.2	120	2000	10	4.6	2100	1400	2100
Toluene	1.9 U	1.9 U	5.4	4.8	2.2	0.47 D	0.88 D	3.8 UD	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
trans-1,2-Dichloroethene	150	84	22	120	110	78 D	58 D	4.0 UD	82	54	3.8	37	45	0.40 U	2.1	7.1	64	32	13	9.2	7.7
trans-1,3-Dichloropropene	2.2 U	2.2 U	0.44 U	0.44 U	0.44 U	0.45 UD	0.45 UD	4.5 UD	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
Trichloroethene	920	420	190	690	730	440 D	310 D	260 D	680	310	53	320	450	1.1	17	170	740	350	280	210	190
Trichlorofluoromethane	1400	620	210	690	700	530 D	740 D	330 D	2500	1000	180	1300	2000	3.5	91	280	1500	990	1100	690	300
Trichlorotrifluoroethane	3.8 U	3.8 U	0.76 U	0.76 U	0.76 U	0.89 D	0.77 UD	7.7 UD	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
Vinyl acetate	7.1 U	3.6 U	0.71 U	0.36 U	0.71 U	0.70 UD	0.35 UD	70 UD	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 U
Vinyl chloride	1.3 U	1.6	1.0	0.26 U	1.6	0.41 D	0.26 UD	2.6 UD	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

**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> )	CT IACTIND 2003 (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
1,1,1-Trichloroethane	500	48	0.92	0.27 U	0.27 U	0.27 U	0.27 U	0.98	0.27 U	0.27 U	0.27 U	0.27 U	0.38	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,1,2-Tetrachloroethane	1.1																		0.62 U
1,1,2,2-Tetrachloroethane	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 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-Trichloroethane	12	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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-Dichloroethane	430	1.8	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
1,1-Dichloroethene	20	0.58	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
1,2,4-Trichlorobenzene	NA	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U
1,2,4-Trimethylbenzene	52	0.25 U	0.32	0.33	0.36	0.25 U	0.25 U	0.20	0.25 U	0.35	0.25 U	0.25 U	0.25 U	0.25 U	0.73	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dibromoethane (EDB)	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 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-Dichlorobenzene	410	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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-Dichloroethane	0.31	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
1,2-Dichloropropane	0.42	0.23 U	0.23 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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.35 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				
1,3,5-Trimethylbenzene	52	0.25 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	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	NA	0.11 U	0.11 U	0.11 U	0.25	0.11 U	0.11 U	0.080 U	0.11 U	0.11 U	0.23 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	410	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	24	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	NA															0.18 U			0.18 U
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 B	3.6	5.9 U
2-Hexanone	NA	0.20 U	0.48	0.38	0.27	0.20 U	0.20 U	0.47	0.45	1.1	0.48	0.20 U	0.23	0.44	0.20 U	0.20 U	0.20 U	4.1 U	0.20 U
4-Ethyltoluene	NA	0.25 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	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	200	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.18	0.20 U	0.68	0.23	0.20 U	0.20 U	0.20 U	1.1	0.20 U	0.20 U	0.31	0.20 U
Acetone	500	32	11	21	20	9.5	6.5	14	14	46	16	15	11	18	17	6.4 B	9.5 B	24 B	15
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	0.16 U	1.1	0.26	1.1	0.33	0.29
Benzyl chloride	NA	0.26 U	0.26 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	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.46	0.33 U	0.33 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	0.33 U	0.34 U	0.34 U	0.34 U	0.34 U
Bromoform	7.3	0.51 U	0.51 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	0.51 U	0.52 U	0.52 U	0.52 U	0.52 U
Bromomethane	NA	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.23	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	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.27	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	1.6 U
Carbon tetrachloride	0.54	0.33	0.44	0.50	0.55 [a]	0.47	0.61 [a]	0.44	0.64 [a]	0.46	0.39	0.41	0.48	0.53	0.44	0.54	0.6 [a]	0.59 [a]	0.48
Chlorobenzene	200	0.23 U	0.23 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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	500	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
Chloroform	0.5	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.55	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	80	1.1	1.0	1.5	1.4	1.1	1.1	1.1	1.0	1.4	1.0	2.0	1.2	1.0	1.0	0.76	0.96	1.1	1.3
cis-1,2-Dichloroethene	100	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
cis-1,3-Dichloropropene	2.9	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
Cyclohexane	NA	0.17 U	0.17 U	0.38	0.41	0.17 U	0.17 U	0.12 U	0.17 U	0.40	0.17 U	0.17 U	0.17 U	0.17 U	0.45	0.17 U	0.17 U	0.46	0.17 U
Dibromochloromethane	NA	0.43 U	0.43 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	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
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	2.0
Ethanol	NA	590	12	23	140	85	32	41	180	500	62	51	25	58	150	2.4	14	7.7	7.9
Ethyl acetate	NA	0.75	0.37 U	0.18 U	0.18 U	0.37 U	0.18 U	0.26 U	0.18 U	0.31	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	290	0.22 U	0.25	0.33	0.43	0.22 U	0.22 U	0.24	0.22 U	0.30	0.23	0.22 U	0.22 U	0.44	0.91	0.22 U	0.30	0.36	0.22 U
Hexachlorobutadiene	NA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U	1.1 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
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	1.3	1.7	7.0 U
Isopropyl alcohol	NA	3.8	3.5	580	2.9	3.0	1.3	1.7	2.0	19	3.5	3.8	3.8	1.9	8.2	0.12 U	1.7	1.2 U	6.4
m,p-Xylene	500	0.60	0.74	0.91	1.2	0.43 U	0.43 U	0.68	0.51	0.88	0.59	0.43 U	0.46	1.2	2.4	0.43 U	0.85	0.57	0.53

**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> )	CT IACTIND 2003 (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	NA															0.20 U	0.20 U	0.20 U	0.20 U
Methylene chloride	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
Methyl-t-butyl ether	190	0.18 U	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
n-Heptane	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	2.1	0.20 U	0.33	0.20 U	0.20 U
o-Xylene	500	0.23	0.27	0.35	0.47	0.22 U	0.22 U	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
Propylene (Propene)	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	0.21 U	0.15 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	0.39	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	0.15 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	0.22 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
Trichloroethene	1	<b>5.5</b>	0.39	0.27 U	0.27 U	0.27 U	0.27 U	0.22	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	1.5	6.3	1.3	1.7	1.4	1.7
Trichlorotrifluoroethane	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	0.55	0.43	0.52	0.66	0.69	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	0.18 U	0.36 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 (ug/m <sup>3</sup> )	Indoor Air - Eastern Small Retail Space											Indoor Air - Center Small Retail Space										
	IA-5-120811 12/8/2011	IA-5-030812 3/8/2012	IA-5-061412 6/14/2012	IA-5-091312 9/13/2012	IA-5-010313 1/3/2013	IA-5-031513 3/15/2013	IA-5-060713 6/7/2013	IA-5-090613 9/6/2013	IA-5-121313 12/13/2013	IA-5-030714 3/7/2014	IA-5-061314 6/13/2014	IA-6-011609 1/16/2009	IA-6-020309 2/3/2009	IA-6-021109 2/11/2009	IA-6-021809 2/18/2009	IA-6-022609 2/26/2009	IA-6-030609 3/6/2009	IA-6-041409 4/14/2009	IA-6-051509 5/15/2009	IA-6-061109 6/11/2009	IA-6-091709 9/17/2009	IA-6-122909 12/29/2009
1,1,1-Trichloroethane	0.15	0.082 U	0.065	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	110	3.9	0.27 U	0.29	0.27 U	0.27 U	1.6	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											
1,1,2,2-Tetrachloroethane	<b>0.16</b>	0.10 U	0.21 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	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	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	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	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	3.9	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
1,1-Dichloroethene	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	1.2	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
1,2,4-Trichlorobenzene	22	0.45 U	0.45 U	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.75 U
1,2,4-Trimethylbenzene	1.3	0.15 U	0.16	0.29	0.17 U	0.072	0.21	0.27	0.17 U	0.69	0.23	0.75	0.32	0.29	1.5	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.34	0.25 U
1,2-Dibromoethane (EDB)	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	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U
1,2-Dichloroethane	0.066	0.061 U	0.044	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	0.14 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	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	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane												0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.39	0.15 U	0.077	0.11	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.19	0.17 U	0.25 U	0.25 U	0.25 U	0.38	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.066 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	0.58	0.078 U	0.11 U	0.11 U	0.11 U	1.1	0.11 U	0.11 U	0.080 U	0.11 U	0.11 U	0.23 U	0.11 U
1,3-Dichlorobenzene	0.076	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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dichlorobenzene	0.37	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	0.30 U	0.30 U	0.30 U	0.41	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane																						
2-Butanone	0.98	2.0	0.94	2.3	1.3	1.3	3.2	2.4	2.2	1.8	3.7	120	10	3.2	2.9	2.4	2.3	1.0	2.5	4.1	2.4	1.8
2-Hexanone	0.13	0.32	0.081	0.17	0.16	0.16	0.48	0.44	0.14 U	0.32	0.52	0.20 U	0.42	0.37	0.34	0.20 U	0.37	0.14 U	0.62	0.72	0.70	0.20 U
4-Ethyltoluene	0.25	0.15 U	0.053	0.097	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.22	0.17 U	0.25 U	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
4-Methyl-2-pentanone	0.13	0.18	0.34	0.22	0.14 U	0.14 U	0.19	0.14 U	0.14 U	0.24	0.35	0.20 U	0.20 U	0.20 U	0.36	0.20 U	0.20 U	0.14 U	0.34	0.70	0.29	0.20 U
Acetone	6.6	11	13	13	9.0	9.7	24	19	40	12	25	44	14	14	25	11	8.5	6.1	11	28	20	14
Benzene	0.38	0.34	0.20	0.53	0.53	0.80	0.27	0.68	0.55	2.9	0.55	1.0	0.60	0.98	<b>4.1 [a]</b>	0.41	0.70	0.59	0.47	0.43	0.31	0.40
Benzyl chloride	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	0.26 U	0.26 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
Bromodichloromethane	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	0.33 U	0.33 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
Bromoform	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	0.51 U	0.51 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
Bromomethane	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	0.19 U	0.19 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
Carbon disulfide	0.93 U	0.93 U	0.93 U	0.11	1.1 U	1.1 U	1.1 U	0.13	1.1 U	1.1 U	1.1 U	0.16 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
Carbon tetrachloride	0.49	0.46	0.42	0.38	<b>0.58 [a]</b>	0.37	<b>0.59</b>	0.47	0.50	0.43	0.45	0.39	0.42	0.52	<b>0.59 [a]</b>	0.47	<b>0.6 [a]</b>	0.42	<b>0.77 [a]</b>	0.45	0.42	0.40
Chlorobenzene	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	0.23 U	0.23 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
Chloroethane	0.079 U	0.079 U	0.079 U	0.059	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	0.13 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.49	0.073 U	0.14	0.17	0.17 U	0.069	0.17 U	0.17	0.17 U	0.17 U	0.17 U	0.24 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
Chloromethane	1.0	1.1	1.4	1.2	1.0	1.2	1.5	1.2	1.3	1.3	1.2	1.3	0.90	1.4	1.5	1.0	1.1	1.1	1.1	1.9	0.97	1.8
cis-1,2-Dichloroethene	0.18	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.18	0.14 U	0.14 U	0.14 U	0.40	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
cis-1,3-Dichloropropene	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	0.22 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
Cyclohexane	0.10 U	0.10 U	0.12	0.21	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.40	0.12 U	0.17 U	0.17 U	0.25	0.91	0.17 U	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	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	0.3 U	0.43 U	0.43 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
Dichlorodifluoromethane	2.6	2.0	2.9	2.8	2.8	1.6	3.4	1.9	2.5	1.3	2.2	2.0	2.1	2.6	2.8	2.6	2.6	2.0	2.7	2.5	2.2	1.9
Ethanol	5.4	14	43	11	3.9	1.9	12	15	4.5	18	20	41	23	12	40	13	12	8.6	51	31	12	10
Ethyl acetate	0.11 U	0.48	0.21	0.66	0.59	0.13 U	1.5	0.29	0.83	0.17	0.43	0.37 U	0.37 U	0.18 U	0.22	0.37 U	0.18 U	0.26 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	1.2	0.13 U	0.16	0.31	0.15	0.091	0.15 U	0.26	0.15 U	0.65	0.3	0.29	0.25	0.33	1.6	0.22 U	0.22 U	0.21	0.22 U	0.24	0.23	0.22 U
Hexachlorobutadiene	0.17	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	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U	1.1 U
Hexane	0.36	0.48	0.57	1.2	0.95	1.1	1.4	0.75	0.46	1.4	0.56	1.2	0.78	0.70	2.6	0.33	0.40	0.63	0.38	0.68	0.45	0.18 U
Isopropyl alcohol	2.9 U	2.9 U	2.9 U	3.3	0.75	3.4 U	3.4 U	3.4 U	3.4 U	2.4	6.5	4.7	6.6	3.2	4.9	1.7	1.6	0.18 U	4.5	22	7.0	1.4
m,p-Xylene	3.0	0.12	0.36	0.97	0.60	0.24	0.49	0.81	0.3	1.9	1.0	0.82	0.72	0.84	4.9	0.43 U	0.43 U	0.51	0.43 U	0.67	0.62	0.43 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 - Eastern Small Retail Space											Indoor Air - Center Small Retail Space										
	IA-5-120811 12/8/2011	IA-5-030812 3/8/2012	IA-5-061412 6/14/2012	IA-5-091312 9/13/2012	IA-5-010313 1/3/2013	IA-5-031513 3/15/2013	IA-5-060713 6/7/2013	IA-5-090613 9/6/2013	IA-5-121313 12/13/2013	IA-5-030714 3/7/2014	IA-5-061314 6/13/2014	IA-6-011609 1/16/2009	IA-6-020309 2/3/2009	IA-6-021109 2/11/2009	IA-6-021809 2/18/2009	IA-6-022609 2/26/2009	IA-6-030609 3/6/2009	IA-6-041409 4/14/2009	IA-6-051509 5/15/2009	IA-6-061109 6/11/2009	IA-6-091709 9/17/2009	IA-6-122909 12/29/2009
Methyl methacrylate	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											
Methylene chloride	1.6	1.6	1.1	2.3	5.2	2.0	3.0	1.1	0.83	0.67	0.73	2.5	5.2	0.59	1.6	0.83	0.69	2.0	2.0	2.6	0.70 U	2.9
Methyl-t-butyl ether	0.039	0.11 U	0.11 U	0.18	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	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
n-Heptane	0.081	0.089	0.18	0.32	0.14 U	0.14 U	0.18	0.46	0.14 U	0.75	0.56	0.27	0.20 U	0.32	1.3	0.20 U	0.20 U	0.21	0.20 U	0.26	0.20 U	0.20 U
o-Xylene	1.0	0.13 U	0.14	0.35	0.19	0.10	0.17	0.33	0.15 U	0.75	0.32	0.36	0.26	0.34	1.8	0.22 U	0.22 U	0.19	0.22 U	0.25	0.23	0.22 U
Propylene (Propene)	2.1 U	2.1 U	2.1 U	1.4	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	1.1	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
Styrene	1.0	0.13 U	0.76	0.24	0.15 U	0.15 U	0.15 U	0.20	0.15 U	0.18	0.15 U	0.21 U	0.21 U	0.21 U	0.28	0.21 U	0.21 U	0.15 U	0.25	0.21 U	0.23	0.21 U
Tetrachloroethene	5.7	0.15	0.15	1.6	0.24 U	0.12	0.24 U	0.24 U	0.24 U	0.39	0.54	1.2	0.34 U	0.45	1.2	0.34 U	0.34 U	0.72	0.34 U	0.34 U	0.34 U	0.34 U
Tetrahydrofuran	0.10	0.088 U	0.10	0.10 U	0.10 U	0.10 U	0.14	0.10 U	0.10 U	0.10 U	0.10 U	77	2.8	0.32	0.15 U	0.15 U	0.15 U	0.22	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	1.9	0.28	0.78	2.0	0.56	0.61	0.95	2.6	0.89	3.8	2.2	1.8	1.3	2.5	11	0.65	0.71	1.3	0.81	2.0	1.1	0.49
trans-1,2-Dichloroethene	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	0.20 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
trans-1,3-Dichloropropene	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	0.22 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
Trichloroethene	0.63	0.081 U	0.045	0.10	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.23	0.19 U	13	1.7	0.27 U	0.34	0.27 U	0.27 U	0.60	0.27 U	0.27 U	0.27 U	0.27 U
Trichlorofluoromethane	1.1	0.98	1.7	1.6	1.8	1.3	2.1	1.6	1.6	1.7	1.4	4.8	1.3	1.7	2.5	1.5	1.7	1.4	1.2	2.2	1.2	1.7
Trichlorotrifluoroethane	0.69	0.46	0.53	0.60	0.61	0.60	1.4	0.63	0.54	0.47	0.58	0.64	0.51	0.48	0.45	0.64	0.48	0.53	0.74	0.63	0.48	0.51
Vinyl acetate	0.11 U	0.21 U	0.55	0.25 U	0.25 U	0.25 U	2.5 U	2.5 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	0.18 U	0.50 U	0.18 U	0.18 U	0.71 U	0.36 U
Vinyl chloride	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	0.090 U	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

**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 3/26/2010	IA-6-070110 7/1/2010	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
1,1,1-Trichloroethane	0.35	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.085	0.082 U	0.072	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							0.62 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
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	0.21 U	0.10 U	0.21 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	0.27 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	0.16 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
1,1-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 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
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 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
1,2,4-Trichlorobenzene	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.45 U	0.45 U	2.8	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U	0.26 U
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.33	0.25 U	0.35	0.25 U	0.25	0.16	0.15 U	0.21	0.17 U	0.17 U	0.076	0.21	0.27	0.17 U	0.55	0.21
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	0.23 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
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	1.7	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	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.056	0.061 U	0.056	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-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.061	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-Dichlorotetrafluoroethane	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	0.059	0.15 U	0.091	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,3-Butadiene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.066 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	0.59	0.078 U
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.13	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-Dioxane							0.18 U											
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
2-Hexanone	0.26	0.20 U	0.20 U	0.20 U	0.22	4.1 U	0.60	0.15	0.12 U	0.20	0.27	0.14 U	0.20	0.14 U	0.48	0.14 U	0.29	0.41
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	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.19	0.17 U
4-Methyl-2-pentanone	0.20 U	0.20 U	0.40	0.20 U	0.20 U	0.28	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
Acetone	6.5	14	13	11 B	14 B	19 B	26	10	7.4	15	18	11	10	20	29	27	12	26
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	0.67
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	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	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	0.24 U	0.24 U	0.24 U	0.24 U
Bromoform	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	0.31 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
Bromomethane	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	0.12 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
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	1.6 U	0.93 U	0.93 U	0.93 U	0.20	1.1 U	1.1 U	1.1 U	0.13	1.1 U	1.1 U	0.23
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
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	0.16 U	0.16 U	0.16 U	0.16 U	0.16 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	0.079 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	0.20
Chloroform	0.24 U	0.36	0.36	0.24 U	0.24 U	0.24 U	0.24 U	0.10	0.073 U	0.24	0.17	0.17 U	0.075	0.17 U	0.19	0.17 U	0.17 U	0.25
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
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	0.098	0.059 U	0.052	0.042	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	0.22 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	0.16 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	0.29	0.17 U	0.10 U	0.10 U	0.10 U	0.20	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.34	0.16
Dibromochloromethane	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	0.30 U	0.30 U	0.30 U	0.3 U
Dichlorodifluoromethane	1.6	2.4	1.6	1.9	3.1	1.8	1.9	2.9	2.0	2.9	2.8	2.7	1.7	3.4	1.9	2.5	1.5	2.1
Ethanol	7.1	18	36	5.9	10	7.7	14	24	41	67	23	8.4	2.9	20	21	6.1	20	38
Ethyl acetate	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.48	0.69	0.31	1.0	0.42	0.34	0.64	0.42	0.13 U	0.17	0.34
Ethylbenzene	0.22 U	0.22 U	0.43	0.22 U	0.45	0.22 U	0.22 U	0.15	0.22	0.71	0.23	0.16	0.11	0.18	0.29	0.15 U	0.56	0.20
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	0.32 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
Hexane	0.22	1.3	0.69	0.39	1.5	0.41	7.0 U	0.41	0.48	0.73	1.0	0.64	0.76	0.83	0.85	0.38	1.2	0.69
Isopropyl alcohol	4.9	1.0	3.2	1.1	2.8	1.2 U	11	2.9 U	2.9 U	2.9 U	6.7	3.4 U	3.4 U	3.4 U	3.4 U	0.85	1.7	8.1
m,p-Xylene	0.51	0.58	1.1	0.43 U	1.2	0.48	0.59	0.45	0.54	0.73	0.38	0.58	0.31	0.54	0.81	0.20	1.6	0.64

**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 3/26/2010	IA-6-070110 7/1/2010	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
Methyl methacrylate				0.20 U	0.20 U	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
Methylene chloride	0.70 U	4.5	0.64	0.94	3.0	1.0	1.7 U	1.5	1.8	1.5	2.2	1.6	1.1	1.3	1.1	0.71	0.64	0.83
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	0.11 U	0.11 U	0.11 U	0.14	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.20 U	1.4	0.47	0.20 U	0.35	0.20 U	0.20	0.11	0.15	0.25	0.31	0.095	0.10	0.14	0.47	0.14 U	0.71	1.1
o-Xylene	0.22 U	0.22 U	0.42	0.22 U	0.40	0.22 U	0.22	0.17	0.13	0.29	0.12	0.18	0.13	0.21	0.32	0.15 U	0.64	0.24
Propylene (Propene)	0.35 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	1.4	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	0.81
Styrene	0.21 U	0.24	0.29	0.21 U	0.21 U	0.27	0.22	0.13	0.13 U	1.2	0.054	0.15 U	0.15 U	0.15 U	0.22	0.15 U	0.16	0.15 U
Tetrachloroethene	0.34 U	0.34 U	0.34 U	0.34 U	1.6	0.34 U	0.58	0.68	0.15	0.57	2.6	0.24 U	0.12	0.24 U	0.24 U	0.24 U	0.24	0.32
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15	0.12	0.088 U	0.088 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.17
Toluene	1.6	1.7	2.6	0.40	2.9	0.93	1.2	1.2	1.4	1.1	1.5	0.56	0.65	1.1	2.6	0.49	3.4	1.3
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	0.12 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
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	0.14 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
Trichloroethene	0.27 U	0.27 U	0.30	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	0.19 U	0.21	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
Trichlorotrifluoroethane	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
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	2.5 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	0.038 U	0.077 U	0.090 U	0.090 U	0.33	0.090 U	0.090 U	0.090 U	0.090 U	0.090 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 011609 1/16/2009	IA-7- 020309 2/3/2009	IA-7- 021109 2/11/2009	IA-7- 021809 2/18/2009	IA-7- 022609 2/26/2009	IA-7- 030609 3/6/2009	IA-7- 041409 4/14/2009	IA-7- 051509 5/15/2009	IA-7- 061109 6/11/2009	IA-7- 091709 9/17/2009	IA-7- 122909 12/29/2009	IA-7- 032610 3/26/2010	IA-7- 070110 7/1/2010	IA-7- 091610 9/16/2010	IA-7- 120710 12/7/2010	IA-7- 021711 2/17/2011	IA-7- 060211 6/2/2011	IA-7- 091511 9/15/2011	IA-7- 120811 12/8/2011	IA-7- 030812 3/8/2012	IA-7- 061412 6/14/2012
1,1,1-Trichloroethane	44	2.4	0.40	1.3	0.27 U	0.27 U	0.87	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	0.069	0.082 U	0.088
1,1,1,2-Tetrachloroethane																		0.62 U	0.37 U	0.37 U	
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 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	0.21 U	0.10 U	0.21 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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	0.16 U	0.082 U	0.16 U
1,1-Dichloroethane	1.3	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	0.12 U	0.061 U	0.12 U
1,1-Dichloroethene	0.52	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	0.12 U	0.059 U	0.12 U
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.45 U	0.45 U	0.17
1,2,4-Trimethylbenzene	0.25 U	0.34	0.34	0.99	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.39	0.25 U	0.35	0.36	0.36	0.25 U	0.25 U	0.56	0.41	0.32	0.36	0.21
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 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	0.23 U	0.12 U	0.23 U
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.18 U	0.18 U	0.18 U
1,2-Dichloroethane	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	0.070	0.061 U	0.051
1,2-Dichloropropane	0.23 U	0.23 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	0.30	0.23 U	0.23 U	<b>0.63</b>	0.23 U	0.14 U	0.069 U	0.14 U	
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 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							
1,3,5-Trimethylbenzene	0.25 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	0.25 U	0.25 U	0.25 U	0.25 U	0.10	0.15	0.083
1,3-Butadiene	0.11 U	0.11 U	0.14	0.97	0.11 U	0.11 U	0.080 U	0.11 U	0.11 U	0.23 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	0.066 U	0.066 U	0.066 U
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.18 U	0.18 U	0.18 U
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.18 U	0.18 U	0.065
1,4-Dioxane																		0.18 U			
2-Butanone	70	6.5	3.9	5.2	2.2	1.3	1.3	2.3	7.3	2.2	0.49	2.1	4.3	1.8	0.42	1.7 B	4.7	5.9 U	2.1	0.97	1.1
2-Hexanone	0.20 U	0.29	0.20 U	0.91	0.20 U	0.20 U	0.14 U	0.53	1.5	0.53	0.20 U	0.20 U	0.82	0.55	0.20 U	0.20 U	1.4 J	0.73	0.12 U	0.081	0.23
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.27	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	0.25 U	0.25 U	0.25 U	0.25 U	0.074	0.097	0.065
4-Methyl-2-pentanone	0.20 U	0.20 U	0.20 U	0.42	0.20 U	0.20 U	0.14 U	0.22	0.79	0.24	0.20 U	0.20 U	0.43	0.61	0.20 U	0.20 U	0.53	0.36	0.15	0.13	1.4
Acetone	29	12	13	32	7.8	6.6	6.5	10	31	22	31	12	41	27	12 B	15 B	48 B	38	17	13	18
Benzene	0.95	0.75	1.1	3.2	0.67	0.73	0.42	0.35	0.52	0.43	0.52	0.53	0.27	0.56	0.45	1.1	0.41	0.34	0.44	0.36	0.20
Benzyl chloride	0.26 U	0.26 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	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.16 U	0.16 U	0.16 U
Bromodichloromethane	0.33 U	0.33 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	0.33 U	0.34 U	0.34 U	0.34 U	0.34 U	0.20 U	0.10 U	0.20 U
Bromoform	0.51 U	0.51 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	0.51 U	0.52 U	0.52 U	0.52 U	0.52 U	0.31 U	0.31 U	0.31 U
Bromomethane	0.19 U	0.19 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	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.12 U	0.12 U	0.12 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.26	0.16 U	0.16 U	0.26	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.27	1.6 U	0.93 U	0.93 U	0.93 U
Carbon tetrachloride	0.32	0.44	0.52	<b>0.56 [a]</b>	0.48	<b>0.6 [a]</b>	0.43	<b>0.65 [a]</b>	0.43	0.42	0.44	0.43	0.50	0.47	0.45	<b>0.56 [a]</b>	<b>0.69 [a]</b>	0.50	0.45	0.46	0.43
Chlorobenzene	0.23 U	0.23 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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.14 U
Chloroethane	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	0.079 U	0.079 U	0.079 U
Chloroform	0.24 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	0.38	0.24 U	0.24 U	0.24 U	0.34	0.12	0.073 U	0.13
Chloromethane	1.7	0.98	1.4	1.5	1.0	1.2	1.1	0.93	1.8	1.2	2.1	1.2	1.3	1.4	0.99	1.0	1.6	1.6	1.3	1.6	1.2
cis-1,2-Dichloroethene	0.29	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14	0.20 U	0.20 U	0.20 U	0.27	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.064	0.059 U	0.12 U
cis-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
Cyclohexane	0.17 U	0.17 U	0.32	0.70	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	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.10 U	0.10 U	0.10 U
Dibromochloromethane	0.43 U	0.43 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	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.26 U	0.13 U	0.26 U
Dichlorodifluoromethane	2.1	2.2	2.6	2.7	2.6	2.6	2.0	2.4	2.7	2.3	2.1	1.8	2.7	1.7	2.0	3.1	2.5	1.8	2.8	2.1	2.7
Ethanol	7.3	16	11	26	7.9	8.4	7.1	11	14	11	10	13	39	240	13	14	28	76	60	70	110
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.21	0.37 U	0.18 U	0.26 U	0.18 U	0.24	2.6	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.70	0.21	1.8	0.94	0.39
Ethylbenzene	0.23	0.29	0.36	0.95	0.24	0.22 U	0.16 U	0.22 U	0.25	0.32	0.68	0.32	0.45	0.45	0.22 U	0.22 U	0.68	0.45	0.24	0.12	0.24
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U	1.1 U	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	0.32 U
Hexane	0.90	0.87	0.91	2.0	1.1	0.60	0.69	0.33	1.5	0.88	0.25	0.33	0.70	0.64	0.50	1.3	0.58	7.0 U	3.9	0.80	0.67
Isopropyl alcohol	3.7	6.2	3.6	8.3	0.25 U	2.7	0.18 U	7.0	14	4.0	1.9	18	5.8	28	2.8	11	1.2 U	77	2.9 U	2.9 U	48
m,p-Xylene	0.61	0.82	0.94	2.8	0.73	0.43 U	0.31 U	0.43 U	0.72	0.86	2.8	0.82	1.2	1.2	0.43 U	0.43 J	1.5	1.1	0.72	0.30	0.54



**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 011609 1/16/2009	IA-7- 020309 2/3/2009	IA-7- 021109 2/11/2009	IA-7- 021809 2/18/2009	IA-7- 022609 2/26/2009	IA-7- 030609 3/6/2009	IA-7- 041409 4/14/2009	IA-7- 051509 5/15/2009	IA-7- 061109 6/11/2009	IA-7- 091709 9/17/2009	IA-7- 122909 12/29/2009	IA-7- 032610 3/26/2010	IA-7- 070110 7/1/2010	IA-7- 091610 9/16/2010	IA-7- 120710 12/7/2010	IA-7- 021711 2/17/2011	IA-7- 060211 6/2/2011	IA-7- 091511 9/15/2011	IA-7- 120811 12/8/2011	IA-7- 030812 3/8/2012	IA-7- 061412 6/14/2012	
Methyl methacrylate															0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.12 U	0.12 U	
Methylene chloride	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	13	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	0.18 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	0.11 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	0.090 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	2.1 U	2.1 U	2.1 U	
Styrene	0.21 U	0.21 U	0.21 U	0.26	0.21 U	0.21 U	0.15 U	0.21 U	0.29	0.39	0.21 U	0.26	0.70	0.39	0.21 U	0.21 U	0.97	0.63	0.18	0.097	0.26	
Tetrachloroethene	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	0.34 U	0.36	0.34 U	1.7	0.34 U	0.62	0.66	0.14	0.15	
Tetrahydrofuran	45	2.1	0.74	0.43	0.15 U	0.15 U	0.27	0.15 U	0.15 U	0.51	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	
Toluene	1.5	1.6	2.7	7.5	1.5	0.76	0.48	0.61	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-1,2-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	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	
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	<b>4.6</b>	<b>1.1</b>	0.28	0.58	0.27 U	0.27 U	0.30	0.27 U	0.27 U	0.27 U	0.40	0.27 U	0.27 U	0.77	0.27 U	0.27 U	0.27 U	0.27 U	0.16	0.081 U	0.077	
Trichlorofluoromethane	4.7	1.4	1.7	3.1	1.6	1.7	1.3	1.1	1.9	1.3	1.7	1.3	1.3	2.9	1.2	1.6	1.3	1.6	1.3	1.1	1.7	
Trichlorotrifluoroethane	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	0.18 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
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
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
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
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
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
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
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
1,2,4-Trimethylbenzene	0.46	0.17 U	0.10	0.58	0.40	0.70	0.25	0.38	0.31
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
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
1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.11	0.14 U	0.14 U	0.14 U
1,2-Dichloropropane	0.094	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-Dichlorotetrafluoroethane									
1,3,5-Trimethylbenzene	0.26	0.17 U	0.17 U	0.17 U	0.17 U	0.23	0.17 U	0.17 U	0.17 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	0.48	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
1,4-Dichlorobenzene	0.063	0.21 U	0.21 U	0.21 U	0.21 U	0.086	0.21 U	0.21 U	0.21 U
1,4-Dioxane									
2-Butanone	2.8	1.9	1.9	1.7	1.6	3.8	0.69	1.5	3.0
2-Hexanone	0.41	0.20	0.35	0.14 U	0.15	1.1	0.14 U	0.37	0.35
4-Ethyltoluene	0.16	0.17 U	0.17 U	0.17 U	0.17 U	0.20	0.17 U	0.17 U	0.17 U
4-Methyl-2-pentanone	0.29	0.18	0.14 U	0.21	0.20	0.44	0.14 U	0.14 U	0.34
Acetone	24	14	15	49	46	46	20	15	30
Benzene	0.49	0.58	0.87	0.32	0.43	1.8	0.54	1.9	0.57
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
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
Bromoform	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
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
Carbon disulfide	0.090	1.1 U	1.1 U	0.16	0.60	0.14	1.1 U	1.1 U	0.15
Carbon tetrachloride	0.38	0.51	0.39	0.55 [a]	0.46	0.45	0.49	0.42	0.45
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
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
Chloroform	0.20	0.17 U	0.082	0.21	0.47	0.17	0.24	0.17 U	0.18
Chloromethane	1.3	1.1	1.4	1.5	1.3	1.2	1.2	1.4	1.4
cis-1,2-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
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
Cyclohexane	0.23	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.30	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
Dichlorodifluoromethane	2.9	2.6	1.7	3.1	2.1	1.5	2.7	1.5	2.1
Ethanol	60	52	11	45	21	40	25	50	79
Ethyl acetate	0.57	0.77	0.13 U	5.5	1.3	1.9	0.34	0.56	0.41
Ethylbenzene	0.45	0.19	0.14	0.36	0.48	0.62	0.15 U	0.43	0.35
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
Hexane	0.97	0.86	0.87	2.9	1.3	0.97	0.39	1.1	0.90
Isopropyl alcohol	22	3.3	3.4 U	3.4 U	3.4 U	6.0	40	1.9	11
m,p-Xylene	1.4	0.71	0.40	1.1	1.2	1.8	0.25	1.2	1.1

**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-7-061314 6/13/2014
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
Methylene chloride	2.3	2.6	1.4	6.1	1.3	1.1	0.76	0.68	0.74	0.74
Methyl-t-butyl ether	0.11	0.13 U	0.13 U	0.13 U	0.13 U	0.12 U	0.13 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.99	0.14 U	0.16	0.42	1.1	1.6	0.45	1.3	4.6	4.6
o-Xylene	0.56	0.24	0.15	0.40	0.44	0.85	0.15 U	0.44	0.39	0.39
Propylene (Propene)	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.3 U	2.4 U	2.4 U	1.5	1.5
Styrene	0.89	0.15 U	0.081	0.29	2.6	0.37	0.15 U	0.17	0.29	0.29
Tetrachloroethene	1.7	0.24 U	0.15	0.24 U	<b>5.5</b>	0.22	0.24 U	0.40	0.34	0.34
Tetrahydrofuran	0.10 U	0.10 U	0.10 U	0.10 U	0.65	0.15	0.10 U	0.10 U	0.14	0.14
Toluene	2.4	0.99	1.0	3.8	4.7	7.8	1.1	2.8	2.2	2.2
trans-1,2-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	0.14 U
trans-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	0.16 U
Trichloroethene	0.15	0.19 U	0.068	0.19 U	0.53	0.14	0.19 U	0.28	0.19 U	0.19 U
Trichlorofluoromethane	1.8	1.8	1.5	2.5	1.8	1.9	1.6	1.7	1.4	1.4
Trichlorotrifluoroethane	0.58	0.60	0.87	1.0	0.63	0.52	0.60	0.45	0.52	0.52
Vinyl acetate	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
Vinyl chloride	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.087 U	0.090 U	0.090 U	0.090 U	0.090 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.

Prepared by / Date: KJC 07/07/14  
 Checked by / Date:

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

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

**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

\*\* ASD system offline.

NM = Not Measured

Prepared by/Date: MAM 07/25/14

Checked by/Date: KRM 7/25/14

**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> )	Outdoor Air Reference Locations																		
	AA-1 011609 1/16/2009	AA-1- 020309 2/3/2009	AA-1- 021109 2/11/2009	AA-1- 021809 2/18/2009	AA-1- 022609 2/26/2009	AA-1- 030609 3/6/2009	AA-1- 033109 3/31/2009	AA-1- 041409 4/14/2009	AA-1- 042409 4/24/2009	AA-1- 051509 5/15/2009	AA-1- 061109 6/11/2009	AA-1- 091709 9/17/2009	AA-1- 092409 9/24/2009	AA-1- 100109 10/1/2009	AA-1- 100809 10/8/2009	AA-1- 122909 12/29/09	AA-1- 012810 1/28/2010	AA-1- 020510 2/5/2010	AA-1- 021210 2/12/2010
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	0.19 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
1,1,1,2-Tetrachloroethane																			
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	0.24 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-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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-Dichloroethane	0.20 U	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
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 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
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 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	0.75 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.28	0.52	1.8	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.29	0.30	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 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	0.27 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-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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-Dichloroethane	0.20 U	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
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 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	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 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	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.50	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	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.11 U	0.17	1.3	0.11 U	0.11 U	0.11 U	0.08 U	0.11 U	0.11 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 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	0.21 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	0.30 U	0.30 U	0.30 U	0.53	0.30 U	0.30 U	0.30 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																			
2-Butanone	0.58	1.2	2.4	3.2	1.6	0.67	1.7	0.11 U	1.6	1.6	1.1	1.7	0.84	1.2	1.2	2.0	0.81	1.6	1.6
2-Hexanone	0.20 U	0.22	0.57	0.35	0.20 U	0.20 U	0.20 U	0.14 U	0.26	0.39	0.20 U	0.34	0.20 U	0.33	0.23	0.20 U	0.20 U	0.32	0.20 U
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.60	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	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.20 U	0.20 U	0.27	0.63	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	0.34
Acetone	7.3	8.0	15	22	8.4	5.9	12	1.1	27	9.5	10	10	9.6	5.4	17	11	3.5	7.6	5.0
Benzene	0.69	0.62	1.3	4.7	0.43	0.69	0.46	0.12 U	0.30	0.40	0.49	0.38	0.35	0.25	0.20	0.42	0.79	0.68	0.63
Benzyl chloride	0.26 U	0.26 U	0.26 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	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	0.24 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	0.33 U	0.33 U
Bromoform	0.51 U	0.51 U	0.51 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	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	0.14 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	0.12 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 tetrachloride	0.38	0.44	0.52	0.56	0.43	0.61	0.47	0.22 U	0.41	0.78	0.43	0.40	0.40	0.43	0.46	0.39	0.42	0.39	0.31 U
Chlorobenzene	0.23 U	0.23 U	0.23 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	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	0.10 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
Chloroform	0.24 U	0.24 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	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.1	0.90	1.4	1.5	1.1	1.1	1.3	1.1	1.2	1.1	1.2	0.85	1.1	0.97	0.96	1.6	1.1	1.2	1.3
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	0.14 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
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	0.16 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
Cyclohexane	0.17 U	0.17 U	0.35	1.1	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	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	0.31 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	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	2.0	2.2	2.6	2.7	2.6	2.6	2.8	2.0	2.5	2.7	2.6	2.1	2.1	2.2	2.1	2.1	2.3	2.4	2.5
Ethanol	4.0	5.4	10	47	4.3	3.5	4.7	0.81	4.9	4.8	8.6	6.6	4.6	3.9	4.9	3.8	5.4	5.1	7.2
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.31	0.37 U	0.18 U	0.18 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	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.22 U	0.25	0.52	2.0	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.24	0.22 U	0.23	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	0.75 U	1.1 U	1.1 U	1.1 U	0.53 U	0.53 U	0.53 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexane	1.5	0.75	1.1	2.9	0.38	2.8	2.2	0.13 U	0.56	0.37	0.59	0.48	1.4	0.45	4.5	0.62	0.36	0.53	0.91
Isopropyl alcohol	1.4	1.4	1.8	4.3	1.4	0.67	1.4	0.18 U	14	1.0	2.5	2.8	0.87	0.63	0.25 U	0.54	0.56	2.7	1.5
m,p-Xylene	0.43 U	0.72	1.4	6.4	0.44	0.43 U	0.43 U	0.31 U	0.43 U	0.49	0.73	0.62	0.59	0.43 U	0.43 U	0.43 U	0.43 U	0.50	0.47
Methyl methacrylate																			
Methylene chloride	5.5	3.1	0.65	1.5	0.78	7.4	15	2.1	2.8	1.7	1.9	0.70 U	4.2	0.70 U	23	4.6	1.3	1.9	1.7

**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> )	Outdoor Air Reference Locations																		
	AA-1 011609 1/16/2009	AA-1- 020309 2/3/2009	AA-1- 021109 2/11/2009	AA-1- 021809 2/18/2009	AA-1- 022609 2/26/2009	AA-1- 030609 3/6/2009	AA-1- 033109 3/31/2009	AA-1- 041409 4/14/2009	AA-1- 042409 4/24/2009	AA-1- 051509 5/15/2009	AA-1- 061109 6/11/2009	AA-1- 091709 9/17/2009	AA-1- 092409 9/24/2009	AA-1- 100109 10/1/2009	AA-1- 100809 10/8/2009	AA-1- 122909 12/29/09	AA-1- 012810 1/28/2010	AA-1- 020510 2/5/2010	AA-1- 021210 2/12/2010
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	0.13 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
n-Heptane	0.20 U	0.27	0.92	1.6	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.40	0.23	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.26	0.20 U	0.20 U
o-Xylene	0.22 U	0.27	0.53	2.2	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.24	0.27	0.23	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Propylene (Propene)	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.090 U	0.090 U	0.13 U	0.18 U	0.090 U	0.090 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
Styrene	0.21 U	0.21 U	0.21 U	0.28	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	0.34 U	0.34 U	0.73	0.77	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.52	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.11 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	1.2	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	0.94	1.5	3.2	14	0.71	0.99	0.82	0.14 U	0.72	2.6	2.1	1.9	2.0	0.61	0.50	0.78	0.94	0.64	0.97
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	0.14 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	0.22 U	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	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	0.27 U	0.27 U	0.27 U	0.39	0.27 U	0.27 U	0.27 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	0.30
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
Trichlorotrifluoroethane	0.68	0.53	0.50	0.47	0.64	0.48	0.51	0.27 U	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 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	0.18 U	0.50 U	0.71 U	0.18 U	0.18 U	0.71 U	0.71 U	0.71 U	0.71 U	0.36 U	0.71 U	0.71 U	0.71 U
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.10 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 3.**  
**Summary of Analytical Results - Air Sampling for Large Retail Space**  
**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-1-021711 2/17/2011	AA-1-060211 6/6/2011	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 12/13/13	AA-1-030714 03/07/14	AA-1-061314 6/13/2014
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	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U
1,1,1,2-Tetrachloroethane										0.62 U		0.37 U	0.37 U	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
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	0.10 U	0.21 U	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
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	0.16 U	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
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	0.063	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
1,1-Dichloropropane	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	0.14 U	0.13 U	0.14 U	0.14 U	0.16
1,2,4-Trichlorobenzene	0.37 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.62	0.45 U	0.12	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
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.94	0.25 U	1.1	0.25 U	0.25 U	0.16	0.15 U	0.15 U	0.26	0.17 U	0.069	0.21	0.17 U	0.19	0.17 U	0.17 U	0.51
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	0.23 U	0.12 U	0.23 U	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
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	0.18 U	0.18 U	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
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	0.061 U	0.046	0.14 U	0.14 U	0.057	0.14 U	0.14 U	0.14 U	0.14 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	0.23 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
1,2-Dichlorotetrafluoroethane	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	0.28	0.25 U	0.33	0.25 U	0.25 U	0.068	0.15 U	0.15 U	0.16	0.17 U	0.17 U	0.17 U	0.17 U	0.047	0.17 U	0.17 U	0.18
1,3-Butadiene	0.23 U	0.11 U	0.23 U	0.11 U	0.11 U	0.29	0.11 U	0.11 U	0.11 U	0.11 U	0.066 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.075 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	0.30 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	0.20 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	0.18 U	0.18 U	0.18 U	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
1,4-Dioxane											0.18 U											
2-Butanone	0.88	1.5	1.4	2.4	2.3	2.7	0.37	1.8 B	2.9 U	5.9 U	0.35	1.4	1.1	2.0	0.89	1.9	3.9	3.7	0.94	0.82	1.4	2.2
2-Hexanone	0.20 U	0.29	0.29	0.49	0.49	0.41	0.20 U	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
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.30	0.25 U	0.34	0.25 U	0.25 U	0.053	0.15 U	0.15 U	0.093	0.17 U	0.17 U	0.17 U	0.17 U	0.063	0.17 U	0.17 U	0.18
4-Methyl-2-pentanone	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	2.8	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.12 U	0.23	0.10	0.14 U	0.083	0.24	0.14 U	0.14 U	0.14 U	0.14 U	0.20
Acetone	3.7	9.5	12	20	13	14	5.7 B	19 B	8.7 B	20	4.9	9.4	10	12	8.7	18	28	16	12	26	9.3	22
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	0.94
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	0.16 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
Bromodichloromethane	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	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U
Bromoform	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	0.31 U	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
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	0.12 U	0.12 U	0.12 U	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
Carbon disulfide	0.44	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.38	0.16 U	0.16 U	1.6 U	0.058	0.93 U	0.11	1.1 U	1.1 U	0.052	1.1 U	1.1 U	1.1 U	1.1 U	1.1 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	0.49	0.43	0.43	0.36	0.52	0.41	0.55	0.47	0.43	0.45	0.22	0.42
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	0.16 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	0.093 U	0.089 U	0.093 U	0.093 U	0.11
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	0.073 U	0.067	0.096	0.17 U	0.21	0.17 U	0.17 U	0.10	0.17 U	0.17 U	0.17 U
Chloromethane	1.1	1.4	0.78	1.1	0.96	0.99	0.94	1.0	0.96	1.4	0.062 U	1.1	1.5	1.1	1.0	1.6	1.4	1.1	0.96	1.1	1.3	1.4
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	0.059 U	0.12 U	0.14 U	0.14 U	0.092	0.14 U	0.16	0.13 U	0.14 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	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	0.16 U	0.15 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	0.46	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	0.12 U	0.31
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	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.29 U	0.30 U	0.30 U	0.30 U
Dichlorodifluoromethane	2.9	1.8	2.1	2.5	2.4	2.9	1.9	3.1	1.9	1.7	2.5	2.0	2.4	2.8	2.5	1.7	3.0	2.0	1.8	2.7	1.4	2.0
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	1.2	6.1	6.7	6.7	5.4	9.0	17
Ethyl acetate	1.1	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	0.46	0.56	0.43	0.67	0.35	1.1	0.56	17	0.12 U	0.13 U	0.18	0.13 U
Ethylbenzene	0.22 U	0.22 U	0.22 U	0.22 U	0.82	1.4	0.22 U	1.1	0.22 U	0.22 U	0.31	0.13 U	0.065	0.19	0.15 U	0.12	0.16	0.15 U	0.21	0.15 U	0.16	0.44
Hexachlorobutadiene	0.53 U	1.1 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	0.32 U	0.32 U	0.32 U	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
Hexane	0.24	0.23	1.1	0.51	0.37	1.2	0.35 U	3.3	0.88	7.0 U	0.47	0.54	1.3	0.67	1.4	1.3	1.8	2.3	0.81	0.32	0.44	1.2
Isopropyl alcohol	0.80	0.73	0.69	1.6	0.79	0.25 U	0.29	2.4	1.2 U	4.9 U	0.60	0.88	2.9 U	0.58	0.47	0.52	1.3	6.2	3.3 U	0.77	0.92	3.1
m,p-Xylene	0.43 U	0.49	0.43 U	0.43 U	2.2	3.7	0.43 U	3.3	0.43 U	0.43 U	0.41	0.17	0.18	0.64	0.30 U	0.34	0.58	0.21	0.53	0.30 U	0.42	1.4
Methyl methacrylate							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	0.14 U
Methylene chloride	0.70 U	0.70 U	0.70 U	0.35 U	1.1	1.1	0.66	3.0	2.3	1.7 U	1.5	1.6	3.0	2.1	4.4	2.9	2.3	9.1	1.0	0.76	0.55	1.2

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**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Parameter (ug/m <sup>3</sup> )	Outdoor Air Reference Locations																					
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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	0.18 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	0.12 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.91	0.20 U	0.95	0.20 U	0.20 U	0.12	0.089	0.11	0.18	0.14 U	0.12	0.21	0.15	0.18	0.14 U	0.21	0.62
o-Xylene	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	0.086	0.078	0.31	0.15 U	0.12	0.20	0.15 U	0.24	0.15 U	0.17	0.50
Propylene (Propene)	0.35 U	0.35 U	0.35 U	0.87 U	0.87 U	1.9	0.86 U	0.86 U	0.86 U	3.4 U	2.1 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
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	0.15 U	0.16
Tetrachloroethene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.49	0.34 U	5.3	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	0.40
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
Toluene	0.46	1.1	0.75	0.63	0.57	10	0.19 U	5.3	0.52	0.47	0.56	0.37	0.42	0.81	0.48	0.74	1.2	1.4	1.3	0.35	1.2	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	0.12 U	0.059 U	0.12 U	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
trans-1,3-Dichloropropene	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	0.16 U	0.15 U	0.16 U	0.16 U	0.16 U
Trichloroethene	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	0.19 U	0.11	0.19 U	0.19 U	0.19 U
Trichlorofluoromethane	1.5	1.5	1.2	1.4	1.3	11	1.2	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
Trichlorotrifluoroethane	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	0.66	1.0	0.60	0.55	0.55	0.46	0.54
Vinyl acetate	0.71 U	0.36 U	0.71 U	0.18 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	2.4 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	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.087 U	0.090 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**

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space																
	EW-Combined-020309 2/3/2009	EW-COMBINE D-021109 2/11/2009	EW-COMBINE D-021809 2/18/2009	EW-COMBINE D-022609 2/26/2009	EW-COMBINE D-041409 4/14/2009	EW-COMBINE D-042409 4/24/2009	EW-COMBINE D-091709 9/17/2009	EW-COMBINE D-092409 9/24/2009	EW-COMBINE D-100109 10/1/2009	EW-COMBINE D-100809 10/8/2009	EW-COMBINE D-012810 1/28/2010	EW-COMBINE D-020510 2/5/2010	EW-COMBINE D-021210 2/12/2010	EW-COMBINE D-021910 2/19/2010	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	3500	19000	11000	8100	7900	6800	1500	2500	150	1200	1400	1700	2000
1,1,1,2-Tetrachloroethane																	
1,1,2,2-Tetrachloroethane	6.8 U	6.8 U	14 U	14 U	6.8 U	0.34 U	3.4 U	6.8 U	14 U	14 U	0.68 U	6.8 U	0.34 U	0.68 U	0.68 U	6.8 U	0.68 U
1,1,2-Trichloroethane	5.4 U	5.4 U	11 U	11 U	5.4 U	0.65	2.7 U	5.4 U	11 U	11 U	0.54 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	2200	1600	1900	1900	1700	280	370	31	310	200	270	290
1,1-Dichloroethene	7800	1800	1000	630	73	420	310	250	260	280	52	66	7.3	62	30	40	52
1,2,4-Trichlorobenzene	7.4 U	7.4 U	15 U	15 U	7.4 U	0.37 U	3.7 U	7.4 U	15 U	15 U	0.74 U	7.4 U	0.37 U	0.74 U	0.74 U	7.4 U	0.74 U
1,2,4-Trimethylbenzene	5.0 U	5.0 U	10 U	10 U	5.0 U	0.25 U	2.5 U	5.0 U	10 U	10 U	0.50 U	5.0 U	0.25 U	0.50 U	0.50 U	5.0 U	0.50 U
1,2-Dibromoethane (EDB)	7.6 U	7.6 U	16 U	16 U	7.6 U	0.38 U	3.8 U	7.6 U	16 U	16 U	0.76 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	0.30 U	3.0 U	6.0 U	12 U	12 U	0.60 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	0.20 U	2.0 U	4.0 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
1,2-Dichloropropane	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	0.23 U	2.3 U	4.6 U	9.2 U	9.2 U	0.46 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	0.35 U	3.5 U	7.0 U	14 U	14 U	0.70 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	0.25 U	2.5 U	5.0 U	10 U	10 U	0.50 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	0.11 U	2.3 U	4.5 U	8.9 U	8.9 U	0.45 U	4.5 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	0.30 U	3.0 U	6.0 U	12 U	12 U	0.60 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	0.30 U	3.0 U	6.0 U	12 U	12 U	0.60 U	6.0 U	0.30 U	0.60 U	0.60 U	6.0 U	0.60 U
1,4-Dioxane																	
2-Butanone	37	32	48	60	21	40	7.8	31	30	21	4.0	11	10	9.0	12	22	22
2-Hexanone	4.0 U	4.0 U	8.0 U	8.0 U	4.0 U	0.50	2.0 U	4.0 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
4-Ethyltoluene	5.0 U	5.0 U	10 U	10 U	5.0 U	0.25 U	2.5 U	5.0 U	10 U	10 U	0.50 U	5.0 U	0.25 U	0.50 U	0.50 U	5.0 U	0.50 U
4-Methyl-2-pentanone	4.0 U	4.0 U	8.0 U	8.0 U	4.0 U	0.59	2.0 U	4.0 U	8.0 U	8.0 U	0.40 U	4.0 U	0.28	0.40 U	0.40 U	4.0 U	0.40 U
Acetone	1600	31	75	63	4.8 U	0.24 U	20	9.6 U	20 U	20 U	31	9.6 U	13	0.96 U	16	24	16
Benzene	14	7.3	8.4	6.4 U	3.2 U	2.5	2.7	3.2 U	6.4 U	6.4 U	0.61	3.2 U	0.63	0.43	0.74	5.5	0.84
Benzyl chloride	5.2 U	5.2 U	11 U	11 U	5.2 U	0.26 U	2.6 U	5.2 U	11 U	11 U	0.52 U	5.2 U	0.26 U	0.52 U	0.52 U	5.2 U	0.52 U
Bromodichloromethane	6.6 U	6.6 U	14 U	14 U	6.6 U	0.33 U	3.3 U	6.6 U	14 U	14 U	0.66 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	0.51 U	5.1 U	11 U	21 U	21 U	1.1 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	0.19 U	1.9 U	3.8 U	7.6 U	7.6 U	0.38 U	3.8 U	0.19 U	0.38 U	0.38 U	3.8 U	0.38 U
Carbon disulfide	3.2 U	63	32	20	3.2 U	4.6	1.6 U	3.2 U	6.4 U	6.4 U	4.3	3.2 U	0.17	3.8	0.77	3.2 U	1.1
Carbon tetrachloride	6.2 U	6.2 U	13 U	13 U	6.2 U	0.57	3.1 U	6.2 U	13 U	13 U	0.62 U	6.2 U	0.38	0.62 U	0.62 U	6.2 U	0.73
Chlorobenzene	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	0.23 U	2.3 U	4.6 U	9.2 U	9.2 U	0.46 U	4.6 U	0.23 U	0.46 U	0.46 U	7.2	0.46 U
Chloroethane	3400	1700	1200	450	42	220	110	94	92	88	9.8	11	1.3	9.9	4.8	7.2	9.4
Chloroform	27	17	20	17	4.8 U	8.8	12	14	11	11	4.1	5.8	0.49	6.2	6.0	7.9	8.0
Chloromethane	2.0 U	2.0 U	4.0 U	4.0 U	2.0 U	8.2	1.0 U	2.0 U	4.0 U	4.0 U	0.20 U	2.0 U	0.10 U	0.20 U	0.20 U	2.0 U	0.20 U
cis-1,2-Dichloroethene	14000	4700	6300	4200	300	1600	1600	1500	1300	1200	190	280	21	240	180	260	260
cis-1,3-Dichloropropene	4.4 U	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	4.4 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
Cyclohexane	3.4 U	3.4 U	6.8 U	6.8 U	3.4 U	0.17 U	1.7 U	3.4 U	6.8 U	6.8 U	0.34 U	3.4 U	0.17 U	0.34 U	0.34 U	3.4 U	0.34 U
Dibromochloromethane	8.6 U	8.6 U	18 U	18 U	8.6 U	0.43 U	4.3 U	8.6 U	18 U	18 U	0.86 U	8.6 U	0.43 U	0.86 U	0.86 U	8.6 U	0.86 U
Dichlorodifluoromethane	5.0 U	5.0 U	10 U	110	5.0 U	2.8	2.5 U	5.0 U	10 U	10 U	2.4	5.0 U	2.2	2.7	1.7	5.0 U	2.5
Ethanol	960	81	120	120	17	21	200	96	32	33	39	60	23	62	10	19 U	15
Ethyl acetate	7.3 U	3.6 U	7.2 U	15 U	7.3 U	0.37 U	1.8 U	3.6 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
Ethylbenzene	9.4	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	4.4 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
Hexachlorobutadiene	22 U	22 U	43 U	43 U	22 U	1.1 U	5.3 U	11 U	22 U	22 U	1.1 U	11 U	0.53 U	1.1 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	3.6 U	0.74	0.36 U	0.92	3.6 U	0.44
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	2.3	5.0 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	0.43 U	4.3 U	8.6 U	18 U	18 U	0.86 U	8.6 U	0.49	0.86 U	0.86 U	8.6 U	0.86 U
Methyl methacrylate																	
Methylene chloride	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	2.6	1.4 U	1.4 U	7.0 U	2.1

**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-020309 2/3/2009	EW-COMBINE D-021109 2/11/2009	EW-COMBINE D-021809 2/18/2009	EW-COMBINE D-022609 2/26/2009	EW-COMBINE D-041409 4/14/2009	EW-COMBINE D-042409 4/24/2009	EW-COMBINE D-091709 9/17/2009	EW-COMBINE D-092409 9/24/2009	EW-COMBINE D-100109 10/1/2009	EW-COMBINE D-100809 10/8/2009	EW-COMBINE D-012810 1/28/2010	EW-COMBINE D-020510 2/5/2010	EW-COMBINE D-021210 2/12/2010	EW-COMBINE D-021910 2/19/2010	EW-COMBINE D-043010 4/30/2010	EW-COMBINE D-052810 5/28/2010	EW-COMBINE 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	3.6 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	4.0 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	4.4 U	8.8 U	8.8 U	4.4 U	0.22 U	2.2 U	4.4 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	3.6 U	6.9 U	3.5 U	0.18 U	3.5 U	6.9 U	6.9 U	14 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	4.2 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	60	430	540	47	110	110	260	67	72	4.6	200	4.8	45	450	1300	640
Tetrahydrofuran	77	77	150	180	66	110	1.5 U	96	85	67	15	32	28	43	34	54	65
Toluene	36	3.8 U	7.6 U	7.6 U	3.8 U	0.59	3.4	4.7	7.6 U	7.6 U	0.38 U	3.8 U	3.6	0.38 U	0.75	3.8 U	0.41
trans-1,2-Dichloroethene	110	61	47	47	4.6	33	29	34	30	26	3.4	4.6	0.36	4.1	3.0	4.6	5.5
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	4.4 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	17000	26000	13000	1400	6200	4000	3600	4000	4300	390	1400	58	460	1200	2000	1700
Trichlorofluoromethane	9900	2300	1800	1000	98	600	1800	1400	1500	1500	260	230	29	230	210	300	440
Trichlorotrifluoroethane	7.6 U	7.6 U	16 U	16 U	7.6 U	0.74	3.8 U	7.6 U	16 U	16 U	0.76 U	7.6 U	0.53	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	20	10	5.2 U	2.6 U	3.4	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-091610 9/16/2010	EW-COMBINE D-120710 12/7/2010	EW-COMBINE D-021711 2/17/2011	EW-COMBINE D 091511 9/15/2011	EW-Combined-120811 12/8/2011	EW-Combined-030812 3/8/2012	EW-Combined-061412 6/14/2012	EW-Combined-091312 9/13/2012	EW-Combined-010313 1/13/2013	EW-Combined-031513 3/15/2013	EW-Combined-060713 6/7/2013	EW-Combined-090613 9/6/2013	EW-Combined-121313 12/13/13	EW-Combined-030714 03/07/14	EW-Combined-061314 6/13/2014	EW-1-030609 3/6/2009	EW-1-033109 3/31/2009
1,1,1-Trichloroethane	4700	280 D	2500 D	2400	340	1100	1800	2800	1800	610	850	1900	1500	780	770	59000	66000
1,1,1,2-Tetrachloroethane				2.5 U		12 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.44 U	1.2 U	1.2 U	1.2 U		
1,1,2,2-Tetrachloroethane	0.68 U	0.69 UD	0.69 UD	1.4 U	0.69 U	3.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.24 U	0.69 U	0.69 U	0.69 U	6.8 U	6.8 U
1,1,2-Trichloroethane	0.55	0.55 UD	0.55 UD	1.1 U	0.55 U	2.7 U	0.55 U	0.26	0.55 U	0.55 U	0.55 U	0.19 U	0.55 U	0.55 U	0.55 U	6.4	10
1,1-Dichloroethane	330	36 D	170 D	200	70	78	130	200	99	59	68	150	62	53	68	4100	4400
1,1-Dichloroethene	81	7.3 D	58 D	44	21	34	42	15	28	24	38	56	24	27	40	570	1200
1,2,4-Trichlorobenzene	0.74 U	0.74 UD	0.74 UD	3.0 U	1.5 U	3800	1.5 U	1.5 U	1.5 U	1.5 U	0.74 U	0.26 U	0.74 U	0.74 U	0.74 U	7.4 U	7.4 U
1,2,4-Trimethylbenzene	0.50 U	0.49 UD	0.49 UD	0.98 U	1.2	4.9 U	0.57	0.24	0.49 U	14	0.49 U	0.21	0.49 U	0.49 U	0.49 U	5.0 U	5.0 U
1,2-Dibromoethane (EDB)	0.76 U	0.77 UD	0.77 UD	1.5 U	0.77 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.27 U	0.77 U	0.77 U	0.77 U	7.6 U	7.6 U
1,2-Dichlorobenzene	0.60 U	0.60 UD	0.60 UD	1.2 U	0.60 U	7.3	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	6.0 U	6.0 U
1,2-Dichloroethane	0.40 U	0.40 UD	0.40 UD	0.81 U	0.40 U	2.0 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.14 U	0.40 U	0.40 U	0.40 U	4.0 U	4.0 U
1,2-Dichloropropane	0.46 U	0.46 UD	0.46 UD	0.92 U	0.46 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	0.46 U	0.46 U	0.46 U	4.6 U	4.6 U
1,2-Dichlorotetrafluoroethane	0.70 U															7.0 U	7.0 U
1,3,5-Trimethylbenzene	0.50 U	0.49 UD	0.49 UD	0.98 U	0.29	4.9 U	0.15	0.49 U	0.49 U	3.9	0.49 U	0.17 U	0.49 U	0.49 U	0.49 U	5.0 U	5.0 U
1,3-Butadiene	0.22 U	0.22 UD	0.22 UD	0.44 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.078 U	0.22 U	0.22 U	0.22 U	2.2 U	2.2 U
1,3-Dichlorobenzene	0.60 U	0.60 UD	0.60 UD	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	1.1	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	6.0 U	6.0 U
1,4-Dichlorobenzene	0.60 U	0.60 UD	0.60 UD	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.64	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	6.0 U	6.0 U
1,4-Dioxane				0.72 U													
2-Butanone	10	4.5 D	4.5 BD	24 U	1.3	120 U	110	16	2.9	22	5.3	7.6	0.97	2.5	5.1	3.5	8.9
2-Hexanone	0.40 U	0.41 UD	0.41 UD	0.82 U	0.16	4.1 U	0.31	0.41 U	0.41 U	1.4	0.41 U	0.26	0.41 U	0.41 U	0.41 U	4.0 U	4.0 U
4-Ethyltoluene	0.50 U	0.49 UD	0.49 UD	0.98 U	0.27	4.9 U	0.49 U	0.49 U	0.49 U	3.4	0.49 U	0.17 U	0.49 U	0.49 U	0.49 U	5.0 U	5.0 U
4-Methyl-2-pentanone	0.40 U	0.41 UD	0.41 UD	0.82 U	0.16	4.1 U	0.38	0.41 U	0.41 U	8.7	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	4.0 U	4.0 U
Acetone	6.6	11 BD	6.3 BD	19 U	6.6	22	19	14	10	75	12	11	6.6	15	9.8	35	16
Benzene	1.7	0.50 D	0.72 D	0.77	0.56	3.2 U	1.0	0.96	0.45	5.0	0.32 U	0.82	0.32 U	0.63	0.66	5.3	11
Benzyl chloride	0.52 U	0.52 UD	0.52 UD	1.0 U	0.52 U	5.2 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.18 U	0.52 U	0.52 U	0.52 U	5.2 U	5.2 U
Bromodichloromethane	0.66 U	0.67 UD	0.67 UD	1.3 U	0.67 U	3.4 U	10	0.67 U	0.67 U	0.67 U	0.67 U	0.24 U	0.67 U	0.67 U	0.67 U	6.6 U	6.6 U
Bromoform	1.1 U	1.0 UD	1.0 UD	2.1 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1 U	11 U	11 U
Bromomethane	0.38 U	0.39 UD	0.39 UD	0.78 U	0.39 U	3.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.14 U	0.39 U	0.39 U	0.39 U	3.8 U	3.8 U
Carbon disulfide	1.3	0.31 UD	0.73 D	6.2 U	3.1 U	31 U	1.7	3.6	0.43	0.82	3.1 U	0.73	3.1 U	3.1 U	0.40	3.2 U	3.2 U
Carbon tetrachloride	1.1	0.63 UD	0.63 D	1.3 U	0.48	3.1 U	0.50	0.74	0.63 U	0.63 U	0.63 U	0.68	0.63 U	0.63 U	0.63 U	6.2 U	6.2 U
Chlorobenzene	0.46 U	0.46 UD	0.46 UD	0.92 U	0.46 U	4.6 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	0.46 U	0.46 U	0.46 U	4.6 U	4.6 U
Chloroethane	17	1.0 D	3.6 D	6.7	2.1	2.6 U	3.0	5.3	1.5	1.1	1.4	3.3	1.2	1.0	1.5	170	250
Chloroform	8.3	1.6 D	6.9 D	7.6	2.7	3.2	6.3	8.5	4.7	3.5	2.3	7.0	1.5	3.1	3.4	20	34
Chloromethane	0.20 U	0.21 UD	0.21 UD	0.41 U	0.21 U	2.1 U	20	0.21 U	0.21 U	0.21 U	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	2.0 U	2.0 U
cis-1,2-Dichloroethene	360	28 D	120 D	160	38	47	75	150	66	30	24	93	12	25	30	2000	2200
cis-1,3-Dichloropropene	0.44 U	0.45 UD	0.45 UD	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	4.4 U	4.4 U
Cyclohexane	0.55	0.34 UD	0.34 UD	0.69 U	0.34 U	3.4 U	0.34 U	0.34 U	0.34 U	21	0.34 U	0.12 U	0.34 U	0.34 U	0.34 U	3.4 U	5.7
Dibromochloromethane	0.86 U	0.85 UD	0.85 UD	1.7 U	0.85 U	4.3 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.30 U	0.85 U	0.85 U	0.85 U	8.6 U	8.6 U
Dichlorodifluoromethane	1.6	3.0 D	4.1 D	2.9	2.9	4.9 U	2.9	2.9	2.4	2.5	2.1	11	3.2	2.4	2.1	5.0 U	170
Ethanol	1.9 U	8.2 D	17 D	15 U	9.2	75 U	7.2	12	19	320	34	30	11	38	41	33	40
Ethyl acetate	0.36 U	0.36 UD	0.36 UD	0.72 U	1.2	3.6 U	1.3	0.36 U	0.36 U	110	0.36 U	0.13 U	1.8	1.8	0.36 U	3.6 U	3.6 U
Ethylbenzene	0.58	0.43 UD	0.43 UD	0.87 U	0.58	4.3 U	0.28	0.21	0.43 U	13	0.43 U	0.20	0.43 U	0.43 U	0.43 U	4.4 U	4.4 U
Hexachlorobutadiene	1.1 U	1.1 UD	1.1 UD	2.1 U	1.1 U	11 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.37 U	1.1 U	1.1 U	1.1 U	22 U	22 U
Hexane	0.71 U	0.7 UD	0.80 D	28 U	0.66	140 U	0.91	1.5	0.53	6.8	14 U	2.2	1.2	0.80	14 U	3.6 U	3.6 U
Isopropyl alcohol	0.50 U	0.84 D	0.25 UD	20 U	9.8 U	98 U	3.1	2.9	9.8 U	27	9.8 U	3.4 U	3.0	1.6	1.6	28	2.4 U
m,p-Xylene	1.6	0.87 UD	0.87 JD	1.7 U	1.6	8.7 U	0.51	0.59	0.87 U	34	0.87 U	0.40	0.87 U	0.57	0.95	8.6 U	8.6 U
Methyl methacrylate			0.41 UD	0.82 U	0.41 U	4.1 U	0.41 U	0.41 U	0.41 U	3.5	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U		
Methylene chloride	0.90	0.78 D	2.9 D	6.9 U	2.2	8.1	2.3	2.2	2.2	2.4	1.3	4.6	2.1	1.7	1.1	7.0 U	19

**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-091610 9/16/2010	EW-COMBINE D-120710 12/7/2010	EW-COMBINE D-021711 2/17/2011	EW-COMBINE D 091511 9/15/2011	EW-Combined-120811 12/8/2011	EW-Combined-030812 3/8/2012	EW-Combined-061412 6/14/2012	EW-Combined-091312 9/13/2012	EW-Combinde d-010313 1/13/2013	EW-Combined-031513 3/15/2013	EW-Combined-060713 6/7/2013	EW-Combined-090613 9/6/2013	EW-Combined-121313 12/13/13	EW-Combined-030714 03/07/14	EW-Combined-061314 6/13/2014	EW-1-030609 3/6/2009	EW-1-033109 3/31/2009
Methyl-t-butyl ether	0.36 U	0.36 UD	0.36 UD	0.72 U	0.24	3.6 U	1.1	0.17	0.36 U	0.36 U	0.36 U	0.17	0.36 U	0.36 U	0.36 U	3.6 U	3.6 U
n-Heptane	0.40 U	0.41 UD	0.41 UD	0.82 U	0.23	4.1 U	0.41 U	0.41 U	0.41 U	4.4	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	4.0 U	4.0 U
o-Xylene	0.56	0.43 UD	0.43 UD	0.87 U	0.69	4.3 U	0.28	0.25	0.43 U	16	0.43 U	0.20	0.43 U	0.43 U	0.43 U	4.4 U	4.4 U
Propylene (Propene)	0.69 U	1.8 D	1.7 UD	14 U	6.9 U	13	3.8	6.9 U	6.9 U	6.9 U	6.9 U	2.4 U	6.9 U	6.9 U	6.9 U	1.8 U	1.8 U
Styrene	0.42 U	0.43 UD	0.43 UD	0.85 U	0.21	4.3 U	0.54	0.39	0.43 U	14	0.43 U	0.15 U	0.43 U	0.43 U	0.43 U	4.2 U	4.2 U
Tetrachloroethene	750	160 D	920 D	440	8.1	170	530	910	850	60	23	250	7.0	260	82	600	1200
Tetrahydrofuran	31	11 D	11 D	21	0.27	8.3	3800	110	1.8	4.1	7.2	10	0.79	1.7	4.7	6.3	21
Toluene	3.5	0.38 D	1.4 D	0.75 U	2.5	3.8 U	1.4	0.87	0.38 U	74	0.57	0.67	0.38 U	1.1	1.8	3.8 U	3.8 U
trans-1,2-Dichloroethene	6.6	0.60 D	1.9 D	3.5	1.1	2.0 U	1.7	1.9	1.0	0.86	0.62	2.6	0.40 U	0.59	0.89	9.2	23
trans-1,3-Dichloropropene	0.44 U	0.45 UD	0.45 UD	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	4.4 U	4.4 U
Trichloroethene	3200	240 D	1800 D	1900	97	730	1500	2600	2000	380	280	1200	160	560	560	31000	42000
Trichlorofluoromethane	410	71 D	200 D	610	200	150	260	100	230	130	140	410	200	98	160	520	540
Trichlorotrifluoroethane	0.76 U	0.77 UD	0.77 UD	1.5 U	0.89	3.8 U	0.77 U	0.37	0.77 U	0.92	1.4	1.3	0.77 U	0.77 U	0.77 U	7.6 U	7.6 U
Vinyl acetate	0.71 U	0.7 UD	0.35 UD	0.70 U	0.35 U	7.0 U	1.4	0.70 U	0.70 U	0.70 U	7.0 U	2.5 U	7.0 U	7.0 U	7.0 U	3.6 U	3.6 U
Vinyl chloride	0.40	0.26 UD	0.26 UD	0.51 U	0.26 U	1.3 U	0.26 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	2.7	4.8

**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							CT IACTIND 2003 (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space					
	EW-2-030609 3/6/2009	EW-2-033109 3/31/2009	EW-3-030609 3/6/2009	EW-3-033109 3/31/2009	EW-4-030609 3/6/2009	EW-4-033109 3/31/2009	Post carbon-020309 2/3/2009	POST CARBON-021109 2/11/2009	POST CARBON-021809 2/18/2009	POST CARBON-022609 2/26/2009	POST CARBON-041409 4/14/2009	POST CARBON-100809 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	0.56	450	500	10	0.56	1.1	0.99	0.35	1.8
1,1,1,2-Tetrachloroethane														1.1						
1,1,2,2-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	0.34 U	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	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	0.27 U	12	0.27 U	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	430	0.71	0.20 U	0.20 U	0.20 U	0.20 U	0.27
1,1-Dichloroethene	330	640	340	560	97	210	0.20 U	1.0 U	0.40 U	6400	96	78	87	20	0.38	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,4-Trichlorobenzene	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	0.37 U	NA	0.37 U	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	0.25 U	52	0.25 U	0.36	0.70	0.77	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	0.038	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	0.30 U	410	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,2-Dichloroethane	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	0.31	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	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	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	0.35 U	NA	0.35 U	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	2.1	1.3 U	0.50 U	0.50 U	50 U	0.25 U	0.25 U	52	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 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	0.23 U	0.23 U	NA	0.11 U	0.11 U	0.34	0.84	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	2.9	1.5 U	0.60 U	0.60 U	60 U	0.30 U	0.30 U	410	0.30 U	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	0.30 U	24	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane														NA						
2-Butanone	12	11	36	10	36	6.4	10	6.3	9.4	5.5	330	1.9	2.0	500	20	3.1	5.8	3.4	2.6	2.2
2-Hexanone	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	13000	0.27	0.34	NA	0.20 U	0.20 U	0.60	0.42	0.20 U	0.23
4-Ethyltoluene	5.0 U	5.0 U	5.0 U	5.0 U	1.3 U	5.0 U	2.1	1.3 U	0.50 U	0.50 U	50 U	0.25 U	0.25 U	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	4.0 U	5.0	1.0 U	0.40 U	0.40 U	40 U	0.20 U	0.20 U	200	0.20 U	0.20 U	0.43	0.30	0.20 U	0.20 U
Acetone	9.6 U	9.6 U	53	24	26	12	1200	11	19	12	430	3.6	5.7	500	18	7.7	19	21	10	8.7
Benzene	5.6	7.8	3.2 U	6.8	1.4	3.2 U	1.3	0.80 U	0.32 U	0.32 U	32 U	0.16 U	0.16 U	3.3	1.0	0.68	1.9	3.0	0.69	0.87
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	0.26 U	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	6.6 U	6.6 U	6.6 U	6.6 U	1.7 U	6.6 U	0.33 U	1.7 U	0.66 U	0.66 U	66 U	0.33 U	0.33 U	0.46	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	11 U	11 U	11 U	11 U	2.6 U	11 U	0.51 U	2.6 U	1.1 U	1.1 U	110 U	0.51 U	0.51 U	7.3	0.51 U	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	0.19 U	NA	0.19 U	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	3.2 U	0.16 U	0.80 U	4.1	27	250	0.16 U	0.20	NA	0.16 U	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	1.6 U	0.62 U	0.62 U	62 U	0.31 U	0.31 U	0.54	0.35	0.41	0.52	0.55 [a]	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	0.23 U	200	0.23 U	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	0.42	0.13 U	0.13 U	0.13 U
Chloroform	9.6	15	13	23	3.6	7.5	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	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	0.50 U	0.20 U	0.20 U	23	0.10 U	0.10 U	80	1.1	1.0	1.4	1.5	1.0	1.0
cis-1,2-Dichloroethene	6100	7600	610	1200	560	1300	0.27	1.0 U	3.9	5200	820	230	570	100	2.0	0.20 U	1.0	1.1	0.73	1.3
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	0.22 U	2.9	0.22 U	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	0.93	0.85 U	0.34 U	0.34 U	34 U	0.17 U	0.17 U	NA	0.17 U	0.17 U	0.49	0.61	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	0.43 U	NA	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	5.0 U	5.0 U	5.4	7.0	2.6	5.0 U	0.76	4.1	3.0	2.4	50 U	1.7	1.9	500	1.8	2.1	2.6	2.8	2.6	2.6
Ethanol	12	8.3	39	1.8 U	8.6	1.8 U	740	36	25	9.8	110	0.38 U	2.8	NA	5.7	8.3	14	20	9.8	7.5
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	0.73 U	73 U	0.18 U	0.18 U	NA	0.37 U	0.37 U	0.18 U	0.18 U	0.37 U	0.18 U
Ethylbenzene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	10	1.1 U	0.44 U	0.44 U	44 U	0.22 U	0.22 U	290	0.26	0.28	0.66	0.85	0.23	0.22 U
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	220 U	0.53 U	0.53 U	NA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	3.6 U	6.6	3.6 U	3.6 U	3.2	3.6 U	3.0	0.90 U	46	0.36 U	36 U	0.18 U	0.23	NA	0.92	0.74	1.2	1.6	1.0	0.51
Isopropyl alcohol	2.4 U	2.4 U	26	5.9	7.5	7.1	450	2.9	3.1	47	290	0.25 U	1.4	NA	3.4	3.1	5.3	5.8	3.8	2.0
m,p-Xylene	8.6 U	8.6 U	8.6 U	8.6 U	2.2 U	8.6 U	27	2.2 U	0.86 U	0.86 U	86 U	0.43 U	0.43 U	500	0.76	0.87	2.1	2.8	0.80	0.43 U
Methyl methacrylate														NA						
Methylene chloride	7.0 U	17	7.0 U	13	19	12	20	76	17	3.0	810	0.70 U	0.72	17	2.3	33	2.3	1.8	4.4	1.1

**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							CT IACTIND 2003 (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space					
	EW-2-030609 3/6/2009	EW-2-033109 3/31/2009	EW-3-030609 3/6/2009	EW-3-033109 3/31/2009	EW-4-030609 3/6/2009	EW-4-033109 3/31/2009	Post carbon-020309 2/3/2009	POST CARBON-021109 2/11/2009	POST CARBON-021809 2/18/2009	POST CARBON-022609 2/26/2009	POST CARBON-041409 4/14/2009	POST CARBON-100809 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
Methyl-t-butyl ether	3.6 U	3.6 U	3.6 U	3.6 U	0.90 U	3.6 U	0.18 U	0.90 U	0.36 U	0.36 U	36 U	0.18 U	0.18 U	190	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	4.0 U	1.8	1.0 U	0.40 U	0.40 U	40 U	0.20 U	0.20 U	NA	0.23	0.20 U	0.59	0.75	0.20 U	0.20 U
o-Xylene	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	9.5	1.1 U	0.44 U	0.44 U	44 U	0.22 U	0.22 U	500	0.26	0.33	0.76	0.99	0.30	0.22 U
Propylene (Propene)	1.8 U	1.8 U	1.8 U	1.8 U	0.45 U	1.8 U	0.18 U	98	0.18 U	0.35 U	35 U	0.35 U	0.35 U	NA	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.090 U
Styrene	4.2 U	4.2 U	4.2 U	4.2 U	1.1 U	4.2 U	3.4	1.1 U	0.42 U	0.42 U	42 U	0.21 U	0.21 U	290	0.21 U	0.21 U	0.21	0.28	0.21 U	0.21 U
Tetrachloroethene	2300	2500	73	310	31	170	0.72	1.7 U	1.1	0.68 U	68 U	0.52	1.9	5	6.6 [a]	0.57	4.2	3.2	2.6	4.9
Tetrahydrofuran	19	3.0 U	32	14	37	5.1	6.8	22	40	18	210	4.1	6.5	NA	12	1.2	1.3	0.48	0.32	0.15 U
Toluene	3.8 U	3.8 U	3.8 U	3.8 U	1.4	3.8 U	29	0.95 U	0.65	0.38 U	38 U	0.19 U	0.36	500	1.7	1.4	4.0	5.7	2.3	0.93
trans-1,2-Dichloroethene	69	180	4.0 U	8.8	2.5	8.0	0.20 U	1.0 U	0.40 U	28	40 U	7.7	15	200	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
trans-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	0.22 U	2.9	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	25000	25000	8600	19000	2700	5500	2.0	11	16	2.7	54 U	1.0	1.0	1	4.2	0.46	1.6	1.4	0.65	1.5
Trichlorofluoromethane	1300	1800	430	840	240	370	0.71	1.4 U	23	6700	84	180	210	500	2.1	1.4	1.7	3.1	1.6	1.7
Trichlorotrifluoroethane	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	7.6 U	1.3	1.9 U	0.76 U	0.76 U	76 U	0.38 U	0.51	NA	0.65	0.64	0.47	0.46	0.67	0.48
Vinyl acetate	3.6 U	3.6 U	3.6 U	3.6 U	0.90 U	3.6 U	0.71 U	0.90 U	0.36 U	1.5 U	150 U	0.71 U	0.71 U	NA	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U
Vinyl chloride	9.4	8.1	2.6 U	2.6 U	0.65	2.6 U	0.13 U	30	13	4.5	26 U	0.13 U	0.13 U	1.9	0.26	0.13 U	0.22	0.21	0.13 U	0.19

**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	IA-1-041409 4/14/2009	IA-1-042409 4/24/2009	IA-1-091709 9/17/2009	IA-1-092409 9/24/2009	IA-1-100109 10/1/2009	IA-1-100809 10/8/2009	IA-1-120209 12/2/2009	IA-1-010810 1/8/2010	IA-1-012810 1/28/2010	IA-1-020510 2/5/2010	IA-1-021210 2/12/2010	IA-1-021910 2/19/2010	IA-1-032610 3/26/2010	IA-1-043010 4/30/2010	IA-1-052810 5/28/2010	IA-1-070110 7/1/2010	IA-1-091610 9/16/2010	IA-1-120710 12/7/2010	IA-1-021711 2/17/2011	IA-1-060211 6/2/2011
1,1,1-Trichloroethane	1.5	1.4	2.0	0.27 U	0.27 U	0.27 U	0.27 U	0.24	0.27 U	0.27 U	0.76	0.30	0.88	0.27 U	1.2	0.33	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,1,2-Tetrachloroethane																					
1,1,2,2-Tetrachloroethane	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 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-Trichloroethane	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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	0.27 U	0.27 U
1,1-Dichloroethane	0.20 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
1,1-Dichloroethane	0.20 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
1,2,4-Trichlorobenzene	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.52 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.18 U	0.48	0.29	0.35	0.28	0.51	0.52	0.37	0.25 U	0.26	0.25 U	0.25 U	0.25 U	0.25 U	0.40	0.43	0.56	0.25 U	0.55	0.25 U
1,2-Dibromoethane (EDB)	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 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	0.38 U	0.38 U
1,2-Dichlorobenzene	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.30 U	0.30 U
1,2-Dichloroethane	0.20 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
1,2-Dichloropropane	0.23 U	0.17 U	0.23 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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 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	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18	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	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 U	0.23 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,3-Dichlorobenzene	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.30 U	0.30 U
1,4-Dichlorobenzene	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.30 U	0.30 U
1,4-Dioxane																					
2-Butanone	1.3	1.2	4.4	2.0	2.6	2.7	1.3	2.7	1.6	0.30 U	2.4	1.1	1.2	1.3	0.78	2.6	3.3	0.85	0.68	1.7 B	2.9 U
2-Hexanone	0.20 U	0.14 U	0.48	0.43	0.52	0.73	0.31	0.71	0.36	0.20 U	0.47	0.20 U	0.27	0.27	0.20 U	0.67	0.75	0.20 U	0.20 U	0.20 U	4.1 U
4-Ethyltoluene	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18	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-Methyl-2-pentanone	0.20 U	0.14 U	0.52	0.21	0.35	0.32	0.20 U	0.34	0.20 U	0.20 U	0.20 U	0.22	0.20 U	0.20 U	0.20 U	0.28	0.35	0.35	0.20 U	0.20 U	0.20 U
Acetone	14	12	310	11	18	13	10	13	12	2.0	19	7.3	8.5	7.0	6.5	18	18	11	12 B	15 B	11 B
Benzene	0.71	0.56	0.78	0.49	0.47	0.39	0.48	1.1	1.2	0.16 U	0.98	0.64	0.53	0.59	0.64	0.50	0.46	0.8	0.49	1.5	0.25
Benzyl chloride	0.26 U	0.19 U	0.26 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	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	0.24 U	0.33 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	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.34 U	0.34 U
Bromoform	0.51 U	0.36 U	0.51 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	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U
Bromomethane	0.19 U	0.14 U	0.19 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	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	0.12 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	0.33	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	0.53	0.31	0.43	0.48	0.38	0.42	0.43	0.48	0.43	0.31 U	0.40	0.31 U	0.45	0.44	0.48	0.55 [a]	0.52	0.50	0.46	0.47	0.53
Chlorobenzene	0.23 U	0.17 U	0.23 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	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	0.10 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	0.13 U	0.13 U
Chloroform	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.26	0.24 U	0.47	0.43	0.24 U	0.24 U	0.25	0.24 U	0.24 U	3.8	0.24 U	0.24 U	0.24 U
Chloromethane	1.2	1.1	1.3	1.1	1.1	0.98	0.95	1.3	1.1	1.4	1.3	1.3	1.2	1.3	0.79	1.2	1.2	1.1	0.97	1.0	0.92
cis-1,2-Dichloroethene	0.50	0.60	1.3	0.20 U	0.20 U	0.83	0.44	0.57	0.20 U	0.20 U	0.20 U	0.20 U	0.56	0.20 U	1.3	0.20 U	0.50	0.20 U	1.7	0.20 U	0.20 U
cis-1,3-Dichloropropene	0.22 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	0.23 U	0.23 U	0.23 U
Cyclohexane	0.17 U	0.12 U	0.34	0.18 U	0.17 U	0.17 U	0.17 U	0.28	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	0.22	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.31 U	0.43 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	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	3.1	2.0	8.3	2.4	2.0	2.3	2.1	1.6	3.1	2.4	2.4	2.6	3.0	1.6	2.2	2.3	2.7	1.7	2.0	3.1	1.5
Ethanol	18	5.0	39	6.2	7.0	6.5	8.8	10	8.4	7.0	29	19	43	4.6	4.4	6.0	6.5	9.0	2.7	9.0	2.8
Ethyl acetate	0.18 U	0.26 U	0.37 U	0.32	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	0.18 U
Ethylbenzene	0.22 U	0.16 U	0.94	0.23	0.23	0.22 U	0.28	0.46	0.40	0.22 U	0.32	0.22 U	0.22 U	0.22 U	0.23	0.29	0.27	0.51	0.22 U	0.54	0.22 U
Hexachlorobutadiene	1.1 U	0.75 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	0.75 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexane	0.53	0.65	1.7	0.99	1.3	0.41	0.77	0.78	0.74	0.18 U	0.82	1.3	0.45	0.20	1.1	0.80	0.46	0.61	0.35 U	1.9	0.43
Isopropyl alcohol	9.1	0.18 U	240	5.2	5.2	0.25 U	2.7	1.8	2.4	0.25 U	9.4	0.25 U	1.6	0.65	3.4	0.12 U	0.74	1.4	0.25 U	1.7	1.2 U
m,p-Xylene	0.63	0.31 U	2.5	0.79	0.91	0.73	1.0	1.4	1.1	0.43 U	1.0	0.43 U	0.43 U	0.50	0.77	1.1	1.2	1.7	0.43 U	1.6	0.42 J
Methyl methacrylate																			0.20 U	0.20 U	0.20 U
Methylene chloride	6.7	3.5	4.8	1.6	3.6	0.70 U	0.70 U	2.9	0.70 U	1.4	1.5	1.9	0.70 U	0.70 U	0.70 U	0.35 U	1.2	0.56	0.56	4.8	1.3

**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	IA-1-041409 4/14/2009	IA-1-042409 4/24/2009	IA-1-091709 9/17/2009	IA-1-092409 9/24/2009	IA-1-100109 10/1/2009	IA-1-100809 10/8/2009	IA-1-120209 12/2/2009	IA-1-010810 1/8/2010	IA-1-012810 1/28/2010	IA-1-020510 2/5/2010	IA-1-021210 2/12/2010	IA-1-021910 2/19/2010	IA-1-032610 3/26/2010	IA-1-043010 4/30/2010	IA-1-052810 5/28/2010	IA-1-070110 7/1/2010	IA-1-091610 9/16/2010	IA-1-120710 12/7/2010	IA-1-021711 2/17/2011	IA-1-060211 6/2/2011	
Methyl-t-butyl ether	0.18 U	0.13 U	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	0.18 U	
n-Heptane	0.20 U	0.14 U	0.67	0.20 U	0.20 U	0.20 U	0.26	0.42	0.35	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	0.20 U	0.50	0.20 U
o-Xylene	0.22 U	0.16 U	0.70	0.31	0.40	0.28	0.40	0.52	0.44	0.22 U	0.38	0.22 U	0.22 U	0.22 U	0.28	0.46	0.51	0.69	0.22 U	0.56	0.22 U	
Propylene (Propene)	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	
Styrene	0.21 U	0.15 U	0.24	0.21 U	0.21 U	0.21 U	0.21 U	0.19	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.25	0.31	0.24	0.21 U	0.21 U	0.21 U	
Tetrachloroethene	1.5	1.9	<b>6.1 [a]</b>	0.34 U	0.34 U	2.0	1.1	3.2	0.34 U	0.34 U	0.34 U	0.34 U	1.2	0.34 U	4.5	0.55	1.1	0.34 U	3.3	<b>5.6 [a]</b>	0.34 U	
Tetrahydrofuran	0.15 U	0.23	0.40	0.15 U	0.15 U	0.15 U	0.15 U	0.11 U	0.15 U	0.15 U	0.15 U	0.15 U	0.22	0.15 U	0.15 U	0.15 U	0.24	0.16	0.15 U	0.15 U	0.15 U	
Toluene	1.7	0.72	5.7	1.3	1.1	0.78	1.2	2.8	2.1	0.19 U	0.82	0.69	0.58	0.80	1.3	0.91	0.99	2.5	0.44	3.0	0.58	
trans-1,2-Dichloroethene	0.20 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-1,3-Dichloropropene	0.22 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	0.23 U	0.23 U	0.23 U	
Trichloroethene	0.57	0.74	<b>1.6</b>	0.27 U	0.27 U	<b>1.1</b>	0.56	0.69	0.27 U	0.27 U	0.27 U	0.31	0.39	0.27 U	<b>1.5</b>	0.27 U	0.40	0.27 U	<b>1.7</b>	0.27 U	0.27 U	
Trichlorofluoromethane	1.2	1.2	1.5	1.4	1.3	1.2	1.2	1.3	2.5	0.81	1.3	1.5	1.5	1.4	1.2	1.3	1.4	2.7	1.2	1.7	1.1	
Trichlorotrifluoroethane	0.59	0.54	1.7	0.48	0.44	0.45	0.51	0.52	0.63	0.38 U	0.71	0.63	0.55	0.55	0.48	0.59	0.53	0.48	0.57	0.64	0.67	
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	0.18 U	0.36 U	0.35 U	0.18 U	3.5 U	
Vinyl chloride	0.13 U	0.10 U	0.16	0.13 U	0.13 U	0.17	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	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	IA-1- 120811 12/8/2011	IA-1- 030812 3/8/2012	IA-1- 061412 6/14/2012	IA-1- 091312 9/13/2012	IA-1- 010313 1/3/2013	IA-1- 031513 3/15/2013	IA-1- 060713 6/7/2013	IA-1- 090613 9/6/2013	IA-1- 121313 12/13/13	IA-1- 030714 03/07/14	IA-1- 061314 6/13/2014	IA-2 011609 1/16/2009	IA-2- 020309 2/3/2009	IA-2- 021109 2/11/2009	IA-2- 021809 2/18/2009	IA-2- 022609 2/26/2009	IA-2- 041409 4/14/2009	IA-2- 042409 4/24/2009	IA-2- 091709 9/17/2009
1,1,1-Trichloroethane	0.27 U	0.12	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11	0.19 U	9.9	0.63	1.1	1.1	0.44	1.4	2.1	0.27 U
1,1,1,2-Tetrachloroethane	0.62 U		0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.35 J	0.44 U	0.44 U	0.44 U								
1,1,2,2-Tetrachloroethane	0.34 U	0.21 U	0.10 U	0.21 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	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U
1,1,2-Trichloroethane	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	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U
1,1-Dichloroethane	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	0.72	0.20 U	0.20 U	0.20 U	0.20 U	0.32	0.14 U	0.20 U
1,1-Dichloroethane	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	0.41	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U
1,2,4-Trichlorobenzene	0.74 U	0.45 U	0.45 U	0.45 U	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.25 U	0.10	0.15 U	0.16	0.55	0.17 U	0.17 U	0.21	0.32	0.17 U	0.52	0.25	0.25 U	0.37	0.70	0.65	0.30	0.18 U	0.25 U	0.29
1,2-Dibromoethane (EDB)	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	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U
1,2-Dichlorobenzene	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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U
1,2-Dichloroethane	0.20 U	0.056	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	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U
1,2-Dichloropropane	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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane													0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.044	0.15 U	0.059	0.32	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.16	0.17 U	0.25 U	0.25 U	0.25	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.066 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	0.55	0.078 U	0.11 U	0.11 U	0.30	0.66	0.11 U	0.08 U	0.11 U	0.23 U
1,3-Dichlorobenzene	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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U
1,4-Dichlorobenzene	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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U
1,4-Dioxane	0.18 U																			
2-Butanone	5.9 U	1.8	1.2	1.4	3.0	0.87	0.64	2.9	2.0	0.92	1.6	3.1	21	4.1	4.6	3.0	2.9	0.95	1.6	1.1
2-Hexanone	0.62	0.22	0.26	0.12 U	0.28	0.14 U	0.14 U	0.38	0.27	0.14 U	0.30	0.45	0.20 U	0.20 U	0.35	0.26	0.20 U	0.14 U	0.20 U	0.25
4-Ethyltoluene	0.25 U	0.15 U	0.15 U	0.071	0.19	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17	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
4-Methyl-2-pentanone	0.23	0.39	0.13	0.093	0.26	0.14 U	0.14 U	0.24	0.52	0.14 U	0.23	0.49	0.20 U	0.20 U	0.35	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U
Acetone	18	8.0	6.0	12	16	7.0	5.0	21	35	19	13	23	17	9.6	14	18	9.7	13	39	6.2
Benzene	0.32	0.47	0.34	0.19	0.67	0.51	0.72	0.28	0.75	0.54	2.3	0.46	1.0	0.67	1.8	3.0	0.77	0.58	0.44	0.41
Benzyl chloride	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	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U
Bromodichloromethane	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	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U
Bromoform	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	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U
Bromomethane	0.19 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	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U
Carbon disulfide	1.6 U	0.93 U	0.93 U	0.93 U	1.1 U	1.1 U	1.1 U	1.1 U	0.23	0.20	1.1 U	0.21	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U
Carbon tetrachloride	0.57 [a]	0.49	0.46	0.46	0.39	0.54	0.44	0.53	0.53	0.54	0.41	0.42	0.33	0.41	0.55 [a]	0.57 [a]	0.48	0.41	0.41	0.44
Chlorobenzene	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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U
Chloroethane	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	0.13 U	0.13 U	0.42	0.13 U	0.13 U	0.10 U	0.13 U	0.13 U
Chloroform	0.24 U	0.085	0.073 U	0.097	0.19	0.17 U	0.17 U	0.17 U	0.20	0.17 U	0.13	0.25	0.24 U	0.24 U	0.24 U	0.24 U	0.25	0.17 U	0.24 U	0.24 U
Chloromethane	1.3	0.93	1.3	1.6	1.3	0.99	1.1	1.4	1.2	1.0	1.3	1.3	1.1	1.0	1.3	1.3	1.0	1.1	1.2	0.91
cis-1,2-Dichloroethene	0.20 U	0.15	0.059 U	0.12 U	0.045	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	2.1	0.24	1.1	1.1	0.95	0.59	1.6	0.20 U
cis-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	0.16 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
Cyclohexane	0.17 U	0.10 U	0.10 U	0.10 U	0.27	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.32	0.12 U	0.17 U	0.17 U	0.44	0.61	0.17 U	0.12 U	0.22	0.17 U
Dibromochloromethane	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	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U
Dichlorodifluoromethane	2.0	2.6	2.1	2.7	2.7	2.5	1.7	3.2	1.9	2.4	1.7	2.1	1.8	2.2	2.6	2.9	2.7	2.1	2.9	2.0
Ethanol	6.4	2.2	3.2	4.4	8.5	3.1	2.0	26	23	12	22	80	5.5	8.8	12	17	7.9	4.9	7.5	4.8
Ethyl acetate	0.18 U	0.11 U	0.92	0.26	0.57	0.40	0.21	0.33	0.13 U	25	0.34	0.13 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
Ethylbenzene	0.22 U	0.14	0.10	0.11	0.47	0.18	0.15 U	0.19	0.35	0.15 U	0.53	0.23	0.26	0.28	0.65	0.79	0.30	0.18	0.22 U	0.22 U
Hexachlorobutadiene	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	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	0.53 U
Hexane	7.0 U	0.39	0.72	0.55	1.3	0.67	0.64	0.79	19	4.9 U	1.2	0.43	0.88	0.57	1.3	1.6	0.69	0.72	0.74	0.41
Isopropyl alcohol	4.9 U	2.9 U	0.64	2.9 U	1.9	3.4 U	0.36	3.4 U	3.4 U	2.1	1.9	5.5	3.7	3.1	4.5	4.5	4.7	5.6	28	340
m,p-Xylene	0.51	0.41	0.22	0.36	1.7	0.79	0.30	0.79	1.0	0.19	1.6	0.86	0.76	0.88	2.0	2.6	0.93	0.61	0.63	0.71
Methyl methacrylate	0.20 U	0.12 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.15	0.14 U	0.14 U	0.14 U								
Methylene chloride	1.7 U	1.6	3.3	1.2	1.8	1.3	1.9	1.3	34	0.68	0.80	0.67	2.0	30	4.0	1.6	1.8	4.0	4.2	0.70 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	IA-1- 120811 12/8/2011	IA-1- 030812 3/8/2012	IA-1- 061412 6/14/2012	IA-1- 091312 9/13/2012	IA-1- 010313 1/3/2013	IA-1- 031513 3/15/2013	IA-1- 060713 6/7/2013	IA-1- 090613 9/6/2013	IA-1- 121313 12/13/13	IA-1- 030714 03/07/14	IA-1- 061314 6/13/2014	IA-2 011609 1/16/2009	IA-2- 020309 2/3/2009	IA-2- 021109 2/11/2009	IA-2- 021809 2/18/2009	IA-2- 022609 2/26/2009	IA-2- 041409 4/14/2009	IA-2- 042409 4/24/2009	IA-2- 091709 9/17/2009
Methyl-t-butyl ether	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	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 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	0.14 U	0.81	0.14 U	0.67	0.44	0.23	0.20 U	0.58	0.73	0.22	0.15	0.20 U	0.20 U
o-Xylene	0.22 U	0.15	0.096	0.14	0.66	0.25	0.15 U	0.27	0.42	0.15 U	0.62	0.32	0.30	0.34	0.76	0.89	0.34	0.22	0.22	0.27
Propylene (Propene)	3.4 U	2.1 U	2.1 U	1.1	1.7	2.4 U	2.4 U	2.4 U	2.4 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	0.18 U	0.35 U
Styrene	0.21 U	0.85	0.13 U	0.038	0.14	0.15 U	0.15 U	0.15 U	0.27	0.15 U	0.16	0.29	0.21 U	0.21 U	0.21 U	0.23	0.21 U	0.15 U	0.21 U	0.21 U
Tetrachloroethene	0.47	0.84	0.21	0.065	2.7	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.21	0.31	7.5 [a]	0.64	4.2	3.2	3.3	2.2	7.6 [a]	0.34 U
Tetrahydrofuran	0.15 U	0.14	0.088 U	0.088 U	0.10 U	0.10 U	0.10 U	0.10 U	0.27	0.10 U	0.10 U	0.16	12	1.2	1.2	0.49	0.41	0.21	0.28	0.15 U
Toluene	0.93	1.6	0.30	0.64	2.8	0.47	0.49	1.0	4.2	0.62	3.2	1.9	1.7	1.3	4.0	5.5	2.3	1.0	1.2	1.1
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	0.14 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
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	0.16 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
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	0.19 U	0.25	0.19 U	4.4	0.56	1.6	1.4	0.91	0.77	1.9	0.27 U
Trichlorofluoromethane	1.8	1.0	0.89	1.8	1.7	1.6	1.3	1.9	2.4	1.4	1.6	1.4	2.0	1.2	1.7	2.8	1.6	1.3	1.3	1.2
Trichlorotrifluoroethane	0.59	0.69	0.40	0.59	0.57	0.55	0.79	1.1	0.63	0.54	0.45	0.57	0.69	0.58	0.49	0.46	0.64	0.56	0.74	0.50
Vinyl acetate	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	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.50 U	0.71 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	0.090 U	0.090 U	0.09 U	0.27	0.13 U	0.18	0.20	0.13 U	0.10 U	0.18	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										Indoor Air - Large Retail Space									
	IA-2-092409 9/24/2009	IA-2-100109 10/1/2009	IA-2-100809 10/8/2009	IA-2-012810 1/28/2010	IA-2-020510 2/5/2010	IA-2-021210 2/12/2010	IA-2-021910 2/19/2010	IA-2-032610 3/26/2010	IA-2-043010 4/30/2010	IA-2-091610 9/16/2010	IA-2-070110 7/1/2010	IA-2-091610 9/16/2010	IA-2-120710 12/7/2010	IA-2-021711 2/17/2011	IA-2-060211 6/2/2011	IA-2-091511 9/15/2011	IA-2-120811 12/8/2011	IA-2-030812 3/8/2012	IA-2-061412 6/14/2012	IA-2-091312 9/13/2012
1,1,1-Trichloroethane	0.27 U	0.27 U	0.27 U	0.44	0.73	0.27 U	0.27 U	0.27 U	1.0	0.27 U	0.28	0.27 U	0.27 U	0.27 U	0.27 U	0.13	0.082 U	0.16 U	0.08	
1,1,1,2-Tetrachloroethane															0.62 U		0.37 U	0.37 U	0.44 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	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.10 U	0.21 U	0.24 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	0.27 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	
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	0.12 U	0.061 U	0.12 U	0.043	
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	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.045	
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	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.45 U	0.45 U	0.45 U	0.52 U	
1,2,4-Trimethylbenzene	0.39	0.27	0.52	0.55	0.25 U	0.25 U	0.25 U	0.25 U	0.31	0.35	0.48	0.52	0.25 U	0.52	0.25 U	0.25 U	0.088	0.15 U	0.19	0.48
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	0.23 U	0.12 U	0.23 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	0.30 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	0.18 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	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.063	0.061 U	0.051	0.08	
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	0.23 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	
1,2-Dichlorotetrafluoroethane	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	0.59	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	0.15 U	0.15 U	0.080	0.26	
1,3-Butadiene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 U	0.23 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.066 U	0.066 U	0.066 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	0.30 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	0.18 U	0.08	
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.34	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	0.18 U	0.093	
1,4-Dioxane															0.18 U					
2-Butanone	2.3	0.81	1.0	2.1	0.70	0.44	0.30 U	0.96	1.3	3.1	3.4	0.96	0.36	1.9 B	2.9 U	5.9 U	0.93	0.84	1.4	2.8
2-Hexanone	0.54	0.20 U	0.26	0.51	0.20 U	0.20 U	0.20 U	0.20 U	0.26	0.84	0.68	0.20 U	0.20 U	0.24	4.1 U	0.50	0.12 U	0.16	0.15	0.32
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	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.086	0.19	
4-Methyl-2-pentanone	0.39	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.28	0.49	0.34	0.20 U	0.20 U	0.20 U	0.24	0.10	0.11	0.12	0.19
Acetone	17	11	8.8	17	7.8	3.1	0.48 U	6.3	8.2	18	20	11	9.8 B	15 B	8.9 B	18	6.2	5.4	14	17
Benzene	0.47	0.39	0.54	1.2	0.86	0.67	0.16 U	0.58	0.63	0.47	0.48	0.72	0.48	1.5	0.26	0.30	0.39	0.36	0.24	0.62
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	0.26 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
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	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
Bromoform	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	0.52 U	0.52 U	0.52 U	0.52 U	0.31 U	0.31 U	0.31 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	0.22	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.12 U	0.12 U	0.12 U	0.14 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	1.6 U	0.93 U	0.93 U	0.93 U	1.1 U
Carbon tetrachloride	0.40	0.46	0.42	0.31 U	0.40	0.31 U	0.31 U	0.43	0.47	0.50	0.52	0.50	0.48	0.31 U	0.62 [a]	0.52	0.49	0.48	0.45	0.43
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	0.23 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
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	0.13 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
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.47	0.40	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	3.4	0.24 U	0.24 U	0.24 U	0.24 U	0.085	0.073 U	0.14	0.25
Chloromethane	1.1	0.96	0.98	1.2	1.3	1.3	1.4	1.3	0.80	1.2	1.2	1.1	0.96	0.97	0.95	1.2	0.93	1.0	1.4	1.3
cis-1,2-Dichloroethene	0.20 U	0.79	0.48	0.58	0.20 U	0.20 U	0.20 U	0.20 U	1.0	0.20 U	0.61	0.20 U	1.7	0.20 U	0.20 U	0.20 U	0.17	0.059 U	0.12 U	0.064
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	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
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	0.17 U	0.20	0.17 U	0.17 U	0.17 U	0.17 U	0.10 U	0.10 U	0.10 U	0.26
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	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
Dichlorodifluoromethane	2.1	2.3	2.1	2.2	2.5	2.6	3.0	1.6	2.0	2.4	2.6	1.7	1.9	3.2	1.6	2.0	2.7	2.1	2.7	2.8
Ethanol	6.7	7.8	6.2	14	35	17	20	4.4	4.9	5.0	7.6	9.0	2.7	10	2.5	8.5	2.1	2.1	10	9.8
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	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.22	0.24	3.5	0.71
Ethylbenzene	0.22	0.22 U	0.31	0.42	0.34	0.22 U	0.22 U	0.22 U	0.23	0.24	0.29	0.46	0.22 U	0.5	0.22 U	0.22 U	0.13	0.13 U	0.13 U	0.41
Hexachlorobutadiene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	1.1 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	0.32 U	0.32 U	0.32 U	0.37 U
Hexane	0.42	0.71	1.0	0.61	0.64	1.4	0.18 U	0.27	1.6	0.51	0.49	0.53	0.35 U	1.6	0.31	7.0 U	0.32	0.34	2.6	2.4
Isopropyl alcohol	5.7	3.3	0.25 U	0.25 U	3.6	0.25 U	0.25 U	0.63	3.2	0.12 U	1.2	0.25 U	0.25 U	2.0	1.2 U	4.9 U	2.9 U	0.76	2.9 U	2.8
m,p-Xylene	0.93	0.78	1.1	1.3	1.1	0.43 U	0.43 U	0.47	0.75	0.96	1.3	1.5	0.43 U	1.5	0.36 J	0.57	0.39	0.18	0.38	1.3
Methyl methacrylate													0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.12 U	0.12 U	0.14 U
Methylene chloride	0.70 U	0.70 U	0.70 U	1.4	0.90	1.9	0.70 U	0.70 U	0.70 U	0.35 U	1.3	0.53	0.61	4.2	1.0	7.5	1.1	1.2	6.6	6.4

**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										Indoor Air - Large Retail Space									
	IA-2-092409 9/24/2009	IA-2-100109 10/1/2009	IA-2-100809 10/8/2009	IA-2-012810 1/28/2010	IA-2-020510 2/5/2010	IA-2-021210 2/12/2010	IA-2-021910 2/19/2010	IA-2-032610 3/26/2010	IA-2-043010 4/30/2010	IA-2-091610 9/16/2010	IA-2-070110 7/1/2010	IA-2-091610 9/16/2010	IA-2-120710 12/7/2010	IA-2-021711 2/17/2011	IA-2-060211 6/2/2011	IA-2-091511 9/15/2011	IA-2-120811 12/8/2011	IA-2-030812 3/8/2012	IA-2-061412 6/14/2012	IA-2-091312 9/13/2012
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	0.18 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	0.18
n-Heptane	0.20 U	0.20 U	0.34	0.83	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.80	0.34	0.20 U	0.48	0.20 U	0.20 U	0.091	0.12 U	0.11	0.40
o-Xylene	0.42	0.30	0.44	0.46	0.40	0.22 U	0.22 U	0.22 U	0.29	0.44	0.57	0.63	0.22 U	0.56	0.22 U	0.23	0.14	0.083	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	0.87 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	2.4 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	0.21 U	0.21 U	0.21 U	0.21 U	0.059	0.13 U	0.097	0.19
Tetrachloroethene	0.35	1.7	1.0	2.3	0.34 U	0.34 U	0.34 U	0.34 U	3.6	0.43	1.4	0.34 U	3.2	<b>5.2 [a]</b>	0.34 U	0.45	0.92	0.23	0.090	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	0.27	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
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	0.41	2.9	0.55	0.99	1.6	0.24	0.90	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	0.12 U	0.059 U	0.12 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	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.068 U	0.14 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	<b>1.2</b>	0.27 U	0.53	0.27 U	<b>1.7</b>	0.27 U	0.27 U	0.27 U	0.27	0.081 U	0.16 U	0.20
Trichlorofluoromethane	1.2	1.2	1.2	1.2	1.3	1.4	1.1	1.4	1.3	1.3	1.6	2.5	1.2	1.8	1.2	1.9	1.1	0.94	1.8	2.6
Trichlorotrifluoroethane	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	0.61	0.71	0.42	0.57	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	0.36 U	0.71 U	0.18 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
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	0.14	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 U	0.090 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-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-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	9.8	0.57	1.1	1.1	0.28	1.5	2.2	0.27 U	0.27 U	0.27 U	0.27 U	0.45	0.71
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													
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	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 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-Trichloroethane	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	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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	0.68	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
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.15	0.35	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
1,2,4-Trichlorobenzene	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 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-Trimethylbenzene	0.98	0.13	0.43	0.20	0.17 U	0.57	0.27	0.25 U	0.36	0.68	0.61	0.25 U	0.18 U	0.25 U	0.29	0.40	0.25 U	0.39	0.44	0.25 U
1,2-Dibromoethane (EDB)	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	0.27 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	0.21 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	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,2-Dichloroethane	0.16	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	0.14 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	0.16 U	0.11	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	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane								0.35 U	0.35 U	0.35 U	0.35 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
1,3,5-Trimethylbenzene	0.28	0.17 U	0.17 U	0.17 U	0.17 U	0.17	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	0.42	0.25 U
1,3-Butadiene	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.44	0.11	0.11 U	0.11 U	0.3	0.77	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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
1,4-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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
1,4-Dioxane																				
2-Butanone	5.1	2.4	4.2	2.1	1.2	1.8	1.6	20	4.2	4.6	4.0	1.7	1.6	2.5	2.0	2.6	0.70	1.5	1.9	2.0
2-Hexanone	0.17	0.22	0.51	0.41	0.14 U	0.39	0.14 U	0.20 U	0.26	0.33	0.3	0.20 U	0.14 U	0.38	0.51	0.58	0.20 U	0.37	0.52	0.39
4-Ethyltoluene	0.24	0.17 U	0.17 U	0.17 U	0.17 U	0.18	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	0.14 U	0.54	0.46	0.18	0.57	1.1	0.20 U	0.20 U	0.29	0.34	0.20 U	0.14 U	0.22	0.20 U	0.42	0.20 U	0.20 U	0.20 U	0.20 U
Acetone	19	46	32	22	32	32	29	18	12	17	24	9.7	7.5	50	11	19	6.7	11	14	21
Benzene	0.65	0.91	0.56	0.32	0.66	2.0	0.62	1.0	0.71	1.9	3.1	0.69	0.6	0.46	0.41	0.5	0.39	0.46	1.3	0.86
Benzyl chloride	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	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	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	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	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	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	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	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	1.9	0.47	0.39	0.33	0.17	0.17	0.56	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	0.58	0.45	0.46	0.41	0.42	0.34	0.45	0.52	0.6 [a]	0.43	0.22 U	0.42	0.4	0.43	0.4	0.42	0.31 U	0.42
Chlorobenzene	0.58	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	0.17 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	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.13 U	0.13 U	0.43	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
Chloroform	0.17 U	0.15	0.17 U	0.17 U	0.37	0.29	0.53	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
Chloromethane	1.0	2.7	1.7	0.98	1.1	1.3	1.2	1.1	0.98	1.2	1.4	1.1	1.2	1.2	0.91	1.1	0.97	1.0	1.2	2.9
cis-1,2-Dichloroethene	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	1.9	0.20 U	1.1	1.1	0.55	0.61	1.5	0.20 U	0.20 U	0.94	0.49	0.59	0.20 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	0.22 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
Cyclohexane	1.9	0.12 U	0.12 U	0.12 U	0.12 U	0.32	0.22	0.17 U	0.17 U	0.46	0.6	0.17 U	0.15	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	0.3 U	0.43 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	0.43 U
Dichlorodifluoromethane	2.6	1.7	3.3	1.8	2.6	1.5	2	1.9	2.3	2.5	2.9	2.6	2.0	2.9	2.1	2.1	2.2	2.2	2.3	2.5
Ethanol	8.1	380	66	46	89	130	240	5.5	9.2	13	18	7.9	4.2	9.0	6.2	7.5	4.5	5.0	13	40
Ethyl acetate	0.59	2	0.39	0.28	13	0.36	0.25	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	0.25	0.39	0.17	0.15 U	0.56	0.27	0.25	0.29	0.64	0.77	0.22 U	0.16	0.22 U	0.22 U	0.23	0.22 U	0.24	0.43	0.22 U
Hexachlorobutadiene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexane	15	2.3	1.6	0.65	4.9	1.2	0.74	0.94	0.87	1.3	1.9	3.7	0.37	0.77	0.96	0.47	0.37	0.71	0.55	0.44
Isopropyl alcohol	3.4 U	3.6	3.4 U	1.7	9.7	4.1	3.4 U	3.5	4.1	5.5	4.9	3.1	0.18 U	33	180	5.9	0.25 U	0.25 U	0.25 U	9.9
m,p-Xylene	17	0.92	1.4	0.48	0.25	1.6	0.88	0.75	0.9	2.0	2.6	0.65	0.57	0.66	0.70	0.99	0.65	0.87	1.2	0.69
Methyl methacrylate	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U													
Methylene chloride	1.1	3.6	1.5	1.1	7.7	0.65	0.65	2.2	31	3.1	3.5	33	1.2	3.6	2.4	0.70 U	0.70 U	0.70 U	1.4	0.70 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-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-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	
Methyl-t-butyl ether	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	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	
n-Heptane	3.1	0.33	0.41	0.2	0.14 U	0.64	0.39	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	0.20 U	0.24	0.73	0.20 U
o-Xylene	5.1	0.33	0.52	0.2	0.15 U	0.66	0.34	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	
Propylene (Propene)	2.4 U	2.4 U	2.4 U	0.7	2.4 U	2.4 U	2.7	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	
Styrene	0.45	0.12	0.15 U	0.17	0.15 U	0.20	0.35	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	0.21 U	0.40	0.21 U
Tetrachloroethene	0.24	0.18	0.64	0.25	0.24 U	0.28	0.34	6.1 [a]	0.56	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	
Tetrahydrofuran	0.24	0.10 U	0.10 U	0.10 U	0.10 U	0.058	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	
Toluene	5.6	1.5	2.8	1.3	1.0	3.2	1.9	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	
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	0.20 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	
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	0.22 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	
Trichloroethene	0.19 U	0.053	0.19 U	0.19 U	0.19 U	0.23	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	
Trichlorofluoromethane	2.7	1.3	2.0	1.3	1.6	1.2	1.3	1.9	1.3	1.8	2.8	1.8	1.2	1.3	1.4	1.2	1.2	1.2	1.2	1.3	
Trichlorotrifluoroethane	0.56	0.70	1.7	0.60	0.57	0.46	0.54	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	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	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 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-3-070110 7/1/2010	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	0.11	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1,1,2-Tetrachloroethane											0.62 U		0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.46	0.44 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	0.34 U	0.21 U	0.10 U	0.21 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 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	0.27 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
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	0.12 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
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	0.12 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
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.45 U	0.45 U	0.45 U	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.26	0.34	0.46	0.60	0.25 U	0.49	0.25 U	0.25 U	0.071	0.10	0.19	0.47	0.17 U	0.076	0.26	0.33	0.17 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	0.23 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
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	0.30 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
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	0.20 U	0.056	0.061 U	0.051	0.14 U	0.14 U	0.14 U	0.14 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	0.23 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
1,2-Dichlorotetrafluoroethane	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	0.15 U	0.15 U	0.074	0.22	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,3-Butadiene	0.23 U	0.23 U	0.11 U	0.23 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.066 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
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	0.18 U	0.21 U	0.21 U	0.21 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	0.18 U	0.059	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-Dioxane											0.18 U									
2-Butanone	1.2	1.6	0.51	1.0	2.2	3.3	0.95	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	2.9	0.66
2-Hexanone	0.22	0.39	0.20 U	0.29	0.52	0.67	0.20 U	0.20 U	0.20 U	4.1 U	0.24	0.093	0.12 U	0.33	0.22	0.14 U	0.32	0.28	0.31	0.14 U
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.074	0.15	0.17 U	0.17 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	0.38	0.34	0.20 U	0.20 U	0.20 U	0.20 U	0.084	0.12 U	0.19	0.21	0.14 U	0.14 U	0.19	0.36	0.14 U
Acetone	6.7	7.3	3.8	7.7	15	21	11	9.7 B	9.7 B	11 B	13	7.2	3.9	13	12	6.7	12	28	16	14
Benzene	0.67	0.53	0.6	0.67	0.47	0.51	0.72	0.47	1.4	0.29	0.30	0.39	0.35	0.23	0.66	0.53	0.75	0.23	0.75	0.54
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	0.16 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	0.33 U	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	0.24 U	0.24 U
Bromoform	0.51 U	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	0.31 U	0.36 U	0.36 U	0.36 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	0.31	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 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	1.6 U	0.93 U	0.93 U	0.93 U	1.1 U	1.1 U	1.1 U	1.1 U	0.25	1.1 U
Carbon tetrachloride	0.31 U	0.43	0.43	0.49	0.54	0.57 [a]	0.41	0.45	0.6 [a]	0.64 [a]	0.51	0.50	0.49	0.43	0.38	0.32	0.39	0.42	0.47	0.47
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	0.23 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
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	0.13 U	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.098	0.093 U	0.093 U
Chloroform	0.48	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	3.7	0.24 U	0.24 U	0.24 U	0.24 U	0.079	0.073 U	0.15	0.19	0.17 U	0.075	0.17 U	0.21	0.17 U
Chloromethane	1.3	1.2	1.1	0.85	1.2	1.2	1.1	0.98	0.97	1.2	1.4	0.84	1.1	1.4	1.3	0.95	1.3	1.3	1.1	1.0
cis-1,2-Dichloroethene	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	0.19	0.14 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	0.23 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
Cyclohexane	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.18	0.17 U	0.17 U	0.17 U	0.17 U	0.10 U	0.10 U	0.10 U	0.27	0.12 U	0.12 U	0.12 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	0.43 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
Dichlorodifluoromethane	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	2.8	2.5	1.8	2.7	1.8	2.7
Ethanol	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	21	27	11
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	0.18 U	0.11 U	0.73	0.37	0.51	0.68	0.44	0.28	0.34	2.6
Ethylbenzene	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
Hexachlorobutadiene	0.53 U	0.53 U	1.1 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	0.32 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
Hexane	1.0	0.29	0.19	1.4	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
Isopropyl alcohol	0.25 U	2.0	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	0.55	0.54	0.38	0.24	0.40	1.5	1.0	0.31	0.72	1.1	0.19
Methyl methacrylate								0.20 U	0.20 U	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	0.18	0.14 U
Methylene chloride	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	1.5	1.1	1.3	2.7	3.3	2.1	1.1	1.2	1.3

**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-3-070110 7/1/2010	IA-3-091610 9/16/2010	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
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	0.18 U	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.22	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.20 U	0.20 U	0.20 U	0.36	0.20 U	0.20 U	0.32	0.20 U	0.44	0.20 U	0.20 U	0.20 U	0.074	0.12 U	0.11	0.41	0.14 U	0.083	0.15	0.83	0.14 U
o-Xylene	0.22 U	0.22 U	0.22 U	0.32	0.43	0.58	0.64	0.22 U	0.48	0.23	0.23	0.13	0.11	0.16	0.57	0.35	0.13	0.26	0.46	0.15 U	
Propylene (Propene)	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	3.4 U	2.1 U	2.1 U	1.3	1.8	2.4 U	1.1	2.4 U	2.4 U	2.4 U	
Styrene	0.21 U	0.21 U	0.21 U	0.21 U	0.23	0.34	0.26	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.041	0.13 U	0.10	0.14	0.15 U	0.15 U	0.15 U	0.3	0.15 U
Tetrachloroethene	0.34 U	1.3	0.34 U	4.8	0.35	1.1	0.76	3.2	<b>5.2 [a]</b>	0.34 U	0.47	0.91	0.23	0.16	2.3	0.25	0.095	0.30	0.24 U	0.24 U	
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.16	0.24	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.08	0.088 U	0.088 U	0.072	0.10 U	0.10 U	0.14	0.73	0.10 U
Toluene	0.61	0.46	0.81	1.5	0.93	1.1	2.3	0.41	2.7	0.58	0.95	1.5	0.27	0.72	2.8	0.62	0.56	0.90	4.6	0.66	
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	0.12 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
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	0.23 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
Trichloroethene	0.27 U	0.40	0.27 U	<b>1.5</b>	0.27 U	0.47	0.27 U	<b>1.7</b>	0.27 U	0.27 U	0.27 U	0.25	0.081 U	0.16 U	0.17	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Trichlorofluoromethane	1.4	1.6	1.3	1.2	1.3	1.5	2.8	1.2	1.7	1.6	1.7	1.0	0.92	1.6	1.5	1.2	1.3	1.5	1.5	1.6	1.4
Trichlorotrifluoroethane	0.57	0.52	0.57	0.45	0.52	0.54	0.45	0.55	0.67	0.74	0.54	0.69	0.44	0.56	0.54	0.59	0.65	0.65	0.62	0.61	
Vinyl acetate	0.71 U	0.71 U	0.36 U	0.71 U	0.18 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	
Vinyl chloride	0.13 U	0.13 U	0.13 U	0.14	0.13 U	0.13 U	0.13 U	0.13	0.13 U	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	



**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-3-030714 03/07/14	IA-3-061314 6/13/2014	IA-4-011609 1/16/2009	IA-4-020309 2/3/2009	IA-4-021109 2/11/2009	IA-4-021809 2/18/2009	IA-4-022609 2/26/2009	IA-4-041409 4/14/2009	IA-4-042409 4/24/2009	IA-4-091709 9/17/2009	IA-4-092409 9/24/2009	IA-4-100109 10/1/2009	IA-4-100809 10/8/2009	IA-4-012810 1/28/2010	IA-4-020510 2/5/2010	IA-4-021210 2/12/2010	IA-4-021910 2/19/2010	IA-4-032610 3/26/2010	IA-4-043010 4/30/2010	IA-4-052810 5/28/2010
1,1,1-Trichloroethane	0.19 U	0.19 U	10	0.62	1.1	1.1	0.45	1.5	2.2	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.76	0.29	0.89	0.27 U	1.1	0.28
1,1,1,2-Tetrachloroethane	0.44 U	0.44 U																		
1,1,2,2-Tetrachloroethane	0.24 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 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-Trichloroethane	0.19 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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	0.27 U
1,1-Dichloroethane	0.14 U	0.14 U	0.73	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
1,1-Dichloroethane	0.14 U	0.14 U	0.42	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
1,2,4-Trichlorobenzene	0.26 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 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	0.75 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	0.53	0.23	0.26	0.37	0.74	0.65	0.29	0.18 U	0.25 U	0.25 U	0.41	0.28	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.34
1,2-Dibromoethane (EDB)	0.27 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 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	0.38 U
1,2-Dichlorobenzene	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.30 U
1,2-Dichloroethane	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
1,2-Dichloropropane	0.16 U	0.16 U	0.23 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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane			0.35 U	0.35 U	0.35 U	0.35 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	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.17 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	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.55	0.078 U	0.11 U	0.11 U	0.33	0.77	0.11 U	0.08 U	0.11 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	0.23 U	0.11 U
1,3-Dichlorobenzene	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.30 U
1,4-Dichlorobenzene	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.30 U
1,4-Dioxane																				
2-Butanone	1.1	1.5	21	4.4	6.0	3.2	2.5	1.1	1.6	1.5	2.0	1.3	1.2	0.30 U	0.69	1.2	0.50	1.6	1.5	2.2
2-Hexanone	0.14 U	0.14 U	0.20 U	0.33	0.73	0.39	0.20 U	0.14 U	0.20 U	0.29	0.45	0.32	0.27	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.39	0.54
4-Ethyltoluene	0.18	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	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.17	0.35	0.20 U	0.20 U	0.43	0.28	0.20 U	0.14 U	0.20 U	0.20 U	0.32	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
Acetone	11	15	17	10	15	20	7.8	7.9	20	9.3	16	9.3	10	2.3	4.9	5.9	2.5	6.9	8.7	15
Benzene	2.4	0.41	1.1	0.68	1.8	3.0	0.76	0.59	0.44	0.40	0.43	0.37	0.48	0.16 U	0.88	0.66	0.54	0.57	0.64	0.48
Benzyl chloride	0.18 U	0.18 U	0.26 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	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.24 U	0.24 U	0.33 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	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	0.36 U	0.36 U	0.51 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	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.14 U	0.16	0.19 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	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	1.1 U	0.15	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	0.16 U	0.16 U	0.16 U	0.16 U	0.31
Carbon tetrachloride	0.45	0.44	0.40	0.43	0.50	0.58 [a]	0.46	0.22 U	0.45	0.41	0.40	0.46	0.40	0.31 U	0.43	0.31 U	0.42	0.43	0.47	0.52
Chlorobenzene	0.16 U	0.16 U	0.23 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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.093 U	0.093 U	0.13 U	0.13 U	0.41	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	0.13 U
Chloroform	0.17 U	0.24	0.24 U	0.24 U	0.24 U	0.24 U	0.26	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.46	0.39	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	1.3	1.2	1.2	0.99	1.4	1.3	1.0	1.1	1.2	0.90	1.1	1.0	1.0	1.3	1.3	1.3	1.2	1.1	0.77	1.2
cis-1,2-Dichloroethene	0.14 U	0.14 U	2.4	0.20 U	1.1	1.1	0.98	0.61	1.7	0.20 U	0.20 U	0.84	0.48	0.20 U	0.20 U	0.20 U	0.59	0.20 U	1.3	0.20 U
cis-1,3-Dichloropropene	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
Cyclohexane	0.34	0.12 U	0.17 U	0.17 U	0.44	0.64	0.17 U	0.12 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
Dibromochloromethane	0.30 U	0.3 U	0.43 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	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	1.5	2.1	1.9	2.2	2.5	2.8	2.6	2.1	2.4	2.1	2.0	2.2	2.2	2.4	2.5	2.6	3.0	1.7	2.1	2.5
Ethanol	24	64	5.3	8.9	12	18	8.0	5.2	5.5	6.0	6.5	4.9	5.6	7.7	34	17	31	3.9	4.9	6.1
Ethyl acetate	2.5	0.13 U	0.37 U	0.37 U	0.18 U	0.19	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	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.55	0.22	0.25	0.29	0.65	0.78	0.29	0.16	0.22 U	0.22 U	0.27	0.22 U	0.26	0.22 U	0.26	0.22 U	0.22 U	0.22 U	0.25	0.25
Hexachlorobutadiene	0.37 U	0.37 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 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	1.1 U	0.53 U	0.53 U
Hexane	2.1	0.44	0.90	0.66	1.2	1.7	0.66	0.43	0.34	0.42	2.2	0.49	0.93	0.18 U	0.37	1.3	0.49	0.19	1.3	0.55
Isopropyl alcohol	2.1	5.2	3.5	3.3	4.7	4.8	3.9	0.18 U	13	5.6	5.2	0.25 U	0.25 U	0.96	0.25 U	0.25 U	1.9	0.66	3.4	4.4
m,p-Xylene	1.6	0.84	0.76	0.89	2.1	2.6	0.89	0.58	0.49	0.61	0.93	0.69	1.0	0.43 U	0.81	0.43 U	0.43 U	0.49	0.80	0.98
Methyl methacrylate	0.14 U	0.14 U																		
Methylene chloride	2.2	0.77	2.3	29	1.7	2.5	1.3	1.9	2.2	0.70 U	9.7	0.70 U	0.70 U	1.5	0.70 U	1.9	0.71	0.70 U	0.70 U	0.35 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-3-030714 03/07/14	IA-3-061314 6/13/2014	IA-4-011609 1/16/2009	IA-4-020309 2/3/2009	IA-4-021109 2/11/2009	IA-4-021809 2/18/2009	IA-4-022609 2/26/2009	IA-4-041409 4/14/2009	IA-4-042409 4/24/2009	IA-4-091709 9/17/2009	IA-4-092409 9/24/2009	IA-4-100109 10/1/2009	IA-4-100809 10/8/2009	IA-4-012810 1/28/2010	IA-4-020510 2/5/2010	IA-4-021210 2/12/2010	IA-4-021910 2/19/2010	IA-4-032610 3/26/2010	IA-4-043010 4/30/2010	IA-4-052810 5/28/2010
Methyl-t-butyl ether	0.13 U	0.13 U	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
n-Heptane	0.65	0.43	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	0.20 U	0.26	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
o-Xylene	0.62	0.30	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
Propylene (Propene)	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	0.87 U
Styrene	0.18	0.16	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	0.22
Tetrachloroethene	0.24 U	0.30	<b>7.3 [a]</b>	0.58	4.4	3.4	3.4	2.4	<b>7.9 [a]</b>	0.75	0.34 U	2.0	1.1	0.34 U	0.34 U	0.34 U	1.4	0.34 U	4.4	0.44
Tetrahydrofuran	0.10 U	0.13	13	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	0.19
Toluene	3.4	1.8	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
trans-1,2-Dichloroethene	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	1.1	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	0.22 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
Trichloroethene	0.26	0.19 U	<b>4.7</b>	0.48	<b>1.7</b>	<b>1.5</b>	0.88	0.78	<b>2.0</b>	0.27 U	0.27 U	<b>1.1</b>	0.57	0.27 U	0.27 U	0.27 U	0.40	0.27 U	<b>1.4</b>	0.27 U
Trichlorofluoromethane	1.7	1.4	2.0	1.3	1.6	3.0	1.7	1.3	1.3	1.2	1.5	1.2	1.2	0.93	1.3	1.4	1.6	1.5	1.3	1.3
Trichlorotrifluoroethane	0.51	0.59	0.72	0.59	0.51	0.45	0.57	0.54	0.61	0.49	0.48	0.47	0.50	0.38 U	0.55	0.58	0.55	1.3	0.48	0.51
Vinyl acetate	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	0.36 U	0.71 U	0.18 U
Vinyl chloride	0.090 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

**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-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 12/13/13	IA-4-030714 03/07/14	IA-4-061314 6/13/2014
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
1,1,1,2-Tetrachloroethane						0.62 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
1,1,2,2-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	0.21 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	0.27 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
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
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 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
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.45 U	0.45 U	0.45 U	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,2,4-Trimethylbenzene	0.41	0.44	0.25 U	0.49	0.25 U	0.25 U	0.094	0.15 U	0.19	0.38	0.90	0.13	0.47	0.20	0.17 U	0.56	0.26
1,2-Dibromoethane (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
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	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
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	0.16	0.14 U	0.14 U	0.14 U	0.14 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
1,2-Dichlorotetrafluoroethane	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	0.15 U	0.15 U	0.080	0.12	0.27	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,3-Butadiene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.066 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	0.47	0.11
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
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
1,4-Dioxane							0.18 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
2-Hexanone	1.0	0.59	0.20 U	0.20 U	0.21 J	0.35	0.086	0.32	0.098	0.18	0.19	0.25	0.51	0.14 U	0.14 U	0.15	0.36
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	0.068	0.12	0.22	0.17 U	0.17 U	0.17 U	0.17 U	0.18	0.17 U
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
Acetone	31	19	13 B	12 B	12 B	15	7.4	6.8	9.1	12	17	44	36	18	29	29	37
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	2.2	0.68
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
Bromodichloromethane	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	0.24 U	0.24 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
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.12 U	0.12 U	0.24	0.14 U	0.14 U	0.13	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	1.6 U	0.93 U	0.93 U	0.052	1.1 U	1.6	0.52	0.38	0.39	0.15	0.19	0.62
Carbon tetrachloride	0.48	0.44	0.46	0.57 [a]	0.68 [a]	0.52	0.48	0.47	0.43	0.36	0.54	0.41	0.65 [a]	0.45	0.46	0.45	0.40
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	0.47	0.16 U	0.16 U	0.16 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	0.079 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
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
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
cis-1,2-Dichloroethene	0.44	0.20 U	1.8	0.20 U	0.20 U	0.20 U	0.19	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.18	0.14 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
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	0.33	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	0.3 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
Ethanol	8.7	9.8	3.4	8.9	5.3	7.0	2.4	2.5	9.4	7.3	7.5	46	79	71	91	83	240
Ethyl acetate	0.18 U	0.18 U	0.18 U	0.26	0.18 U	0.18 U	0.16	0.21	0.38	2.4	0.13 U	0.73	0.94	0.13 U	0.13 U	0.88	0.26
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
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
Hexane	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
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
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	17	1.1	1.6	0.53	0.28	1.6	0.86
Methyl methacrylate			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
Methylene chloride	7.7	0.68	0.79	5.1	3.2	1.7 U	1.5	2.0	0.72	12	1.3	0.97	3.1	0.89	0.69	0.72	0.61

**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-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 12/13/13	IA-4-030714 03/07/14	IA-4-061314 6/13/2014
Methyl-t-butyl ether	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	0.19	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	0.32	0.20 U	0.51	0.20 U	0.20 U	0.071	0.12 U	0.11	0.41	1.6	0.32	0.53	0.16	0.14 U	0.66	0.39
o-Xylene	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
Propylene (Propene)	1.1	0.35 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
Styrene	0.29	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.077	0.092	0.55	0.093	0.52	0.099	0.15 U	0.15 U	0.15 U	0.23	0.46
Tetrachloroethene	1.1	0.34 U	3.4	5.0	0.34 U	0.45	1.2	0.31	0.12	1.7	0.18	0.21	0.45	0.30	0.24 U	0.31	0.32
Tetrahydrofuran	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
Toluene	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
trans-1,2-Dichloroethene	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
trans-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
Trichloroethene	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
Trichlorofluoromethane	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
Trichlorotrifluoroethane	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
Vinyl acetate	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
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

**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										
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
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
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	0.20 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
1,2,4-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
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.29	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 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
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
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
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	0.23 U
1,2-Dichlorotetrafluoroethane	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
1,3-Butadiene	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	0.30 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
Acetone	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
Bromoform	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	0.21	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	0.27	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	1.5	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-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	0.18 U	0.18 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
o-Xylene	0.28	0.28	0.27	0.27	0.25	0.26	0.25	0.27	0.34	0.26
Propylene (Propene)	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
Styrene	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
Tetrachloroethene	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
Trichlorotrifluoroethane	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

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

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

Prepared by / Date: KJC 07/07/14

Checked by / Date:

**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

\* vacuum reduced at extraction wells

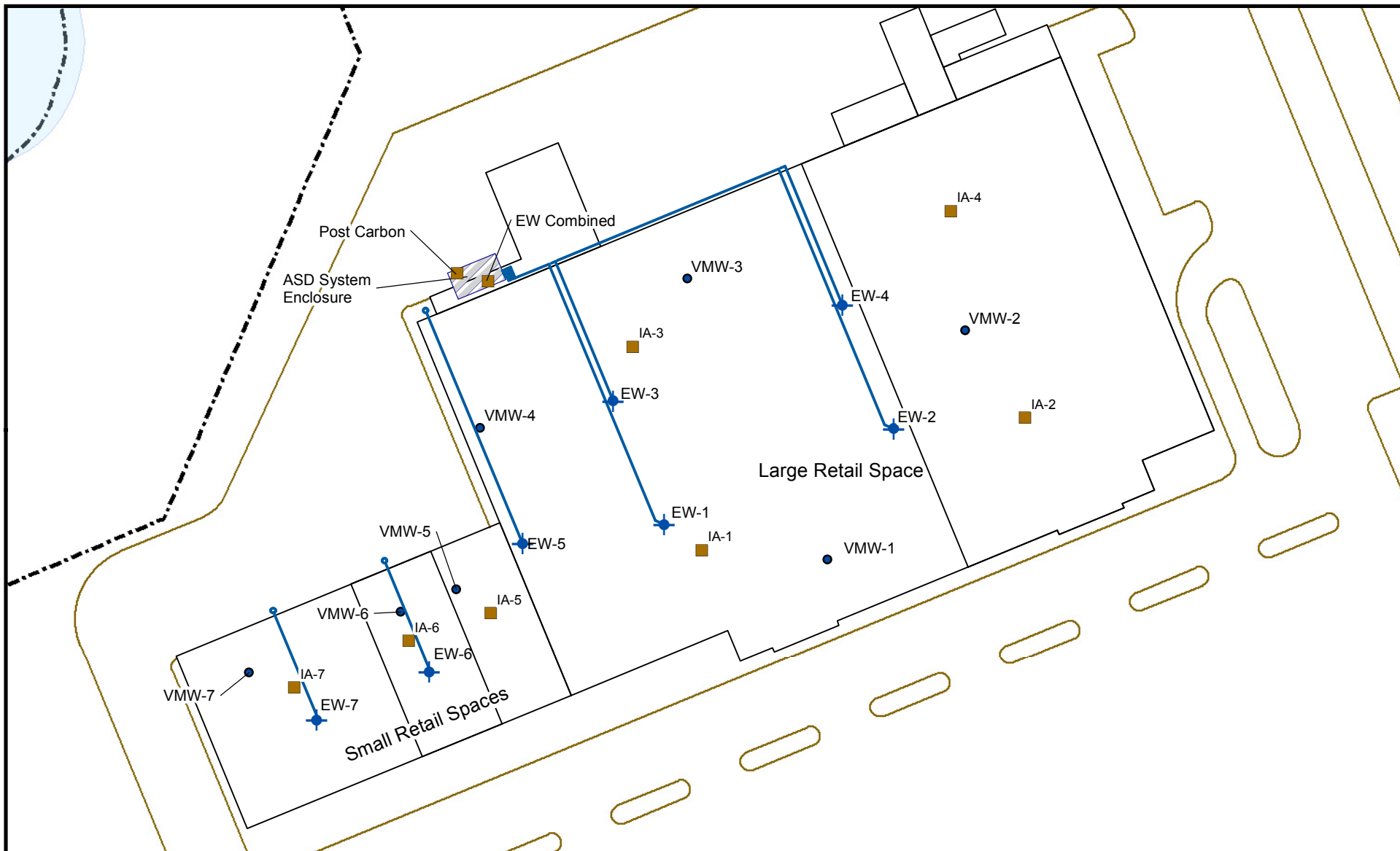
\*\* ASD system offline

Prepared by/Date: MAM 4/22/14

Checked by/Date: KRM 7/25/14

## FIGURES

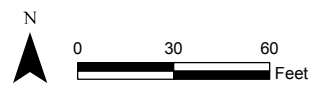




All locations are approximate

**Legend**

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



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

Figure 1  
Vapor Mitigation  
Sample Locations

Former Gorham Manufacturing Facility  
333 Adelaide Avenue  
Providence, Rhode Island



**APPENDIX A**  
**Laboratory Reports**

June 23, 2014

Kelly Chatterton  
AMEC E&I, Inc.  
271 Mill Road  
Chelmsford, MA 01824

Project Location: Providence RI  
Client Job Number:  
Project Number: 36J0008114  
Laboratory Work Order Number: 14F0657

Enclosed are results of analyses for samples received by the laboratory on June 13, 2014. 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 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: Kelly Chatterton

REPORT DATE: 6/23/2014

PURCHASE ORDER NUMBER: C012203270

PROJECT NUMBER: 36J0008114

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 14F0657

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 - 061314	14F0657-01	Indoor air		EPA TO-15	
IA - 2 - 061314	14F0657-02	Indoor air		EPA TO-15	
IA - 3 - 061314	14F0657-03	Indoor air		EPA TO-15	
IA - 4 - 061314	14F0657-04	Indoor air		EPA TO-15	
IA - 5 - 061314	14F0657-05	Indoor air		EPA TO-15	
IA - 6 - 061314	14F0657-06	Indoor air		EPA TO-15	
IA - 7 - 061314	14F0657-07	Indoor air		EPA TO-15	
AA - 1 - 061314	14F0657-08	Ambient Air		EPA TO-15	
EW - 5 - 061314	14F0657-09	Soil Gas		EPA TO-15	
EW - 6 - 061314	14F0657-10	Soil Gas		EPA TO-15	
EW - 7 - 061314	14F0657-11	Soil Gas		EPA TO-15	
EW - Combined - 061314	14F0657-12	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:

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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:

**1,1,2,2-Tetrachloroethane, Vinyl Acetate**

14F0657-01[IA - 1 - 061314], 14F0657-02[IA - 2 - 061314], 14F0657-03[IA - 3 - 061314], 14F0657-04[IA - 4 - 061314], 14F0657-05[IA - 5 - 061314], 14F0657-06[IA - 6 - 061314], 14F0657-07[IA - 7 - 061314], 14F0657-08[AA - 1 - 061314], 14F0657-09[EW - 5 - 061314], 14F0657-10[EW - 6 - 061314], 14F0657-11[EW - 7 - 061314], 14F0657-12[EW - Combined - 061314], B098489-BLK1, B098489-BS1, B098489-DUP1

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

Analyte & Samples(s) Qualified:

**Acetone, Ethanol**

14F0657-01[IA - 1 - 061314], 14F0657-02[IA - 2 - 061314], 14F0657-03[IA - 3 - 061314], 14F0657-04[IA - 4 - 061314], 14F0657-05[IA - 5 - 061314], 14F0657-06[IA - 6 - 061314], 14F0657-07[IA - 7 - 061314], 14F0657-08[AA - 1 - 061314], 14F0657-09[EW - 5 - 061314], 14F0657-10[EW - 6 - 061314], 14F0657-11[EW - 7 - 061314], 14F0657-12[EW - Combined - 061314], B098489-BS1, B098489-DUP1

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

Analyte & Samples(s) Qualified:

**1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane, 1,2,4-Trichlorobenzene, Hexachlorobutadiene, Vinyl Acetate**

14F0657-01[IA - 1 - 061314], 14F0657-02[IA - 2 - 061314], 14F0657-03[IA - 3 - 061314], 14F0657-04[IA - 4 - 061314], 14F0657-05[IA - 5 - 061314], 14F0657-06[IA - 6 - 061314], 14F0657-07[IA - 7 - 061314], 14F0657-08[AA - 1 - 061314], 14F0657-09[EW - 5 - 061314], 14F0657-10[EW - 6 - 061314], 14F0657-11[EW - 7 - 061314], 14F0657-12[EW - Combined - 061314], B098489-BLK1, B098489-BS1, B098489-DUP1

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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:

**Acetone, Ethanol**

14F0657-01[IA - 1 - 061314], 14F0657-02[IA - 2 - 061314], 14F0657-03[IA - 3 - 061314], 14F0657-04[IA - 4 - 061314], 14F0657-05[IA - 5 - 061314], 14F0657-06[IA - 6 - 061314], 14F0657-07[IA - 7 - 061314], 14F0657-08[AA - 1 - 061314], 14F0657-09[EW - 5 - 061314], 14F0657-10[EW - 6 - 061314], 14F0657-11[EW - 7 - 061314], 14F0657-12[EW - Combined - 061314], B098489-BS1, B098489-DUP1

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

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



Daren J. Damboragian  
Laboratory Manager

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 1 - 061314**  
**Sample ID: 14F0657-01**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 08:32

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1100  
 Canister Size: 6 liter  
 Flow Controller ID: 4192  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5.0  
 Receipt Vacuum(in Hg): -4.5  
 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	9.7	1.4	0.49	L-05, V-06	23	3.3	0.702	6/20/14 17:20	WSD	
Benzene	0.15	0.035	0.018		0.46	0.11	0.702	6/20/14 17:20	WSD	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	6/20/14 17:20	WSD	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/20/14 17:20	WSD	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/20/14 17:20	WSD	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/20/14 17:20	WSD	
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/20/14 17:20	WSD	
2-Butanone (MEK)	1.1	1.4	0.026	J	3.1	4.1	0.702	6/20/14 17:20	WSD	
Carbon Disulfide	0.069	0.35	0.012	J	0.21	1.1	0.702	6/20/14 17:20	WSD	
Carbon Tetrachloride	0.067	0.035	0.0085		0.42	0.22	0.702	6/20/14 17:20	WSD	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/20/14 17:20	WSD	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/20/14 17:20	WSD	
Chloroform	0.051	0.035	0.0082		0.25	0.17	0.702	6/20/14 17:20	WSD	
Chloromethane	0.63	0.070	0.015		1.3	0.14	0.702	6/20/14 17:20	WSD	
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/20/14 17:20	WSD	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/20/14 17:20	WSD	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/20/14 17:20	WSD	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/20/14 17:20	WSD	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/20/14 17:20	WSD	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/20/14 17:20	WSD	
Dichlorodifluoromethane (Freon 12)	0.43	0.035	0.015		2.1	0.17	0.702	6/20/14 17:20	WSD	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/20/14 17:20	WSD	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	6/20/14 17:20	WSD	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/20/14 17:20	WSD	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/20/14 17:20	WSD	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/20/14 17:20	WSD	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/20/14 17:20	WSD	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/20/14 17:20	WSD	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/20/14 17:20	WSD	
Ethanol	42	1.4	0.63	L-05, V-06	80	2.6	0.702	6/20/14 17:20	WSD	
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	6/20/14 17:20	WSD	
Ethylbenzene	0.053	0.035	0.0097		0.23	0.15	0.702	6/20/14 17:20	WSD	
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/20/14 17:20	WSD	
Heptane	0.11	0.035	0.011		0.44	0.14	0.702	6/20/14 17:20	WSD	
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	6/20/14 17:20	WSD	
Hexane	0.12	1.4	0.062	J	0.43	4.9	0.702	6/20/14 17:20	WSD	
2-Hexanone (MBK)	0.11	0.035	0.0090		0.45	0.14	0.702	6/20/14 17:20	WSD	
Isopropanol	2.2	1.4	0.043		5.5	3.4	0.702	6/20/14 17:20	WSD	

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 1 - 061314**  
**Sample ID: 14F0657-01**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 08:32

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1100  
 Canister Size: 6 liter  
 Flow Controller ID: 4192  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5.0  
 Receipt Vacuum(in Hg): -4.5  
 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		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/20/14 17:20	WSD	
Methylene Chloride	0.19	0.35	0.043	J	0.67	1.2	0.702	6/20/14 17:20	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	6/20/14 17:20	WSD	
4-Methyl-2-pentanone (MIBK)	0.12	0.035	0.0084		0.49	0.14	0.702	6/20/14 17:20	WSD	
Propene	ND	1.4	0.11		ND	2.4	0.702	6/20/14 17:20	WSD	
Styrene	0.069	0.035	0.0068		0.29	0.15	0.702	6/20/14 17:20	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/20/14 17:20	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084	L-03, V-05	ND	0.24	0.702	6/20/14 17:20	WSD	
Tetrachloroethylene	0.046	0.035	0.010		0.31	0.24	0.702	6/20/14 17:20	WSD	
Tetrahydrofuran	0.053	0.035	0.015		0.16	0.10	0.702	6/20/14 17:20	WSD	
Toluene	0.50	0.035	0.011		1.9	0.13	0.702	6/20/14 17:20	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013	V-05	ND	0.26	0.702	6/20/14 17:20	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/20/14 17:20	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011	V-05	ND	0.19	0.702	6/20/14 17:20	WSD	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/20/14 17:20	WSD	
Trichlorofluoromethane (Freon 11)	0.25	0.035	0.012		1.4	0.20	0.702	6/20/14 17:20	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.074	0.035	0.0098		0.57	0.27	0.702	6/20/14 17:20	WSD	
1,2,4-Trimethylbenzene	0.051	0.035	0.0086		0.25	0.17	0.702	6/20/14 17:20	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	6/20/14 17:20	WSD	
Vinyl Acetate	ND	0.70	0.018	L-03, V-05	ND	2.5	0.702	6/20/14 17:20	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/20/14 17:20	WSD	
m&p-Xylene	0.20	0.070	0.018		0.86	0.30	0.702	6/20/14 17:20	WSD	
o-Xylene	0.074	0.035	0.010		0.32	0.15	0.702	6/20/14 17:20	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.3	70-130	6/20/14 17:20
4-Bromofluorobenzene (2)	95.6	70-130	6/20/14 17:20



**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 2 - 061314**  
**Sample ID: 14F0657-02**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 09:45

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1095  
 Canister Size: 6 liter  
 Flow Controller ID: 4189  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -3.0  
 Receipt Vacuum(in Hg): -3  
 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	L-05, V-06	29	3.3	0.702	6/20/14 18:05	WSD	
Benzene	0.20	0.035	0.018		0.62	0.11	0.702	6/20/14 18:05	WSD	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	6/20/14 18:05	WSD	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/20/14 18:05	WSD	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/20/14 18:05	WSD	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/20/14 18:05	WSD	
1,3-Butadiene	0.052	0.035	0.018		0.11	0.078	0.702	6/20/14 18:05	WSD	
2-Butanone (MEK)	0.54	1.4	0.026	J	1.6	4.1	0.702	6/20/14 18:05	WSD	
Carbon Disulfide	0.18	0.35	0.012	J	0.56	1.1	0.702	6/20/14 18:05	WSD	
Carbon Tetrachloride	0.067	0.035	0.0085		0.42	0.22	0.702	6/20/14 18:05	WSD	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/20/14 18:05	WSD	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/20/14 18:05	WSD	
Chloroform	0.11	0.035	0.0082		0.53	0.17	0.702	6/20/14 18:05	WSD	
Chloromethane	0.58	0.070	0.015		1.2	0.14	0.702	6/20/14 18:05	WSD	
Cyclohexane	0.065	0.035	0.020		0.22	0.12	0.702	6/20/14 18:05	WSD	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/20/14 18:05	WSD	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/20/14 18:05	WSD	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/20/14 18:05	WSD	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/20/14 18:05	WSD	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/20/14 18:05	WSD	
Dichlorodifluoromethane (Freon 12)	0.40	0.035	0.015		2.0	0.17	0.702	6/20/14 18:05	WSD	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/20/14 18:05	WSD	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	6/20/14 18:05	WSD	
1,1-Dichloroethylene	0.038	0.035	0.0086		0.15	0.14	0.702	6/20/14 18:05	WSD	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/20/14 18:05	WSD	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/20/14 18:05	WSD	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/20/14 18:05	WSD	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/20/14 18:05	WSD	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/20/14 18:05	WSD	
Ethanol	130	1.4	0.63	L-05, V-06	240	2.6	0.702	6/20/14 18:05	WSD	
Ethyl Acetate	0.068	0.035	0.026		0.25	0.13	0.702	6/20/14 18:05	WSD	
Ethylbenzene	0.061	0.035	0.0097		0.27	0.15	0.702	6/20/14 18:05	WSD	
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/20/14 18:05	WSD	
Heptane	0.095	0.035	0.011		0.39	0.14	0.702	6/20/14 18:05	WSD	
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	6/20/14 18:05	WSD	
Hexane	0.21	1.4	0.062	J	0.74	4.9	0.702	6/20/14 18:05	WSD	
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	6/20/14 18:05	WSD	
Isopropanol	ND	1.4	0.043		ND	3.4	0.702	6/20/14 18:05	WSD	

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 2 - 061314**  
**Sample ID: 14F0657-02**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 09:45

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1095  
 Canister Size: 6 liter  
 Flow Controller ID: 4189  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -3.0  
 Receipt Vacuum(in Hg): -3  
 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	6/20/14 18:05	WSD	
Methylene Chloride	0.19	0.35	0.043	J	0.65	1.2	0.702	6/20/14 18:05	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	6/20/14 18:05	WSD	
4-Methyl-2-pentanone (MIBK)	0.28	0.035	0.0084		1.1	0.14	0.702	6/20/14 18:05	WSD	
Propene	1.5	1.4	0.11		2.7	2.4	0.702	6/20/14 18:05	WSD	
Styrene	0.081	0.035	0.0068		0.35	0.15	0.702	6/20/14 18:05	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/20/14 18:05	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084	L-03, V-05	ND	0.24	0.702	6/20/14 18:05	WSD	
Tetrachloroethylene	0.050	0.035	0.010		0.34	0.24	0.702	6/20/14 18:05	WSD	
Tetrahydrofuran	0.040	0.035	0.015		0.12	0.10	0.702	6/20/14 18:05	WSD	
Toluene	0.51	0.035	0.011		1.9	0.13	0.702	6/20/14 18:05	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013	V-05	ND	0.26	0.702	6/20/14 18:05	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/20/14 18:05	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011	V-05	ND	0.19	0.702	6/20/14 18:05	WSD	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/20/14 18:05	WSD	
Trichlorofluoromethane (Freon 11)	0.24	0.035	0.012		1.3	0.20	0.702	6/20/14 18:05	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.071	0.035	0.0098		0.54	0.27	0.702	6/20/14 18:05	WSD	
1,2,4-Trimethylbenzene	0.055	0.035	0.0086		0.27	0.17	0.702	6/20/14 18:05	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	6/20/14 18:05	WSD	
Vinyl Acetate	ND	0.70	0.018	L-03, V-05	ND	2.5	0.702	6/20/14 18:05	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/20/14 18:05	WSD	
m&p-Xylene	0.20	0.070	0.018		0.88	0.30	0.702	6/20/14 18:05	WSD	
o-Xylene	0.077	0.035	0.010		0.34	0.15	0.702	6/20/14 18:05	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.0	70-130	6/20/14 18:05
4-Bromofluorobenzene (2)	95.9	70-130	6/20/14 18:05

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 3 - 061314**  
**Sample ID: 14F0657-03**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 08:33

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1101  
 Canister Size: 6 liter  
 Flow Controller ID: 4183  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -6.0  
 Receipt Vacuum(in Hg): -6.1  
 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	6.5	1.4	0.49	L-05, V-06	15	3.3	0.702	6/20/14 18:51	WSD	
Benzene	0.13	0.035	0.018		0.41	0.11	0.702	6/20/14 18:51	WSD	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	6/20/14 18:51	WSD	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/20/14 18:51	WSD	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/20/14 18:51	WSD	
Bromomethane	0.042	0.035	0.024		0.16	0.14	0.702	6/20/14 18:51	WSD	
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/20/14 18:51	WSD	
2-Butanone (MEK)	0.52	1.4	0.026	J	1.5	4.1	0.702	6/20/14 18:51	WSD	
Carbon Disulfide	0.047	0.35	0.012	J	0.15	1.1	0.702	6/20/14 18:51	WSD	
Carbon Tetrachloride	0.069	0.035	0.0085		0.44	0.22	0.702	6/20/14 18:51	WSD	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/20/14 18:51	WSD	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/20/14 18:51	WSD	
Chloroform	0.048	0.035	0.0082		0.24	0.17	0.702	6/20/14 18:51	WSD	
Chloromethane	0.60	0.070	0.015		1.2	0.14	0.702	6/20/14 18:51	WSD	
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/20/14 18:51	WSD	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/20/14 18:51	WSD	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/20/14 18:51	WSD	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/20/14 18:51	WSD	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/20/14 18:51	WSD	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/20/14 18:51	WSD	
Dichlorodifluoromethane (Freon 12)	0.43	0.035	0.015		2.1	0.17	0.702	6/20/14 18:51	WSD	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/20/14 18:51	WSD	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	6/20/14 18:51	WSD	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/20/14 18:51	WSD	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/20/14 18:51	WSD	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/20/14 18:51	WSD	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/20/14 18:51	WSD	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/20/14 18:51	WSD	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/20/14 18:51	WSD	
Ethanol	34	1.4	0.63	L-05, V-06	64	2.6	0.702	6/20/14 18:51	WSD	
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	6/20/14 18:51	WSD	
Ethylbenzene	0.050	0.035	0.0097		0.22	0.15	0.702	6/20/14 18:51	WSD	
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/20/14 18:51	WSD	
Heptane	0.10	0.035	0.011		0.43	0.14	0.702	6/20/14 18:51	WSD	
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	6/20/14 18:51	WSD	
Hexane	0.12	1.4	0.062	J	0.44	4.9	0.702	6/20/14 18:51	WSD	
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	6/20/14 18:51	WSD	
Isopropanol	2.1	1.4	0.043		5.2	3.4	0.702	6/20/14 18:51	WSD	

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 3 - 061314**  
**Sample ID: 14F0657-03**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 08:33

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1101  
 Canister Size: 6 liter  
 Flow Controller ID: 4183  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -6.0  
 Receipt Vacuum(in Hg): -6.1  
 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	6/20/14 18:51	WSD	
Methylene Chloride	0.22	0.35	0.043	J	0.77	1.2	0.702	6/20/14 18:51	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	6/20/14 18:51	WSD	
4-Methyl-2-pentanone (MIBK)	0.086	0.035	0.0084		0.35	0.14	0.702	6/20/14 18:51	WSD	
Propene	ND	1.4	0.11		ND	2.4	0.702	6/20/14 18:51	WSD	
Styrene	0.037	0.035	0.0068		0.16	0.15	0.702	6/20/14 18:51	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/20/14 18:51	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084	L-03, V-05	ND	0.24	0.702	6/20/14 18:51	WSD	
Tetrachloroethylene	0.045	0.035	0.010		0.30	0.24	0.702	6/20/14 18:51	WSD	
Tetrahydrofuran	0.044	0.035	0.015		0.13	0.10	0.702	6/20/14 18:51	WSD	
Toluene	0.48	0.035	0.011		1.8	0.13	0.702	6/20/14 18:51	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013	V-05	ND	0.26	0.702	6/20/14 18:51	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/20/14 18:51	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011	V-05	ND	0.19	0.702	6/20/14 18:51	WSD	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/20/14 18:51	WSD	
Trichlorofluoromethane (Freon 11)	0.24	0.035	0.012		1.4	0.20	0.702	6/20/14 18:51	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.077	0.035	0.0098		0.59	0.27	0.702	6/20/14 18:51	WSD	
1,2,4-Trimethylbenzene	0.046	0.035	0.0086		0.23	0.17	0.702	6/20/14 18:51	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	6/20/14 18:51	WSD	
Vinyl Acetate	ND	0.70	0.018	L-03, V-05	ND	2.5	0.702	6/20/14 18:51	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/20/14 18:51	WSD	
m&p-Xylene	0.19	0.070	0.018		0.84	0.30	0.702	6/20/14 18:51	WSD	
o-Xylene	0.070	0.035	0.010		0.30	0.15	0.702	6/20/14 18:51	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.0	70-130	6/20/14 18:51
4-Bromofluorobenzene (2)	95.6	70-130	6/20/14 18:51

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 4 - 061314**  
**Sample ID: 14F0657-04**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 09:46

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1076  
 Canister Size: 6 liter  
 Flow Controller ID: 4188  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -1.0  
 Receipt Vacuum(in Hg): -0.3  
 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	15	1.4	0.49	L-05, V-06	37	3.3	0.702	6/20/14 19:37	WSD	
Benzene	0.21	0.035	0.018		0.68	0.11	0.702	6/20/14 19:37	WSD	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	6/20/14 19:37	WSD	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/20/14 19:37	WSD	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/20/14 19:37	WSD	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/20/14 19:37	WSD	
1,3-Butadiene	0.051	0.035	0.018		0.11	0.078	0.702	6/20/14 19:37	WSD	
2-Butanone (MEK)	1.0	1.4	0.026	J	2.9	4.1	0.702	6/20/14 19:37	WSD	
Carbon Disulfide	0.20	0.35	0.012	J	0.62	1.1	0.702	6/20/14 19:37	WSD	
Carbon Tetrachloride	0.064	0.035	0.0085		0.40	0.22	0.702	6/20/14 19:37	WSD	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/20/14 19:37	WSD	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/20/14 19:37	WSD	
Chloroform	0.17	0.035	0.0082		0.84	0.17	0.702	6/20/14 19:37	WSD	
Chloromethane	0.58	0.070	0.015		1.2	0.14	0.702	6/20/14 19:37	WSD	
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/20/14 19:37	WSD	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/20/14 19:37	WSD	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/20/14 19:37	WSD	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/20/14 19:37	WSD	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/20/14 19:37	WSD	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/20/14 19:37	WSD	
Dichlorodifluoromethane (Freon 12)	0.41	0.035	0.015		2.1	0.17	0.702	6/20/14 19:37	WSD	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/20/14 19:37	WSD	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	6/20/14 19:37	WSD	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/20/14 19:37	WSD	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/20/14 19:37	WSD	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/20/14 19:37	WSD	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/20/14 19:37	WSD	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/20/14 19:37	WSD	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/20/14 19:37	WSD	
Ethanol	130	1.4	0.63	L-05, V-06	240	2.6	0.702	6/20/14 19:37	WSD	
Ethyl Acetate	0.071	0.035	0.026		0.26	0.13	0.702	6/20/14 19:37	WSD	
Ethylbenzene	0.062	0.035	0.0097		0.27	0.15	0.702	6/20/14 19:37	WSD	
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/20/14 19:37	WSD	
Heptane	0.095	0.035	0.011		0.39	0.14	0.702	6/20/14 19:37	WSD	
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	6/20/14 19:37	WSD	
Hexane	0.21	1.4	0.062	J	0.75	4.9	0.702	6/20/14 19:37	WSD	
2-Hexanone (MBK)	0.088	0.035	0.0090		0.36	0.14	0.702	6/20/14 19:37	WSD	
Isopropanol	1.6	1.4	0.043		3.9	3.4	0.702	6/20/14 19:37	WSD	

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 4 - 061314**  
**Sample ID: 14F0657-04**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 09:46

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1076  
 Canister Size: 6 liter  
 Flow Controller ID: 4188  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -1.0  
 Receipt Vacuum(in Hg): -0.3  
 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	6/20/14 19:37	WSD	
Methylene Chloride	0.18	0.35	0.043	J	0.61	1.2	0.702	6/20/14 19:37	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	6/20/14 19:37	WSD	
4-Methyl-2-pentanone (MIBK)	0.31	0.035	0.0084		1.3	0.14	0.702	6/20/14 19:37	WSD	
Propene	1.7	1.4	0.11		3.0	2.4	0.702	6/20/14 19:37	WSD	
Styrene	0.11	0.035	0.0068		0.46	0.15	0.702	6/20/14 19:37	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/20/14 19:37	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084	L-03, V-05	ND	0.24	0.702	6/20/14 19:37	WSD	
Tetrachloroethylene	0.047	0.035	0.010		0.32	0.24	0.702	6/20/14 19:37	WSD	
Tetrahydrofuran	0.041	0.035	0.015		0.12	0.10	0.702	6/20/14 19:37	WSD	
Toluene	0.49	0.035	0.011		1.9	0.13	0.702	6/20/14 19:37	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013	V-05	ND	0.26	0.702	6/20/14 19:37	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/20/14 19:37	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011	V-05	ND	0.19	0.702	6/20/14 19:37	WSD	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/20/14 19:37	WSD	
Trichlorofluoromethane (Freon 11)	0.24	0.035	0.012		1.4	0.20	0.702	6/20/14 19:37	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.070	0.035	0.0098		0.54	0.27	0.702	6/20/14 19:37	WSD	
1,2,4-Trimethylbenzene	0.053	0.035	0.0086		0.26	0.17	0.702	6/20/14 19:37	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	6/20/14 19:37	WSD	
Vinyl Acetate	ND	0.70	0.018	L-03, V-05	ND	2.5	0.702	6/20/14 19:37	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/20/14 19:37	WSD	
m&p-Xylene	0.20	0.070	0.018		0.86	0.30	0.702	6/20/14 19:37	WSD	
o-Xylene	0.076	0.035	0.010		0.33	0.15	0.702	6/20/14 19:37	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.2	70-130	6/20/14 19:37
4-Bromofluorobenzene (2)	95.8	70-130	6/20/14 19:37

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 5 - 061314**  
**Sample ID: 14F0657-05**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 10:12

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1113  
 Canister Size: 6 liter  
 Flow Controller ID: 4195  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5.0  
 Receipt Vacuum(in Hg): -4.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	11	1.4	0.49	L-05, V-06	25	3.3	0.702	6/20/14 20:22	WSD
Benzene	0.17	0.035	0.018		0.55	0.11	0.702	6/20/14 20:22	WSD
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	6/20/14 20:22	WSD
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/20/14 20:22	WSD
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/20/14 20:22	WSD
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/20/14 20:22	WSD
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/20/14 20:22	WSD
2-Butanone (MEK)	1.2	1.4	0.026	J	3.7	4.1	0.702	6/20/14 20:22	WSD
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	6/20/14 20:22	WSD
Carbon Tetrachloride	0.072	0.035	0.0085		0.45	0.22	0.702	6/20/14 20:22	WSD
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/20/14 20:22	WSD
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/20/14 20:22	WSD
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	6/20/14 20:22	WSD
Chloromethane	0.58	0.070	0.015		1.2	0.14	0.702	6/20/14 20:22	WSD
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/20/14 20:22	WSD
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/20/14 20:22	WSD
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/20/14 20:22	WSD
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/20/14 20:22	WSD
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/20/14 20:22	WSD
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/20/14 20:22	WSD
Dichlorodifluoromethane (Freon 12)	0.44	0.035	0.015		2.2	0.17	0.702	6/20/14 20:22	WSD
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/20/14 20:22	WSD
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	6/20/14 20:22	WSD
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/20/14 20:22	WSD
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/20/14 20:22	WSD
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/20/14 20:22	WSD
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/20/14 20:22	WSD
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/20/14 20:22	WSD
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/20/14 20:22	WSD
Ethanol	11	1.4	0.63	L-05, V-06	20	2.6	0.702	6/20/14 20:22	WSD
Ethyl Acetate	0.12	0.035	0.026		0.43	0.13	0.702	6/20/14 20:22	WSD
Ethylbenzene	0.068	0.035	0.0097		0.30	0.15	0.702	6/20/14 20:22	WSD
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/20/14 20:22	WSD
Heptane	0.14	0.035	0.011		0.56	0.14	0.702	6/20/14 20:22	WSD
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	6/20/14 20:22	WSD
Hexane	0.16	1.4	0.062	J	0.56	4.9	0.702	6/20/14 20:22	WSD
2-Hexanone (MBK)	0.13	0.035	0.0090		0.52	0.14	0.702	6/20/14 20:22	WSD
Isopropanol	2.7	1.4	0.043		6.5	3.4	0.702	6/20/14 20:22	WSD

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 5 - 061314**  
**Sample ID: 14F0657-05**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 10:12

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1113  
 Canister Size: 6 liter  
 Flow Controller ID: 4195  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5.0  
 Receipt Vacuum(in Hg): -4.5  
 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		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/20/14 20:22	WSD	
Methylene Chloride	0.21	0.35	0.043	J	0.73	1.2	0.702	6/20/14 20:22	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	6/20/14 20:22	WSD	
4-Methyl-2-pentanone (MIBK)	0.086	0.035	0.0084		0.35	0.14	0.702	6/20/14 20:22	WSD	
Propene	0.63	1.4	0.11	J	1.1	2.4	0.702	6/20/14 20:22	WSD	
Styrene	ND	0.035	0.0068		ND	0.15	0.702	6/20/14 20:22	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/20/14 20:22	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084	L-03, V-05	ND	0.24	0.702	6/20/14 20:22	WSD	
Tetrachloroethylene	0.080	0.035	0.010		0.54	0.24	0.702	6/20/14 20:22	WSD	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	6/20/14 20:22	WSD	
Toluene	0.58	0.035	0.011		2.2	0.13	0.702	6/20/14 20:22	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013	V-05	ND	0.26	0.702	6/20/14 20:22	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/20/14 20:22	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011	V-05	ND	0.19	0.702	6/20/14 20:22	WSD	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/20/14 20:22	WSD	
Trichlorofluoromethane (Freon 11)	0.25	0.035	0.012		1.4	0.20	0.702	6/20/14 20:22	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.076	0.035	0.0098		0.58	0.27	0.702	6/20/14 20:22	WSD	
1,2,4-Trimethylbenzene	0.046	0.035	0.0086		0.23	0.17	0.702	6/20/14 20:22	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	6/20/14 20:22	WSD	
Vinyl Acetate	ND	0.70	0.018	L-03, V-05	ND	2.5	0.702	6/20/14 20:22	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/20/14 20:22	WSD	
m&p-Xylene	0.24	0.070	0.018		1.0	0.30	0.702	6/20/14 20:22	WSD	
o-Xylene	0.074	0.035	0.010		0.32	0.15	0.702	6/20/14 20:22	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	95.1	70-130	6/20/14 20:22
4-Bromofluorobenzene (2)	98.2	70-130	6/20/14 20:22



**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 6 - 061314**  
**Sample ID: 14F0657-06**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 10:15

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1146  
 Canister Size: 6 liter  
 Flow Controller ID: 4196  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -4.0  
 Receipt Vacuum(in Hg): -4.4  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	11	1.4	0.49	V-06, L-05	26	3.3	0.702	6/20/14	21:08	WSD
Benzene	0.21	0.035	0.018		0.67	0.11	0.702	6/20/14	21:08	WSD
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	6/20/14	21:08	WSD
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/20/14	21:08	WSD
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/20/14	21:08	WSD
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/20/14	21:08	WSD
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/20/14	21:08	WSD
2-Butanone (MEK)	1.1	1.4	0.026	J	3.1	4.1	0.702	6/20/14	21:08	WSD
Carbon Disulfide	0.074	0.35	0.012	J	0.23	1.1	0.702	6/20/14	21:08	WSD
Carbon Tetrachloride	0.069	0.035	0.0085		0.43	0.22	0.702	6/20/14	21:08	WSD
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/20/14	21:08	WSD
Chloroethane	0.077	0.035	0.013		0.20	0.093	0.702	6/20/14	21:08	WSD
Chloroform	0.051	0.035	0.0082		0.25	0.17	0.702	6/20/14	21:08	WSD
Chloromethane	0.92	0.070	0.015		1.9	0.14	0.702	6/20/14	21:08	WSD
Cyclohexane	0.048	0.035	0.020		0.16	0.12	0.702	6/20/14	21:08	WSD
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/20/14	21:08	WSD
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/20/14	21:08	WSD
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/20/14	21:08	WSD
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/20/14	21:08	WSD
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/20/14	21:08	WSD
Dichlorodifluoromethane (Freon 12)	0.41	0.035	0.015		2.1	0.17	0.702	6/20/14	21:08	WSD
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/20/14	21:08	WSD
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	6/20/14	21:08	WSD
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/20/14	21:08	WSD
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/20/14	21:08	WSD
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/20/14	21:08	WSD
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/20/14	21:08	WSD
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/20/14	21:08	WSD
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/20/14	21:08	WSD
Ethanol	20	1.4	0.63	L-05, V-06	38	2.6	0.702	6/20/14	21:08	WSD
Ethyl Acetate	0.093	0.035	0.026		0.34	0.13	0.702	6/20/14	21:08	WSD
Ethylbenzene	0.046	0.035	0.0097		0.20	0.15	0.702	6/20/14	21:08	WSD
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/20/14	21:08	WSD
Heptane	0.27	0.035	0.011		1.1	0.14	0.702	6/20/14	21:08	WSD
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	6/20/14	21:08	WSD
Hexane	0.20	1.4	0.062	J	0.69	4.9	0.702	6/20/14	21:08	WSD
2-Hexanone (MBK)	0.10	0.035	0.0090		0.41	0.14	0.702	6/20/14	21:08	WSD
Isopropanol	3.3	1.4	0.043		8.1	3.4	0.702	6/20/14	21:08	WSD

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 6 - 061314**  
**Sample ID: 14F0657-06**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 10:15

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1146  
 Canister Size: 6 liter  
 Flow Controller ID: 4196  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -4.0  
 Receipt Vacuum(in Hg): -4.4  
 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		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	6/20/14 21:08	WSD	
Methylene Chloride	0.24	0.35	0.043	J	0.83	1.2	0.702	6/20/14 21:08	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	6/20/14 21:08	WSD	
4-Methyl-2-pentanone (MIBK)	0.060	0.035	0.0084		0.24	0.14	0.702	6/20/14 21:08	WSD	
Propene	0.47	1.4	0.11	J	0.81	2.4	0.702	6/20/14 21:08	WSD	
Styrene	ND	0.035	0.0068		ND	0.15	0.702	6/20/14 21:08	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/20/14 21:08	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084	L-03, V-05	ND	0.24	0.702	6/20/14 21:08	WSD	
Tetrachloroethylene	0.047	0.035	0.010		0.32	0.24	0.702	6/20/14 21:08	WSD	
Tetrahydrofuran	0.058	0.035	0.015		0.17	0.10	0.702	6/20/14 21:08	WSD	
Toluene	0.34	0.035	0.011		1.3	0.13	0.702	6/20/14 21:08	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013	V-05	ND	0.26	0.702	6/20/14 21:08	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/20/14 21:08	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011	V-05	ND	0.19	0.702	6/20/14 21:08	WSD	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/20/14 21:08	WSD	
Trichlorofluoromethane (Freon 11)	0.23	0.035	0.012		1.3	0.20	0.702	6/20/14 21:08	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.069	0.035	0.0098		0.53	0.27	0.702	6/20/14 21:08	WSD	
1,2,4-Trimethylbenzene	0.043	0.035	0.0086		0.21	0.17	0.702	6/20/14 21:08	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	6/20/14 21:08	WSD	
Vinyl Acetate	ND	0.70	0.018	L-03, V-05	ND	2.5	0.702	6/20/14 21:08	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/20/14 21:08	WSD	
m&p-Xylene	0.15	0.070	0.018		0.64	0.30	0.702	6/20/14 21:08	WSD	
o-Xylene	0.056	0.035	0.010		0.24	0.15	0.702	6/20/14 21:08	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	95.0	70-130	6/20/14 21:08
4-Bromofluorobenzene (2)	97.9	70-130	6/20/14 21:08

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 7 - 061314**  
**Sample ID: 14F0657-07**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 10:59

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1014  
 Canister Size: 6 liter  
 Flow Controller ID: 4183  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -27  
 Final Vacuum(in Hg): -3  
 Receipt Vacuum(in Hg): -2.7  
 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		Analyzed		
Acetone	13	1.4	0.49	L-05, V-06	30	3.3	0.702	6/20/14 21:53	WSD	
Benzene	0.18	0.035	0.018		0.57	0.11	0.702	6/20/14 21:53	WSD	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	6/20/14 21:53	WSD	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/20/14 21:53	WSD	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/20/14 21:53	WSD	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/20/14 21:53	WSD	
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/20/14 21:53	WSD	
2-Butanone (MEK)	1.0	1.4	0.026	J	3.0	4.1	0.702	6/20/14 21:53	WSD	
Carbon Disulfide	0.048	0.35	0.012	J	0.15	1.1	0.702	6/20/14 21:53	WSD	
Carbon Tetrachloride	0.071	0.035	0.0085		0.45	0.22	0.702	6/20/14 21:53	WSD	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/20/14 21:53	WSD	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	6/20/14 21:53	WSD	
Chloroform	0.037	0.035	0.0082		0.18	0.17	0.702	6/20/14 21:53	WSD	
Chloromethane	0.66	0.070	0.015		1.4	0.14	0.702	6/20/14 21:53	WSD	
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	6/20/14 21:53	WSD	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/20/14 21:53	WSD	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/20/14 21:53	WSD	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/20/14 21:53	WSD	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/20/14 21:53	WSD	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/20/14 21:53	WSD	
Dichlorodifluoromethane (Freon 12)	0.42	0.035	0.015		2.1	0.17	0.702	6/20/14 21:53	WSD	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/20/14 21:53	WSD	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	6/20/14 21:53	WSD	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	6/20/14 21:53	WSD	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/20/14 21:53	WSD	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/20/14 21:53	WSD	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/20/14 21:53	WSD	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/20/14 21:53	WSD	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/20/14 21:53	WSD	
Ethanol	42	1.4	0.63	L-05, V-06	79	2.6	0.702	6/20/14 21:53	WSD	
Ethyl Acetate	0.12	0.035	0.026		0.41	0.13	0.702	6/20/14 21:53	WSD	
Ethylbenzene	0.081	0.035	0.0097		0.35	0.15	0.702	6/20/14 21:53	WSD	
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	6/20/14 21:53	WSD	
Heptane	1.1	0.035	0.011		4.6	0.14	0.702	6/20/14 21:53	WSD	
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	6/20/14 21:53	WSD	
Hexane	0.26	1.4	0.062	J	0.90	4.9	0.702	6/20/14 21:53	WSD	
2-Hexanone (MBK)	0.086	0.035	0.0090		0.35	0.14	0.702	6/20/14 21:53	WSD	
Isopropanol	4.5	1.4	0.043		11	3.4	0.702	6/20/14 21:53	WSD	

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: IA - 7 - 061314**  
**Sample ID: 14F0657-07**  
 Sample Matrix: Indoor air  
 Sampled: 6/13/2014 10:59

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1014  
 Canister Size: 6 liter  
 Flow Controller ID: 4183  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -27  
 Final Vacuum(in Hg): -3  
 Receipt Vacuum(in Hg): -2.7  
 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	0.035	0.011		ND	0.13	0.702	6/20/14 21:53	WSD	
Methylene Chloride	0.21	0.35	0.043	J	0.74	1.2	0.702	6/20/14 21:53	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	6/20/14 21:53	WSD	
4-Methyl-2-pentanone (MIBK)	0.083	0.035	0.0084		0.34	0.14	0.702	6/20/14 21:53	WSD	
Propene	0.89	1.4	0.11	J	1.5	2.4	0.702	6/20/14 21:53	WSD	
Styrene	0.069	0.035	0.0068		0.29	0.15	0.702	6/20/14 21:53	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/20/14 21:53	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084	L-03, V-05	ND	0.24	0.702	6/20/14 21:53	WSD	
Tetrachloroethylene	0.050	0.035	0.010		0.34	0.24	0.702	6/20/14 21:53	WSD	
Tetrahydrofuran	0.046	0.035	0.015		0.14	0.10	0.702	6/20/14 21:53	WSD	
Toluene	0.58	0.035	0.011		2.2	0.13	0.702	6/20/14 21:53	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013	V-05	ND	0.26	0.702	6/20/14 21:53	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/20/14 21:53	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011	V-05	ND	0.19	0.702	6/20/14 21:53	WSD	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/20/14 21:53	WSD	
Trichlorofluoromethane (Freon 11)	0.25	0.035	0.012		1.4	0.20	0.702	6/20/14 21:53	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.068	0.035	0.0098		0.52	0.27	0.702	6/20/14 21:53	WSD	
1,2,4-Trimethylbenzene	0.062	0.035	0.0086		0.31	0.17	0.702	6/20/14 21:53	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	6/20/14 21:53	WSD	
Vinyl Acetate	ND	0.70	0.018	L-03, V-05	ND	2.5	0.702	6/20/14 21:53	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/20/14 21:53	WSD	
m&p-Xylene	0.24	0.070	0.018		1.1	0.30	0.702	6/20/14 21:53	WSD	
o-Xylene	0.090	0.035	0.010		0.39	0.15	0.702	6/20/14 21:53	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.1	70-130	6/20/14 21:53
4-Bromofluorobenzene (2)	97.1	70-130	6/20/14 21:53

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: AA - 1 - 061314**  
**Sample ID: 14F0657-08**  
 Sample Matrix: Ambient Air  
 Sampled: 6/13/2014 11:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1061  
 Canister Size: 6 liter  
 Flow Controller ID: 4184  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -9  
 Receipt Vacuum(in Hg): -6.6  
 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	9.1	1.4	0.49	L-05, V-06	22	3.3	0.702	6/20/14 16:34	WSD	
Benzene	0.29	0.035	0.018		0.94	0.11	0.702	6/20/14 16:34	WSD	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	6/20/14 16:34	WSD	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	6/20/14 16:34	WSD	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	6/20/14 16:34	WSD	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	6/20/14 16:34	WSD	
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	6/20/14 16:34	WSD	
2-Butanone (MEK)	0.76	1.4	0.026	J	2.2	4.1	0.702	6/20/14 16:34	WSD	
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	6/20/14 16:34	WSD	
Carbon Tetrachloride	0.067	0.035	0.0085		0.42	0.22	0.702	6/20/14 16:34	WSD	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	6/20/14 16:34	WSD	
Chloroethane	0.042	0.035	0.013		0.11	0.093	0.702	6/20/14 16:34	WSD	
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	6/20/14 16:34	WSD	
Chloromethane	0.70	0.070	0.015		1.4	0.14	0.702	6/20/14 16:34	WSD	
Cyclohexane	0.089	0.035	0.020		0.31	0.12	0.702	6/20/14 16:34	WSD	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	6/20/14 16:34	WSD	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	6/20/14 16:34	WSD	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	6/20/14 16:34	WSD	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	6/20/14 16:34	WSD	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	6/20/14 16:34	WSD	
Dichlorodifluoromethane (Freon 12)	0.41	0.035	0.015		2.0	0.17	0.702	6/20/14 16:34	WSD	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	6/20/14 16:34	WSD	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	6/20/14 16:34	WSD	
1,1-Dichloroethylene	0.041	0.035	0.0086		0.16	0.14	0.702	6/20/14 16:34	WSD	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	6/20/14 16:34	WSD	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	6/20/14 16:34	WSD	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	6/20/14 16:34	WSD	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	6/20/14 16:34	WSD	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	6/20/14 16:34	WSD	
Ethanol	8.9	1.4	0.63	V-06, L-05	17	2.6	0.702	6/20/14 16:34	WSD	
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	6/20/14 16:34	WSD	
Ethylbenzene	0.10	0.035	0.0097		0.44	0.15	0.702	6/20/14 16:34	WSD	
4-Ethyltoluene	0.037	0.035	0.0079		0.18	0.17	0.702	6/20/14 16:34	WSD	
Heptane	0.15	0.035	0.011		0.62	0.14	0.702	6/20/14 16:34	WSD	
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	6/20/14 16:34	WSD	
Hexane	0.33	1.4	0.062	J	1.2	4.9	0.702	6/20/14 16:34	WSD	
2-Hexanone (MBK)	0.082	0.035	0.0090		0.34	0.14	0.702	6/20/14 16:34	WSD	
Isopropanol	1.2	1.4	0.043	J	3.1	3.4	0.702	6/20/14 16:34	WSD	

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: AA - 1 - 061314**  
**Sample ID: 14F0657-08**  
 Sample Matrix: Ambient Air  
 Sampled: 6/13/2014 11:00

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1061  
 Canister Size: 6 liter  
 Flow Controller ID: 4184  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -9  
 Receipt Vacuum(in Hg): -6.6  
 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	6/20/14 16:34	WSD	
Methylene Chloride	0.33	0.35	0.043	J	1.2	1.2	0.702	6/20/14 16:34	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	6/20/14 16:34	WSD	
4-Methyl-2-pentanone (MIBK)	0.049	0.035	0.0084		0.20	0.14	0.702	6/20/14 16:34	WSD	
Propene	0.74	1.4	0.11	J	1.3	2.4	0.702	6/20/14 16:34	WSD	
Styrene	0.039	0.035	0.0068		0.16	0.15	0.702	6/20/14 16:34	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	6/20/14 16:34	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084	L-03, V-05	ND	0.24	0.702	6/20/14 16:34	WSD	
Tetrachloroethylene	0.058	0.035	0.010		0.40	0.24	0.702	6/20/14 16:34	WSD	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	6/20/14 16:34	WSD	
Toluene	0.69	0.035	0.011		2.6	0.13	0.702	6/20/14 16:34	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013	V-05	ND	0.26	0.702	6/20/14 16:34	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	6/20/14 16:34	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011	V-05	ND	0.19	0.702	6/20/14 16:34	WSD	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	6/20/14 16:34	WSD	
Trichlorofluoromethane (Freon 11)	0.25	0.035	0.012		1.4	0.20	0.702	6/20/14 16:34	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.070	0.035	0.0098		0.54	0.27	0.702	6/20/14 16:34	WSD	
1,2,4-Trimethylbenzene	0.10	0.035	0.0086		0.51	0.17	0.702	6/20/14 16:34	WSD	
1,3,5-Trimethylbenzene	0.037	0.035	0.0070		0.18	0.17	0.702	6/20/14 16:34	WSD	
Vinyl Acetate	ND	0.70	0.018	L-03, V-05	ND	2.5	0.702	6/20/14 16:34	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	6/20/14 16:34	WSD	
m&p-Xylene	0.32	0.070	0.018		1.4	0.30	0.702	6/20/14 16:34	WSD	
o-Xylene	0.11	0.035	0.010		0.50	0.15	0.702	6/20/14 16:34	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	91.6	70-130	6/20/14 16:34
4-Bromofluorobenzene (2)	93.7	70-130	6/20/14 16:34

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: EW - 5 - 061314**  
**Sample ID: 14F0657-09**  
 Sample Matrix: Soil Gas  
 Sampled: 6/13/2014 09:04

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1158  
 Canister Size: 6 liter  
 Flow Controller ID: 4197  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -27  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -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	260	4.0	1.4	L-05, V-06	610	9.5	2	6/20/14 23:19	WSD
Benzene	0.94	0.10	0.052		3.0	0.32	2	6/20/14 23:19	WSD
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	6/20/14 23:19	WSD
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	6/20/14 23:19	WSD
Bromoform	ND	0.10	0.019		ND	1.0	2	6/20/14 23:19	WSD
Bromomethane	ND	0.10	0.069		ND	0.39	2	6/20/14 23:19	WSD
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	6/20/14 23:19	WSD
2-Butanone (MEK)	1500	40	0.75		4500	120	20	6/20/14 23:56	WSD
2-Butanone (MEK)	710	4.0	0.075		2100	12	2	6/20/14 23:19	WSD
Carbon Disulfide	11	1.0	0.034		35	3.1	2	6/20/14 23:19	WSD
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	6/20/14 23:19	WSD
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	6/20/14 23:19	WSD
Chloroethane	0.71	0.10	0.038		1.9	0.26	2	6/20/14 23:19	WSD
Chloroform	0.16	0.10	0.023		0.76	0.49	2	6/20/14 23:19	WSD
Chloromethane	ND	0.20	0.044		ND	0.41	2	6/20/14 23:19	WSD
Cyclohexane	ND	0.10	0.057		ND	0.34	2	6/20/14 23:19	WSD
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	6/20/14 23:19	WSD
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	6/20/14 23:19	WSD
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	6/20/14 23:19	WSD
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	6/20/14 23:19	WSD
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	6/20/14 23:19	WSD
Dichlorodifluoromethane (Freon 12)	0.40	0.10	0.043		2.0	0.49	2	6/20/14 23:19	WSD
1,1-Dichloroethane	1.8	0.10	0.028		7.4	0.40	2	6/20/14 23:19	WSD
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	6/20/14 23:19	WSD
1,1-Dichloroethylene	0.51	0.10	0.024		2.0	0.40	2	6/20/14 23:19	WSD
cis-1,2-Dichloroethylene	1.1	0.10	0.038		4.3	0.40	2	6/20/14 23:19	WSD
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	6/20/14 23:19	WSD
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	6/20/14 23:19	WSD
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/20/14 23:19	WSD
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/20/14 23:19	WSD
Ethanol	17	4.0	1.8	L-05, V-06	32	7.5	2	6/20/14 23:19	WSD
Ethyl Acetate	0.93	0.10	0.075		3.4	0.36	2	6/20/14 23:19	WSD
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	6/20/14 23:19	WSD
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	6/20/14 23:19	WSD
Heptane	ND	0.10	0.032		ND	0.41	2	6/20/14 23:19	WSD
Hexachlorobutadiene	ND	0.10	0.038	V-05	ND	1.1	2	6/20/14 23:19	WSD
Hexane	ND	4.0	0.18		ND	14	2	6/20/14 23:19	WSD
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	6/20/14 23:19	WSD

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: EW - 5 - 061314**  
**Sample ID: 14F0657-09**  
 Sample Matrix: Soil Gas  
 Sampled: 6/13/2014 09:04

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1158  
 Canister Size: 6 liter  
 Flow Controller ID: 4197  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -27  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -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		Analyst
		RL	MDL		Results	RL		Analyzed		
Isopropanol	4.6	4.0	0.12		11	9.8	2	6/20/14 23:19	WSD	
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	6/20/14 23:19	WSD	
Methylene Chloride	0.29	1.0	0.12	J	0.99	3.5	2	6/20/14 23:19	WSD	
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	6/20/14 23:19	WSD	
4-Methyl-2-pentanone (MIBK)	0.11	0.10	0.024		0.46	0.41	2	6/20/14 23:19	WSD	
Propene	ND	4.0	0.31		ND	6.9	2	6/20/14 23:19	WSD	
Styrene	ND	0.10	0.019		ND	0.43	2	6/20/14 23:19	WSD	
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	6/20/14 23:19	WSD	
1,1,2,2-Tetrachloroethane	ND	0.10	0.024	L-03, V-05	ND	0.69	2	6/20/14 23:19	WSD	
Tetrachloroethylene	0.17	0.10	0.028		1.2	0.68	2	6/20/14 23:19	WSD	
Tetrahydrofuran	1400	1.0	0.42		4000	2.9	20	6/20/14 23:56	WSD	
Tetrahydrofuran	870	0.10	0.042		2600	0.29	2	6/20/14 23:19	WSD	
Toluene	0.45	0.10	0.031		1.7	0.38	2	6/20/14 23:19	WSD	
1,2,4-Trichlorobenzene	ND	0.10	0.038	V-05	ND	0.74	2	6/20/14 23:19	WSD	
1,1,1-Trichloroethane	9.9	0.10	0.018		54	0.55	2	6/20/14 23:19	WSD	
1,1,2-Trichloroethane	ND	0.10	0.030	V-05	ND	0.55	2	6/20/14 23:19	WSD	
Trichloroethylene	30	0.10	0.030		160	0.54	2	6/20/14 23:19	WSD	
Trichlorofluoromethane (Freon 11)	0.61	0.10	0.035		3.4	0.56	2	6/20/14 23:19	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	0.028		ND	0.77	2	6/20/14 23:19	WSD	
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	6/20/14 23:19	WSD	
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	6/20/14 23:19	WSD	
Vinyl Acetate	ND	2.0	0.051	L-03, V-05	ND	7.0	2	6/20/14 23:19	WSD	
Vinyl Chloride	0.49	0.10	0.043		1.3	0.26	2	6/20/14 23:19	WSD	
m&p-Xylene	0.19	0.20	0.050	J	0.81	0.87	2	6/20/14 23:19	WSD	
o-Xylene	ND	0.10	0.029		ND	0.43	2	6/20/14 23:19	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.6	70-130	6/20/14 23:56
4-Bromofluorobenzene (1)	91.6	70-130	6/20/14 23:19
4-Bromofluorobenzene (2)	97.2	70-130	6/20/14 23:19



**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: EW - 6 - 061314**  
**Sample ID: 14F0657-10**  
 Sample Matrix: Soil Gas  
 Sampled: 6/13/2014 10:16

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1111  
 Canister Size: 6 liter  
 Flow Controller ID: 4194  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -28  
 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	11	4.0	1.4	L-05, V-06	27	9.5	2	6/21/14	0:36	WSD
Benzene	0.23	0.10	0.052		0.73	0.32	2	6/21/14	0:36	WSD
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	6/21/14	0:36	WSD
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	6/21/14	0:36	WSD
Bromoform	ND	0.10	0.019		ND	1.0	2	6/21/14	0:36	WSD
Bromomethane	ND	0.10	0.069		ND	0.39	2	6/21/14	0:36	WSD
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	6/21/14	0:36	WSD
2-Butanone (MEK)	2.3	4.0	0.075	J	6.8	12	2	6/21/14	0:36	WSD
Carbon Disulfide	10	1.0	0.034		31	3.1	2	6/21/14	0:36	WSD
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	6/21/14	0:36	WSD
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	6/21/14	0:36	WSD
Chloroethane	0.25	0.10	0.038		0.67	0.26	2	6/21/14	0:36	WSD
Chloroform	0.13	0.10	0.023		0.64	0.49	2	6/21/14	0:36	WSD
Chloromethane	1.6	0.20	0.044		3.3	0.41	2	6/21/14	0:36	WSD
Cyclohexane	ND	0.10	0.057		ND	0.34	2	6/21/14	0:36	WSD
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	6/21/14	0:36	WSD
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	6/21/14	0:36	WSD
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	6/21/14	0:36	WSD
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	6/21/14	0:36	WSD
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	6/21/14	0:36	WSD
Dichlorodifluoromethane (Freon 12)	0.41	0.10	0.043		2.0	0.49	2	6/21/14	0:36	WSD
1,1-Dichloroethane	1.2	0.10	0.028		4.7	0.40	2	6/21/14	0:36	WSD
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	6/21/14	0:36	WSD
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	6/21/14	0:36	WSD
cis-1,2-Dichloroethylene	0.18	0.10	0.038		0.71	0.40	2	6/21/14	0:36	WSD
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	6/21/14	0:36	WSD
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	6/21/14	0:36	WSD
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/21/14	0:36	WSD
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/21/14	0:36	WSD
Ethanol	3.6	4.0	1.8	J	6.9	7.5	2	6/21/14	0:36	WSD
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	6/21/14	0:36	WSD
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	6/21/14	0:36	WSD
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	6/21/14	0:36	WSD
Heptane	ND	0.10	0.032		ND	0.41	2	6/21/14	0:36	WSD
Hexachlorobutadiene	ND	0.10	0.038	V-05	ND	1.1	2	6/21/14	0:36	WSD
Hexane	ND	4.0	0.18		ND	14	2	6/21/14	0:36	WSD
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	6/21/14	0:36	WSD
Isopropanol	0.47	4.0	0.12	J	1.1	9.8	2	6/21/14	0:36	WSD

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: EW - 6 - 061314**  
**Sample ID: 14F0657-10**  
 Sample Matrix: Soil Gas  
 Sampled: 6/13/2014 10:16

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1111  
 Canister Size: 6 liter  
 Flow Controller ID: 4194  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -28  
 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	0.10	0.031		ND	0.36	2	6/21/14	0:36	WSD
Methylene Chloride	0.35	1.0	0.12	J	1.2	3.5	2	6/21/14	0:36	WSD
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	6/21/14	0:36	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	6/21/14	0:36	WSD
Propene	0.60	4.0	0.31	J	1.0	6.9	2	6/21/14	0:36	WSD
Styrene	ND	0.10	0.019		ND	0.43	2	6/21/14	0:36	WSD
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	6/21/14	0:36	WSD
1,1,2,2-Tetrachloroethane	ND	0.10	0.024	L-03, V-05	ND	0.69	2	6/21/14	0:36	WSD
Tetrachloroethylene	0.48	0.10	0.028		3.3	0.68	2	6/21/14	0:36	WSD
Tetrahydrofuran	410	1.0	0.42		1200	2.9	20	6/21/14	1:13	WSD
Toluene	0.26	0.10	0.031		0.97	0.38	2	6/21/14	0:36	WSD
1,2,4-Trichlorobenzene	ND	0.10	0.038	V-05	ND	0.74	2	6/21/14	0:36	WSD
1,1,1-Trichloroethane	4.7	0.10	0.018		26	0.55	2	6/21/14	0:36	WSD
1,1,2-Trichloroethane	ND	0.10	0.030	V-05	ND	0.55	2	6/21/14	0:36	WSD
Trichloroethylene	11	0.10	0.030		60	0.54	2	6/21/14	0:36	WSD
Trichlorofluoromethane (Freon 11)	2.4	0.10	0.035		14	0.56	2	6/21/14	0:36	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	0.028		ND	0.77	2	6/21/14	0:36	WSD
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	6/21/14	0:36	WSD
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	6/21/14	0:36	WSD
Vinyl Acetate	ND	2.0	0.051	L-03, V-05	ND	7.0	2	6/21/14	0:36	WSD
Vinyl Chloride	0.26	0.10	0.043		0.65	0.26	2	6/21/14	0:36	WSD
m&p-Xylene	0.12	0.20	0.050	J	0.52	0.87	2	6/21/14	0:36	WSD
o-Xylene	ND	0.10	0.029		ND	0.43	2	6/21/14	0:36	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	91.9	70-130	6/21/14 1:13
4-Bromofluorobenzene (1)	94.5	70-130	6/21/14 0:36
4-Bromofluorobenzene (2)	98.2	70-130	6/21/14 0:36

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: EW - 7 - 061314**  
**Sample ID: 14F0657-11**  
 Sample Matrix: Soil Gas  
 Sampled: 6/13/2014 10:58

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1009  
 Canister Size: 6 liter  
 Flow Controller ID: 4182  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -3.7  
 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	8.1	4.0	1.4	L-05, V-06	19	9.5	2	6/21/14	1:53	WSD
Benzene	0.33	0.10	0.052		1.1	0.32	2	6/21/14	1:53	WSD
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	6/21/14	1:53	WSD
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	6/21/14	1:53	WSD
Bromoform	ND	0.10	0.019		ND	1.0	2	6/21/14	1:53	WSD
Bromomethane	ND	0.10	0.069		ND	0.39	2	6/21/14	1:53	WSD
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	6/21/14	1:53	WSD
2-Butanone (MEK)	3.1	4.0	0.075	J	9.3	12	2	6/21/14	1:53	WSD
Carbon Disulfide	3.8	1.0	0.034		12	3.1	2	6/21/14	1:53	WSD
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	6/21/14	1:53	WSD
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	6/21/14	1:53	WSD
Chloroethane	0.54	0.10	0.038		1.4	0.26	2	6/21/14	1:53	WSD
Chloroform	0.49	0.10	0.023		2.4	0.49	2	6/21/14	1:53	WSD
Chloromethane	ND	0.20	0.044		ND	0.41	2	6/21/14	1:53	WSD
Cyclohexane	ND	0.10	0.057		ND	0.34	2	6/21/14	1:53	WSD
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	6/21/14	1:53	WSD
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	6/21/14	1:53	WSD
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	6/21/14	1:53	WSD
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	6/21/14	1:53	WSD
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	6/21/14	1:53	WSD
Dichlorodifluoromethane (Freon 12)	0.38	0.10	0.043		1.9	0.49	2	6/21/14	1:53	WSD
1,1-Dichloroethane	1.3	0.10	0.028		5.4	0.40	2	6/21/14	1:53	WSD
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	6/21/14	1:53	WSD
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	6/21/14	1:53	WSD
cis-1,2-Dichloroethylene	1.2	0.10	0.038		4.7	0.40	2	6/21/14	1:53	WSD
trans-1,2-Dichloroethylene	1.9	0.10	0.026		7.7	0.40	2	6/21/14	1:53	WSD
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	6/21/14	1:53	WSD
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/21/14	1:53	WSD
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/21/14	1:53	WSD
Ethanol	17	4.0	1.8	L-05, V-06	32	7.5	2	6/21/14	1:53	WSD
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	6/21/14	1:53	WSD
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	6/21/14	1:53	WSD
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	6/21/14	1:53	WSD
Heptane	0.55	0.10	0.032		2.2	0.41	2	6/21/14	1:53	WSD
Hexachlorobutadiene	ND	0.10	0.038	V-05	ND	1.1	2	6/21/14	1:53	WSD
Hexane	ND	4.0	0.18		ND	14	2	6/21/14	1:53	WSD
2-Hexanone (MBK)	0.12	0.10	0.026		0.49	0.41	2	6/21/14	1:53	WSD
Isopropanol	0.74	4.0	0.12	J	1.8	9.8	2	6/21/14	1:53	WSD

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: EW - 7 - 061314**  
**Sample ID: 14F0657-11**  
 Sample Matrix: Soil Gas  
 Sampled: 6/13/2014 10:58

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1009  
 Canister Size: 6 liter  
 Flow Controller ID: 4182  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -3.7  
 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	6/21/14	1:53	WSD
Methylene Chloride	0.24	1.0	0.12	J	0.85	3.5	2	6/21/14	1:53	WSD
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	6/21/14	1:53	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	6/21/14	1:53	WSD
Propene	0.67	4.0	0.31	J	1.1	6.9	2	6/21/14	1:53	WSD
Styrene	0.11	0.10	0.019		0.45	0.43	2	6/21/14	1:53	WSD
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	6/21/14	1:53	WSD
1,1,2,2-Tetrachloroethane	ND	0.10	0.024	L-03, V-05	ND	0.69	2	6/21/14	1:53	WSD
Tetrachloroethylene	16	0.10	0.028		110	0.68	2	6/21/14	1:53	WSD
Tetrahydrofuran	710	1.0	0.42		2100	2.9	20	6/21/14	2:31	WSD
Toluene	0.36	0.10	0.031		1.4	0.38	2	6/21/14	1:53	WSD
1,2,4-Trichlorobenzene	ND	0.10	0.038	V-05	ND	0.74	2	6/21/14	1:53	WSD
1,1,1-Trichloroethane	2.7	0.10	0.018		15	0.55	2	6/21/14	1:53	WSD
1,1,2-Trichloroethane	ND	0.10	0.030	V-05	ND	0.55	2	6/21/14	1:53	WSD
Trichloroethylene	36	0.10	0.030		190	0.54	2	6/21/14	1:53	WSD
Trichlorofluoromethane (Freon 11)	53	0.10	0.035		300	0.56	2	6/21/14	1:53	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	0.028		ND	0.77	2	6/21/14	1:53	WSD
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	6/21/14	1:53	WSD
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	6/21/14	1:53	WSD
Vinyl Acetate	ND	2.0	0.051	L-03, V-05	ND	7.0	2	6/21/14	1:53	WSD
Vinyl Chloride	0.70	0.10	0.043		1.8	0.26	2	6/21/14	1:53	WSD
m&p-Xylene	0.21	0.20	0.050		0.90	0.87	2	6/21/14	1:53	WSD
o-Xylene	ND	0.10	0.029		ND	0.43	2	6/21/14	1:53	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	90.7	70-130	6/21/14 2:31
4-Bromofluorobenzene (1)	93.4	70-130	6/21/14 1:53
4-Bromofluorobenzene (2)	96.5	70-130	6/21/14 1:53

**ANALYTICAL RESULTS**

Project Location: Providence RI

Date Received: 6/13/2014

Field Sample #: EW - Combined - 061314

Sample ID: 14F0657-12

Sample Matrix: Sub Slab

Sampled: 6/13/2014 11:36

Sample Description/Location:

Sub Description/Location:

Canister ID: 1062

Canister Size: 6 liter

Flow Controller ID: 4185

Sample Type: 30 min

Work Order: 14F0657

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -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		
Acetone	4.1	4.0	1.4	L-05, V-06	9.8	9.5	2	6/21/14	3:11	WSD
Benzene	0.21	0.10	0.052		0.66	0.32	2	6/21/14	3:11	WSD
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	6/21/14	3:11	WSD
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	6/21/14	3:11	WSD
Bromoform	ND	0.10	0.019		ND	1.0	2	6/21/14	3:11	WSD
Bromomethane	ND	0.10	0.069		ND	0.39	2	6/21/14	3:11	WSD
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	6/21/14	3:11	WSD
2-Butanone (MEK)	1.7	4.0	0.075	J	5.1	12	2	6/21/14	3:11	WSD
Carbon Disulfide	0.13	1.0	0.034	J	0.40	3.1	2	6/21/14	3:11	WSD
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	6/21/14	3:11	WSD
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	6/21/14	3:11	WSD
Chloroethane	0.57	0.10	0.038		1.5	0.26	2	6/21/14	3:11	WSD
Chloroform	0.70	0.10	0.023		3.4	0.49	2	6/21/14	3:11	WSD
Chloromethane	ND	0.20	0.044		ND	0.41	2	6/21/14	3:11	WSD
Cyclohexane	ND	0.10	0.057		ND	0.34	2	6/21/14	3:11	WSD
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	6/21/14	3:11	WSD
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	6/21/14	3:11	WSD
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	6/21/14	3:11	WSD
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	6/21/14	3:11	WSD
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	6/21/14	3:11	WSD
Dichlorodifluoromethane (Freon 12)	0.42	0.10	0.043		2.1	0.49	2	6/21/14	3:11	WSD
1,1-Dichloroethane	17	0.10	0.028		68	0.40	2	6/21/14	3:11	WSD
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	6/21/14	3:11	WSD
1,1-Dichloroethylene	10	0.10	0.024		40	0.40	2	6/21/14	3:11	WSD
cis-1,2-Dichloroethylene	7.6	0.10	0.038		30	0.40	2	6/21/14	3:11	WSD
trans-1,2-Dichloroethylene	0.22	0.10	0.026		0.89	0.40	2	6/21/14	3:11	WSD
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	6/21/14	3:11	WSD
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/21/14	3:11	WSD
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	6/21/14	3:11	WSD
Ethanol	22	4.0	1.8	L-05, V-06	41	7.5	2	6/21/14	3:11	WSD
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	6/21/14	3:11	WSD
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	6/21/14	3:11	WSD
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	6/21/14	3:11	WSD
Heptane	ND	0.10	0.032		ND	0.41	2	6/21/14	3:11	WSD
Hexachlorobutadiene	ND	0.10	0.038	V-05	ND	1.1	2	6/21/14	3:11	WSD
Hexane	ND	4.0	0.18		ND	14	2	6/21/14	3:11	WSD
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	6/21/14	3:11	WSD
Isopropanol	0.66	4.0	0.12	J	1.6	9.8	2	6/21/14	3:11	WSD

**ANALYTICAL RESULTS**

Project Location: Providence RI  
 Date Received: 6/13/2014  
**Field Sample #: EW - Combined - 061314**  
**Sample ID: 14F0657-12**  
 Sample Matrix: Sub Slab  
 Sampled: 6/13/2014 11:36

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1062  
 Canister Size: 6 liter  
 Flow Controller ID: 4185  
 Sample Type: 30 min

**Work Order: 14F0657**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -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		Analized		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	6/21/14	3:11	WSD
Methylene Chloride	0.31	1.0	0.12	J	1.1	3.5	2	6/21/14	3:11	WSD
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	6/21/14	3:11	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	6/21/14	3:11	WSD
Propene	ND	4.0	0.31		ND	6.9	2	6/21/14	3:11	WSD
Styrene	ND	0.10	0.019		ND	0.43	2	6/21/14	3:11	WSD
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	6/21/14	3:11	WSD
1,1,2,2-Tetrachloroethane	ND	0.10	0.024	V-05, L-03	ND	0.69	2	6/21/14	3:11	WSD
Tetrachloroethylene	12	0.10	0.028		82	0.68	2	6/21/14	3:11	WSD
Tetrahydrofuran	1.6	0.10	0.042		4.7	0.29	2	6/21/14	3:11	WSD
Toluene	0.47	0.10	0.031		1.8	0.38	2	6/21/14	3:11	WSD
1,2,4-Trichlorobenzene	ND	0.10	0.038	V-05	ND	0.74	2	6/21/14	3:11	WSD
1,1,1-Trichloroethane	140	1.0	0.18		770	5.5	20	6/21/14	3:48	WSD
1,1,2-Trichloroethane	ND	0.10	0.030	V-05	ND	0.55	2	6/21/14	3:11	WSD
Trichloroethylene	100	1.0	0.30		560	5.4	20	6/21/14	3:48	WSD
Trichlorofluoromethane (Freon 11)	28	0.10	0.035		160	0.56	2	6/21/14	3:11	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	0.028		ND	0.77	2	6/21/14	3:11	WSD
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	6/21/14	3:11	WSD
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	6/21/14	3:11	WSD
Vinyl Acetate	ND	2.0	0.051	L-03, V-05	ND	7.0	2	6/21/14	3:11	WSD
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	6/21/14	3:11	WSD
m&p-Xylene	0.22	0.20	0.050		0.95	0.87	2	6/21/14	3:11	WSD
o-Xylene	ND	0.10	0.029		ND	0.43	2	6/21/14	3:11	WSD

Surrogates	% Recovery	% REC Limits		
4-Bromofluorobenzene (1)	93.0	70-130	6/21/14	3:48
4-Bromofluorobenzene (1)	92.8	70-130	6/21/14	3:11
4-Bromofluorobenzene (2)	95.8	70-130	6/21/14	3:11

**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
14F0657-01 [IA - 1 - 061314]	B098489	1.5	1	N/A	1000	400	855	06/20/14
14F0657-02 [IA - 2 - 061314]	B098489	1.5	1	N/A	1000	400	855	06/20/14
14F0657-03 [IA - 3 - 061314]	B098489	1.5	1	N/A	1000	400	855	06/20/14
14F0657-04 [IA - 4 - 061314]	B098489	1.5	1	N/A	1000	400	855	06/20/14
14F0657-05 [IA - 5 - 061314]	B098489	1.5	1	N/A	1000	400	855	06/20/14
14F0657-06 [IA - 6 - 061314]	B098489	1.5	1	N/A	1000	400	855	06/20/14
14F0657-07 [IA - 7 - 061314]	B098489	1.5	1	N/A	1000	400	855	06/20/14
14F0657-08 [AA - 1 - 061314]	B098489	1.5	1	N/A	1000	400	855	06/20/14
14F0657-09 [EW - 5 - 061314]	B098489	1.5	1	N/A	1000	400	300	06/20/14
14F0657-09RE1 [EW - 5 - 061314]	B098489	1.5	1	N/A	1000	400	30	06/20/14
14F0657-10 [EW - 6 - 061314]	B098489	1.5	1	N/A	1000	400	300	06/20/14
14F0657-10RE1 [EW - 6 - 061314]	B098489	1.5	1	N/A	1000	400	30	06/20/14
14F0657-11 [EW - 7 - 061314]	B098489	1.5	1	N/A	1000	400	300	06/20/14
14F0657-11RE1 [EW - 7 - 061314]	B098489	1.5	1	N/A	1000	400	30	06/20/14
14F0657-12 [EW - Combined - 061314]	B098489	1.5	1	N/A	1000	400	300	06/20/14
14F0657-12RE1 [EW - Combined - 061314]	B098489	1.5	1	N/A	1000	400	30	06/20/14

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	
<b>Batch B098489 - TO-15 Prep</b>										
<b>Blank (B098489-BLK1)</b>										
						Prepared & Analyzed: 06/20/14				
Acetone	0.41	1.0								J
Benzene	ND	0.025								
Benzyl chloride	ND	0.025								
Bromodichloromethane	ND	0.025								
Bromoform	ND	0.025								
Bromomethane	ND	0.025								
1,3-Butadiene	ND	0.025								
2-Butanone (MEK)	0.048	1.0								J
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								V-05
Hexane	ND	1.0								
2-Hexanone (MBK)	ND	0.025								
Isopropanol	ND	1.0								
Methyl tert-Butyl Ether (MTBE)	ND	0.025								
Methylene Chloride	0.050	0.25								J
Methyl methacrylate	ND	0.025								
4-Methyl-2-pentanone (MIBK)	ND	0.025								
Propene	ND	1.0								
Styrene	ND	0.025								
1,1,1,2-Tetrachloroethane	ND	0.046								
1,1,2,2-Tetrachloroethane	ND	0.025								L-03, V-05



**QUALITY CONTROL**

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

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

**Batch B098489 - TO-15 Prep**

**Blank (B098489-BLK1)**

Prepared & Analyzed: 06/20/14

Tetrachloroethylene	ND	0.025								
Tetrahydrofuran	ND	0.025								
Toluene	ND	0.025								
1,2,4-Trichlorobenzene	ND	0.025								V-05
1,1,1-Trichloroethane	ND	0.025								
1,1,2-Trichloroethane	ND	0.025								V-05
Trichloroethylene	ND	0.025								
Trichlorofluoromethane (Freon 11)	ND	0.025								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.025								
1,2,4-Trimethylbenzene	ND	0.025								
1,3,5-Trimethylbenzene	ND	0.025								
Vinyl Acetate	ND	0.50								L-03, V-05
Vinyl Chloride	ND	0.025								
m&p-Xylene	ND	0.050								
o-Xylene	ND	0.025								
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	7.22				8.00		90.2	70-130		
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	7.46				8.00		93.3	70-130		

**LCS (B098489-BS1)**

Prepared & Analyzed: 06/20/14

Acetone	6.91				5.00		<b>138</b> *	70-130		L-05, V-06
Benzene	4.23				5.00		84.7	70-130		
Benzyl chloride	6.00				5.00		120	70-130		
Bromodichloromethane	4.03				5.00		80.7	70-130		
Bromoform	4.21				5.00		84.2	70-130		
Bromomethane	4.77				5.00		95.4	70-130		
1,3-Butadiene	5.59				5.00		112	70-130		
2-Butanone (MEK)	5.38				5.00		108	70-130		
Carbon Disulfide	4.21				5.00		84.1	70-130		
Carbon Tetrachloride	4.05				5.00		80.9	70-130		
Chlorobenzene	4.64				5.00		92.9	70-130		
Chloroethane	5.56				5.00		111	70-130		
Chloroform	4.32				5.00		86.5	70-130		
Chloromethane	4.43				5.00		88.7	70-130		
Cyclohexane	4.32				5.00		86.5	70-130		
Dibromochloromethane	4.50				5.00		90.0	70-130		
1,2-Dibromoethane (EDB)	4.08				5.00		81.7	70-130		
1,2-Dichlorobenzene	4.79				5.00		95.9	70-130		
1,3-Dichlorobenzene	4.78				5.00		95.5	70-130		
1,4-Dichlorobenzene	4.76				5.00		95.2	70-130		
Dichlorodifluoromethane (Freon 12)	4.09				5.00		81.8	70-130		
1,1-Dichloroethane	4.40				5.00		88.0	70-130		
1,2-Dichloroethane	4.31				5.00		86.3	70-130		
1,1-Dichloroethylene	5.28				5.00		106	70-130		
cis-1,2-Dichloroethylene	4.44				5.00		88.9	70-130		
trans-1,2-Dichloroethylene	4.49				5.00		89.8	70-130		
1,2-Dichloropropane	3.87				5.00		77.4	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 B098489 - TO-15 Prep</b>											
<b>LCS (B098489-BS1)</b>											
Prepared & Analyzed: 06/20/14											
cis-1,3-Dichloropropene	4.74				5.00		94.7	70-130			
trans-1,3-Dichloropropene	4.76				5.00		95.1	70-130			
Ethanol	7.52				5.00		<b>150</b> *	70-130			L-05, V-06
Ethyl Acetate	5.28				5.00		106	70-130			
Ethylbenzene	4.98				5.00		99.7	70-130			
4-Ethyltoluene	5.34				5.00		107	70-130			
Heptane	4.76				5.00		95.1	70-130			
Hexachlorobutadiene	3.90				5.00		78.1	70-130			V-05
Hexane	4.45				5.00		89.0	70-130			
2-Hexanone (MBK)	4.25				5.00		85.0	70-130			
Isopropanol	5.70				5.00		114	70-130			
Methyl tert-Butyl Ether (MTBE)	5.38				5.00		108	70-130			
Methylene Chloride	4.00				5.00		80.1	70-130			
Methyl methacrylate	4.56				5.00		91.1	70-130			
4-Methyl-2-pentanone (MIBK)	4.66				5.00		93.2	70-130			
Propene	4.36				5.00		87.3	70-130			
Styrene	5.10				5.00		102	70-130			
1,1,1,2-Tetrachloroethane	0.815				0.910		89.6	70-130			
1,1,2,2-Tetrachloroethane	2.59				5.00		<b>51.8</b> *	70-130			L-03, V-05
Tetrachloroethylene	4.73				5.00		94.6	70-130			
Tetrahydrofuran	5.24				5.00		105	70-130			
Toluene	5.12				5.00		102	70-130			
1,2,4-Trichlorobenzene	4.64				5.00		92.7	70-130			V-05
1,1,1-Trichloroethane	4.21				5.00		84.2	70-130			
1,1,2-Trichloroethane	3.65				5.00		73.0	70-130			V-05
Trichloroethylene	5.56				5.00		111	70-130			
Trichlorofluoromethane (Freon 11)	5.00				5.00		100	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.65				5.00		93.0	70-130			
1,2,4-Trimethylbenzene	5.02				5.00		100	70-130			
1,3,5-Trimethylbenzene	5.24				5.00		105	70-130			
Vinyl Acetate	1.72				5.00		<b>34.3</b> *	70-130			L-03, V-05
Vinyl Chloride	5.22				5.00		104	70-130			
m&p-Xylene	10.3				10.0		103	70-130			
o-Xylene	4.80				5.00		96.0	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.40				8.00		105	70-130			
Surrogate: 4-Bromofluorobenzene (2)	8.43				8.00		105	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 B098489 - TO-15 Prep</b>										
<b>Duplicate (B098489-DUP1)</b>		<b>Source: 14F0657-07</b>				<b>Prepared &amp; Analyzed: 06/20/14</b>				
Acetone	14	1.4	33	3.3		13		9.03	25	
Benzene	0.18	0.035	0.59	0.11		0.18		1.93	25	
Benzyl chloride	ND	0.035	ND	0.18		ND			25	
Bromodichloromethane	ND	0.035	ND	0.24		ND			25	
Bromoform	ND	0.035	ND	0.36		ND			25	
Bromomethane	0.040	0.035	0.16	0.14		ND			25	
1,3-Butadiene	ND	0.035	ND	0.078		ND			25	
2-Butanone (MEK)	1.0	1.4	3.0	4.1		1.0		0.340	25	J
Carbon Disulfide	0.050	0.35	0.16	1.1		0.048		2.86	25	J
Carbon Tetrachloride	0.074	0.035	0.46	0.22		0.071		3.88	25	
Chlorobenzene	ND	0.035	ND	0.16		ND			25	
Chloroethane	ND	0.035	ND	0.093		ND			25	
Chloroform	0.036	0.035	0.18	0.17		0.037		1.90	25	
Chloromethane	0.67	0.070	1.4	0.14		0.66		1.26	25	
Cyclohexane	0.060	0.035	0.21	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)	0.43	0.035	2.1	0.17		0.42		0.495	25	
1,1-Dichloroethane	ND	0.035	ND	0.14		ND			25	
1,2-Dichloroethane	ND	0.035	ND	0.14		ND			25	
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	53	1.4	100	2.6		42		22.8	25	L-05, V-06
Ethyl Acetate	0.12	0.035	0.44	0.13		0.12		6.49	25	
Ethylbenzene	0.081	0.035	0.35	0.15		0.081		0.00	25	
4-Ethyltoluene	ND	0.035	ND	0.17		ND			25	
Heptane	1.1	0.035	4.6	0.14		1.1		0.813	25	
Hexachlorobutadiene	ND	0.035	ND	0.37		ND			25	V-05
Hexane	0.27	1.4	0.93	4.9		0.26		3.50	25	J
2-Hexanone (MBK)	0.086	0.035	0.35	0.14		0.086		0.00	25	
Isopropanol	4.9	1.4	12	3.4		4.5		7.89	25	
Methyl tert-Butyl Ether (MTBE)	ND	0.035	ND	0.13		ND			25	
Methylene Chloride	0.21	0.35	0.73	1.2		0.21		0.662	25	J
Methyl methacrylate	ND	0.035	ND	0.14		ND			25	
4-Methyl-2-pentanone (MIBK)	ND	0.035	ND	0.14		0.083			25	
Propene	0.91	1.4	1.6	2.4		0.89		1.48	25	J
Styrene	0.073	0.035	0.31	0.15		0.069		5.94	25	
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	L-03, V-05

**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 B098489 - TO-15 Prep</b>										
<b>Duplicate (B098489-DUP1)</b>	<b>Source: 14F0657-07</b>				<b>Prepared &amp; Analyzed: 06/20/14</b>					
Tetrachloroethylene	0.051	0.035	0.34	0.24		0.050		1.40	25	
Tetrahydrofuran	0.043	0.035	0.13	0.10		0.046		7.87	25	
Toluene	0.60	0.035	2.3	0.13		0.58		2.50	25	
1,2,4-Trichlorobenzene	ND	0.035	ND	0.26		ND			25	V-05
1,1,1-Trichloroethane	ND	0.035	ND	0.19		ND			25	
1,1,2-Trichloroethane	ND	0.035	ND	0.19		ND			25	V-05
Trichloroethylene	ND	0.035	ND	0.19		ND			25	
Trichlorofluoromethane (Freon 11)	0.26	0.035	1.4	0.20		0.25		1.93	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.067	0.035	0.52	0.27		0.068		1.04	25	
1,2,4-Trimethylbenzene	0.062	0.035	0.31	0.17		0.062		0.00	25	
1,3,5-Trimethylbenzene	ND	0.035	ND	0.17		ND			25	
Vinyl Acetate	ND	0.70	ND	2.5		ND			25	L-03, V-05
Vinyl Chloride	ND	0.035	ND	0.090		ND			25	
m&p-Xylene	0.25	0.070	1.1	0.30		0.24		4.81	25	
o-Xylene	0.088	0.035	0.38	0.15		0.090		1.57	25	
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>7.71</i>					<i>8.00</i>		<i>96.3</i>	<i>70-130</i>	
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>8.01</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-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.
  - L-05 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high 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
Methyl methacrylate	AIHA,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

**CERTIFICATIONS**

**Certified Analyses included in this Report**

Analyte	Certifications
<i>EPA TO-15 in Air</i>	
Toluene	AIHA,FL,NJ,NY,VA,ME
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	06/30/2014
CT	Connecticut Department of Public Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2015
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2015
RI	Rhode Island Department of Health	LAO00112	12/30/2014
NC	North Carolina Div. of Water Quality	652	12/31/2014
NJ	New Jersey DEP	MA007 NELAP	06/30/2014
FL	Florida Department of Health	E871027 NELAP	06/30/2014
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2014
WA	State of Washington Department of Ecology	C2065	02/23/2015
ME	State of Maine	2011028	06/9/2015
VA	Commonwealth of Virginia	460217	12/14/2014
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2014



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

AIR SAMPLE CHAIN OF CUSTODY

39 SPRUCE ST  
EAST LONGMEADOW, MA 01028

Page 1 of 2  
DOC#284  
Rev. Feb 2014

Company Name: AmeC  
Address: 271 Mill Rd.  
Chenestock, MA

Telephone: 978-692-9090  
Project # 3650082114  
Client PO # C012203270

Attention: Kelly Chaston / Mark Messier

Project Location: Providence, RI  
Sampled By: Mark Messier

Proposal Provided? (For Billing purposes)

Yes  No

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT  
Email: Kelly.Chaston@AmeC.com  
Format:  EXCEL  PDF  GIS KEY  OTHER

Field ID	Sample Description	Media	Lab #	Date		Total	Flow Rate	Volume	Matrix
				Start	Stop				
IA-1-061314		S	01	6/13/14 8:02	6/13/14 8:32	30	0.2	6	IA
IA-2-061314		S	02	6/13/14 9:15	6/13/14 9:45	30	0.2	6	IA
IA-3-061314		S	03	6/13/14 8:03	6/13/14 8:33	30	0.2	6	IA
IA-4-061314		S	04	6/13/14 9:16	6/13/14 9:46	30	0.2	6	IA
IA-5-061314		S	05	6/13/14 9:42	6/13/14 10:12	30	0.2	6	IA
IA-6-061314		S	06	6/13/14 10:15	6/13/14 10:45	30	0.2	6	IA
IA-7-061314		S	07	6/13/14 10:29	6/13/14 10:59	30	0.2	6	IA
AA-1-061314		S	08	6/13/14 10:30	6/13/14 11:00	30	0.2	6	AWA

Laboratory Comments:

CLIENT COMMENTS:

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

Matrix Code	Media Codes	Summa Canister ID	Flow Control ID
	S=Summa can	1100	4192
	T=tedlar bag	1095	4180
	P=P-UF	1101	4181
	T=tube	1076	4188
	F=filter	1113	4195
	C=cassette	1146	4190
	O=Other	1011	4183
		1061	4184

Relinquished by (signature): \_\_\_\_\_ Date/Time: 6-13-14 12:15

Received by (signature): \_\_\_\_\_ Date/Time: 6-13-14 12:15

Relinquished by (signature): \_\_\_\_\_ Date/Time: 6-13-14 15:00

Received by (signature): \_\_\_\_\_ Date/Time: 6-13-14 15:00

Turnaround  7-Day  10-Day  Other \_\_\_\_\_

Regulations: CT Target Included  Data Enhancement/RCP?  Y  N

Enhanced Data Package  Y  N

Required Detection Limits: Commercial  CT Target

Other: \_\_\_\_\_

Matrix Code: \_\_\_\_\_ Media Codes: \_\_\_\_\_

SG=SOIL GAS IA=INDOOR AIR S=Summa can  
AMB=AMBIENT SS=SUB SLAB T=tedlar bag  
D=DUP F=filter P=P-UF  
BL=BLANK 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**





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AIR SAMPLE CHAIN OF CUSTODY RECORD

39 SPRUCE ST  
EAST LONGMEADOW, MA 01028

Page 2 of 2  
DOC#284  
Rev. Feb 2014

Company Name: AmeC

Address: 271 Mill Rd.

Chelmsford, MA 0

Attention: Kelly Chastleton / Mark Messier

Project Location: Providence JRT

Sampled By: Mark Messier

Proposal Provided? (F or Billing purposes)

Yes  No

Telephone: 978-693-9006  
Project #: 3656086114  
Client PO #: CO 12203270

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT

Fax #: \_\_\_\_\_  
Email: Kelly.Chastleton@amec.com  
Format:  EXCEL  PDF  GIS KEY  OTHER \_\_\_\_\_

Date Sampled ONLY USE WHEN USING PUMPS

Field ID	Sample Description	Media	Lab #	Start		Stop		Total	Flow Rate	Volume	Matrix
				Date Time	Date Time	Date Time	Date Time				
	Ew-5-061314	S	09	6/13/14 8:31	6/13/14 9:04	30	0.2	6	SG	X	
	Ew-6-061314	S	10	6/13/14 09:06	6/13/14 10:16	30	0.2	6	SG	X	
	Ew-7-061314	S	11	6/13/14 10:28	6/13/14 10:58	30	0.2	6	SG	X	
	Ew-Combinal-061314	S	12	6/13/14 11:06	6/13/14 11:36	30	0.2	6	SS	Y	

Laboratory Comments:

CLIENT COMMENTS:

ANALYSIS REQUESTED

"Hg

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 fee will apply.  
For summa canister and flow controller information please refer to Con-Test's Media Agreement.

Summa Canister ID	Flow Control ID
1158	4147
1111	4140
1009	4181
1062	4188

Relinquished by: (signature)

Date/Time: 6-13-14 12:15

Received by: (signature)

Date/Time: 6/13/14 12:50

Relinquished by: (signature)

Date/Time: 6-13-14 15:00

Received by: (signature)

Date/Time: 6-13-14 15:00

Turnaround <sup>est</sup>

7-Day  10-Day  Other \_\_\_\_\_

RUSH:  24-Hr  48-Hr  72-Hr  4-Day

Approval Required

Special Requirements

Regulations: CT Target  Target   
Data Enhancement/RCP?  Y  N  
Enhanced Data Package  Y  N  
(Surcharge Applies)  
Required Detection Limits: CT Target  
Other: See serial

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 = Tedlar bag; P = PUF; T = tube; F = filter; C = cassette; O = other

TURNAROUND TIME STARTS AT 5:00 AM 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

**Login Sample Receipt Checklist**  
**(Rejection Criteria Listing - Using Sample Acceptance Policy)**  
**Any False statement will be brought to the attention of Client**

<u>Question</u>	<u>Answer (True/False)</u>		<u>Comment</u>
	<u>T/F/NA</u>		
1) The cooler's custody seal, if present, is intact.	NA		
2) The cooler or samples do not appear to have been compromised or tampered with.	NA		
3) Samples were received on ice.	NA		
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) There are no discrepancies between the sample IDs on the container and the COC.	T		
10) Samples are received within Holding Time.	T		
11) Sample containers have legible labels.	T		
12) Containers are not broken or leaking.	T		
13) Air Cassettes are not broken/open.	NA		
14) Sample collection date/times are provided.	T		
15) Appropriate sample containers are used.	T		
16) Proper collection media used.	T		
17) No headspace sample bottles are completely filled.	NA		
18) There is sufficient volume for all requested analyses, including any requested MS/MSDs.	T		
19) Trip blanks provided if applicable.	NA		
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA		
21) Samples do not require splitting or compositing.	T		

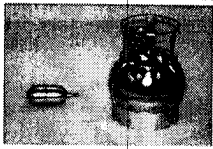
Doc #278 Rev. 4 January 2014

 Who notified of False statements?  
 Log-In Technician Initials: PB

Date/Time:

Date/Time: 6-13-14

15:00



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

### AIR Only Receipt Checklist

CLIENT NAME: AMOC

RECEIVED BY: PB

DATE: 6.13.14

- 1) Was the chain(s) of custody relinquished and signed?  Yes  No
  - 2) Does the chain agree with the samples?  Yes  No  
If not, explain:
  - 3) Are all the samples in good condition?  Yes  No  
If not, explain:
  - 4) Are there any samples "On Hold"? Yes  No  Stored where:
  - 5) Are there any RUSH or SHORT HOLDING TIME samples? Yes  No
- Who was notified \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

6) Location where samples are stored:

Air Lab

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? None Certified

### Containers received at Con-Test

	# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)	13	6 lit
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: 1004

Unused Regulators:

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:	1100	1113	1158	4188	4182	4196	4039
	1095	1146	1111	4189	4183	4197	
	1101	1014	1009	4192	4184	4194	
	1076	1061	1062	4193	4185	4195	

## **APPENDIX B**

### **Analytical Laboratory Detection Limits**



39 Spruce Street, 2nd Floor  
 East Longmeadow, MA 01028  
 413.525.2332  
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**Analyte:**

TO-14 / TO-15	PPBv	UG/M3	PPBv	UG/M3	MW NIST	UG/M3	PPBv
1,1,1-Trichloroethane	ND	ND	0.050	<b>0.27</b>	<b>133.40</b>	1	0.18
1,1,2,2-Tetrachloroethane	ND	ND	0.050	0.34	167.85	1	0.15
1,1,2-Trichloroethane	ND	ND	0.050	0.27	133.40	1	0.18
1,1,2-Trichlorotrifluoroethane (freon 113)	ND	ND	0.050	0.38	<b>187.37</b>	1	0.13
1,1-Dichloroethane	ND	ND	0.050	0.20	98.96	1	0.25
1,1-Dichloroethene	ND	ND	0.050	0.20	<b>96.94</b>	1	0.25
1,2,4-Trichlorobenzene	ND	ND	0.050	0.37	181.45	1	0.13
1,2,4-Trimethylbenzene	ND	ND	0.050	0.25	<b>120.19</b>	1	0.20
1,2-Dibromoethane	ND	ND	0.050	0.38	187.86	1	0.13
1,2-Dichlorobenzene	ND	ND	0.050	0.30	<b>147.00</b>	1	0.17
1,2-Dichloroethane	ND	ND	0.050	0.20	98.96	1	0.25
1,2-Dichloropropane	ND	ND	0.050	0.23	<b>112.99</b>	1	0.22
1,2-Dichlorotetrafluoroethane (freon 114)	ND	ND	0.050	0.35	170.92	1	0.14
1,3 - Butadiene	ND	ND	0.050	0.11	54.09	1	0.45
1,3,5-Trimethylbenzene	ND	ND	0.050	0.25	<b>120.19</b>	1	0.20
1,3-Dichlorobenzene	ND	ND	0.050	0.30	147.00	1	0.17
1,4-Dichlorobenzene	ND	ND	0.050	0.30	147.00	1	0.17
1,4-Dioxane	ND	ND	0.050	0.18	88.11	1	0.28
2-Butanone (MEK)	ND	ND	0.050	0.15	<b>72.11</b>	1	0.34
2-Hexanone (MBK)	ND	ND	0.050	0.20	100.16	1	0.24
4-Ethyltoluene	ND	ND	0.050	0.25	120.19	1	0.20
4-Methyl-2-pentanone(MIBK)	ND	ND	0.050	0.20	<b>100.16</b>	1	0.24
Acetone	ND	ND	0.050	0.12	58.08	1	0.42
Acrolein	ND	ND	0.050	0.11	<b>56.06</b>	1	0.44
Benzene	ND	ND	0.050	0.16	78.11	1	0.31
Benzyl Chloride	ND	ND	0.050	0.26	<b>126.58</b>	1	0.19
Bromodichloromethane	ND	ND	0.050	0.34	163.83	1	0.15
Bromoform	ND	ND	0.050	0.52	252.73	1	0.10
Bromomethane	ND	ND	0.050	0.19	<b>94.94</b>	1	0.26
Carbon Disulfide	ND	ND	0.050	0.16	76.14	1	0.32
Carbon Tetrachloride	ND	ND	0.050	<b>0.31</b>	<b>153.82</b>	1	0.16



39 Spruce Street, 2nd Floor  
 East Longmeadow, MA 01028  
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Chlorobenzene	ND	ND	0.050	0.23	112.56	1	0.22
Chloroethane	ND	ND	0.050	0.13	64.51	1	0.38
Chloroform	ND	ND	0.050	0.24	119.38	1	0.20
Chloromethane	ND	ND	0.050	0.10	50.49	1	0.48
cis-1,2-Dichloroethene	ND	ND	0.050	0.20	96.94	1	0.25
cis-1,3-Dichloropropene	ND	ND	0.050	0.23	110.97	1	0.22
Cyclohexane	ND	ND	0.050	0.17	84.16	1	0.29
Dibromochloromethane	ND	ND	0.050	0.43	208.28	1	0.12
Dichlorodifluoromethane (freon 12)	ND	ND	0.050	0.25	120.91	1	0.20
Ethanol	ND	ND	0.050	0.09	46.07	1	0.53
Ethyl Acetate	ND	ND	0.050	0.18	88.11	1	0.28
Ethylbenzene	ND	ND	0.050	0.22	106.17	1	0.23
Heptane	ND	ND	0.050	0.20	100.20	1	0.24
Hexachlorobutadiene	ND	ND	0.050	0.53	260.76	1	0.09
Hexane	ND	ND	0.050	0.18	86.18	1	0.28
Isopropyl Alcohol	ND	ND	0.050	0.12	60.10	1	0.41
M/P Xylenes	ND	ND	0.050	0.22	106.17	1	0.23
Methylene Chloride	ND	ND	0.050	0.17	84.93	1	0.29
Methylmethacrylate	ND	ND	0.050	0.20	100.12	1	0.24
MTBE	ND	ND	0.050	0.18	88.15	1	0.28
O-Xylene	ND	ND	0.050	0.22	106.17	1	0.23
Propene	ND	ND	0.050	0.09	42.08	1	0.58
Styrene	ND	ND	0.050	0.21	104.15	1	0.23
Tetrachloroethene	ND	ND	0.050	0.34	165.83	1	0.15
Tetrahydrofuran	ND	ND	0.050	0.15	72.11	1	0.34
Toluene	ND	ND	0.050	0.19	92.14	1	0.27
trans-1,2-Dichloroethene	ND	ND	0.050	0.20	96.94	1	0.25
trans-1,3-Dichloropropene	ND	ND	0.050	0.23	110.97	1	0.22
Trichloroethene	ND	ND	0.050	0.27	131.39	1	0.19
Trichlorofluoromethane (freon 11)	ND	ND	0.050	0.28	137.37	1	0.18
Vinyl Acetate	ND	ND	0.050	0.18	86.09	1	0.28
Vinyl Chloride	ND	ND	0.050	0.13	62.50	1	0.39



39 Spruce Street, 2nd Floor  
 East Longmeadow, MA 01028  
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## APH COMPOUNDS

1,2,3-Trimethylbenzene	ND	ND	0.94	4.62	120.19	1	0.20
1,3 Butadiene	ND	ND	0.94	2.08	54.09	1	0.45
1,3,5-Trimethylbenzene	ND	ND	0.94	4.62	120.19	1	0.20
1-Ethyl-3-Methylbenzene	ND	ND	0.94	4.62	120.19	1	0.20
1-Methylnaphthalene	ND	ND	0.94	5.47	142.20	1	0.17
2,3-Dimethylheptane	ND	ND	0.94	4.93	128.26	1	0.19
2,3-Dimethylpentane	ND	ND	0.94	3.85	100.20	1	0.24
2-Methylnaphthalene	ND	ND	0.94	5.47	142.20	1	0.17
Benzene	ND	ND	0.94	3.00	78.11	1	0.31
Butyl Cyclohexane	ND	ND	0.94	5.39	140.27	1	0.17
Cyclohexane	ND	ND	0.94	3.24	84.16	1	0.29
Decane	ND	ND	0.94	5.47	142.28	1	0.17
Dodecane	ND	ND	0.94	6.55	170.33	1	0.14
Ethylbenzene	ND	ND	0.94	4.08	106.17	1	0.23
Heptane	ND	ND	0.94	3.85	100.20	1	0.24
Hexane	ND	ND	0.94	3.31	86.18	1	0.28
Hexyl Cyclohexane	ND	ND	0.94	6.47	168.32	1	0.15
Indene	ND	ND	0.94	4.47	116.16	1	0.21
Isopentane	ND	ND	0.94	2.77	72.15	1	0.34
Isopropylbenzene(Cumene)	ND	ND	0.94	4.62	120.19	1	0.20
m/p -Xylenes	ND	ND	0.94	4.08	106.17	1	0.23
Methyl-tert-butylether	ND	ND	0.94	3.39	88.15	1	0.28
Naphthalene	ND	ND	0.94	4.93	128.17	1	0.19
Nonane	ND	ND	0.94	4.93	128.26	1	0.19
Octane	ND	ND	0.94	4.39	114.23	1	0.21
o-Xylene	ND	ND	0.94	4.08	106.17	1	0.23
P-Iso-Propyl Toluene	ND	ND	0.94	5.16	134.22	1	0.18
Toluene	ND	ND	0.94	3.54	92.14	1	0.27
Toluene-D8	ND	ND	0.94	3.85	100.19	1	0.24
Undecane	ND	ND	0.94	6.01	156.31	1	0.16



39 Spruce Street, 2nd Floor  
East Longmeadow, MA 01028  
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### EXTRA COMPOUNDS

1,1,1,2-tetrachloroethane	ND	ND	0.091	0.6247	167.85	1	0.15
1,2-Dibromo-3-chloropropane	ND	ND	0.065	0.6283	236.33	1	0.10
1,3-Dichloropropane	ND	ND	0.135	0.6238	112.99	1	0.22
1-Methylnaphthalene	ND	ND	0.107	0.6223	142.20	1	0.17
2,2,4-Trimethylpentane	ND	ND	0.134	0.6260	114.23	1	0.21
2-Methylnaphthalene	ND	ND	0.107	0.6223	142.20	1	0.17
Acrylonitrile	ND	ND	0.288	0.6250	53.06	1	0.46
Butylbenzene	ND	ND	0.114	0.6258	134.22	1	0.18
Cumene	ND	ND	0.127	0.6243	120.19	1	0.20
Hexylcyclohexane	ND	ND	0.091	0.6265	168.32	1	0.15
Indane	ND	ND	0.129	0.6235	118.18	1	0.21
Indene	ND	ND	0.132	0.6271	116.16	1	0.21
Methyl Acetate	ND	ND	0.206	0.6241	74.08	1	0.33
Methylcyclohexane	ND	ND	0.156	0.6265	98.19	1	0.25
Naphthalene	ND	ND	0.119	0.6238	128.17	1	0.19
P-cymene	ND	ND	0.114	0.6258	134.22	1	0.18
Propylbenzene	ND	ND	0.127	0.6243	120.19	1	0.20
Sec-butylbenzene	ND	ND	0.114	0.6258	134.22	1	0.18
Tert-butylbenzene	ND	ND	0.114	0.6258	134.22	1	0.18
Thiophene	ND	ND	0.182	0.6263	84.14	1	0.29

### OTHER COMPOUNDS

2-Chloro-pyridine	ND	ND	0.20	0.93	113.54	1	0.22
2,6-Dichloro-pyridine	ND	ND	0.20	1.19	144.97	1	0.17
tert-Butyl Alcohol	ND	ND	0.20	0.61	74.10	1	0.33