



April 29, 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  
First 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 January 2014 through March 2014 and includes one quarterly compliance sampling event (March 07, 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 March 07, 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 (14C0239) associated with the March 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 March 07 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 March 07, 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 (14C0239) associated with March 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 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 were in compliance with action levels for the March 07 2014 quarterly sampling event in the large retail space (sample locations IA-1 through IA-4).
- 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 was recently 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. A system shutdown occurred on March 11<sup>th</sup>. The alarm could not be reset remotely. It remained down until March 14<sup>th</sup>, when a Clean Harbors technician was able to reset the alarms manually. There was no identified cause for the alarm and associated shutdown other than power loss due to inclement weather. There were several low flow conditions reported on radon fan 2. There was no identified cause for the alarms and the alarm was 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 visits.

### **Next Reporting Period**

The next quarterly report (second quarter 2014) will cover the monitoring period from April 2014 through June 2014. The report will be prepared and submitted to the Rhode Island Department of Environmental Management (RIDEM) in July 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)  
Knight Memorial Library Repository  
G. Wilson, Kimco Realty Corporation (including tenants)  
Joseph P. Salvetti, Norfolk Ram Group, LLC  
AMEC Project File



## 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- 022809 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-Trichloroethane	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-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
1,2,4-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	0.37 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	0.5	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	0.3
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 12/13/13	AA-1-030714 03/07/14
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
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	0.42 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
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
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
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
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
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
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
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
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
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
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
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
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
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
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-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
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
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
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
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	0.7	0.95	0.43	1.0
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
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
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
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
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
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
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
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.089 U	0.093 U	0.093 U	0.093 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.094	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
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
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
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
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
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
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
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
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
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
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
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
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	0.6	0.88	2.9 U	0.58	0.47	0.52	1.3	6.2	3.3 U	0.77	0.92
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



**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 12/13/13	AA-1-030714 03/07/14
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
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	0.8	0.55
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
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
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	0.2	0.15 U	0.24	0.15 U	0.17
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
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	0.1	0.13	0.15 U	0.039	0.15 U	0.15 U	0.052	0.15 U	0.15 U
Tetrachloroethene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.49	0.34 U	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	0.3	0.24 U	0.24 U
Tetrahydrofuran	0.19	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.057	0.088 U	0.088 U	0.43	0.10 U	0.10 U	0.10 U	1.4	0.10 U	0.10 U	0.23
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
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
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
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
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
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	0.6	0.55	0.55	0.46
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
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

**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 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 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	10000	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	2.0 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	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 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 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 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-5-1010313 1/3/2013	EW-5-031513 3/15/2013	EW-5-060713 6/7/2013	EW-5-090613 9/6/2013	EW-5-121313 12/13/13	EW-5-030714 03/07/14	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	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													
1,1,2,2-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	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	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	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	850	210	100	110	55	74	87	83	80	6.4	3.5	4.0 U	0.4 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	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	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	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	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	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	0.6 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	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	0.4 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	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	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	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	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	0.6 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	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	0.6 UD
1,4-Dioxane																						
2-Butanone	1800	870	840	9.5	1.7	1900	31000	680	1200	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	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	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	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	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	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	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	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	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 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	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	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	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	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	0.9	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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 12/13/13	EW-5-030714 03/07/14	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														
Methylene chloride	15	11	2.5	1.8	6.9	1.1	3.4	1.1	0.79	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	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	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	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	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	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	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	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	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	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	12	6.3	4.2	6.4	4.0 U	40 U	2.6	2.7	2	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	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	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	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	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	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	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 12/13/13	EW-6-030714 03/07/14	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	EW-7-091709 9/17/2009	EW-7-122909 12/29/2009
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	5600	8500	7800	8200	8100	1600	3600	2600	1400	340
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										
1,1,2,2-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	6.8 U	1.4 U	1.7 U	1.7 U	1.7 U	6.8 U	3.4 U	3.4 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	5.4 U	1.1 U	1.4 U	1.4 U	1.4 U	5.4 U	2.7 U	2.7 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	1700	1800	1600	2100	1700	590	1000	1100	970	470
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	14	15	8.5	9.4	6.6	4.0 U	4.2	4.2	4.5	2.0 U
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	7.4 U	1.5 U	1.9 U	1.9 U	1.9 U	7.4 U	3.7 U	3.7 U	3.7 U	7.5 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	5.0 U	1.0 U	1.3 U	1.3 U	1.3 U	5.0 U	2.5 U	2.5 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	7.6 U	1.6 U	1.9 U	1.9 U	1.9 U	7.6 U	3.8 U	3.8 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	6.0 U	1.2 U	1.5 U	1.5 U	1.5 U	6.0 U	3.0 U	3.0 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	4.0 U	0.80 U	1.0 U	1.0 U	1.0 U	4.0 U	2.0 U	2.0 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	4.6 U	0.92 U	1.2 U	1.2 U	1.2 U	4.6 U	2.3 U	2.3 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	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	5.0 U	1.0 U	1.3 U	1.3 U	1.3 U	5.0 U	2.5 U	2.5 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	0.078 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	2.3 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	6.0 U	1.2 U	1.5 U	1.5 U	1.5 U	6.0 U	3.0 U	3.0 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	6.0 U	1.2 U	1.5 U	1.5 U	1.5 U	6.0 U	3.0 U	3.0 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	8.7	12	7.3	8.5	5.5	4.5	7.1	16	4.9	3.5
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	4.0 U	0.80 U	1.0 U	1.0 U	1.0 U	4.0 U	2.0 U	2.0 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	5.0 U	1.0 U	1.3 U	1.3 U	1.3 U	5.0 U	2.5 U	2.5 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	4.0 U	0.80 U	1.0 U	1.0 U	1.0 U	4.0 U	2.0 U	2.0 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	580	38	58	30	24	15	24	24	7.9	49
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	3.2 U	3.9	4.5	1.9	2.3	3.2 U	2.6	2.8	3.0	2.2
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	5.2 U	1.1 U	1.3 U	1.3 U	1.3 U	5.2 U	2.6 U	2.6 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	6.6 U	1.4 U	1.7 U	1.7 U	1.7 U	6.6 U	3.3 U	3.3 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	11 U	2.1 U	2.6 U	2.6 U	2.6 U	11 U	5.1 U	5.1 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	3.8 U	0.76 U	0.95 U	0.95 U	0.95 U	3.8 U	1.9 U	1.9 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	5.7	3.4	2.7	3.7	3.3	3.2 U	3.2	2.7	2.1	1.6 U
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	6.2 U	1.3 U	1.6 U	1.6 U	1.6 U	6.2 U	3.1 U	3.1 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	4.6 U	0.92 U	1.2 U	1.2 U	1.2 U	4.6 U	2.3 U	2.3 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	170	150	88	41	33	7.1	9.6	10	8.1	6.5
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	4.8 U	1.0	1.2 U	1.3	1.2 U	4.8 U	2.7	2.6	4.6	2.7
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	2.0 U	0.40 U	0.50 U	0.50 U	0.50 U	2.0 U	1.0 U	1.0 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	1100	1300	1200	1700	1200	520	1100	1200	1300	680
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	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 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	3.4 U	5.6	5	3.7	2.1	3.4 U	1.7 U	1.7 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	8.6 U	1.8 U	2.2 U	2.2 U	2.2 U	8.6 U	4.3 U	4.3 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	5.0 U	2.5	3.2	770	2.6	5.0 U	2.9	3.3	2.5 U	2.5 U
Ethanol	11 D	38 UD	150 U	38 U	29	5.8	68	8.6	3.5	13	14	4.3	7.5 U	350	26	29	17	15	3.8 U	19	18	12	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	7.3 U	0.72 U	0.90 U	1.9 U	0.90 U	7.3 U	1.8 U	1.8 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	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 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	22 U	4.3 U	5.4 U	5.4 U	5.4 U	22 U	11 U	11 U	5.3 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	10	10	7.6	5.5	3.1	3.6 U	4.0	2.1	1.8 U	1.8 U
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	210	18	21	12	8.5	5.0 U	12	17	2.5 U	2.5 U
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	8.6 U	1.8 U	2.2 U	2.2 U	2.2 U	8.6 U	4.3 U	4.3 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 12/13/13	EW-6-030714 03/07/14	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	EW-7-091709 9/17/2009	EW-7-122909 12/29/2009	
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											
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	9.3	2.6	8	1.8	1.8 U	20	29	16	7.0 U	27	
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	3.6 U	3.5	2.9	4.9	3.1	3.6 U	1.8 U	1.8 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	4.0 U	1.4	1.0 U	1.0 U	1.0 U	4.0 U	2.0 U	2.0 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	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 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	3.5 U	160	110	0.87 U	0.45 U	3.5 U	0.90 U	0.90 U	3.5 U	3.5 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	4.2 U	0.84 U	1.1 U	1.1 U	1.1 U	4.2 U	2.1 U	2.1 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	66	69	56	84	69	40	140	230	410	130	
Tetrahydrofuran	0.29 UD	13000 D	32000	3900	3.7	8100	0.29 U	0.29 U	0.27	58	35000	650	54	41	23	12	14	7.5	3.0 U	5.6	15	4.1	1.5 U	
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	14	2.9	3.6	1.7	0.95 U	3.8 U	1.9 U	1.9 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	0.4 U	150	140	90	90	80	48	120	140	150	84	
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	4.4 U	0.88 U	1.1 U	1.1 U	1.1 U	4.4 U	2.2 U	2.2 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	230	210	180	180	200	110	330	420	920	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	1800	1400	900	690	640	190	310	660	1400	620	
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	7.6 U	1.6 U	1.9 U	1.9 U	1.9 U	7.6 U	3.8 U	3.8 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	15 U	0.72 U	0.90 U	3.6 U	0.90 U	15 U	1.8 U	1.8 U	7.1 U	3.6 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	280	370	180	48	21	2.6 U	2.7	3.2	1.3 U	1.6	

**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-7-032610 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 12/13/13	EW-7-030714 03/07/14
1,1,1-Trichloroethane	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
1,1,1,2-Tetrachloroethane							2.5 U			12 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	0.68 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
1,1,2-Trichloroethane	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
1,1-Dichloroethane	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
1,1-Dichloroethene	0.40 U	0.81	0.94	0.63 D	0.4 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
1,2,4-Trichlorobenzene	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
1,2,4-Trimethylbenzene	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
1,2-Dibromoethane (EDB)	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
1,2-Dichlorobenzene	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
1,2-Dichloroethane	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
1,2-Dichloropropane	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
1,2-Dichlorotetrafluoroethane	0.70 U	0.70 U	0.70 U															
1,3,5-Trimethylbenzene	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
1,3-Butadiene	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
1,3-Dichlorobenzene	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
1,4-Dichlorobenzene	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
1,4-Dioxane							0.72 U											
2-Butanone	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
2-Hexanone	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
4-Ethyltoluene	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
4-Methyl-2-pentanone	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
Acetone	26	25	12	42 BD	35 BD	48 UD	23	12	46	31	17	23	55	28	24	35	14	6.9
Benzene	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
Benzyl chloride	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
Bromodichloromethane	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
Bromoform	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
Bromomethane	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
Carbon disulfide	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
Carbon tetrachloride	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
Chlorobenzene	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
Chloroethane	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
Chloroform	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
Chloromethane	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
cis-1,2-Dichloroethene	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
cis-1,3-Dichloropropene	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
Cyclohexane	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
Dibromochloromethane	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
Dichlorodifluoromethane	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
Ethanol	37	31	1.9 U	1.9 UD	18 D	38 UD	22	23	160	31	140	1200	27	22	14	30	12	13
Ethyl acetate	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
Ethylbenzene	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
Hexachlorobutadiene	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
Hexane	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	0.9	0.9	14 U	14 U
Isopropyl alcohol	80	2.2	2.6	2.8 D	0.25 UD	25 UD	30	9.8 U	14	9.8 U	12	9.8 U	9.8 U	3.4 U	17	13	9.8 U	
m,p-Xylene	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



**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-7-032610 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 12/13/13	EW-7-030714 03/07/14
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
Methylene chloride	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
Methyl-t-butyl ether	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
n-Heptane	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
o-Xylene	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	0.4	0.73	0.43 U	0.43 U
Propylene (Propene)	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	2.4 U	6.9 U	6.9 U	6.9 U	6.9 U
Styrene	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
Tetrachloroethene	74	510	610	190 D	110 D	120 D	450	170	5.6	130	200	1.3	3.0	100	410	150	140	81
Tetrahydrofuran	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
Toluene	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	1.2
trans-1,2-Dichloroethene	22	120	110	78 D	58 D	4 UD	82	54	3.8	37	45	0.40 U	2.1	7.1	64	32	13	9.2
trans-1,3-Dichloropropene	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
Trichloroethene	190	690	730	440 D	310 D	260 D	680	310	53	320	450	1.1	17	170	740	350	280	210
Trichlorofluoromethane	210	690	700	530 D	740 D	330 D	2500	1000	180	1300	2000	3.5	91	280	1500	990	1100	690
Trichlorotrifluoroethane	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
Vinyl acetate	0.71 U	0.36 U	0.71 U	0.7 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
Vinyl chloride	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	0.9	0.090 U	0.26 U	0.26 U	1.5

**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-Dichloroethane	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	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	0.11 U	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 12/13/13	IA-5-030714 03/07/14	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	IA-6-032610 3/26/2010	IA-6-070110 7/1/2010
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	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	0.35	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	0.16	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	0.34 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
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	0.27 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
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	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	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	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	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	0.37 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
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	0.75	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	0.25 U	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	0.38 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
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	0.30 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
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	0.20 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
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	0.23 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
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
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	0.25 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	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	0.11 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	0.11 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	0.30 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
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	0.30 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	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	120	10	3.2	2.9	2.4	2.3	1.0	2.5	4.1	2.4	1.8	1.4	1.1
2-Hexanone	0.13	0.32	0.081	0.17	0.16	0.16	0.48	0.44	0.14 U	0.32	0.20 U	0.42	0.37	0.34	0.20 U	0.37	0.14 U	0.62	0.72	0.7	0.20 U	0.26	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	0.25 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	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	0.20 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	0.20 U	0.20 U
Acetone	6.6	11	13	13	9.0	9.7	24	19	40	12	44	14	14	25	11	8.5	6.1	11	28	20	14	6.5	14
Benzene	0.38	0.34	0.20	0.53	0.53	0.80	0.27	0.68	0.55	2.9	1.0	0.60	0.98	4.1 [a]	0.41	0.70	0.59	0.47	0.43	0.31	0.40	0.55	0.19
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	0.26 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
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	0.33 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
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	0.51 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
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	0.19 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
Carbon disulfide	0.93 U	0.93 U	0.93 U	0.11	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	0.49	0.46	0.42	0.38	0.58 [a]	0.37	0.59	0.47	0.50	0.43	0.39	0.42	0.52	0.59 [a]	0.47	0.6 [a]	0.42	0.77 [a]	0.45	0.42	0.40	0.43	0.55 [a]
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	0.23 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
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	0.13 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
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	0.24 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	0.36
Chloromethane	1.0	1.1	1.4	1.2	1.0	1.2	1.5	1.2	1.3	1.3	1.3	0.90	1.4	1.5	1.0	1.1	1.1	1.1	1.9	0.97	1.8	1.4	1.0
cis-1,2-Dichloroethene	0.18	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 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	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	0.22 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
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	0.17 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	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	0.43 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
Dichlorodifluoromethane	2.6	2.0	2.9	2.8	2.8	1.6	3.4	1.9	2.5	1.3	2.0	2.1	2.6	2.8	2.6	2.6	2.0	2.7	2.5	2.2	1.9	1.6	2.4
Ethanol	5.4	14	43	11	3.9	1.9	12	15	4.5	18	41	23	12	40	13	12	8.6	51	31	12	10	7.1	18
Ethyl acetate	0.11 U	0.48	0.21	0.66	0.59	0.13 U	1.5	0.29	0.83	0.17	0.37 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	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	0.29	0.25	0.33	1.6	0.22 U	0.22 U	0.21	0.22 U	0.24	0.23	0.22 U	0.22 U	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	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
Hexane	0.36	0.48	0.57	1.2	0.95	1.1	1.4	0.75	0.46	1.4	1.2	0.78	0.70	2.6	0.33	0.40	0.63	0.38	0.68	0.45	0.18 U	0.22	1.3
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	4.7	6.6	3.2	4.9	1.7	1.6	0.18 U	4.5	22	7.0	1.4	4.9	1.0
m,p-Xylene	3.0	0.12	0.36	0.97	0.60	0.24	0.49	0.81	0.3	1.9	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	0.51	0.58

**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 12/13/13	IA-5-030714 03/07/14	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	IA-6-032610 3/26/2010	IA-6-070110 7/1/2010	
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														
Methylene chloride	1.6	1.6	1.1	2.3	5.2	2.0	3.0	1.1	0.83	0.67	2.5	5.2	0.59	1.6	0.83	0.69	2.0	2.0	2.6	0.70 U	2.9	0.70 U	4.5	
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	0.18 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
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	0.27	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	0.20 U	0.20 U	1.4
o-Xylene	1.0	0.13 U	0.14	0.35	0.19	0.10	0.17	0.33	0.15 U	0.75	0.36	0.26	0.34	1.8	0.22 U	0.22 U	0.19	0.22 U	0.25	0.23	0.22 U	0.22 U	0.22 U	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	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	
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	0.21 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	0.21 U	0.21 U	0.24
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	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	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	0.1 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	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	1.8	1.3	2.5	11	0.65	0.71	1.3	0.81	2.0	1.1	0.49	1.6	1.7	
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	0.20 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
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	0.22 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
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	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	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	4.8	1.3	1.7	2.5	1.5	1.7	1.4	1.2	2.2	1.2	1.7	1.3	1.5	
Trichlorotrifluoroethane	0.69	0.46	0.53	0.60	0.61	0.60	1.4	0.63	0.54	0.47	0.64	0.51	0.48	0.45	0.64	0.48	0.53	0.74	0.63	0.48	0.51	0.55	0.55	
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	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	
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	0.13 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

**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														Indoor Air - Western Small Retail Space					
	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 12/13/13	IA-6-030714 03/07/14	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
1,1,1-Trichloroethane	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	44	2.4	0.40	1.3	0.27 U	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	0.44 U	0.44 U						
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 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	0.34 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	0.16 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	0.27 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	0.12 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	1.3	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	0.12 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	0.52	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	0.74 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	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,2,4-Trimethylbenzene	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	0.25 U	0.34	0.34	0.99	0.25 U
1,2-Dibromoethane (EDB)	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	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.20 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	0.30 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	0.056	0.061 U	0.056	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.20 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	0.14 U	0.069 U	0.061	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.23 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
1,3,5-Trimethylbenzene	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	0.25 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	0.066 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	0.11 U	0.11 U	0.14	0.97	0.11 U
1,3-Dichlorobenzene	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	0.30 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	0.18 U	0.18 U	0.13	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane					0.18 U															
2-Butanone	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	70	6.5	3.9	5.2	2.2
2-Hexanone	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	0.20 U	0.29	0.20 U	0.20 U	0.20 U
4-Ethyltoluene	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	0.25 U	0.25 U	0.25 U	0.27	0.25 U
4-Methyl-2-pentanone	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	0.20 U	0.20 U	0.20 U	0.42	0.20 U
Acetone	13	11 B	14 B	19 B	26	10	7.4	15	18	11	10	20	29	27	12	29	12	13	32	7.8
Benzene	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	0.95	0.75	1.1	3.2	0.67
Benzyl chloride	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	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	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	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	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	0.51 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	0.12 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	0.19 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	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	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	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 [a]	0.45 [a]	0.45	0.32	0.44	0.52	0.56 [a]	0.48
Chlorobenzene	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	0.23 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	0.079 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	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	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	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	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	1.7	0.98	1.4	1.5	1.0
cis-1,2-Dichloroethene	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	0.29	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,3-Dichloropropene	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	0.22 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	0.29	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	0.17 U	0.17 U	0.32	0.70	0.17 U
Dibromochloromethane	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	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	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	2.1	2.2	2.6	2.7	2.6	2.6
Ethanol	36	5.9	10	7.7	14	24	41	67	23	8.4	2.9	20	21	6.1	20	7.3	16	11	26	7.9
Ethyl acetate	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	0.37 U	0.37 U	0.18 U	0.21	0.37 U
Ethylbenzene	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	0.23	0.29	0.36	0.95	0.24
Hexachlorobutadiene	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	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	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	0.90	0.87	0.91	2.0	1.1
Isopropyl alcohol	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	3.7	6.2	3.6	8.0	2.7
m,p-Xylene	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	0.61	0.82	0.94	2.8	0.73

**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															Indoor Air - Western Small Retail Space						
	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 12/13/13	IA-6-030714 03/07/14	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	
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							
Methylene chloride	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	1.9	5.7	0.92	1.5	6.3	1.4	
Methyl-t-butyl ether	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	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	
n-Heptane	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	0.20	0.20 U	0.37	1.2	0.20 U	0.20 U	
o-Xylene	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	0.31	0.39	0.97	0.24	0.22 U	
Propylene (Propene)	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	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.090 U	
Styrene	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	0.21 U	0.21 U	0.21 U	0.26	0.21 U	0.21 U	
Tetrachloroethene	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	1.6	0.34 U	0.65	0.63	0.34 U	0.34 U	
Tetrahydrofuran	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	45	2.1	0.74	0.43	0.15 U	0.15 U	
Toluene	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	1.5	1.6	2.7	7.5	1.5	0.76	
trans-1,2-Dichloroethene	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	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
trans-1,3-Dichloropropene	0.22 U	0.23 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	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	
Trichloroethene	0.30	0.27 U	0.27 U	0.27 U	0.27 U	0.19	0.081 U	0.24	0.2	0.19 U	0.072	0.19 U	0.19 U	0.19 U	0.21	4.6	1.1	0.28	0.58	0.27 U	0.27 U	
Trichlorofluoromethane	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	4.7	1.4	1.7	3.1	1.6	1.7	
Trichlorotrifluoroethane	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	0.62	0.57	0.47	0.44	0.66	0.45	
Vinyl acetate	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	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.18 U	
Vinyl chloride	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	0.13 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 - Western Small Retail Space																							
	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 12/8/11	IA-7-030812 3/8/2012	IA-7-061412 6/14/2012	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 12/13/13	IA-7-030714 03/07/14	
1,1,1-Trichloroethane	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	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	
1,1,2,2-Tetrachloroethane	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	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	
1,1,2-Trichloroethane	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	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-Dichloroethane	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	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	0.20 U	0.20 U	0.20 U	0.20 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	
1,2,4-Trichlorobenzene	0.26 U	0.37 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	0.74 U	0.45 U	0.45 U	0.17	0.52 U	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	0.18 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	0.46	0.17 U	0.10	0.58	0.40	0.70	0.25	0.38	
1,2-Dibromoethane (EDB)	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	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.27 U	
1,2-Dichlorobenzene	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	
1,2-Dichloroethane	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	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.11	0.14 U	0.14 U	
1,2-Dichloropropane	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	0.23 U	0.63	0.23 U	0.14 U	0.069 U	0.14 U	0.094	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	
1,2-Dichlorotetrafluoroethane	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U															
1,3,5-Trimethylbenzene	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	0.26	0.17 U	0.17 U	0.17 U	0.17 U	0.23	0.17 U	0.17 U	
1,3-Butadiene	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	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.075 U	0.078 U	0.48	
1,3-Dichlorobenzene	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	
1,4-Dichlorobenzene	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	0.065	0.063	0.21 U	0.21 U	0.21 U	0.21 U	0.086	0.21 U	0.21 U
1,4-Dioxane													0.18 U											
2-Butanone	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	2.8	1.9	1.9	1.7	1.6	3.8	0.69	1.5	
2-Hexanone	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	0.41	0.20	0.35	0.14 U	0.15	1.1	0.14 U	0.37	
4-Ethyltoluene	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	0.16	0.17 U	0.17 U	0.17 U	0.17 U	0.20	0.17 U	0.17 U	
4-Methyl-2-pentanone	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	0.29	0.18	0.14 U	0.21	0.20	0.44	0.14 U	0.14 U	
Acetone	6.5	10	31	22	31	12	41	27	12 B	15 B	48 B	38	17	13	18	24	14	15	49	46	46	20	15	
Benzene	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	0.49	0.58	0.87	0.32	0.43	1.8	0.54	1.9	
Benzyl chloride	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	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	0.33 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	0.23 U	0.24 U	0.24 U	
Bromoform	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	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.35 U	0.36 U	0.36 U	
Bromomethane	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	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	
Carbon disulfide	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	0.16 U	0.27	1.6 U	0.93 U	0.93 U	0.93 U	0.090	1.1 U	1.1 U	0.16	0.60	1.4	1.1 U	
Carbon tetrachloride	0.43	0.65 [a]	0.43	0.42	0.44	0.43	0.50	0.47	0.45	0.56 [a]	0.69 [a]	0.50	0.45	0.46	0.43	0.38	0.51	0.39	0.55 [a]	0.46 [a]	0.45 [a]	0.49 [a]	0.42	
Chlorobenzene	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	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	0.10 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	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.089 U	0.093 U	0.093 U	
Chloroform	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	0.20	0.17 U	0.082	0.21	0.47	0.17	0.24	0.17 U	
Chloromethane	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	1.3	1.1	1.4	1.5	1.3	1.2	1.2	1.4	
cis-1,2-Dichloroethene	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	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	
cis-1,3-Dichloropropene	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	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U	
Cyclohexane	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	0.23	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.30	
Dibromochloromethane	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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.29 U	0.30 U	0.30 U	
Dichlorodifluoromethane	2.0	2.4	2.7	2.3	2.1	1.8	2.7	1.7	2	3.1	2.5	1.8	2.8	2.1	2.7	2.9	2.6	1.7	3.1	2.1	1.5	2.7	1.5	
Ethanol	7.1	11	14	11	10	13	39	240	13	14	28	76	60	70	110	60	52	11	45	21	40	25	50	
Ethyl acetate	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	0.57	0.77	0.13 U	5.5	1.3	1.9	0.34	0.56	
Ethylbenzene	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	0.45	0.19	0.14	0.36	0.48	0.62	0.15 U	0.43	
Hexachlorobutadiene	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	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.36 U	0.37 U	0.37 U	
Hexane	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	0.97	0.86	0.87	2.9	1.3	0.97	0.39	1.1	
Isopropyl alcohol	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	22	3.3	3.4 U	3.4 U	3.4 U	6.0	40.0	1.9	
m,p-Xylene	0.31 U	0.43 U	0.72	0.86	2.8	0.82	1.2	1.2	0.43 U	0.43 U	1.5	1.1	0.72	0.30	0.54	1.4	0.71	0.40	1.1	1.2	1.8	0.25	1.2	



**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> )	Indoor Air - Western Small Retail Space																						
	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 12/8/11	IA-7-030812 3/8/2012	IA-7-061412 6/14/2012	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 12/13/13	IA-7-030714 03/07/14
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	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	2.3	2.6	1.4	6.1	1.3	1.1	0.76	0.68
Methyl-t-butyl ether	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	0.11	0.13 U	0.13 U	0.13 U	0.13 U	0.12 U	0.13 U	0.13 U
n-Heptane	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	0.99	0.14 U	0.16	0.42	1.1	1.6	0.45	1.3
o-Xylene	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	0.56	0.24	0.15	0.40	0.44	0.85	0.15 U	0.44
Propylene (Propene)	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	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.3 U	2.4 U	2.4 U
Styrene	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	0.89	0.15 U	0.081	0.29	2.6	0.37	0.15 U	0.17
Tetrachloroethene	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	1.7	0.24 U	0.15	0.24 U	<b>5.5</b>	0.22	0.24 U	0.40
Tetrahydrofuran	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 U	0.10 U	0.10 U	0.10 U	0.10 U	0.65	0.15	0.10 U	0.10 U
Toluene	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	2.4	0.99	1.0	3.8	4.7	7.8	1.1	2.8
trans-1,2-Dichloroethene	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	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U
trans-1,3-Dichloropropene	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	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U
Trichloroethene	0.3	0.27 U	0.27 U	0.27 U	0.4	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	0.15	0.19 U	0.068	0.19 U	0.53	0.14	0.19 U	0.28
Trichlorofluoromethane	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	1.8	1.8	1.5	2.5	1.8	1.9	1.6	1.7
Trichlorotrifluoroethane	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	0.58	0.60	0.87	1.0	0.63	0.52	0.6	0.45
Vinyl acetate	0.50 U	0.18 U	0.18 U	0.71 U	0.36 U	0.36 U	0.18 U	0.36 U	0.35 U	0.18 U	3.5 U	0.18 U	0.11 U	0.21 U	0.21 U	0.25 U	0.25 U	0.25 U	2.5 U	2.5 U	2.4 U	2.5 U	2.5 U
Vinyl chloride	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	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.087 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 04/02/14  
Checked by / Date: MAM 4/22/14

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

\*\* ASD system offline.  
 NM = Not Measured

Prepared by/Date: MAM 04/21/14  
 Checked by/Date: DLC 04/23/14

**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	0.3	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	0.5	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	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 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	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	0.3	0.4	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	0.9	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	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	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	0.22 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	0.5	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	0.5	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
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	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,1,2-Tetrachloroethane										0.62 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
1,1,1,2,2-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
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
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
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
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	0.52 U	0.26 U	0.26 U	0.25 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
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	0.26 U	0.27 U	0.26 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
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
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
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	0.28	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
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
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
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
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-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
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.3	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	0.063	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	2.8	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.12 U	0.23	0.1	0.14 U	0.083	0.24	0.14 U	0.14 U	0.14 U	0.14 U
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
Benzene	0.41	0.69	0.35	0.19	0.16 U	1.2	0.28	2.3	0.16 U	0.19	0.4	0.29	0.20	0.68	0.42	1.0	0.31	0.70	0.95	0.43	1.0
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
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
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
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
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
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
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
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.089 U	0.093 U	0.093 U	0.093 U
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.094	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
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
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
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
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
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	0.3 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
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
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
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
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	0.36 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
Isopropyl alcohol	0.8	0.73	0.69	1.6	0.79	0.25 U	0.29	2.4	1.2 U	4.9 U	0.6	0.88	2.9 U	0.58	0.47	0.52	1.3	6.2	3.3 U	0.77	0.92
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
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
Methylene chloride	0.70 U	0.70 U	0.70 U	0.35 U	1.1	1.1	0.66	3	2.3	1.7 U	1.5	1.6	3.0	2.1	4.4	2.9	2.3	9.1	1.0	0.8	0.55

**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
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
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
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	0.2	0.15 U	0.24	0.15 U	0.17
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
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
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	0.9	0.24 U	0.24 U	0.30	0.24 U	0.24 U
Tetrahydrofuran	0.19	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.057	0.088 U	0.088 U	0.43	0.10 U	0.10 U	0.10 U	1.4	0.10 U	0.10 U	0.23
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
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
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
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
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
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
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
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

**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-Dichloroethane (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 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 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 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	4.6 U	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-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-1-030609 3/6/2009	EW-1-033109 3/31/2009	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	
1,1,1-Trichloroethane	4700	280 D	2500 D	2400	340	1100	1800	2800	1800	610	850	1900	1500	780	59000	66000	26000	30000	54000	72000	11000	14000	
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									
1,1,2,2-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	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	1.7 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	6.4	10	5.4 U	5.4 U	5.4 U	5.4 U	1.4 U	5.4 U	
1,1-Dichloroethane	330	36 D	170 D	200	70	78	130	200	99	59	68	150	62	53	4100	4400	5700	7000	1600	2300	690	1400	
1,1-Dichloroethene	81	7.3 D	58 D	44	21	34	42	15	28	24	38	56	24	27	570	1200	330	640	340	560	97	210	
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	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	1.9 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.3 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	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	7.6 U	
1,2-Dichlorobenzene	0.60 U	0.6 UD	0.6 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	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	
1,2-Dichloroethane	0.40 U	0.4 UD	0.4 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	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	1.0 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	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	4.6 U	
1,2-Dichlorotetrafluoroethane	0.70 U														7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	1.8 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.3 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	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.55 U	2.2 U	
1,3-Dichlorobenzene	0.60 U	0.6 UD	0.6 UD	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	1.1	0.60 U	0.21 U	0.60 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	
1,4-Dichlorobenzene	0.60 U	0.6 UD	0.6 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	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.5 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	3.5	8.9	12	11	36	10	36	6.4	
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	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	1.0 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	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.3 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	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	1.0 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	35	16	9.6 U	9.6 U	53	24	26	12	
Benzene	1.7	0.5 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	5.3	11	5.6	7.8	3.2 U	6.8	1.4	3.2 U	
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	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	1.3 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	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	1.7 U	6.6 U	
Bromoform	1.1 U	1 UD	1 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	11 U	11 U	11 U	11 U	11 U	11 U	2.6 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	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	0.95 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	3.2 U	3.2 U	27	25	3.2 U	3.2 U	1.8	3.2 U	
Carbon tetrachloride	1.1	0.63 UD	0.63 D	1.3 U	0.48	3.1 U	0.5	0.74	0.63 U	0.63 U	0.63 U	0.68	0.63 U	0.63 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	1.6 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	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	1.2 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	170	250	700	590	41	44	17	33	
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	20	34	9.6	15	13	23	3.6	7.5	
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	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U	2.0 U	
cis-1,2-Dichloroethene	360	28 D	120 D	160	38	47	75	150	66	30	24	93	12	25	2000	2200	6100	7600	610	1200	560	1300	
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	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 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	3.4 U	5.7	8.4	8.8	3.4 U	3.4 U	0.85 U	3.4 U	
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	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	2.2 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	5.0 U	170	5.0 U	5.0 U	5.4	7.0	2.6	5.0 U	
Ethanol	1.9 U	8.2 D	17 D	15 U	9.2	75 U	7.2	12	19	320	34	30	11	38	33	40	12	8.3	39	1.8 U	8.6	1.8 U	
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	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	0.90 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	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 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	22 U	22 U	22 U	22 U	22 U	22 U	5.4 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	3.6 U	3.6 U	3.6 U	6.6	3.6 U	3.6 U	3.2	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	28	2.4 U	2.4 U	2.4 U	2.4 U	26	5.9	7.5	7.1
m,p-Xylene	1.6	0.87 UD	0.87 UD	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	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	8.6 U	2.2 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									
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	7.0 U	19	7.0 U	17	7.0 U	13	19	12	

**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	EW-COMBINE D-120710	EW-COMBINE D-021711	EW-COMBINE D 091511	EW-Combined-120811	EW-Combined-030812	EW-Combined-061412	EW-Combined-091312	EW-Combinde-d-010313	EW-Combined-031513	EW-Combined-060713	EW-Combined-090613	EW-Combined-121313	EW-Combined-030714	EW-1-030609	EW-1-033109	EW-2-030609	EW-2-033109	EW-3-030609	EW-3-033109	EW-4-030609	EW-4-033109	
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	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	0.90 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	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	1.0 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	0.2	0.43 U	0.43 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 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	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	0.45 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	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	1.1 U	4.2 U
Tetrachloroethene	750	160 D	920 D	440	8.1	170	530	910	850	60	23	250	7.0	260	600	1200	2300	2500	73	310	31	170	
Tetrahydrofuran	31	11 D	11 D	21	0.27	8.3	3800	110	1.8	4.1	7.2	10	0.79	1.7	6.3	21	19	3.0 U	32	14	37	5.1	
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	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	1.4	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	9.2	23	69	180	4.0 U	8.8	2.5	8.0	
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	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U
Trichloroethene	3200	240 D	1800 D	1900	97	730	1500	2600	2000	380	280	1200	160	560	31000	42000	25000	25000	8600	19000	2700	5500	
Trichlorofluoromethane	410	71 D	200 D	610	200	150	260	100	230	130	140	410	200	98	520	540	1300	1800	430	840	240	370	
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	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	1.9 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	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	0.90 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	2.7	4.8	9.4	8.1	2.6 U	2.6 U	0.65	2.6 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> )	Post Treatment - Large Retail Space							CT IACTIND 2003 (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space												
	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	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
1,1,1-Trichloroethane	1.0	15	45	1.9	13000	0.56	450	500	10	0.56	1.1	0.99	0.35	1.8	1.5	1.4	2.0	0.27 U	0.27 U	0.27 U	0.27 U
1,1,1,2-Tetrachloroethane								1.1													
1,1,2,2-Tetrachloroethane	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	0.24 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	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	0.19 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	1.0 U	5.4	11000	490	370	610	430	0.71	0.20 U	0.20 U	0.20 U	0.27	0.32	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethene	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	0.14 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	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	0.26 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	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	0.18 U	0.48	0.29	0.35	0.28	0.51	0.51
1,2-Dibromoethane (EDB)	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	0.27 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	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	0.21 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	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	0.14 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	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	0.17 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	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	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	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	0.18 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	0.55 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	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U
1,3-Dichlorobenzene	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	0.21 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	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	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane								NA													
2-Butanone	10	6.3	9.4	5.5	330	1.9	2.0	500	20	3.1	5.8	3.4	2.6	2.2	1.3	1.2	4.4	2.0	2.6	2.7	1.3
2-Hexanone	0.20 U	1.0 U	0.40 U	0.40 U	13000	0.27	0.34	NA	0.20 U	0.20 U	0.6	0.42	0.20 U	0.23	0.20 U	0.14 U	0.48	0.43	0.52	0.73	0.31
4-Ethyltoluene	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	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	5	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	0.3	0.20 U	0.20 U	0.14 U	0.52	0.21	0.35	0.32	0.20 U	0.20 U
Acetone	1200	11	19	12	430	3.6	5.7	500	18	7.7	19	21	10	8.7	14	12	310	11	18	13	10
Benzene	1.3	0.8 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	0.71	0.56	0.78	0.49	0.47	0.39	0.48
Benzyl chloride	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	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	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	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Bromoform	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	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	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	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.8 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	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Carbon tetrachloride	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	<b>0.55 [a]</b>	0.46	<b>0.59 [a]</b>	0.53	0.31	0.43	0.48	0.38	0.42	0.43
Chlorobenzene	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	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	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	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	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	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chloromethane	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	1.2	1.1	1.3	1.1	1.1	0.98	0.95
cis-1,2-Dichloroethene	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	0.50	0.6	1.3	0.20 U	0.20 U	0.83	0.44
cis-1,3-Dichloropropene	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	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	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	0.12 U	0.34	0.18 U	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	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	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	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	3.1	2.0	8.3	2.4	2.0	2.3	2.1
Ethanol	740	36	25	9.8	110	0.38 U	2.8	NA	5.7	8.3	14	20	9.8	7.5	18	5.0	39	6.2	7.0	6.5	8.8
Ethyl acetate	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	0.18 U	0.26 U	0.37 U	0.32	0.18 U	0.18 U	0.18 U
Ethylbenzene	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	0.22 U	0.16 U	0.94	0.23	0.23	0.22 U	0.28
Hexachlorobutadiene	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	0.75 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
Hexane	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	0.53	0.65	1.7	0.99	1.3	0.41	0.77
Isopropyl alcohol	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	9.1	0.18 U	240	5.2	5.2	0.25 U	2.7
m,p-Xylene	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	0.63	0.31 U	2.5	0.79	0.91	0.73	1.0
Methyl methacrylate								NA													
Methylene chloride	20	76	17	3.0	810	0.70 U	0.72	17	2.3	<b>33</b>	2.3	1.8	4.4	1.1	6.7	3.5	4.8	1.6	3.6	0.70 U	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> )	Post Treatment - Large Retail Space							CT IACTIND 2003 (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space													
	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	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	
Methyl-t-butyl ether	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	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	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	0.20 U	0.14 U	0.67	0.20 U	0.20 U	0.20 U	0.20 U	0.26
o-Xylene	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	0.3	0.22 U	0.22 U	0.16 U	0.7	0.31	0.4	0.28	0.4	
Propylene (Propene)	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	0.090 U	0.13 U	0.18 U	0.35 U	0.35 U	0.18 U	0.35 U	
Styrene	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	0.15 U	0.24	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	
Tetrachloroethene	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	1.5	1.9	6.1 [a]	0.34 U	0.34 U	2.0	1.1	
Tetrahydrofuran	6.8	22	40	18	210	4.1	6.5	NA	12	1.2	1.3	0.48	0.32	0.15 U	0.15 U	0.23	0.40	0.15 U	0.15 U	0.15 U	0.15 U	
Toluene	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	1.7	0.72	5.7	1.3	1.1	0.78	1.2	
trans-1,2-Dichloroethene	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	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
trans-1,3-Dichloropropene	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	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	
Trichloroethene	2.0	11	16	2.7	54 U	1	1.0	1	4.2	0.46	1.6	1.4	0.65	1.5	0.57	0.74	1.6	0.27 U	0.27 U	1.1	0.56	
Trichlorofluoromethane	0.71	1.4 U	23	6700	84	180	210	500	2.1	1.4	1.7	3.1	1.6	1.7	1.2	1.2	1.5	1.4	1.3	1.2	1.2	
Trichlorotrifluoroethane	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	0.59	0.54	1.7	0.48	0.44	0.45	0.51	
Vinyl acetate	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	0.18 U	0.50 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	
Vinyl chloride	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	0.13 U	0.10 U	0.16	0.13 U	0.13 U	0.17	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-1-120209 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	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		
1,1,1-Trichloroethane	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	0.27 U	0.12	0.082 U	0.16 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		
1,1,2,2-Tetrachloroethane	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	0.34 U	0.21 U	0.10 U	0.21 U	0.24 U	0.24 U	0.24 U		
1,1,2-Trichloroethane	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	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U		
1,1-Dichloroethane	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	0.20 U	0.12 U	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U		
1,1-Dichloroethene	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	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U		
1,2,4-Trichlorobenzene	0.52 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	0.37 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	
1,2,4-Trimethylbenzene	0.52	0.37	0.25 U	0.26	0.25 U	0.25 U	0.25 U	0.40	0.43	0.56	0.25 U	0.55	0.25 U	0.25 U	0.10	0.15 U	0.16	0.55	0.17 U	0.17 U	0.17 U		
1,2-Dibromoethane (EDB)	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	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U		
1,2-Dichlorobenzene	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	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U		
1,2-Dichloroethane	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	0.20 U	0.056	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U		
1,2-Dichloropropane	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	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.16 U	0.16 U		
1,2-Dichlorotetrafluoroethane	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	0.18	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	0.25 U	0.044	0.15 U	0.059	0.32	0.17 U	0.17 U		
1,3-Butadiene	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	0.11 U	0.066 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U		
1,3-Dichlorobenzene	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	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U		
1,4-Dichlorobenzene	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	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U		
1,4-Dioxane																0.18 U							
2-Butanone	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	5.9 U	1.8	1.2	1.4	3.0	0.87	0.64		
2-Hexanone	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	0.62	0.22	0.26	0.12 U	0.28	0.14 U	0.14 U		
4-Ethyltoluene	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	0.25 U	0.15 U	0.15 U	0.071	0.19	0.17 U	0.17 U		
4-Methyl-2-pentanone	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	0.23	0.39	0.13	0.093	0.26	0.14 U	0.14 U		
Acetone	13	12	2.0	19	7.3	8.5	7.0	6.5	18	18	11	12 B	15 B	11 B	18	8.0	6.0	12	16	7.0	5.0		
Benzene	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	0.32	0.47	0.34	0.19	0.67	0.51	0.72		
Benzyl chloride	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	0.26 U	0.16 U	0.16 U	0.16 U	0.18 U	0.18 U	0.18 U		
Bromodichloromethane	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	0.34 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		
Bromoform	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	0.52 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		
Bromomethane	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	0.19 U	0.12 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U		
Carbon disulfide	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	1.6 U	0.93 U	0.93 U	0.93 U	1.1 U	1.1 U	1.1 U		
Carbon tetrachloride	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	0.57 [a]	0.49	0.46	0.46	0.39	0.54	0.44		
Chlorobenzene	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	0.23 U	0.14 U	0.14 U	0.14 U	0.16 U	0.16 U	0.16 U		
Chloroethane	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	0.13 U	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U		
Chloroform	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	0.24 U	0.085	0.073 U	0.097	0.19	0.17 U	0.17 U		
Chloromethane	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	1.3	0.93	1.3	1.6	1.3	0.99	1.1		
cis-1,2-Dichloroethene	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	0.20 U	0.15	0.059 U	0.12 U	0.045	0.14 U	0.14 U		
cis-1,3-Dichloropropene	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	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U		
Cyclohexane	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	0.17 U	0.10 U	0.10 U	0.10 U	0.27	0.12 U	0.12 U		
Dibromochloromethane	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	0.43 U	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U		
Dichlorodifluoromethane	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	2.0	2.6	2.1	2.7	2.7	2.5	1.7		
Ethanol	10	8.4	7.0	29	19	43	4.6	4.4	6.0	6.5	9.0	2.7	9.0	2.8	6.4	2.2	3.2	4.4	8.5	3.1	2.0		
Ethyl acetate	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	0.18 U	0.11 U	0.92	0.26	0.57	0.4	0.21		
Ethylbenzene	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	0.22 U	0.14	0.10	0.11	0.47	0.18	0.15 U		
Hexachlorobutadiene	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	0.53 U	0.32 U	0.32 U	0.32 U	0.37 U	0.37 U	0.37 U		
Hexane	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	7.0 U	0.39	0.72	0.55	1.3	0.67	0.64		
Isopropyl alcohol	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	4.9 U	2.9 U	0.64	2.9 U	1.9	3.4 U	0.36		
m,p-Xylene	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	0.51	0.41	0.22	0.36	1.7	0.79	0.30		
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		
Methylene chloride	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	1.7 U	1.6	3.3	1.2	1.8	1.3	1.9		

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

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																				
	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	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
Methyl-t-butyl ether	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	0.18 U	0.11 U	0.11 U	0.11 U	0.11 U	0.13 U	0.13 U
n-Heptane	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	0.36	0.20 U	0.50	0.20 U	0.20 U	0.079	0.12 U	0.093	0.44	0.14 U	0.14 U
o-Xylene	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	0.22 U	0.15	0.096	0.14	0.66	0.25	0.15 U
Propylene (Propene)	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	3.4 U	2.1 U	2.1 U	1.1	1.7	2.4 U	2.4 U
Styrene	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	0.21 U	0.85	0.13 U	0.038	0.14	0.15 U	0.15 U
Tetrachloroethene	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	5.6 [a]	0.34 U	0.47	0.84	0.21	0.065	2.7	0.24 U	0.24 U
Tetrahydrofuran	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	0.15 U	0.14	0.088 U	0.088 U	0.10 U	0.10 U	0.10 U
Toluene	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	0.93	1.6	0.30	0.64	2.8	0.47	0.49
trans-1,2-Dichloroethene	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	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U
trans-1,3-Dichloropropene	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	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U
Trichloroethene	0.69	0.27 U	0.27 U	0.27 U	0.31	0.39	0.27 U	1.5	0.27 U	0.40	0.27 U	1.7	0.27 U	0.27 U	0.27 U	0.25	0.081 U	0.16 U	0.21	0.19 U	0.19 U
Trichlorofluoromethane	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	1.8	1.0	0.89	1.8	1.7	1.6	1.3
Trichlorotrifluoroethane	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	0.59	0.69	0.40	0.59	0.57	0.55	0.79
Vinyl acetate	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	0.18 U	0.11 U	0.21 U	0.21 U	0.25 U	0.25 U	0.25 U
Vinyl chloride	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	0.13 U	0.077 U	0.038 U	0.077 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-1-060713 6/7/2013	IA-1-090613 9/6/2013	IA-1-121313 12/13/13	IA-1-030714 03/07/14	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	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
1,1,1-Trichloroethane	0.19 U	0.19 U	0.19 U	0.11	0.9	0.63	1.1	1.1	0.44	1.4	2.1	0.27 U	0.27 U	0.27 U	0.27 U	0.44	0.73	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,1,2-Tetrachloroethane	0.44 U	0.35 J	0.44 U	0.44 U																		
1,1,2,2-Tetrachloroethane	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	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	0.27 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	0.14 U	0.14 U	0.72	0.20 U	0.20 U	0.20 U	0.32	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-Dichloroethene	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	0.14 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	0.26 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	0.37 U	0.75 U	0.37 U
1,2,4-Trimethylbenzene	0.21	0.32	0.17 U	0.52	0.25 U	0.37	0.70	0.65	0.30	0.18 U	0.25 U	0.29	0.39	0.27	0.52	0.55	0.25 U	0.25 U	0.25 U	0.25 U	0.31	0.35
1,2-Dibromoethane (EDB)	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	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	0.30 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	0.14 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	0.16 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	0.17 U	0.16	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	0.59	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.078 U	0.078 U	0.078 U	0.55	0.11 U	0.11 U	0.30	0.66	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	0.23 U	0.11 U	0.23 U
1,3-Dichlorobenzene	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	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	0.30 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	0.34	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane																						
2-Butanone	2.9	2.0	0.92	1.6	21	4.1	4.6	3.0	2.9	0.95	1.6	1.1	2.3	0.81	1.0	2.1	0.70	0.44	0.30 U	0.96	1.3	3.1
2-Hexanone	0.38	0.27	0.14 U	0.30	0.20 U	0.20 U	0.35	0.26	0.20 U	0.14 U	0.20 U	0.25	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
4-Ethyltoluene	0.17 U	0.17 U	0.17 U	0.17	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	0.24	0.52	0.14 U	0.23	0.20 U	0.20 U	0.35	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	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
Acetone	21	35	19	13	17	9.6	14	18	9.7	13	39	6.2	17	11	8.8	17	7.8	3.1	0.48 U	6.3	8.2	18
Benzene	0.28	0.75	0.54	2.3	1.0	0.67	1.8	3.0	0.77	0.58	0.44	0.41	0.47	0.39	0.54	1.2	0.86	0.67	0.16 U	0.58	0.63	0.47
Benzyl chloride	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	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	0.33 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	0.36 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	0.14 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	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	1.1 U	0.23	0.20	1.1 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	0.16 U
Carbon tetrachloride	0.53	0.53	0.54	0.41	0.33	0.41	0.55 [a]	0.57 [a]	0.48	0.41	0.41	0.44	0.40	0.46	0.42	0.31 U	0.40	0.31 U	0.31 U	0.43	0.47	0.5
Chlorobenzene	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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	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	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	0.20	0.17 U	0.13	0.24 U	0.24 U	0.24 U	0.24 U	0.25	0.17 U	0.24 U	0.24 U	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
Chloromethane	1.4	1.2	1.0	1.3	1.1	1.0	1.3	1.3	1.0	1.1	1.2	0.91	1.1	0.96	0.98	1.2	1.3	1.3	1.4	1.3	0.80	1.2
cis-1,2-Dichloroethene	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	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
cis-1,3-Dichloropropene	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	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	0.12 U	0.12 U	0.12 U	0.32	0.17 U	0.17 U	0.44	0.61	0.17 U	0.12 U	0.22	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	0.30 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	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	3.2	1.9	2.4	1.7	1.8	2.2	2.6	2.9	2.7	2.1	2.9	2.0	2.1	2.3	2.1	2.2	2.5	2.6	3.0	1.6	2.0	2.4
Ethanol	26	23	12	22	5.5	8.8	12	17	7.9	4.9	7.5	4.8	6.7	7.8	6.2	14	35	17	20	4.4	4.9	5.0
Ethyl acetate	0.33	0.13 U	0.25	0.34	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	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.19	0.35	0.15 U	0.53	0.26	0.28	0.65	0.79	0.30	0.18	0.22 U	0.22 U	0.22 U	0.22 U	0.31	0.42	0.34	0.22 U	0.22 U	0.22 U	0.23	0.24
Hexachlorobutadiene	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	0.53 U	0.53 U	1.1 U	0.53 U	0.53 U
Hexane	0.79	19	4.9 U	1.2	0.88	0.57	1.3	1.6	0.69	0.72	0.74	0.41	0.42	0.71	1.0	0.61	0.64	1.4	0.18 U	0.27	1.6	0.51
Isopropyl alcohol	3.4 U	3.4 U	2.1	1.9	3.7	3.1	4.5	4.5	4.7	5.6	28	340	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
m,p-Xylene	0.79	1.0	0.19	1.6	0.76	0.88	2.0	2.6	0.93	0.61	0.63	0.71	0.93	0.78	1.1	1.3	1.1	0.43 U	0.43 U	0.47	0.75	0.96
Methyl methacrylate	0.14 U	0.15	0.14 U	0.14 U																		
Methylene chloride	1.3	34	0.68	0.80	2.0	30	4.0	1.6	1.8	4.0	4.2	0.70 U	0.70 U	0.70 U	0.70 U	1.4	0.90	1.9	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-1-060713 6/7/2013	IA-1-090613 9/6/2013	IA-1-121313 12/13/13	IA-1-030714 03/07/14	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	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	
Methyl-t-butyl ether	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	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	
n-Heptane	0.14 U	0.81	0.14 U	0.67	0.23	0.20 U	0.58	0.73	0.22	0.15	0.20 U	0.20 U	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	
o-Xylene	0.27	0.42	0.15 U	0.62	0.3	0.34	0.76	0.89	0.34	0.22	0.22	0.27	0.42	0.30	0.44	0.46	0.40	0.22 U	0.22 U	0.22 U	0.22 U	0.29	0.44
Propylene (Propene)	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	0.35 U	0.18 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.87 U
Styrene	0.15 U	0.27	0.15 U	0.16	0.21 U	0.21 U	0.21 U	0.23	0.21 U	0.15 U	0.21 U	0.21 U	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	0.21 U	0.25
Tetrachloroethene	0.24 U	0.24 U	0.24 U	0.21	7.5 [a]	0.64	4.2	3.2	3.3	2.2	7.6 [a]	0.34 U	0.35	1.7	1.0	2.3	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	3.6	0.43
Tetrahydrofuran	0.10 U	0.27	0.10 U	0.10 U	12	1.2	1.2	0.49	0.41	0.21	0.28	0.15 U	0.15 U	0.15 U	0.15 U	1.6	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Toluene	1.0	4.2	0.62	3.2	1.7	1.3	4.0	5.5	2.3	1.0	1.2	1.1	1.1	1.2	1.5	2.4	0.93	0.64	0.19 U	0.80	1.3	0.91	
trans-1,2-Dichloroethene	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	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	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichloroethene	0.19 U	0.19 U	0.19 U	0.25	4.4	0.56	1.6	1.4	0.91	0.77	1.9	0.27 U	0.27 U	0.99	0.57	0.79	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	1.2	0.27 U
Trichlorofluoromethane	1.9	2.4	1.4	1.6	2	1.2	1.7	2.8	1.6	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.1	1.4	1.4	1.3	1.3
Trichlorotrifluoroethane	1.1	0.63	0.54	0.45	0.69	0.58	0.49	0.46	0.64	0.56	0.74	0.50	0.47	0.46	0.54	0.46	0.53	0.61	0.38 U	0.51	0.44	0.53	
Vinyl acetate	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	0.71 U	0.71 U	0.71 U	0.36 U	0.71 U	0.18 U
Vinyl chloride	0.090 U	0.090 U	0.090 U	0.090 U	0.27	0.13 U	0.18	0.20	0.13 U	0.10 U	0.18	0.13 U	0.13 U	0.16	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U



**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-2-070110 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	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-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
1,1,1-Trichloroethane	0.28	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.13	0.082 U	0.16 U	0.08	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
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						
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	0.34 U	0.34 U	0.34 U	0.34 U	0.34 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	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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	0.043	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
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	0.045	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.35	0.20 U	0.20 U	0.20 U	0.20 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	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U
1,2,4-Trimethylbenzene	0.48	0.52	0.25 U	0.52	0.25 U	0.25 U	0.088	0.15 U	0.19	0.48	0.98	0.13	0.43	0.20	0.17 U	0.57	0.25 U	0.36	0.68	0.61	0.25 U	0.18 U
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	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 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	0.051	0.08	0.16	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
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	0.11	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
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
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	0.08	0.26	0.28	0.17 U	0.17 U	0.17 U	0.17 U	0.17	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 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	0.44	0.11 U	0.11 U	0.3	0.77	0.11 U	0.08 U
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.08	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
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	0.093	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
1,4-Dioxane						0.18 U																
2-Butanone	3.4	0.96	0.36	1.9 B	2.9 U	5.9 U	0.93	0.84	1.4	2.8	5.1	2.4	4.2	2.1	1.2	1.8	20	4.2	4.6	4.0	1.7	1.6
2-Hexanone	0.68	0.20 U	0.20 U	0.24	4.1 U	0.50	0.12 U	0.16	0.15	0.32	0.17	0.22	0.51	0.41	0.14 U	0.39	0.20 U	0.26	0.33	0.3	0.20 U	0.14 U
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.086	0.19	0.24	0.17 U	0.17 U	0.17 U	0.17 U	0.18	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U
4-Methyl-2-pentanone	0.49	0.34	0.20 U	0.20 U	0.20 U	0.24	0.10	0.11	0.12	0.19	3.6	0.14 U	0.54	0.46	0.18	0.57	0.20 U	0.20 U	0.29	0.34	0.20 U	0.14 U
Acetone	20	11	9.8 B	15 B	8.9 B	18	6.2	5.4	14	17	19	46	32	22	32	32	18	12	17	24	9.7	7.5
Benzene	0.48	0.72	0.48	1.5	0.26	0.30	0.39	0.36	0.24	0.62	0.65	0.91	0.56	0.32	0.66	2.0	1.0	0.71	1.9	3.1	0.69	0.6
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	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 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	0.33 U	0.33 U	0.33 U	0.33 U	0.33 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	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U
Bromomethane	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	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
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	0.93 U	1.1 U	1.9	0.47	0.39	0.33	0.17	0.17	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U
Carbon tetrachloride	0.52	0.5	0.48	0.31 U	0.62 [a]	0.52	0.49	0.48	0.45	0.43	0.56 [a]	0.45	0.58	0.45	0.46	0.41	0.34	0.45	0.52	0.6 [a]	0.43	0.22 U
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	0.58	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
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	0.14	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
Chloroform	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	0.17 U	0.15	0.17 U	0.17 U	0.37	0.29	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U
Chloromethane	1.2	1.1	0.96	0.97	0.95	1.2	0.93	1.0	1.4	1.3	1.0	2.7	1.7	0.98	1.1	1.3	1.1	0.98	1.2	1.4	1.1	1.2
cis-1,2-Dichloroethene	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	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	1.9	0.20 U	1.1	1.1	1.1	0.55	0.61
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	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U
Cyclohexane	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	1.9	0.12 U	0.12 U	0.12 U	0.12 U	0.32	0.17 U	0.17 U	0.46	0.6	0.17 U	0.15
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	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U
Dichlorodifluoromethane	2.6	1.7	1.9	3.2	1.6	2.0	2.7	2.1	2.7	2.8	2.6	1.7	3.3	1.8	2.6	1.5	1.9	2.3	2.5	2.9	2.6	2.0
Ethanol	7.6	9.0	2.7	10	2.5	8.5	2.1	2.1	10	9.8	8.1	380	66	46	89	130	5.5	9.2	13	18	7.9	4.2
Ethyl acetate	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	0.59	2	0.39	0.28	13	0.36	0.37 U	0.37 U	0.18 U	0.18 U	0.37 U	0.26 U
Ethylbenzene	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	4.1	0.25	0.39	0.17	0.15 U	0.56	0.25	0.29	0.64	0.77	0.22 U	0.16
Hexachlorobutadiene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.32 U	0.32 U	0.32 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U
Hexane	0.49	0.53	0.35 U	1.6	0.31	7.0 U	0.32	0.34	2.6	2.4	15	2.3	1.6	0.65	4.9	1.2	0.94	0.87	1.3	1.9	3.7	0.37
Isopropyl alcohol	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	3.4 U	3.6	3.4 U	1.7	9.7	4.1	3.5	4.1	5.5	4.9	3.1	0.18 U
m,p-Xylene	1.3	1.5	0.43 U	1.5	0.36 J	0.57	0.39	0.18	0.38	1.3	17	0.92	1.4	0.48	0.25	1.6	0.75	0.9	2.0	2.6	0.65	0.57
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						
Methylene chloride	1.3	0.53	0.61	4.2	1.0	7.5	1.1	1.2	6.6	6.4	1.1	3.6	1.5	1.1	7.7	0.65	2.2	31	3.1	3.5	33	1.2

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

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																					
	IA-2-070110 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	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-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
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	0.18	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
n-Heptane	0.8	0.34	0.20 U	0.48	0.20 U	0.20 U	0.091	0.12 U	0.11	0.40	3.1	0.33	0.41	0.2	0.14 U	0.64	0.22	0.20 U	0.61	0.77	0.20 U	0.14 U
o-Xylene	0.57	0.63	0.22 U	0.56	0.22 U	0.23	0.14	0.083	0.17	0.55	5.1	0.33	0.52	0.2	0.15 U	0.66	0.28	0.33	0.79	0.86	0.23	0.22
Propylene (Propene)	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	2.4 U	2.4 U	2.4 U	0.7	2.4 U	2.4 U	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.13 U
Styrene	0.36	0.24	0.21 U	0.21 U	0.21 U	0.059	0.13 U	0.097	0.19	0.45	0.12	0.15 U	0.17	0.15 U	0.20	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.15 U
Tetrachloroethene	1.4	0.34 U	3.2	5.2 [a]	0.34 U	0.45	0.92	0.23	0.09	2	0.24	0.18	0.64	0.25	0.24 U	0.28	6.1 [a]	0.56	4.3	3.3	1.9	2.2
Tetrahydrofuran	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	0.24	0.10 U	0.10 U	0.10 U	0.10 U	0.058	12	1.1	1.3	0.49	0.15 U	0.24
Toluene	1.3	2.2	0.41	2.9	0.55	0.99	1.6	0.24	0.9	2.6	5.6	1.5	2.8	1.3	1.0	3.2	1.7	1.5	4.7	5.8	2.1	1.0
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	0.20 U	0.20 U	0.20 U	0.20 U	0.20 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	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U
Trichloroethene	0.53	0.27 U	1.7	0.27 U	0.27 U	0.27 U	0.27	0.081 U	0.16 U	0.2	0.19 U	0.053	0.19 U	0.19 U	0.19 U	0.23	3.9	0.49	1.7	1.5	0.53	0.77
Trichlorofluoromethane	1.6	2.5	1.2	1.8	1.2	1.9	1.1	0.94	1.8	2.6	2.7	1.3	2.0	1.3	1.6	1.2	1.9	1.3	1.8	2.8	1.8	1.2
Trichlorotrifluoroethane	0.94	0.45	0.59	0.71	0.71	0.61	0.71	0.42	0.57	0.64	0.56	0.70	1.7	0.60	0.57	0.46	0.60	0.58	0.49	0.44	0.69	0.53
Vinyl acetate	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	0.71 U	0.71 U	0.18 U	0.18 U	0.71 U	0.50 U
Vinyl chloride	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	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.23	0.13 U	0.19	0.21	0.13 U	0.10 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-3-042409 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	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	
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	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.22
n-Heptane	0.20 U	0.20 U	0.20 U	0.20 U	0.24	0.73	0.20 U	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	0.074	0.12 U	0.11	0.41	0.41
o-Xylene	0.24	0.26	0.45	0.27	0.34	0.44	0.26	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	0.57
Propylene (Propene)	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	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	1.8
Styrene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.40	0.21 U	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	0.041	0.13 U	0.10	0.14	0.14
Tetrachloroethene	7.1 [a]	0.34 U	0.34 U	2.0	1.1	2.2	0.34 U	0.34 U	1.3	0.34 U	4.8	0.35	1.1	0.76	3.2	5.2 [a]	0.34 U	0.47	0.91	0.23	0.16	2.3	2.3
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.40	0.15 U	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	0.08	0.088 U	0.088 U	0.072	0.072
Toluene	1.2	1.2	1.1	0.73	1.1	2.5	0.78	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	2.8
trans-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U
Trichloroethene	1.8	0.27 U	0.27 U	1.1	0.54	0.75	0.27 U	0.27 U	0.40	0.27 U	1.5	0.27 U	0.47	0.27 U	1.7	0.27 U	0.27 U	0.27 U	0.25	0.081 U	0.16 U	0.17	0.17
Trichlorofluoromethane	1.3	1.4	1.2	1.2	1.2	1.2	1.3	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	1.5
Trichlorotrifluoroethane	0.74	0.51	0.46	0.49	0.47	0.49	0.52	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	0.54
Vinyl acetate	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.36 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	0.17	0.13 U	0.13 U	0.18	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	0.13	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 U	0.090 U	0.090 U



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

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																					
	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	IA-3-030714 03/07/14	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
Methyl-t-butyl ether	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	0.18 U	0.18 U	0.18 U
n-Heptane	0.14 U	0.083	0.15	0.83	0.14 U	0.65	0.23	0.20 U	0.58	0.79	0.21	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.26	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
o-Xylene	0.35	0.13	0.26	0.46	0.15 U	0.62	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
Propylene (Propene)	2.4 U	1.1	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	0.35 U	0.18 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
Styrene	0.15 U	0.15 U	0.15 U	0.3	0.15 U	0.18	0.21 U	0.21 U	0.22	0.23	0.21 U	0.15 U	0.21 U	0.21 U	0.21	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	0.25	0.095	0.30	0.24 U	0.24 U	0.24 U	7.3 [a]	0.58	4.4	3.4	3.4	2.4	7.9 [a]	0.75	0.34 U	2.0	1.1	0.34 U	0.34 U	0.34 U	1.4	0.34 U
Tetrahydrofuran	0.10 U	0.10 U	0.14	0.73	0.10 U	0.10 U	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
Toluene	0.62	0.56	0.90	4.6	0.66	3.4	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
trans-1,2-Dichloroethene	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	1.1	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	0.22 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
Trichloroethene	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.26	4.7	0.48	1.7	1.5	0.88	0.78	2.0	0.27 U	0.27 U	1.1	0.57	0.27 U	0.27 U	0.27 U	0.40	0.27 U
Trichlorofluoromethane	1.2	1.3	1.5	1.6	1.4	1.7	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
Trichlorotrifluoroethane	0.59	0.65	0.65	0.62	0.61	0.51	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
Vinyl acetate	0.25 U	0.25 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	0.71 U	0.71 U	0.36 U
Vinyl chloride	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.29	0.13 U	0.20	0.22	0.13 U	0.10 U	0.2	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

**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-4-043010 4/30/2010	IA-4-052810 5/28/2010	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	
1,1,1-Trichloroethane	1.1	0.28	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	0.34 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	0.27 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	0.20 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	0.20 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	0.37 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
1,2,4-Trimethylbenzene	0.25 U	0.34	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	
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	0.23 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	0.30 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	0.20 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	0.23 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	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	0.15 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	0.23 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	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.47
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	0.18 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	0.30 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	1.5	2.2	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-Hexanone	0.39	0.54	1	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	
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	0.15 U	0.15 U	0.068	0.12	0.22	0.17 U	0.17 U	0.17 U	0.17 U	0.18	0.18
4-Methyl-2-pentanone	0.20 U	0.20 U	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	
Acetone	8.7	15	31	19	13 B	12 B	12 B	15	7.4	6.8	9.1	12	17	44	36	18	29	29	
Benzene	0.64	0.48	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	
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	0.16 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	0.33 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	0.51 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	0.19 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	0.31	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	
Carbon tetrachloride	0.47	0.52	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 [a]	0.46 [a]	0.45	0.45
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	0.14 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	0.13 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	0.24 U	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	
Chloromethane	0.77	1.2	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	
cis-1,2-Dichloroethene	1.3	0.20 U	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	
cis-1,3-Dichloropropene	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	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	0.10 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	
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	0.26 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
Dichlorodifluoromethane	2.1	2.5	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	
Ethanol	4.9	6.1	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	
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	0.16	0.21	0.38	2.4	0.13 U	0.73	0.94	0.13 U	0.13 U	0.88	
Ethylbenzene	0.25	0.25	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	
Hexachlorobutadiene	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	0.37 U	0.37 U
Hexane	1.3	0.55	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	
Isopropyl alcohol	3.4	4.4	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	
m,p-Xylene	0.80	0.98	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	
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	0.70 U	0.35 U	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	

**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-4-043010 4/30/2010	IA-4-052810 5/28/2010	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	
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.19	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	
n-Heptane	0.20 U	0.20 U	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	
o-Xylene	0.30	0.44	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	
Propylene (Propene)	0.35 U	0.87 U	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	
Styrene	0.21 U	0.22	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	
Tetrachloroethene	4.4	0.44	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	
Tetrahydrofuran	0.15 U	0.19	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	
Toluene	1.4	0.98	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	
trans-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 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	
trans-1,3-Dichloropropene	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	1.4	0.27 U	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	
Trichlorofluoromethane	1.3	1.3	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	
Trichlorotrifluoroethane	0.48	0.51	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	
Vinyl acetate	0.71 U	0.18 U	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	
Vinyl chloride	0.13 U	0.13 U	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	



**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

Prepared by / Date: KJC 03/31/14

Checked by / Date: MAM 4/22/14

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

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

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

\* vacuum reduced at extraction wells

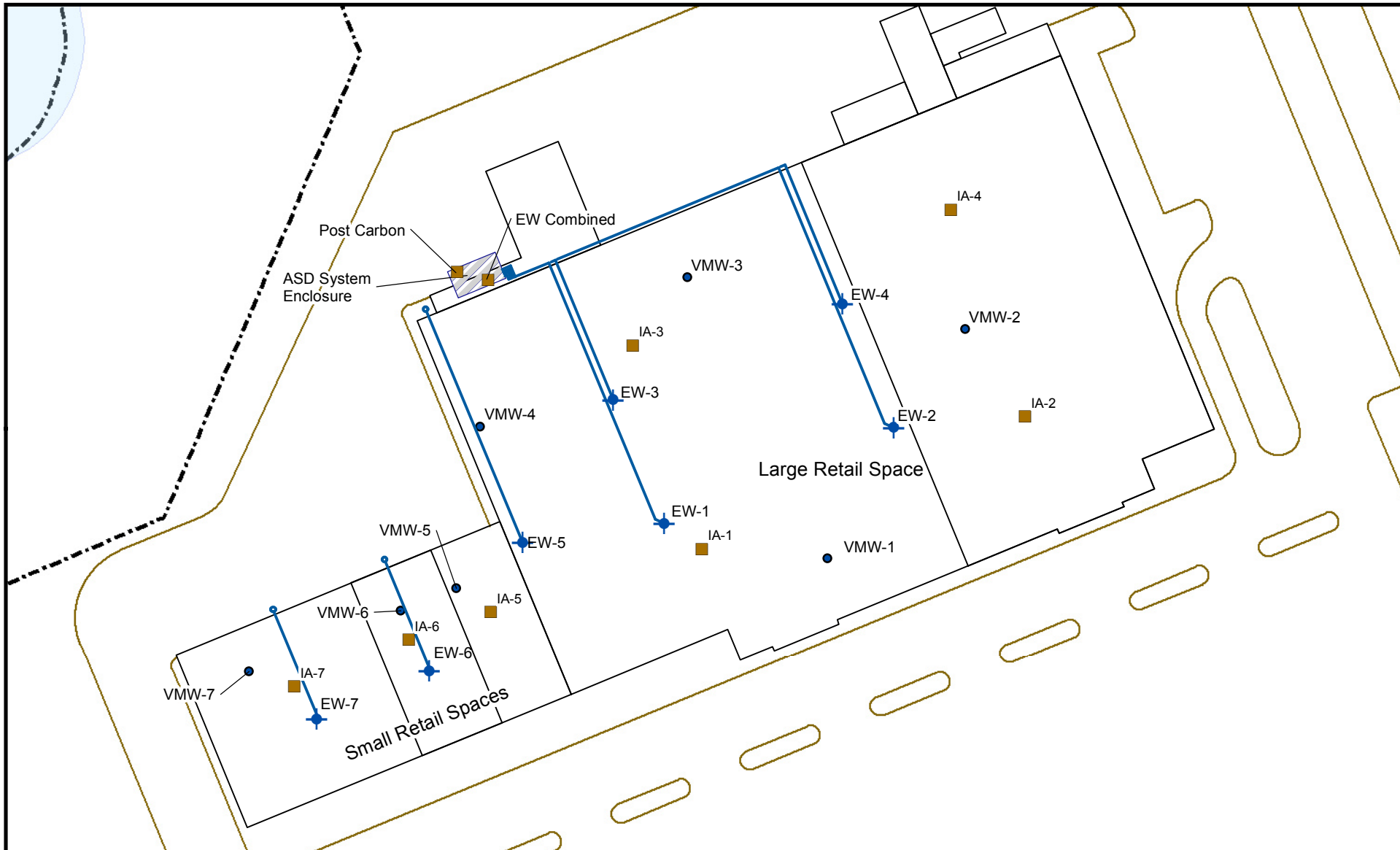
\*\* ASD system offline

Prepared by/Date: MAM 4/22/14

Checked by/Date: DLC 4/23/14



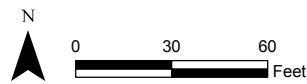
## FIGURES



All locations are approximate

**Legend**

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



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

Textron, Inc.  
Former Gorham Manufacturing Facility, Providence, RI  
Retail Complex, Active Sub-Slab Depressurization System  
Air Monitoring Report, First Quarter, 2014  
April 29, 2014



## **APPENDIX A**

### **Laboratory Reports**

April 1, 2014

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

Project Location: Providence, RI  
Client Job Number:  
Project Number: 3650080114  
Laboratory Work Order Number: 14C0239

Enclosed are results of analyses for samples received by the laboratory on March 7, 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: 4/1/2014

PURCHASE ORDER NUMBER: C012203270

PROJECT NUMBER: 3650080114

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 14C0239

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 -030714	14C0239-01	Indoor air		EPA TO-15	
IA- 2 -030714	14C0239-02	Indoor air		EPA TO-15	
IA- 3 -030714	14C0239-03	Indoor air		EPA TO-15	
IA- 4 -030714	14C0239-04	Indoor air		EPA TO-15	
IA- 5 -030714	14C0239-05	Indoor air		EPA TO-15	
IA- 6 -030714	14C0239-06	Indoor air		EPA TO-15	
IA- 7 -030714	14C0239-07	Indoor air		EPA TO-15	
AA- 1 -030714	14C0239-08	Ambient Air		EPA TO-15	
EW - 5 - 030714	14C0239-09	Soil Gas		EPA TO-15	
EW - 6 - 030714	14C0239-10	Soil Gas		EPA TO-15	
EW - 7 - 030714	14C0239-11	Soil Gas		EPA TO-15	
EW - Combined - 030714	14C0239-12	Soil Gas		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.

REVISED REPORT 04/01/14 - Results for Tetrahydrofuran and Trichloroflouromethane included for sample EW-7-030714.

**EPA TO-15**

**Qualifications:**

---

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:**

**1,1,1,2-Tetrachloroethane**

14C0239-01RE1[IA- 1 -030714], 14C0239-02RE2[IA- 2 -030714], 14C0239-03[IA- 3 -030714], 14C0239-04[IA- 4 -030714], 14C0239-05[IA- 5 -030714], 14C0239-06[IA- 6 -030714], 14C0239-07[IA- 7 -030714], 14C0239-08[AA- 1 -030714], 14C0239-09[EW - 5 - 030714], 14C0239-10[EW - 6 - 030714], 14C0239-11[EW - 7 - 030714], 14C0239-12[EW - Combined - 030714], B092075-BLK1, B092075-BS1

---

Surrogate outside of control limits.

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

**4-Bromofluorobenzene (2)**

14C0239-11[EW - 7 - 030714], B092075-BLK1, B092075-BS1

---

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:**

**Hexachlorobutadiene**

14C0239-01[IA- 1 -030714], 14C0239-02[IA- 2 -030714], B092093-BLK1, B092093-BS1

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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.



Michael A. Erickson  
Laboratory Director

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 1 -030714**  
**Sample ID: 14C0239-01**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 09:25

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1331  
 Canister Size: 6 liter  
 Flow Controller ID: 4190  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -3.3  
 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		
Acetone	5.3	1.4	0.49		13	3.3	0.702	3/15/14 20:59	WSD	
Benzene	0.71	0.035	0.018		2.3	0.11	0.702	3/15/14 20:59	WSD	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	3/15/14 20:59	WSD	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	3/15/14 20:59	WSD	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	3/15/14 20:59	WSD	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	3/15/14 20:59	WSD	
1,3-Butadiene	0.25	0.035	0.018		0.55	0.078	0.702	3/15/14 20:59	WSD	
2-Butanone (MEK)	0.54	1.4	0.026	J	1.6	4.1	0.702	3/15/14 20:59	WSD	
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	3/15/14 20:59	WSD	
Carbon Tetrachloride	0.066	0.035	0.0085		0.41	0.22	0.702	3/15/14 20:59	WSD	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	3/15/14 20:59	WSD	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	3/15/14 20:59	WSD	
Chloroform	0.027	0.035	0.0082	J	0.13	0.17	0.702	3/15/14 20:59	WSD	
Chloromethane	0.64	0.070	0.015		1.3	0.14	0.702	3/15/14 20:59	WSD	
Cyclohexane	0.094	0.035	0.020		0.32	0.12	0.702	3/15/14 20:59	WSD	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	3/15/14 20:59	WSD	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	3/15/14 20:59	WSD	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	3/15/14 20:59	WSD	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	3/15/14 20:59	WSD	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	3/15/14 20:59	WSD	
Dichlorodifluoromethane (Freon 12)	0.34	0.035	0.015		1.7	0.17	0.702	3/15/14 20:59	WSD	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	3/15/14 20:59	WSD	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	3/15/14 20:59	WSD	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	3/15/14 20:59	WSD	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	3/15/14 20:59	WSD	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	3/15/14 20:59	WSD	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	3/15/14 20:59	WSD	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	3/15/14 20:59	WSD	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	3/15/14 20:59	WSD	
Ethanol	12	1.4	0.63		22	2.6	0.702	3/15/14 20:59	WSD	
Ethyl Acetate	0.095	0.035	0.026		0.34	0.13	0.702	3/15/14 20:59	WSD	
Ethylbenzene	0.12	0.035	0.0097		0.53	0.15	0.702	3/15/14 20:59	WSD	
4-Ethyltoluene	0.035	0.035	0.0079		0.17	0.17	0.702	3/15/14 20:59	WSD	
Heptane	0.16	0.035	0.011		0.67	0.14	0.702	3/15/14 20:59	WSD	
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	3/15/14 20:59	WSD	
Hexane	0.35	1.4	0.062	J	1.2	4.9	0.702	3/15/14 20:59	WSD	
2-Hexanone (MBK)	0.073	0.035	0.0090		0.30	0.14	0.702	3/15/14 20:59	WSD	
Isopropanol	0.78	1.4	0.043	J	1.9	3.4	0.702	3/15/14 20:59	WSD	

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 1 -030714**  
**Sample ID: 14C0239-01**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 09:25

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1331  
 Canister Size: 6 liter  
 Flow Controller ID: 4190  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -3.3  
 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 Analyzed	Analyst
		RL	MDL		Results	RL			
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	3/15/14 20:59	WSD
Methylene Chloride	0.23	0.35	0.043	J	0.80	1.2	0.702	3/15/14 20:59	WSD
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	3/15/14 20:59	WSD
4-Methyl-2-pentanone (MIBK)	0.055	0.035	0.0084		0.23	0.14	0.702	3/15/14 20:59	WSD
Propene	ND	1.4	0.11		ND	2.4	0.702	3/15/14 20:59	WSD
Styrene	0.038	0.035	0.0068		0.16	0.15	0.702	3/15/14 20:59	WSD
1,1,1,2-Tetrachloroethane	ND	0.064	0.023	L-03	ND	0.44	0.702	3/17/14 19:06	WSD
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	3/15/14 20:59	WSD
Tetrachloroethylene	0.032	0.035	0.010	J	0.21	0.24	0.702	3/15/14 20:59	WSD
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	3/15/14 20:59	WSD
Toluene	0.86	0.035	0.011		3.2	0.13	0.702	3/15/14 20:59	WSD
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	3/15/14 20:59	WSD
1,1,1-Trichloroethane	0.020	0.035	0.0063	J	0.11	0.19	0.702	3/15/14 20:59	WSD
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	3/15/14 20:59	WSD
Trichloroethylene	0.047	0.035	0.010		0.25	0.19	0.702	3/15/14 20:59	WSD
Trichlorofluoromethane (Freon 11)	0.28	0.035	0.012		1.6	0.20	0.702	3/15/14 20:59	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.059	0.035	0.0098		0.45	0.27	0.702	3/15/14 20:59	WSD
1,2,4-Trimethylbenzene	0.11	0.035	0.0086		0.52	0.17	0.702	3/15/14 20:59	WSD
1,3,5-Trimethylbenzene	0.032	0.035	0.0070	J	0.16	0.17	0.702	3/15/14 20:59	WSD
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	3/15/14 20:59	WSD
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	3/15/14 20:59	WSD
m&p-Xylene	0.36	0.070	0.018		1.6	0.30	0.702	3/15/14 20:59	WSD
o-Xylene	0.14	0.035	0.010		0.62	0.15	0.702	3/15/14 20:59	WSD

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	96.6	70-130	3/15/14 20:59
4-Bromofluorobenzene (2)	80.6	70-130	3/17/14 19:06

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 2 -030714**  
**Sample ID: 14C0239-02**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 10:23

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1615  
 Canister Size: 6 liter  
 Flow Controller ID: 4186  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -5.9  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Date/Time		Analyst
	Results	RL	MDL		Results	RL	Dilution	Analyzed	
Acetone	14	1.4	0.49		32	3.3	0.702	3/15/14 21:43	WSD
Benzene	0.62	0.035	0.018		2.0	0.11	0.702	3/15/14 21:43	WSD
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	3/15/14 21:43	WSD
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	3/15/14 21:43	WSD
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	3/15/14 21:43	WSD
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	3/15/14 21:43	WSD
1,3-Butadiene	0.20	0.035	0.018		0.44	0.078	0.702	3/15/14 21:43	WSD
2-Butanone (MEK)	0.62	1.4	0.026	J	1.8	4.1	0.702	3/15/14 21:43	WSD
Carbon Disulfide	0.054	0.35	0.012	J	0.17	1.1	0.702	3/15/14 21:43	WSD
Carbon Tetrachloride	0.066	0.035	0.0085		0.41	0.22	0.702	3/15/14 21:43	WSD
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	3/15/14 21:43	WSD
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	3/15/14 21:43	WSD
Chloroform	0.059	0.035	0.0082		0.29	0.17	0.702	3/15/14 21:43	WSD
Chloromethane	0.65	0.070	0.015		1.3	0.14	0.702	3/15/14 21:43	WSD
Cyclohexane	0.094	0.035	0.020		0.32	0.12	0.702	3/15/14 21:43	WSD
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	3/15/14 21:43	WSD
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	3/15/14 21:43	WSD
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	3/15/14 21:43	WSD
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	3/15/14 21:43	WSD
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	3/15/14 21:43	WSD
Dichlorodifluoromethane (Freon 12)	0.30	0.035	0.015		1.5	0.17	0.702	3/15/14 21:43	WSD
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	3/15/14 21:43	WSD
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	3/15/14 21:43	WSD
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	3/15/14 21:43	WSD
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	3/15/14 21:43	WSD
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	3/15/14 21:43	WSD
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	3/15/14 21:43	WSD
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	3/15/14 21:43	WSD
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	3/15/14 21:43	WSD
Ethanol	66	20	8.9		130	38	10	3/17/14 20:30	WSD
Ethyl Acetate	0.10	0.035	0.026		0.36	0.13	0.702	3/15/14 21:43	WSD
Ethylbenzene	0.13	0.035	0.0097		0.56	0.15	0.702	3/15/14 21:43	WSD
4-Ethyltoluene	0.036	0.035	0.0079		0.18	0.17	0.702	3/15/14 21:43	WSD
Heptane	0.16	0.035	0.011		0.64	0.14	0.702	3/15/14 21:43	WSD
Hexachlorobutadiene	ND	0.035	0.013	V-05	ND	0.37	0.702	3/15/14 21:43	WSD
Hexane	0.35	1.4	0.062	J	1.2	4.9	0.702	3/15/14 21:43	WSD
2-Hexanone (MBK)	0.095	0.035	0.0090		0.39	0.14	0.702	3/15/14 21:43	WSD
Isopropanol	1.7	1.4	0.043		4.1	3.4	0.702	3/15/14 21:43	WSD

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 2 -030714**  
**Sample ID: 14C0239-02**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 10:23

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1615  
 Canister Size: 6 liter  
 Flow Controller ID: 4186  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -5.9  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analized		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	3/15/14 21:43	WSD	
Methylene Chloride	0.19	0.35	0.043	J	0.65	1.2	0.702	3/15/14 21:43	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	3/15/14 21:43	WSD	
4-Methyl-2-pentanone (MIBK)	0.14	0.035	0.0084		0.57	0.14	0.702	3/15/14 21:43	WSD	
Propene	ND	1.4	0.11		ND	2.4	0.702	3/15/14 21:43	WSD	
Styrene	0.047	0.035	0.0068		0.20	0.15	0.702	3/15/14 21:43	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023	L-03	ND	0.44	0.702	3/17/14 19:51	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	3/15/14 21:43	WSD	
Tetrachloroethylene	0.041	0.035	0.010		0.28	0.24	0.702	3/15/14 21:43	WSD	
Tetrahydrofuran	0.020	0.035	0.015	J	0.058	0.10	0.702	3/15/14 21:43	WSD	
Toluene	0.85	0.035	0.011		3.2	0.13	0.702	3/15/14 21:43	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	3/15/14 21:43	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	3/15/14 21:43	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	3/15/14 21:43	WSD	
Trichloroethylene	0.043	0.035	0.010		0.23	0.19	0.702	3/15/14 21:43	WSD	
Trichlorofluoromethane (Freon 11)	0.22	0.035	0.012		1.2	0.20	0.702	3/15/14 21:43	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.060	0.035	0.0098		0.46	0.27	0.702	3/15/14 21:43	WSD	
1,2,4-Trimethylbenzene	0.12	0.035	0.0086		0.57	0.17	0.702	3/15/14 21:43	WSD	
1,3,5-Trimethylbenzene	0.034	0.035	0.0070	J	0.17	0.17	0.702	3/15/14 21:43	WSD	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	3/15/14 21:43	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	3/15/14 21:43	WSD	
m&p-Xylene	0.37	0.070	0.018		1.6	0.30	0.702	3/15/14 21:43	WSD	
o-Xylene	0.15	0.035	0.010		0.66	0.15	0.702	3/15/14 21:43	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.3	70-130	3/17/14 20:30
4-Bromofluorobenzene (1)	97.2	70-130	3/15/14 21:43
4-Bromofluorobenzene (2)	79.4	70-130	3/17/14 19:51

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 3 -030714**  
**Sample ID: 14C0239-03**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 09:26

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1095  
 Canister Size: 6 liter  
 Flow Controller ID: 4182  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -3.1  
 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	4.8	1.4	0.49		11	3.3	0.702	3/17/14 21:15	WSD	
Benzene	0.74	0.035	0.018		2.4	0.11	0.702	3/17/14 21:15	WSD	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	3/17/14 21:15	WSD	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	3/17/14 21:15	WSD	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	3/17/14 21:15	WSD	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	3/17/14 21:15	WSD	
1,3-Butadiene	0.25	0.035	0.018		0.55	0.078	0.702	3/17/14 21:15	WSD	
2-Butanone (MEK)	0.36	1.4	0.026	J	1.1	4.1	0.702	3/17/14 21:15	WSD	
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	3/17/14 21:15	WSD	
Carbon Tetrachloride	0.072	0.035	0.0085		0.45	0.22	0.702	3/17/14 21:15	WSD	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	3/17/14 21:15	WSD	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	3/17/14 21:15	WSD	
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	3/17/14 21:15	WSD	
Chloromethane	0.62	0.070	0.015		1.3	0.14	0.702	3/17/14 21:15	WSD	
Cyclohexane	0.099	0.035	0.020		0.34	0.12	0.702	3/17/14 21:15	WSD	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	3/17/14 21:15	WSD	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	3/17/14 21:15	WSD	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	3/17/14 21:15	WSD	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	3/17/14 21:15	WSD	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	3/17/14 21:15	WSD	
Dichlorodifluoromethane (Freon 12)	0.31	0.035	0.015		1.5	0.17	0.702	3/17/14 21:15	WSD	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	3/17/14 21:15	WSD	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	3/17/14 21:15	WSD	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	3/17/14 21:15	WSD	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	3/17/14 21:15	WSD	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	3/17/14 21:15	WSD	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	3/17/14 21:15	WSD	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	3/17/14 21:15	WSD	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	3/17/14 21:15	WSD	
Ethanol	12	1.4	0.63		24	2.6	0.702	3/17/14 21:15	WSD	
Ethyl Acetate	0.70	0.035	0.026		2.5	0.13	0.702	3/17/14 21:15	WSD	
Ethylbenzene	0.13	0.035	0.0097		0.55	0.15	0.702	3/17/14 21:15	WSD	
4-Ethyltoluene	0.036	0.035	0.0079		0.18	0.17	0.702	3/17/14 21:15	WSD	
Heptane	0.16	0.035	0.011		0.65	0.14	0.702	3/17/14 21:15	WSD	
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	3/17/14 21:15	WSD	
Hexane	0.60	1.4	0.062	J	2.1	4.9	0.702	3/17/14 21:15	WSD	
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	3/17/14 21:15	WSD	
Isopropanol	0.86	1.4	0.043	J	2.1	3.4	0.702	3/17/14 21:15	WSD	

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 3 -030714**  
**Sample ID: 14C0239-03**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 09:26

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1095  
 Canister Size: 6 liter  
 Flow Controller ID: 4182  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -3.1  
 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	3/17/14 21:15	WSD	
Methylene Chloride	0.65	0.35	0.043		2.2	1.2	0.702	3/17/14 21:15	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	3/17/14 21:15	WSD	
4-Methyl-2-pentanone (MIBK)	0.041	0.035	0.0084		0.17	0.14	0.702	3/17/14 21:15	WSD	
Propene	ND	1.4	0.11		ND	2.4	0.702	3/17/14 21:15	WSD	
Styrene	0.041	0.035	0.0068		0.18	0.15	0.702	3/17/14 21:15	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023	L-03	ND	0.44	0.702	3/17/14 21:15	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	3/17/14 21:15	WSD	
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	3/17/14 21:15	WSD	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	3/17/14 21:15	WSD	
Toluene	0.91	0.035	0.011		3.4	0.13	0.702	3/17/14 21:15	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	3/17/14 21:15	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	3/17/14 21:15	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	3/17/14 21:15	WSD	
Trichloroethylene	0.048	0.035	0.010		0.26	0.19	0.702	3/17/14 21:15	WSD	
Trichlorofluoromethane (Freon 11)	0.30	0.035	0.012		1.7	0.20	0.702	3/17/14 21:15	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.067	0.035	0.0098		0.51	0.27	0.702	3/17/14 21:15	WSD	
1,2,4-Trimethylbenzene	0.11	0.035	0.0086		0.53	0.17	0.702	3/17/14 21:15	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	3/17/14 21:15	WSD	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	3/17/14 21:15	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	3/17/14 21:15	WSD	
m&p-Xylene	0.37	0.070	0.018		1.6	0.30	0.702	3/17/14 21:15	WSD	
o-Xylene	0.14	0.035	0.010		0.62	0.15	0.702	3/17/14 21:15	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.5	70-130	3/17/14 21:15
4-Bromofluorobenzene (2)	73.4	70-130	3/17/14 21:15

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 4 -030714**  
**Sample ID: 14C0239-04**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 10:24

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1321  
 Canister Size: 6 liter  
 Flow Controller ID: 4187  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -7.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Date/Time		Analyst
	Results	RL	MDL		Results	RL	Dilution	Analyzed	
Acetone	12	1.4	0.49		29	3.3	0.702	3/17/14 22:01	WSD
Benzene	0.68	0.035	0.018		2.2	0.11	0.702	3/17/14 22:01	WSD
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	3/17/14 22:01	WSD
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	3/17/14 22:01	WSD
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	3/17/14 22:01	WSD
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	3/17/14 22:01	WSD
1,3-Butadiene	0.21	0.035	0.018		0.47	0.078	0.702	3/17/14 22:01	WSD
2-Butanone (MEK)	0.39	1.4	0.026	J	1.1	4.1	0.702	3/17/14 22:01	WSD
Carbon Disulfide	0.060	0.35	0.012	J	0.19	1.1	0.702	3/17/14 22:01	WSD
Carbon Tetrachloride	0.072	0.035	0.0085		0.45	0.22	0.702	3/17/14 22:01	WSD
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	3/17/14 22:01	WSD
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	3/17/14 22:01	WSD
Chloroform	0.095	0.035	0.0082		0.46	0.17	0.702	3/17/14 22:01	WSD
Chloromethane	0.67	0.070	0.015		1.4	0.14	0.702	3/17/14 22:01	WSD
Cyclohexane	0.096	0.035	0.020		0.33	0.12	0.702	3/17/14 22:01	WSD
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	3/17/14 22:01	WSD
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	3/17/14 22:01	WSD
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	3/17/14 22:01	WSD
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	3/17/14 22:01	WSD
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	3/17/14 22:01	WSD
Dichlorodifluoromethane (Freon 12)	0.27	0.035	0.015		1.3	0.17	0.702	3/17/14 22:01	WSD
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	3/17/14 22:01	WSD
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	3/17/14 22:01	WSD
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	3/17/14 22:01	WSD
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	3/17/14 22:01	WSD
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	3/17/14 22:01	WSD
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	3/17/14 22:01	WSD
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	3/17/14 22:01	WSD
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	3/17/14 22:01	WSD
Ethanol	44	20	8.9		83	38	10	3/17/14 22:40	WSD
Ethyl Acetate	0.24	0.035	0.026		0.88	0.13	0.702	3/17/14 22:01	WSD
Ethylbenzene	0.13	0.035	0.0097		0.57	0.15	0.702	3/17/14 22:01	WSD
4-Ethyltoluene	0.036	0.035	0.0079		0.18	0.17	0.702	3/17/14 22:01	WSD
Heptane	0.16	0.035	0.011		0.66	0.14	0.702	3/17/14 22:01	WSD
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	3/17/14 22:01	WSD
Hexane	0.36	1.4	0.062	J	1.3	4.9	0.702	3/17/14 22:01	WSD
2-Hexanone (MBK)	0.036	0.035	0.0090		0.15	0.14	0.702	3/17/14 22:01	WSD
Isopropanol	1.8	1.4	0.043		4.4	3.4	0.702	3/17/14 22:01	WSD



**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 4 -030714**  
**Sample ID: 14C0239-04**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 10:24

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1321  
 Canister Size: 6 liter  
 Flow Controller ID: 4187  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -7.2  
 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	3/17/14 22:01	WSD	
Methylene Chloride	0.21	0.35	0.043	J	0.72	1.2	0.702	3/17/14 22:01	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	3/17/14 22:01	WSD	
4-Methyl-2-pentanone (MIBK)	0.12	0.035	0.0084		0.48	0.14	0.702	3/17/14 22:01	WSD	
Propene	ND	1.4	0.11		ND	2.4	0.702	3/17/14 22:01	WSD	
Styrene	0.055	0.035	0.0068		0.23	0.15	0.702	3/17/14 22:01	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023	L-03	ND	0.44	0.702	3/17/14 22:01	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	3/17/14 22:01	WSD	
Tetrachloroethylene	0.046	0.035	0.010		0.31	0.24	0.702	3/17/14 22:01	WSD	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	3/17/14 22:01	WSD	
Toluene	0.91	0.035	0.011		3.4	0.13	0.702	3/17/14 22:01	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	3/17/14 22:01	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	3/17/14 22:01	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	3/17/14 22:01	WSD	
Trichloroethylene	0.045	0.035	0.010		0.24	0.19	0.702	3/17/14 22:01	WSD	
Trichlorofluoromethane (Freon 11)	0.23	0.035	0.012		1.3	0.20	0.702	3/17/14 22:01	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.065	0.035	0.0098		0.49	0.27	0.702	3/17/14 22:01	WSD	
1,2,4-Trimethylbenzene	0.11	0.035	0.0086		0.56	0.17	0.702	3/17/14 22:01	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	3/17/14 22:01	WSD	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	3/17/14 22:01	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	3/17/14 22:01	WSD	
m&p-Xylene	0.37	0.070	0.018		1.6	0.30	0.702	3/17/14 22:01	WSD	
o-Xylene	0.15	0.035	0.010		0.66	0.15	0.702	3/17/14 22:01	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.8	70-130	3/17/14 22:40
4-Bromofluorobenzene (1)	95.7	70-130	3/17/14 22:01
4-Bromofluorobenzene (2)	75.3	70-130	3/17/14 22:01

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 5 -030714**  
**Sample ID: 14C0239-05**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 08:35

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1462  
 Canister Size: 6 liter  
 Flow Controller ID: 4188  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -4.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	5.0	1.4	0.49		12	3.3	0.702	3/17/14 23:25	WSD
Benzene	0.89	0.035	0.018		2.9	0.11	0.702	3/17/14 23:25	WSD
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	3/17/14 23:25	WSD
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	3/17/14 23:25	WSD
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	3/17/14 23:25	WSD
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	3/17/14 23:25	WSD
1,3-Butadiene	0.26	0.035	0.018		0.58	0.078	0.702	3/17/14 23:25	WSD
2-Butanone (MEK)	0.59	1.4	0.026	J	1.8	4.1	0.702	3/17/14 23:25	WSD
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	3/17/14 23:25	WSD
Carbon Tetrachloride	0.068	0.035	0.0085		0.43	0.22	0.702	3/17/14 23:25	WSD
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	3/17/14 23:25	WSD
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	3/17/14 23:25	WSD
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	3/17/14 23:25	WSD
Chloromethane	0.61	0.070	0.015		1.3	0.14	0.702	3/17/14 23:25	WSD
Cyclohexane	0.12	0.035	0.020		0.40	0.12	0.702	3/17/14 23:25	WSD
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	3/17/14 23:25	WSD
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	3/17/14 23:25	WSD
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	3/17/14 23:25	WSD
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	3/17/14 23:25	WSD
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	3/17/14 23:25	WSD
Dichlorodifluoromethane (Freon 12)	0.27	0.035	0.015		1.3	0.17	0.702	3/17/14 23:25	WSD
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	3/17/14 23:25	WSD
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	3/17/14 23:25	WSD
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	3/17/14 23:25	WSD
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	3/17/14 23:25	WSD
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	3/17/14 23:25	WSD
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	3/17/14 23:25	WSD
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	3/17/14 23:25	WSD
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	3/17/14 23:25	WSD
Ethanol	9.6	1.4	0.63		18	2.6	0.702	3/17/14 23:25	WSD
Ethyl Acetate	0.048	0.035	0.026		0.17	0.13	0.702	3/17/14 23:25	WSD
Ethylbenzene	0.15	0.035	0.0097		0.65	0.15	0.702	3/17/14 23:25	WSD
4-Ethyltoluene	0.045	0.035	0.0079		0.22	0.17	0.702	3/17/14 23:25	WSD
Heptane	0.18	0.035	0.011		0.75	0.14	0.702	3/17/14 23:25	WSD
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	3/17/14 23:25	WSD
Hexane	0.39	1.4	0.062	J	1.4	4.9	0.702	3/17/14 23:25	WSD
2-Hexanone (MBK)	0.079	0.035	0.0090		0.32	0.14	0.702	3/17/14 23:25	WSD
Isopropanol	0.97	1.4	0.043	J	2.4	3.4	0.702	3/17/14 23:25	WSD

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 5 -030714**  
**Sample ID: 14C0239-05**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 08:35

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1462  
 Canister Size: 6 liter  
 Flow Controller ID: 4188  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -4.2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analized		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	3/17/14 23:25	WSD	
Methylene Chloride	0.19	0.35	0.043	J	0.67	1.2	0.702	3/17/14 23:25	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	3/17/14 23:25	WSD	
4-Methyl-2-pentanone (MIBK)	0.059	0.035	0.0084		0.24	0.14	0.702	3/17/14 23:25	WSD	
Propene	ND	1.4	0.11		ND	2.4	0.702	3/17/14 23:25	WSD	
Styrene	0.042	0.035	0.0068		0.18	0.15	0.702	3/17/14 23:25	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023	L-03	ND	0.44	0.702	3/17/14 23:25	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	3/17/14 23:25	WSD	
Tetrachloroethylene	0.057	0.035	0.010		0.39	0.24	0.702	3/17/14 23:25	WSD	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	3/17/14 23:25	WSD	
Toluene	1.0	0.035	0.011		3.8	0.13	0.702	3/17/14 23:25	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	3/17/14 23:25	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	3/17/14 23:25	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	3/17/14 23:25	WSD	
Trichloroethylene	0.044	0.035	0.010		0.23	0.19	0.702	3/17/14 23:25	WSD	
Trichlorofluoromethane (Freon 11)	0.31	0.035	0.012		1.7	0.20	0.702	3/17/14 23:25	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.062	0.035	0.0098		0.47	0.27	0.702	3/17/14 23:25	WSD	
1,2,4-Trimethylbenzene	0.14	0.035	0.0086		0.69	0.17	0.702	3/17/14 23:25	WSD	
1,3,5-Trimethylbenzene	0.039	0.035	0.0070		0.19	0.17	0.702	3/17/14 23:25	WSD	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	3/17/14 23:25	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	3/17/14 23:25	WSD	
m&p-Xylene	0.43	0.070	0.018		1.9	0.30	0.702	3/17/14 23:25	WSD	
o-Xylene	0.17	0.035	0.010		0.75	0.15	0.702	3/17/14 23:25	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	96.0	70-130	3/17/14 23:25
4-Bromofluorobenzene (2)	73.3	70-130	3/17/14 23:25

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 6 -030714**  
**Sample ID: 14C0239-06**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 08:39

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1218  
 Canister Size: 6 liter  
 Flow Controller ID: 4189  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	4.9	1.4	0.49		12	3.3	0.702	3/18/14	0:09	WSD
Benzene	0.76	0.035	0.018		2.4	0.11	0.702	3/18/14	0:09	WSD
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	3/18/14	0:09	WSD
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	3/18/14	0:09	WSD
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	3/18/14	0:09	WSD
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	3/18/14	0:09	WSD
1,3-Butadiene	0.27	0.035	0.018		0.59	0.078	0.702	3/18/14	0:09	WSD
2-Butanone (MEK)	0.53	1.4	0.026	J	1.6	4.1	0.702	3/18/14	0:09	WSD
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	3/18/14	0:09	WSD
Carbon Tetrachloride	0.072	0.035	0.0085		0.45	0.22	0.702	3/18/14	0:09	WSD
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	3/18/14	0:09	WSD
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	3/18/14	0:09	WSD
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	3/18/14	0:09	WSD
Chloromethane	0.61	0.070	0.015		1.3	0.14	0.702	3/18/14	0:09	WSD
Cyclohexane	0.099	0.035	0.020		0.34	0.12	0.702	3/18/14	0:09	WSD
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	3/18/14	0:09	WSD
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	3/18/14	0:09	WSD
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	3/18/14	0:09	WSD
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	3/18/14	0:09	WSD
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	3/18/14	0:09	WSD
Dichlorodifluoromethane (Freon 12)	0.30	0.035	0.015		1.5	0.17	0.702	3/18/14	0:09	WSD
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	3/18/14	0:09	WSD
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	3/18/14	0:09	WSD
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	3/18/14	0:09	WSD
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	3/18/14	0:09	WSD
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	3/18/14	0:09	WSD
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	3/18/14	0:09	WSD
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	3/18/14	0:09	WSD
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	3/18/14	0:09	WSD
Ethanol	10	1.4	0.63		20	2.6	0.702	3/18/14	0:09	WSD
Ethyl Acetate	0.046	0.035	0.026		0.17	0.13	0.702	3/18/14	0:09	WSD
Ethylbenzene	0.13	0.035	0.0097		0.56	0.15	0.702	3/18/14	0:09	WSD
4-Ethyltoluene	0.038	0.035	0.0079		0.19	0.17	0.702	3/18/14	0:09	WSD
Heptane	0.17	0.035	0.011		0.71	0.14	0.702	3/18/14	0:09	WSD
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	3/18/14	0:09	WSD
Hexane	0.34	1.4	0.062	J	1.2	4.9	0.702	3/18/14	0:09	WSD
2-Hexanone (MBK)	0.072	0.035	0.0090		0.29	0.14	0.702	3/18/14	0:09	WSD
Isopropanol	0.69	1.4	0.043	J	1.7	3.4	0.702	3/18/14	0:09	WSD

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 6 -030714**  
**Sample ID: 14C0239-06**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 08:39

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1218  
 Canister Size: 6 liter  
 Flow Controller ID: 4189  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -2  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analized		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	3/18/14 0:09	WSD	
Methylene Chloride	0.18	0.35	0.043	J	0.64	1.2	0.702	3/18/14 0:09	WSD	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	3/18/14 0:09	WSD	
4-Methyl-2-pentanone (MIBK)	0.053	0.035	0.0084		0.22	0.14	0.702	3/18/14 0:09	WSD	
Propene	ND	1.4	0.11		ND	2.4	0.702	3/18/14 0:09	WSD	
Styrene	0.039	0.035	0.0068		0.16	0.15	0.702	3/18/14 0:09	WSD	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023	L-03	ND	0.44	0.702	3/18/14 0:09	WSD	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	3/18/14 0:09	WSD	
Tetrachloroethylene	0.035	0.035	0.010		0.24	0.24	0.702	3/18/14 0:09	WSD	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	3/18/14 0:09	WSD	
Toluene	0.91	0.035	0.011		3.4	0.13	0.702	3/18/14 0:09	WSD	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	3/18/14 0:09	WSD	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	3/18/14 0:09	WSD	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	3/18/14 0:09	WSD	
Trichloroethylene	0.039	0.035	0.010		0.21	0.19	0.702	3/18/14 0:09	WSD	
Trichlorofluoromethane (Freon 11)	0.31	0.035	0.012		1.7	0.20	0.702	3/18/14 0:09	WSD	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.060	0.035	0.0098		0.46	0.27	0.702	3/18/14 0:09	WSD	
1,2,4-Trimethylbenzene	0.11	0.035	0.0086		0.55	0.17	0.702	3/18/14 0:09	WSD	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	3/18/14 0:09	WSD	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	3/18/14 0:09	WSD	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	3/18/14 0:09	WSD	
m&p-Xylene	0.37	0.070	0.018		1.6	0.30	0.702	3/18/14 0:09	WSD	
o-Xylene	0.15	0.035	0.010		0.64	0.15	0.702	3/18/14 0:09	WSD	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	96.7	70-130	3/18/14 0:09
4-Bromofluorobenzene (2)	73.8	70-130	3/18/14 0:09

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 7 -030714**  
**Sample ID: 14C0239-07**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 11:26

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1304  
 Canister Size: 6 liter  
 Flow Controller ID: 4180  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5  
 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		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	6.1	1.4	0.49		15	3.3	0.702	3/18/14	0:53	WSD
Benzene	0.60	0.035	0.018		1.9	0.11	0.702	3/18/14	0:53	WSD
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	3/18/14	0:53	WSD
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	3/18/14	0:53	WSD
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	3/18/14	0:53	WSD
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	3/18/14	0:53	WSD
1,3-Butadiene	0.22	0.035	0.018		0.48	0.078	0.702	3/18/14	0:53	WSD
2-Butanone (MEK)	0.52	1.4	0.026	J	1.5	4.1	0.702	3/18/14	0:53	WSD
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	3/18/14	0:53	WSD
Carbon Tetrachloride	0.067	0.035	0.0085		0.42	0.22	0.702	3/18/14	0:53	WSD
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	3/18/14	0:53	WSD
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	3/18/14	0:53	WSD
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	3/18/14	0:53	WSD
Chloromethane	0.66	0.070	0.015		1.4	0.14	0.702	3/18/14	0:53	WSD
Cyclohexane	0.087	0.035	0.020		0.30	0.12	0.702	3/18/14	0:53	WSD
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	3/18/14	0:53	WSD
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	3/18/14	0:53	WSD
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	3/18/14	0:53	WSD
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	3/18/14	0:53	WSD
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	3/18/14	0:53	WSD
Dichlorodifluoromethane (Freon 12)	0.30	0.035	0.015		1.5	0.17	0.702	3/18/14	0:53	WSD
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	3/18/14	0:53	WSD
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	3/18/14	0:53	WSD
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	3/18/14	0:53	WSD
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	3/18/14	0:53	WSD
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	3/18/14	0:53	WSD
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	3/18/14	0:53	WSD
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	3/18/14	0:53	WSD
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	3/18/14	0:53	WSD
Ethanol	26	1.4	0.63		50	2.6	0.702	3/18/14	0:53	WSD
Ethyl Acetate	0.16	0.035	0.026		0.56	0.13	0.702	3/18/14	0:53	WSD
Ethylbenzene	0.099	0.035	0.0097		0.43	0.15	0.702	3/18/14	0:53	WSD
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	3/18/14	0:53	WSD
Heptane	0.33	0.035	0.011		1.3	0.14	0.702	3/18/14	0:53	WSD
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	3/18/14	0:53	WSD
Hexane	0.32	1.4	0.062	J	1.1	4.9	0.702	3/18/14	0:53	WSD
2-Hexanone (MBK)	0.091	0.035	0.0090		0.37	0.14	0.702	3/18/14	0:53	WSD
Isopropanol	0.78	1.4	0.043	J	1.9	3.4	0.702	3/18/14	0:53	WSD

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: IA- 7 -030714**  
**Sample ID: 14C0239-07**  
 Sample Matrix: Indoor air  
 Sampled: 3/7/2014 11:26

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1304  
 Canister Size: 6 liter  
 Flow Controller ID: 4180  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5  
 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		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	3/18/14	0:53	WSD
Methylene Chloride	0.20	0.35	0.043	J	0.68	1.2	0.702	3/18/14	0:53	WSD
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	3/18/14	0:53	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	3/18/14	0:53	WSD
Propene	ND	1.4	0.11		ND	2.4	0.702	3/18/14	0:53	WSD
Styrene	0.040	0.035	0.0068		0.17	0.15	0.702	3/18/14	0:53	WSD
1,1,1,2-Tetrachloroethane	ND	0.064	0.023	L-03	ND	0.44	0.702	3/18/14	0:53	WSD
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	3/18/14	0:53	WSD
Tetrachloroethylene	0.059	0.035	0.010		0.40	0.24	0.702	3/18/14	0:53	WSD
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	3/18/14	0:53	WSD
Toluene	0.75	0.035	0.011		2.8	0.13	0.702	3/18/14	0:53	WSD
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	3/18/14	0:53	WSD
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	3/18/14	0:53	WSD
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	3/18/14	0:53	WSD
Trichloroethylene	0.052	0.035	0.010		0.28	0.19	0.702	3/18/14	0:53	WSD
Trichlorofluoromethane (Freon 11)	0.30	0.035	0.012		1.7	0.20	0.702	3/18/14	0:53	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.059	0.035	0.0098		0.45	0.27	0.702	3/18/14	0:53	WSD
1,2,4-Trimethylbenzene	0.077	0.035	0.0086		0.38	0.17	0.702	3/18/14	0:53	WSD
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	3/18/14	0:53	WSD
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	3/18/14	0:53	WSD
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	3/18/14	0:53	WSD
m&p-Xylene	0.28	0.070	0.018		1.2	0.30	0.702	3/18/14	0:53	WSD
o-Xylene	0.10	0.035	0.010		0.44	0.15	0.702	3/18/14	0:53	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	96.2	70-130	3/18/14 0:53
4-Bromofluorobenzene (2)	74.2	70-130	3/18/14 0:53

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: AA- 1 -030714**  
**Sample ID: 14C0239-08**  
 Sample Matrix: Ambient Air  
 Sampled: 3/7/2014 11:30

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1227  
 Canister Size: 6 liter  
 Flow Controller ID: 4178  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5  
 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	3.9	1.4	0.49		9.3	3.3	0.702	3/18/14	1:37	WSD
Benzene	0.32	0.035	0.018		1.0	0.11	0.702	3/18/14	1:37	WSD
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	3/18/14	1:37	WSD
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	3/18/14	1:37	WSD
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	3/18/14	1:37	WSD
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	3/18/14	1:37	WSD
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	3/18/14	1:37	WSD
2-Butanone (MEK)	0.48	1.4	0.026	J	1.4	4.1	0.702	3/18/14	1:37	WSD
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	3/18/14	1:37	WSD
Carbon Tetrachloride	0.035	0.035	0.0085		0.22	0.22	0.702	3/18/14	1:37	WSD
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	3/18/14	1:37	WSD
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	3/18/14	1:37	WSD
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	3/18/14	1:37	WSD
Chloromethane	0.61	0.070	0.015		1.3	0.14	0.702	3/18/14	1:37	WSD
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	3/18/14	1:37	WSD
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	3/18/14	1:37	WSD
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	3/18/14	1:37	WSD
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	3/18/14	1:37	WSD
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	3/18/14	1:37	WSD
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	3/18/14	1:37	WSD
Dichlorodifluoromethane (Freon 12)	0.29	0.035	0.015		1.4	0.17	0.702	3/18/14	1:37	WSD
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	3/18/14	1:37	WSD
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	3/18/14	1:37	WSD
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	3/18/14	1:37	WSD
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	3/18/14	1:37	WSD
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	3/18/14	1:37	WSD
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	3/18/14	1:37	WSD
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	3/18/14	1:37	WSD
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	3/18/14	1:37	WSD
Ethanol	4.8	1.4	0.63		9.0	2.6	0.702	3/18/14	1:37	WSD
Ethyl Acetate	0.049	0.035	0.026		0.18	0.13	0.702	3/18/14	1:37	WSD
Ethylbenzene	0.036	0.035	0.0097		0.16	0.15	0.702	3/18/14	1:37	WSD
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	3/18/14	1:37	WSD
Heptane	0.051	0.035	0.011		0.21	0.14	0.702	3/18/14	1:37	WSD
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	3/18/14	1:37	WSD
Hexane	0.12	1.4	0.062	J	0.44	4.9	0.702	3/18/14	1:37	WSD
2-Hexanone (MBK)	0.062	0.035	0.0090		0.26	0.14	0.702	3/18/14	1:37	WSD
Isopropanol	0.37	1.4	0.043	J	0.92	3.4	0.702	3/18/14	1:37	WSD



**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: AA- 1 -030714**  
**Sample ID: 14C0239-08**  
 Sample Matrix: Ambient Air  
 Sampled: 3/7/2014 11:30

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1227  
 Canister Size: 6 liter  
 Flow Controller ID: 4178  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -5  
 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	3/18/14	1:37	WSD
Methylene Chloride	0.16	0.35	0.043	J	0.55	1.2	0.702	3/18/14	1:37	WSD
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	3/18/14	1:37	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	3/18/14	1:37	WSD
Propene	ND	1.4	0.11		ND	2.4	0.702	3/18/14	1:37	WSD
Styrene	ND	0.035	0.0068		ND	0.15	0.702	3/18/14	1:37	WSD
1,1,1,2-Tetrachloroethane	ND	0.064	0.023	L-03	ND	0.44	0.702	3/18/14	1:37	WSD
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	3/18/14	1:37	WSD
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	3/18/14	1:37	WSD
Tetrahydrofuran	0.076	0.035	0.015		0.23	0.10	0.702	3/18/14	1:37	WSD
Toluene	0.31	0.035	0.011		1.2	0.13	0.702	3/18/14	1:37	WSD
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	3/18/14	1:37	WSD
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	3/18/14	1:37	WSD
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	3/18/14	1:37	WSD
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	3/18/14	1:37	WSD
Trichlorofluoromethane (Freon 11)	0.19	0.035	0.012		1.1	0.20	0.702	3/18/14	1:37	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.060	0.035	0.0098		0.46	0.27	0.702	3/18/14	1:37	WSD
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	3/18/14	1:37	WSD
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	3/18/14	1:37	WSD
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	3/18/14	1:37	WSD
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	3/18/14	1:37	WSD
m&p-Xylene	0.098	0.070	0.018		0.42	0.30	0.702	3/18/14	1:37	WSD
o-Xylene	0.039	0.035	0.010		0.17	0.15	0.702	3/18/14	1:37	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	95.1	70-130	3/18/14 1:37
4-Bromofluorobenzene (2)	73.3	70-130	3/18/14 1:37

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: EW - 5 - 030714**  
**Sample ID: 14C0239-09**  
 Sample Matrix: Soil Gas  
 Sampled: 3/7/2014 09:41

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1147  
 Canister Size: 6 liter  
 Flow Controller ID: 4183  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -4.3  
 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		
Acetone	160	40	14		380	95	20	3/18/14	2:56	WSD
Benzene	1.2	0.10	0.052		3.8	0.32	2	3/18/14	2:16	WSD
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	3/18/14	2:16	WSD
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	3/18/14	2:16	WSD
Bromoform	ND	0.10	0.019		ND	1.0	2	3/18/14	2:16	WSD
Bromomethane	ND	0.10	0.069		ND	0.39	2	3/18/14	2:16	WSD
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	3/18/14	2:16	WSD
2-Butanone (MEK)	400	40	0.75		1200	120	20	3/18/14	2:56	WSD
Carbon Disulfide	8.3	1.0	0.034		26	3.1	2	3/18/14	2:16	WSD
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	3/18/14	2:16	WSD
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	3/18/14	2:16	WSD
Chloroethane	0.71	0.10	0.038		1.9	0.26	2	3/18/14	2:16	WSD
Chloroform	0.12	0.10	0.023		0.59	0.49	2	3/18/14	2:16	WSD
Chloromethane	ND	0.20	0.044		ND	0.41	2	3/18/14	2:16	WSD
Cyclohexane	ND	0.10	0.057		ND	0.34	2	3/18/14	2:16	WSD
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	3/18/14	2:16	WSD
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	3/18/14	2:16	WSD
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	3/18/14	2:16	WSD
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	3/18/14	2:16	WSD
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	3/18/14	2:16	WSD
Dichlorodifluoromethane (Freon 12)	0.43	0.10	0.043		2.1	0.49	2	3/18/14	2:16	WSD
1,1-Dichloroethane	1.7	0.10	0.028		7.0	0.40	2	3/18/14	2:16	WSD
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	3/18/14	2:16	WSD
1,1-Dichloroethylene	0.47	0.10	0.024		1.8	0.40	2	3/18/14	2:16	WSD
cis-1,2-Dichloroethylene	1.0	0.10	0.038		4.1	0.40	2	3/18/14	2:16	WSD
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	3/18/14	2:16	WSD
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	3/18/14	2:16	WSD
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	3/18/14	2:16	WSD
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	3/18/14	2:16	WSD
Ethanol	23	4.0	1.8		43	7.5	2	3/18/14	2:16	WSD
Ethyl Acetate	1.3	0.10	0.075		4.8	0.36	2	3/18/14	2:16	WSD
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	3/18/14	2:16	WSD
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	3/18/14	2:16	WSD
Heptane	ND	0.10	0.032		ND	0.41	2	3/18/14	2:16	WSD
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	3/18/14	2:16	WSD
Hexane	ND	4.0	0.18		ND	14	2	3/18/14	2:16	WSD
2-Hexanone (MBK)	0.13	0.10	0.026		0.53	0.41	2	3/18/14	2:16	WSD
Isopropanol	2.4	4.0	0.12	J	6.0	9.8	2	3/18/14	2:16	WSD

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: EW - 5 - 030714**  
**Sample ID: 14C0239-09**  
 Sample Matrix: Soil Gas  
 Sampled: 3/7/2014 09:41

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1147  
 Canister Size: 6 liter  
 Flow Controller ID: 4183  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -4.3  
 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	0.10	0.031		ND	0.36	2	3/18/14	2:16	WSD
Methylene Chloride	0.23	1.0	0.12	J	0.79	3.5	2	3/18/14	2:16	WSD
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	3/18/14	2:16	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	3/18/14	2:16	WSD
Propene	ND	4.0	0.31		ND	6.9	2	3/18/14	2:16	WSD
Styrene	ND	0.10	0.019		ND	0.43	2	3/18/14	2:16	WSD
1,1,1,2-Tetrachloroethane	ND	0.18	0.066	L-03	ND	1.2	2	3/18/14	2:16	WSD
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	3/18/14	2:16	WSD
Tetrachloroethylene	0.10	0.10	0.028		0.69	0.68	2	3/18/14	2:16	WSD
Tetrahydrofuran	1000	1.0	0.42		2900	2.9	20	3/18/14	2:56	WSD
Toluene	0.36	0.10	0.031		1.4	0.38	2	3/18/14	2:16	WSD
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	3/18/14	2:16	WSD
1,1,1-Trichloroethane	12	0.10	0.018		68	0.55	2	3/18/14	2:16	WSD
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	3/18/14	2:16	WSD
Trichloroethylene	35	0.10	0.030		190	0.54	2	3/18/14	2:16	WSD
Trichlorofluoromethane (Freon 11)	0.48	0.10	0.035		2.7	0.56	2	3/18/14	2:16	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	0.028		ND	0.77	2	3/18/14	2:16	WSD
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	3/18/14	2:16	WSD
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	3/18/14	2:16	WSD
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	3/18/14	2:16	WSD
Vinyl Chloride	0.43	0.10	0.043		1.1	0.26	2	3/18/14	2:16	WSD
m&p-Xylene	0.13	0.20	0.050	J	0.56	0.87	2	3/18/14	2:16	WSD
o-Xylene	ND	0.10	0.029		ND	0.43	2	3/18/14	2:16	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	96.6	70-130	3/18/14 2:56
4-Bromofluorobenzene (1)	93.7	70-130	3/18/14 2:16
4-Bromofluorobenzene (2)	72.0	70-130	3/18/14 2:16

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: EW - 6 - 030714**  
**Sample ID: 14C0239-10**  
 Sample Matrix: Soil Gas  
 Sampled: 3/7/2014 08:43

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1839  
 Canister Size: 6 liter  
 Flow Controller ID: 4191  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -3.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	6.9	4.0	1.4		16	9.5	2	3/18/14	3:35	WSD
Benzene	0.30	0.10	0.052		0.96	0.32	2	3/18/14	3:35	WSD
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	3/18/14	3:35	WSD
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	3/18/14	3:35	WSD
Bromoform	ND	0.10	0.019		ND	1.0	2	3/18/14	3:35	WSD
Bromomethane	ND	0.10	0.069		ND	0.39	2	3/18/14	3:35	WSD
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	3/18/14	3:35	WSD
2-Butanone (MEK)	1.4	4.0	0.075	J	4.0	12	2	3/18/14	3:35	WSD
Carbon Disulfide	2.0	1.0	0.034		6.3	3.1	2	3/18/14	3:35	WSD
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	3/18/14	3:35	WSD
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	3/18/14	3:35	WSD
Chloroethane	ND	0.10	0.038		ND	0.26	2	3/18/14	3:35	WSD
Chloroform	ND	0.10	0.023		ND	0.49	2	3/18/14	3:35	WSD
Chloromethane	0.85	0.20	0.044		1.8	0.41	2	3/18/14	3:35	WSD
Cyclohexane	ND	0.10	0.057		ND	0.34	2	3/18/14	3:35	WSD
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	3/18/14	3:35	WSD
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	3/18/14	3:35	WSD
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	3/18/14	3:35	WSD
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	3/18/14	3:35	WSD
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	3/18/14	3:35	WSD
Dichlorodifluoromethane (Freon 12)	0.46	0.10	0.043		2.3	0.49	2	3/18/14	3:35	WSD
1,1-Dichloroethane	0.55	0.10	0.028		2.2	0.40	2	3/18/14	3:35	WSD
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	3/18/14	3:35	WSD
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	3/18/14	3:35	WSD
cis-1,2-Dichloroethylene	ND	0.10	0.038		ND	0.40	2	3/18/14	3:35	WSD
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	3/18/14	3:35	WSD
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	3/18/14	3:35	WSD
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	3/18/14	3:35	WSD
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	3/18/14	3:35	WSD
Ethanol	ND	4.0	1.8		ND	7.5	2	3/18/14	3:35	WSD
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	3/18/14	3:35	WSD
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	3/18/14	3:35	WSD
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	3/18/14	3:35	WSD
Heptane	ND	0.10	0.032		ND	0.41	2	3/18/14	3:35	WSD
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	3/18/14	3:35	WSD
Hexane	ND	4.0	0.18		ND	14	2	3/18/14	3:35	WSD
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	3/18/14	3:35	WSD
Isopropanol	ND	4.0	0.12		ND	9.8	2	3/18/14	3:35	WSD

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: EW - 6 - 030714**  
**Sample ID: 14C0239-10**  
 Sample Matrix: Soil Gas  
 Sampled: 3/7/2014 08:43

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1839  
 Canister Size: 6 liter  
 Flow Controller ID: 4191  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -3.6  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	3/18/14	3:35	WSD
Methylene Chloride	0.26	1.0	0.12	J	0.89	3.5	2	3/18/14	3:35	WSD
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	3/18/14	3:35	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	3/18/14	3:35	WSD
Propene	ND	4.0	0.31		ND	6.9	2	3/18/14	3:35	WSD
Styrene	ND	0.10	0.019		ND	0.43	2	3/18/14	3:35	WSD
1,1,1,2-Tetrachloroethane	ND	0.18	0.066	L-03	ND	1.2	2	3/18/14	3:35	WSD
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	3/18/14	3:35	WSD
Tetrachloroethylene	0.16	0.10	0.028		1.1	0.68	2	3/18/14	3:35	WSD
Tetrahydrofuran	18	0.10	0.042		54	0.29	2	3/18/14	3:35	WSD
Toluene	0.27	0.10	0.031		1.0	0.38	2	3/18/14	3:35	WSD
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	3/18/14	3:35	WSD
1,1,1-Trichloroethane	2.4	0.10	0.018		13	0.55	2	3/18/14	3:35	WSD
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	3/18/14	3:35	WSD
Trichloroethylene	5.3	0.10	0.030		28	0.54	2	3/18/14	3:35	WSD
Trichlorofluoromethane (Freon 11)	1.2	0.10	0.035		6.9	0.56	2	3/18/14	3:35	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	0.028		ND	0.77	2	3/18/14	3:35	WSD
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	3/18/14	3:35	WSD
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	3/18/14	3:35	WSD
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	3/18/14	3:35	WSD
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	3/18/14	3:35	WSD
m&p-Xylene	ND	0.20	0.050		ND	0.87	2	3/18/14	3:35	WSD
o-Xylene	ND	0.10	0.029		ND	0.43	2	3/18/14	3:35	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.4	70-130	3/18/14 3:35
4-Bromofluorobenzene (2)	70.3	70-130	3/18/14 3:35

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: EW - 7 - 030714**  
**Sample ID: 14C0239-11**  
 Sample Matrix: Soil Gas  
 Sampled: 3/7/2014 11:25

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1206  
 Canister Size: 6 liter  
 Flow Controller ID: 4181  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -5.7  
 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	2.9	4.0	1.4	J	6.9	9.5	2	3/18/14	4:15	WSD
Benzene	0.41	0.10	0.052		1.3	0.32	2	3/18/14	4:15	WSD
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	3/18/14	4:15	WSD
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	3/18/14	4:15	WSD
Bromoform	ND	0.10	0.019		ND	1.0	2	3/18/14	4:15	WSD
Bromomethane	ND	0.10	0.069		ND	0.39	2	3/18/14	4:15	WSD
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	3/18/14	4:15	WSD
2-Butanone (MEK)	1.3	4.0	0.075	J	3.8	12	2	3/18/14	4:15	WSD
Carbon Disulfide	2.4	1.0	0.034		7.4	3.1	2	3/18/14	4:15	WSD
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	3/18/14	4:15	WSD
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	3/18/14	4:15	WSD
Chloroethane	0.61	0.10	0.038		1.6	0.26	2	3/18/14	4:15	WSD
Chloroform	0.41	0.10	0.023		2.0	0.49	2	3/18/14	4:15	WSD
Chloromethane	ND	0.20	0.044		ND	0.41	2	3/18/14	4:15	WSD
Cyclohexane	ND	0.10	0.057		ND	0.34	2	3/18/14	4:15	WSD
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	3/18/14	4:15	WSD
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	3/18/14	4:15	WSD
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	3/18/14	4:15	WSD
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	3/18/14	4:15	WSD
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	3/18/14	4:15	WSD
Dichlorodifluoromethane (Freon 12)	0.41	0.10	0.043		2.0	0.49	2	3/18/14	4:15	WSD
1,1-Dichloroethane	1.7	0.10	0.028		6.9	0.40	2	3/18/14	4:15	WSD
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	3/18/14	4:15	WSD
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	3/18/14	4:15	WSD
cis-1,2-Dichloroethylene	1.3	0.10	0.038		5.0	0.40	2	3/18/14	4:15	WSD
trans-1,2-Dichloroethylene	2.3	0.10	0.026		9.2	0.40	2	3/18/14	4:15	WSD
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	3/18/14	4:15	WSD
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	3/18/14	4:15	WSD
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	3/18/14	4:15	WSD
Ethanol	6.8	4.0	1.8		13	7.5	2	3/18/14	4:15	WSD
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	3/18/14	4:15	WSD
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	3/18/14	4:15	WSD
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	3/18/14	4:15	WSD
Heptane	0.11	0.10	0.032		0.44	0.41	2	3/18/14	4:15	WSD
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	3/18/14	4:15	WSD
Hexane	ND	4.0	0.18		ND	14	2	3/18/14	4:15	WSD
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	3/18/14	4:15	WSD
Isopropanol	ND	4.0	0.12		ND	9.8	2	3/18/14	4:15	WSD

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: EW - 7 - 030714**  
**Sample ID: 14C0239-11**  
 Sample Matrix: Soil Gas  
 Sampled: 3/7/2014 11:25

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1206  
 Canister Size: 6 liter  
 Flow Controller ID: 4181  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -5.7  
 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	3/18/14	4:15	WSD
Methylene Chloride	0.24	1.0	0.12	J	0.82	3.5	2	3/18/14	4:15	WSD
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	3/18/14	4:15	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	3/18/14	4:15	WSD
Propene	ND	4.0	0.31		ND	6.9	2	3/18/14	4:15	WSD
Styrene	ND	0.10	0.019		ND	0.43	2	3/18/14	4:15	WSD
1,1,1,2-Tetrachloroethane	ND	0.18	0.066	L-03	ND	1.2	2	3/18/14	4:15	WSD
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	3/18/14	4:15	WSD
Tetrachloroethylene	12	0.10	0.028		81	0.68	2	3/18/14	4:15	WSD
Tetrahydrofuran	480	0.10	0.042		1400	0.29	2	3/18/14	4:15	WSD
Toluene	0.31	0.10	0.031		1.2	0.38	2	3/18/14	4:15	WSD
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	3/18/14	4:15	WSD
1,1,1-Trichloroethane	5.5	0.10	0.018		30	0.55	2	3/18/14	4:15	WSD
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	3/18/14	4:15	WSD
Trichloroethylene	39	0.10	0.030		210	0.54	2	3/18/14	4:15	WSD
Trichlorofluoromethane (Freon 11)	120	0.10	0.035		690	0.56	2	3/18/14	4:15	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	0.028		ND	0.77	2	3/18/14	4:15	WSD
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	3/18/14	4:15	WSD
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	3/18/14	4:15	WSD
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	3/18/14	4:15	WSD
Vinyl Chloride	0.60	0.10	0.043		1.5	0.26	2	3/18/14	4:15	WSD
m&p-Xylene	0.11	0.20	0.050	J	0.49	0.87	2	3/18/14	4:15	WSD
o-Xylene	ND	0.10	0.029		ND	0.43	2	3/18/14	4:15	WSD

Surrogates	% Recovery		% REC Limits	
4-Bromofluorobenzene (1)	94.6		70-130	3/18/14 4:15
4-Bromofluorobenzene (2)	69.1*	S-26	70-130	3/18/14 4:15

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 3/7/2014

Field Sample #: EW - Combined - 030714

Sample ID: 14C0239-12

Sample Matrix: Soil Gas

Sampled: 3/7/2014 12:05

Sample Description/Location:

Sub Description/Location:

Canister ID: 1063

Canister Size: 6 liter

Flow Controller ID: 4179

Sample Type: 30 min

Work Order: 14C0239

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -6

Receipt Vacuum(in Hg): -6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	6.2	4.0	1.4		15	9.5	2	3/18/14	5:34	WSD
Benzene	0.20	0.10	0.052		0.63	0.32	2	3/18/14	5:34	WSD
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	3/18/14	5:34	WSD
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	3/18/14	5:34	WSD
Bromoform	ND	0.10	0.019		ND	1.0	2	3/18/14	5:34	WSD
Bromomethane	ND	0.10	0.069		ND	0.39	2	3/18/14	5:34	WSD
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	3/18/14	5:34	WSD
2-Butanone (MEK)	0.86	4.0	0.075	J	2.5	12	2	3/18/14	5:34	WSD
Carbon Disulfide	ND	1.0	0.034		ND	3.1	2	3/18/14	5:34	WSD
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	3/18/14	5:34	WSD
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	3/18/14	5:34	WSD
Chloroethane	0.39	0.10	0.038		1.0	0.26	2	3/18/14	5:34	WSD
Chloroform	0.63	0.10	0.023		3.1	0.49	2	3/18/14	5:34	WSD
Chloromethane	ND	0.20	0.044		ND	0.41	2	3/18/14	5:34	WSD
Cyclohexane	ND	0.10	0.057		ND	0.34	2	3/18/14	5:34	WSD
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	3/18/14	5:34	WSD
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	3/18/14	5:34	WSD
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	3/18/14	5:34	WSD
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	3/18/14	5:34	WSD
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	3/18/14	5:34	WSD
Dichlorodifluoromethane (Freon 12)	0.49	0.10	0.043		2.4	0.49	2	3/18/14	5:34	WSD
1,1-Dichloroethane	13	0.10	0.028		53	0.40	2	3/18/14	5:34	WSD
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	3/18/14	5:34	WSD
1,1-Dichloroethylene	6.8	0.10	0.024		27	0.40	2	3/18/14	5:34	WSD
cis-1,2-Dichloroethylene	6.4	0.10	0.038		25	0.40	2	3/18/14	5:34	WSD
trans-1,2-Dichloroethylene	0.15	0.10	0.026		0.59	0.40	2	3/18/14	5:34	WSD
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	3/18/14	5:34	WSD
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	3/18/14	5:34	WSD
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	3/18/14	5:34	WSD
Ethanol	20	4.0	1.8		38	7.5	2	3/18/14	5:34	WSD
Ethyl Acetate	0.49	0.10	0.075		1.8	0.36	2	3/18/14	5:34	WSD
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	3/18/14	5:34	WSD
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	3/18/14	5:34	WSD
Heptane	ND	0.10	0.032		ND	0.41	2	3/18/14	5:34	WSD
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	3/18/14	5:34	WSD
Hexane	0.23	4.0	0.18	J	0.80	14	2	3/18/14	5:34	WSD
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	3/18/14	5:34	WSD
Isopropanol	0.66	4.0	0.12	J	1.6	9.8	2	3/18/14	5:34	WSD



**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 3/7/2014  
**Field Sample #: EW - Combined - 030714**  
**Sample ID: 14C0239-12**  
 Sample Matrix: Soil Gas  
 Sampled: 3/7/2014 12:05

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1063  
 Canister Size: 6 liter  
 Flow Controller ID: 4179  
 Sample Type: 30 min

**Work Order: 14C0239**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -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		Analized		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	3/18/14	5:34	WSD
Methylene Chloride	0.48	1.0	0.12	J	1.7	3.5	2	3/18/14	5:34	WSD
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	3/18/14	5:34	WSD
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	3/18/14	5:34	WSD
Propene	ND	4.0	0.31		ND	6.9	2	3/18/14	5:34	WSD
Styrene	ND	0.10	0.019		ND	0.43	2	3/18/14	5:34	WSD
1,1,1,2-Tetrachloroethane	ND	0.18	0.066	L-03	ND	1.2	2	3/18/14	5:34	WSD
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	3/18/14	5:34	WSD
Tetrachloroethylene	39	0.10	0.028		260	0.68	2	3/18/14	5:34	WSD
Tetrahydrofuran	0.56	0.10	0.042		1.7	0.29	2	3/18/14	5:34	WSD
Toluene	0.28	0.10	0.031		1.1	0.38	2	3/18/14	5:34	WSD
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	3/18/14	5:34	WSD
1,1,1-Trichloroethane	140	1.0	0.18		780	5.5	20	3/18/14	6:13	WSD
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	3/18/14	5:34	WSD
Trichloroethylene	100	1.0	0.30		560	5.4	20	3/18/14	6:13	WSD
Trichlorofluoromethane (Freon 11)	17	0.10	0.035		98	0.56	2	3/18/14	5:34	WSD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	0.028		ND	0.77	2	3/18/14	5:34	WSD
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	3/18/14	5:34	WSD
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	3/18/14	5:34	WSD
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	3/18/14	5:34	WSD
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	3/18/14	5:34	WSD
m&p-Xylene	0.13	0.20	0.050	J	0.57	0.87	2	3/18/14	5:34	WSD
o-Xylene	ND	0.10	0.029		ND	0.43	2	3/18/14	5:34	WSD

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.1	70-130	3/18/14 6:13
4-Bromofluorobenzene (1)	93.3	70-130	3/18/14 5:34
4-Bromofluorobenzene (2)	70.6	70-130	3/18/14 5:34

**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
14C0239-01RE1 [IA- 1 -030714]	B092075	1.5	1	N/A	1000	400	855	03/17/14
14C0239-02RE1 [IA- 2 -030714]	B092075	1.5	1	N/A	1000	400	60	03/17/14
14C0239-02RE2 [IA- 2 -030714]	B092075	1.5	1	N/A	1000	400	855	03/17/14
14C0239-03 [IA- 3 -030714]	B092075	1.5	1	N/A	1000	400	855	03/17/14
14C0239-04 [IA- 4 -030714]	B092075	1.5	1	N/A	1000	400	855	03/17/14
14C0239-04RE1 [IA- 4 -030714]	B092075	1.5	1	N/A	1000	400	60	03/17/14
14C0239-05 [IA- 5 -030714]	B092075	1.5	1	N/A	1000	400	855	03/17/14
14C0239-06 [IA- 6 -030714]	B092075	1.5	1	N/A	1000	400	855	03/17/14
14C0239-07 [IA- 7 -030714]	B092075	1.5	1	N/A	1000	400	855	03/17/14
14C0239-08 [AA- 1 -030714]	B092075	1.5	1	N/A	1000	400	855	03/17/14
14C0239-09 [EW - 5 - 030714]	B092075	1.5	1	N/A	1000	400	300	03/17/14
14C0239-09RE1 [EW - 5 - 030714]	B092075	1.5	1	N/A	1000	400	30	03/17/14
14C0239-10 [EW - 6 - 030714]	B092075	1.5	1	N/A	1000	400	300	03/17/14
14C0239-11 [EW - 7 - 030714]	B092075	1.5	1	N/A	1000	400	300	03/17/14
14C0239-12 [EW - Combined - 030714]	B092075	1.5	1	N/A	1000	400	300	03/17/14
14C0239-12RE1 [EW - Combined - 030714]	B092075	1.5	1	N/A	1000	400	30	03/17/14

**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
14C0239-01 [IA- 1 -030714]	B092093	1.5	1	N/A	1000	400	855	03/15/14
14C0239-02 [IA- 2 -030714]	B092093	1.5	1	N/A	1000	400	855	03/15/14

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	

Batch B092075 - TO-15 Prep

Blank (B092075-BLK1)

Prepared & Analyzed: 03/17/14

Acetone	ND	1.0								
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)	ND	1.0								
Carbon Disulfide	ND	0.25								
Carbon Tetrachloride	ND	0.025								
Chlorobenzene	ND	0.025								
Chloroethane	ND	0.025								
Chloroform	ND	0.025								
Chloromethane	ND	0.050								
Cyclohexane	ND	0.025								
Dibromochloromethane	ND	0.025								
1,2-Dibromoethane (EDB)	ND	0.025								
1,2-Dichlorobenzene	ND	0.025								
1,3-Dichlorobenzene	ND	0.025								
1,4-Dichlorobenzene	ND	0.025								
Dichlorodifluoromethane (Freon 12)	ND	0.025								
1,1-Dichloroethane	ND	0.025								
1,2-Dichloroethane	ND	0.025								
1,1-Dichloroethylene	ND	0.025								
cis-1,2-Dichloroethylene	ND	0.025								
trans-1,2-Dichloroethylene	ND	0.025								
1,2-Dichloropropane	ND	0.025								
cis-1,3-Dichloropropene	ND	0.025								
trans-1,3-Dichloropropene	ND	0.025								
Ethanol	ND	1.0								
Ethyl Acetate	ND	0.025								
Ethylbenzene	ND	0.025								
4-Ethyltoluene	ND	0.025								
Heptane	ND	0.025								
Hexachlorobutadiene	ND	0.025								
Hexane	ND	1.0								
2-Hexanone (MBK)	ND	0.025								
Isopropanol	0.042	1.0								J
Methyl tert-Butyl Ether (MTBE)	ND	0.025								
Methylene Chloride	0.038	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								L-03
1,1,2,2-Tetrachloroethane	ND	0.025								

**QUALITY CONTROL**

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

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

**Batch B092075 - TO-15 Prep**

**Blank (B092075-BLK1)**

Prepared & Analyzed: 03/17/14

Tetrachloroethylene	ND	0.025									
Tetrahydrofuran	ND	0.025									
Toluene	ND	0.025									
1,2,4-Trichlorobenzene	ND	0.025									
1,1,1-Trichloroethane	ND	0.025									
1,1,2-Trichloroethane	ND	0.025									
Trichloroethylene	ND	0.025									
Trichlorofluoromethane (Freon 11)	ND	0.025									
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									
Vinyl Chloride	ND	0.025									
m&p-Xylene	ND	0.050									
o-Xylene	ND	0.025									
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	7.32				8.00		91.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	5.52				8.00		69.0 *	70-130			S-26

**LCS (B092075-BS1)**

Prepared & Analyzed: 03/17/14

Acetone	5.40				5.00		108	70-130			
Benzene	4.38				5.00		87.5	70-130			
Benzyl chloride	5.64				5.00		113	70-130			
Bromodichloromethane	5.49				5.00		110	70-130			
Bromoform	4.80				5.00		96.1	70-130			
Bromomethane	4.62				5.00		92.4	70-130			
1,3-Butadiene	5.53				5.00		111	70-130			
2-Butanone (MEK)	3.59				5.00		71.9	70-130			
Carbon Disulfide	3.97				5.00		79.3	70-130			
Carbon Tetrachloride	5.20				5.00		104	70-130			
Chlorobenzene	4.74				5.00		94.7	70-130			
Chloroethane	6.38				5.00		128	70-130			
Chloroform	4.37				5.00		87.3	70-130			
Chloromethane	5.39				5.00		108	70-130			
Cyclohexane	4.19				5.00		83.8	70-130			
Dibromochloromethane	4.86				5.00		97.3	70-130			
1,2-Dibromoethane (EDB)	4.99				5.00		99.8	70-130			
1,2-Dichlorobenzene	4.75				5.00		95.0	70-130			
1,3-Dichlorobenzene	4.76				5.00		95.2	70-130			
1,4-Dichlorobenzene	4.68				5.00		93.6	70-130			
Dichlorodifluoromethane (Freon 12)	4.80				5.00		96.0	70-130			
1,1-Dichloroethane	4.34				5.00		86.8	70-130			
1,2-Dichloroethane	5.06				5.00		101	70-130			
1,1-Dichloroethylene	4.55				5.00		91.0	70-130			
cis-1,2-Dichloroethylene	4.55				5.00		90.9	70-130			
trans-1,2-Dichloroethylene	4.32				5.00		86.4	70-130			
1,2-Dichloropropane	5.09				5.00		102	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 B092075 - TO-15 Prep</b>											
<b>LCS (B092075-BS1)</b>						Prepared & Analyzed: 03/17/14					
cis-1,3-Dichloropropene	5.18				5.00		104	70-130			
trans-1,3-Dichloropropene	5.51				5.00		110	70-130			
Ethanol	4.76				5.00		95.3	70-130			
Ethyl Acetate	4.00				5.00		80.0	70-130			
Ethylbenzene	4.68				5.00		93.6	70-130			
4-Ethyltoluene	4.86				5.00		97.2	70-130			
Heptane	4.91				5.00		98.1	70-130			
Hexachlorobutadiene	4.17				5.00		83.4	70-130			
Hexane	4.19				5.00		83.8	70-130			
2-Hexanone (MBK)	4.66				5.00		93.3	70-130			
Isopropanol	5.91				5.00		118	70-130			
Methyl tert-Butyl Ether (MTBE)	3.84				5.00		76.7	70-130			
Methylene Chloride	4.16				5.00		83.1	70-130			
Methyl methacrylate	4.89				5.00		97.8	70-130			
4-Methyl-2-pentanone (MIBK)	4.63				5.00		92.7	70-130			
Propene	4.08				5.00		81.5	70-130			
Styrene	4.97				5.00		99.4	70-130			
1,1,1,2-Tetrachloroethane	0.524				0.910		57.6 *	70-130			L-03
1,1,1,2,2-Tetrachloroethane	5.65				5.00		113	70-130			
Tetrachloroethylene	4.40				5.00		88.0	70-130			
Tetrahydrofuran	3.80				5.00		75.9	70-130			
Toluene	4.51				5.00		90.2	70-130			
1,2,4-Trichlorobenzene	4.33				5.00		86.5	70-130			
1,1,1-Trichloroethane	5.30				5.00		106	70-130			
1,1,2-Trichloroethane	5.05				5.00		101	70-130			
Trichloroethylene	4.91				5.00		98.2	70-130			
Trichlorofluoromethane (Freon 11)	4.40				5.00		88.0	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.15				5.00		83.0	70-130			
1,2,4-Trimethylbenzene	5.08				5.00		102	70-130			
1,3,5-Trimethylbenzene	4.96				5.00		99.1	70-130			
Vinyl Acetate	3.86				5.00		77.3	70-130			
Vinyl Chloride	5.53				5.00		111	70-130			
m&p-Xylene	10.1				10.0		101	70-130			
o-Xylene	4.96				5.00		99.1	70-130			
Surrogate: 4-Bromofluorobenzene (1)	7.88				8.00		98.5	70-130			
Surrogate: 4-Bromofluorobenzene (2)	5.46				8.00		68.2 *	70-130			S-26

**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	%REC	Limits	Limit	

**Batch B092093 - TO-15 Prep**

**Blank (B092093-BLK1)**

Prepared & Analyzed: 03/15/14

Acetone	ND	1.0								
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)	ND	1.0								
Carbon Disulfide	ND	0.25								
Carbon Tetrachloride	ND	0.025								
Chlorobenzene	ND	0.025								
Chloroethane	ND	0.025								
Chloroform	ND	0.025								
Chloromethane	ND	0.050								
Cyclohexane	ND	0.025								
Dibromochloromethane	ND	0.025								
1,2-Dibromoethane (EDB)	ND	0.025								
1,2-Dichlorobenzene	ND	0.025								
1,3-Dichlorobenzene	ND	0.025								
1,4-Dichlorobenzene	ND	0.025								
Dichlorodifluoromethane (Freon 12)	ND	0.025								
1,1-Dichloroethane	ND	0.025								
1,2-Dichloroethane	ND	0.025								
1,1-Dichloroethylene	ND	0.025								
cis-1,2-Dichloroethylene	ND	0.025								
trans-1,2-Dichloroethylene	ND	0.025								
1,2-Dichloropropane	ND	0.025								
cis-1,3-Dichloropropene	ND	0.025								
trans-1,3-Dichloropropene	ND	0.025								
Ethanol	ND	1.0								
Ethyl Acetate	ND	0.025								
Ethylbenzene	ND	0.025								
4-Ethyltoluene	ND	0.025								
Heptane	ND	0.025								
Hexachlorobutadiene	ND	0.025								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	0.041	0.25								J
Methyl methacrylate	ND	0.025								
4-Methyl-2-pentanone (MIBK)	ND	0.025								
Propene	ND	1.0								
Styrene	ND	0.025								
1,1,2,2-Tetrachloroethane	ND	0.025								
Tetrachloroethylene	ND	0.025								

**QUALITY CONTROL**

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

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

**Batch B092093 - TO-15 Prep**

**Blank (B092093-BLK1)**

Prepared & Analyzed: 03/15/14

Tetrahydrofuran	ND	0.025
Toluene	ND	0.025
1,2,4-Trichlorobenzene	ND	0.025
1,1,1-Trichloroethane	ND	0.025
1,1,2-Trichloroethane	ND	0.025
Trichloroethylene	ND	0.025
Trichlorofluoromethane (Freon 11)	ND	0.025
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
Vinyl Chloride	ND	0.025
m&p-Xylene	ND	0.050
o-Xylene	ND	0.025

*Surrogate: 4-Bromofluorobenzene (1)*      7.44      8.00      92.9      70-130

**LCS (B092093-BS1)**

Prepared & Analyzed: 03/15/14

Acetone	5.48	5.00	110	70-130
Benzene	4.64	5.00	92.9	70-130
Benzyl chloride	5.29	5.00	106	70-130
Bromodichloromethane	5.39	5.00	108	70-130
Bromoform	4.56	5.00	91.2	70-130
Bromomethane	4.50	5.00	89.9	70-130
1,3-Butadiene	5.55	5.00	111	70-130
2-Butanone (MEK)	3.84	5.00	76.8	70-130
Carbon Disulfide	4.27	5.00	85.5	70-130
Carbon Tetrachloride	4.71	5.00	94.3	70-130
Chlorobenzene	4.68	5.00	93.7	70-130
Chloroethane	6.12	5.00	122	70-130
Chloroform	4.32	5.00	86.3	70-130
Chloromethane	5.48	5.00	110	70-130
Cyclohexane	4.58	5.00	91.5	70-130
Dibromochloromethane	4.59	5.00	91.9	70-130
1,2-Dibromoethane (EDB)	4.86	5.00	97.3	70-130
1,2-Dichlorobenzene	4.68	5.00	93.6	70-130
1,3-Dichlorobenzene	4.65	5.00	93.0	70-130
1,4-Dichlorobenzene	4.51	5.00	90.2	70-130
Dichlorodifluoromethane (Freon 12)	4.71	5.00	94.2	70-130
1,1-Dichloroethane	4.49	5.00	89.8	70-130
1,2-Dichloroethane	4.60	5.00	92.1	70-130
1,1-Dichloroethylene	4.58	5.00	91.5	70-130
cis-1,2-Dichloroethylene	4.58	5.00	91.6	70-130
trans-1,2-Dichloroethylene	4.45	5.00	88.9	70-130
1,2-Dichloropropane	5.16	5.00	103	70-130
cis-1,3-Dichloropropene	5.19	5.00	104	70-130
trans-1,3-Dichloropropene	5.33	5.00	107	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 B092093 - TO-15 Prep</b>											
<b>LCS (B092093-BS1)</b>					Prepared & Analyzed: 03/15/14						
Ethanol	5.80				5.00		116	70-130			
Ethyl Acetate	4.38				5.00		87.7	70-130			
Ethylbenzene	4.93				5.00		98.7	70-130			
4-Ethyltoluene	4.69				5.00		93.9	70-130			
Heptane	4.92				5.00		98.4	70-130			
Hexachlorobutadiene	4.16				5.00		83.2	70-130			V-05
Hexane	4.13				5.00		82.7	70-130			
2-Hexanone (MBK)	4.45				5.00		89.1	70-130			
Isopropanol	6.43				5.00		129	70-130			
Methyl tert-Butyl Ether (MTBE)	3.96				5.00		79.2	70-130			
Methylene Chloride	4.26				5.00		85.2	70-130			
Methyl methacrylate	4.99				5.00		99.8	70-130			
4-Methyl-2-pentanone (MIBK)	4.61				5.00		92.2	70-130			
Propene	4.45				5.00		89.0	70-130			
Styrene	4.85				5.00		97.0	70-130			
1,1,2,2-Tetrachloroethane	5.41				5.00		108	70-130			
Tetrachloroethylene	4.48				5.00		89.5	70-130			
Tetrahydrofuran	4.21				5.00		84.2	70-130			
Toluene	4.53				5.00		90.6	70-130			
1,2,4-Trichlorobenzene	4.49				5.00		89.8	70-130			
1,1,1-Trichloroethane	4.99				5.00		99.8	70-130			
1,1,2-Trichloroethane	4.96				5.00		99.2	70-130			
Trichloroethylene	4.86				5.00		97.3	70-130			
Trichlorofluoromethane (Freon 11)	4.05				5.00		80.9	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.24				5.00		84.9	70-130			
1,2,4-Trimethylbenzene	4.88				5.00		97.6	70-130			
1,3,5-Trimethylbenzene	4.73				5.00		94.5	70-130			
Vinyl Acetate	4.11				5.00		82.2	70-130			
Vinyl Chloride	5.64				5.00		113	70-130			
m&p-Xylene	9.72				10.0		97.2	70-130			
o-Xylene	4.74				5.00		94.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>7.49</i>				<i>8.00</i>		<i>93.6</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.
- S-26 Surrogate outside of control limits.
- 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.

**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	04/1/2014
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  
 www.contestlabs.com

**AIR SAMPLE CHAIN OF CUSTODY RECORD**  
 1400239

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Company Name: AMEC  
 Address: 271 Chestnut St, MA 01024  
Chelmsford, MA 01824  
 Attention: Kelly Chatterton  
 Project Location: Providence, RI  
 Sampled By: Mark Maggior

Telephone: (978) 692-9090  
 Project # 3650050117  
 Client PO # 0012203270

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT  
 Fax #: \_\_\_\_\_  
 Email: Kelly.chatterton@Amec.com  
 Format:  EXCEL  PDF  GIS KEY  OTHER

Proposal Provided? (For Billing purposes)  
 yes  no

FINAL 04 01 14 1718 04/01/14 17:18:36

ANALYSIS REQUESTED		"Hg	Please fill out completely, sign, date and retain the yellow copy for your records	
Lab	Flow Rate	Summa Canister ID	Flow Control ID	Summa canisters are returned within 14 days of receipt or rental fee will apply.
IA-1	0.2	1331	4119	Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.
IA-2	0.2	1615	4118	
IA-3	0.2	1095	4118	
IA-4	0.2	1321	4119	
IA-5	0.2	1462	4188	
IA-6	0.2	1218	4189	
IA-7	0.2	1301	4180	
AA-1	0.2	1227	4178	

Date	Time	Date	Time	Total Minutes Sampled	Flow Rate (l/min)	Volume (liters or m³)	Matrix Code*
3-7-14	0855	3-7-14	0925	30	0.2	6	IA
3-7-14	0953	3-7-14	1023	30	0.2	6	IA
3-7-14	0856	3-7-14	0926	30	0.2	6	IA
3-7-14	0954	3-7-14	1024	30	0.2	6	IA
3-7-14	0805	3-7-14	0835	30	0.2	6	IA
3-7-14	0809	3-7-14	0839	30	0.2	6	IA
3-7-14	1056	3-7-14	1126	30	0.2	6	IA
3-7-14	1100	3-7-14	1130	30	0.2	6	AMB

CLIENT COMMENTS:

Relinquished by: (signature) \_\_\_\_\_ Date/Time: 3/7/14 1207

Received by: (signature) \_\_\_\_\_ Date/Time: 3/7/14 1207

Relinquished by: (signature) \_\_\_\_\_ Date/Time: 3/7/14 1730

Received by: (signature) \_\_\_\_\_ Date/Time: 3/7/14 1730

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

RUSH\*  \*24-Hr  \*48-Hr  \*72-Hr  \*4-Day Approval Required

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

\*Matrix Code: SG=SOIL GAS IA=INDOOR AIR AMB=AMBIENT SS=SUB SLAB D=DUP BL=BLANK O=other  
 \*\*Media Codes: S=Summa can TB=teflar bag P=PUF T=tube F=filter C=cassette O=Other

INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.  
 \*\* TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS



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**AIR SAMPLE CHAIN OF CUSTODY RECORD**

39 SPRUCE ST  
 EAST LONGMEADOW, MA 01028

Company Name: AMEC  
 Address: 271 Mill Rd.  
Cherryche Imstead, MA 01824  
 Attention: Kelly Chatterton  
 Project Location: Providence, RI  
 Sampled By: Mark Maggione

Telephone: (478) 692-9090  
 Project # 3650080114  
 Client PO # CG12203270

DATA DELIVERY (check one):  
 FAX  EMAIL  WEBSITE CLIENT  
 Fax #:  
 Email: Kelly.Chatterton@amec.com  
 Format:  EXCEL  PDF  GIS KEY  OTHER Excel

Proposal Provided? (For Billing purposes)  
 yes  no

Field ID	Sample Description	Media	Lab #	Date/Time		Date/Time		Flow Rate M <sup>3</sup> /Min. or L/Mins	Volume Liters or M <sup>3</sup>	Matrix Code*	Flow Control ID	Summa Canister ID	Summa canisters w/ retained for a minimum of 14 days after sampling date prior to cleaning.
				Start Date Time	Stop Date Time	Total Minutes Sampled	Minutes Sampled						
EW-5	030714	S	09	3-7-14 0911	3-7-14 0941	30	0.2	30	SC	29-5043	1147	418	
EW-6	030714	S	10	3-7-14 0813	3-7-14 0843	30	0.2	30	SC	28-5086	1839	417	
EW-7	030714	S	11	3-7-14 1055	3-7-14 1125	30	0.2	30	SC	28-5057	1206	418	
EW-Combined	030714	S	12	3-7-14 1135	3-7-14 1205	30	0.3	30	SC	30-6060	1063	417	

**ANALYSIS REQUESTED**

**"Hg"**

**PLEASE FILL OUT COMPLETELY, SIGN, DATE AND RETAIN THE YELLOW COPY FOR YOUR RECORDS**

**Summa canisters are returned within 14 days of receipt or rental fee will apply.**

**Summa canisters will be retained for a minimum of 14 days after sampling date prior to cleaning.**

**Labels**

**Receipts**

**Flow Control ID**

**Summa Canister ID**

**Flow Control ID**

Laboratory Comments:

CLIENT COMMENTS:

Relinquished by: (signature) [Signature] Date/Time: 3/7/14 1207

Received by: (signature) [Signature] Date/Time: 3/7/14 1207

Relinquished by: (signature) [Signature] Date/Time: 3/7/14 1730

Received by: (signature) [Signature] Date/Time: 3.7.14 1730

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

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

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

**\*\*Media Codes:**  
 S= summa can  
 TB= teflar bag  
 P= PUF  
 T= tube  
 F= filter  
 C= cassette  
 O= Other

\*\* TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

AIHA, NELAC & 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>
	T/F/NA		
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.	F		
8) Field Sampler's name present on COC.	F		
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: *PRB*

Date/Time:  
 Date/Time: *3-7-14*



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

**AIR Only Receipt Checklist**

CLIENT NAME: AMEC RECEIVED BY: PB DATE: 3.7.14

- 1) Was the chain(s) of custody relinquished and signed?  Yes  No
  - 2) Does the chain agree with the samples?  
 If not, explain:  Yes  No
  - 3) Are all the samples in good condition?  
 If not, explain:  Yes  No
  - 4) Are there any samples "On Hold"? Yes  No  Stored where:
  - 5) Are there any RUSH or SHORT 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)	12	GL
Tedlar Bags		
TO-17 Tubes		
Regulators		
Restrictors	12	30min
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:

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:			
1331	1321	1304	1839
1615	1462	1227	1206
1095	1218	1147	1063
4190	4187	4180	4191
4186	4188	4178	4181
4182	4189	4183	4179



## **APPENDIX B**

### **Analytical Laboratory Detection Limits**





39 Spruce Street, 2nd Floor  
 East Longmeadow, MA 01028  
 413.525.2332  
 413.525.6405 (fax)

**Analyte:**

TO-14 / TO-15	PPBv	UG/M3	PPBv	UG/M3	MW NIST	UG/M3	PPBv
1,1,1-Trichloroethane	ND	ND	0.050	0.27	133.40	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	187.37	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	96.94	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	120.19	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	147.00	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	112.99	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	120.19	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	72.11	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	100.16	1	0.24
Acetone	ND	ND	0.050	0.12	58.08	1	0.42
Acrolein	ND	ND	0.050	0.11	56.06	1	0.44
Benzene	ND	ND	0.050	0.16	78.11	1	0.31
Benzyl Chloride	ND	ND	0.050	0.26	126.58	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	94.94	1	0.26
Carbon Disulfide	ND	ND	0.050	0.16	76.14	1	0.32
Carbon Tetrachloride	ND	ND	0.050	0.31	153.82	1	0.16



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 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	<b>0.34</b>	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	<b>0.27</b>	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	<b>0.13</b>	62.50	1	0.39



39 Spruce Street, 2nd Floor  
 East Longmeadow, MA 01028  
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 413.525.6405 (fax)

## 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



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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