



March 3, 2017

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  
February 2017 Semi-Annual Monitoring  
Retail Complex, Active Sub-Slab Depressurization System  
Former Gorham Manufacturing Facility  
333 Adelaide Avenue, Providence, Rhode Island  
AMEC Project No. 3652150005**

Dear Mr. Martella:

This letter report presents the results of semi-annual compliance sampling and analysis conducted by Amec Foster Wheeler (formerly AMEC) at the retail complex located at the Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island (Site). The reporting period is from September 2016 through February 2017 and includes one semi-annual compliance sampling event conducted on February 10, 2017.

The sampling, analysis and reporting are being conducted consistent with the Rhode Island Department of Environmental Management (RIDEM) 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 (Figure 1).

The small retail spaces consist of the eastern, central, and western retail spaces (Figure 1). The mitigation systems in the central and western 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 the small retail spaces. The eastern small retail space extraction well is located along the wall of the large retail space (EW-5) and is part of the ASD system described above.

### **Small Retail Spaces**

The indoor air monitoring of the three small retail spaces, consistent with the requirements of the Orders of Approval, was completed on February 10, 2017. This is the second semi-annual monitoring event since the change from quarterly monitoring one year ago, based on the historical indoor air data and performance of the existing vapor mitigation system.

Table 1 summarizes the analytical results at the small retail spaces for the baseline indoor air sampling event conducted prior to system start-up in February 2009 and all subsequent sampling events conducted after system start-up through February 10, 2017. 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 (16H0322) associated with the February 10, 2017 semi-annual 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 south of the property, upwind of the retail building. Due to equipment delivery delays, the sub-slab vacuum monitoring (pressure differential measurements) was conducted at locations VMW-5, VMW-6, and VMW-7 on February 13, 2017 in conjunction with the semi-annual air sampling program. The vacuum monitoring results are tabulated in Table 2.

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

- ▶ Indoor air sample results for the February 10, 2017 semi-annual sampling event in the small retail spaces (sample locations IA-5 through IA-7) were in compliance with action levels.
- ▶ The eastern small retail space (indoor air sample location IA-5) was occupied as a church during this sampling event.
- ▶ The center small retail space (sample location IA-6) was occupied as a consignment shop during this sampling event.
- ▶ The western small retail space (sample location IA-7) is intermittently occupied for church functions.
- ▶ The mitigation systems are functioning as designed.

### **Large Retail Space**

The indoor air monitoring event for the large retail space, consistent with the requirements of the Orders of Approval, was completed on February 10, 2017. Table 3 summarizes the analytical results for the large retail space for the baseline sampling event conducted prior to 2009 system start-up and all subsequent sampling events conducted after system start-up through February 10, 2017. Results of the indoor air samples were compared to the Draft Connecticut Industrial/Commercial Indoor TAC, which were identified as action levels in the Orders of Approval. The laboratory report (16H0322) associated with the February 10, 2017 semi-annual 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 south of the property upwind of the retail building. Due to equipment delays, the sub-slab vacuum monitoring (pressure differential measurements) was conducted on February 13, 2017 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 for the February 10, 2017 semi-annual sampling event in the large retail spaces (sample locations IA-1 through IA-4) were in compliance with action levels.
- ▶ The mitigation system is functioning as designed and is achieving desired results with respect to indoor air quality in the large retail space.
- ▶ The large retail space has been subdivided into two spaces. The eastern section is currently occupied by a health fitness club which opened in January of 2013. This space was recently updated to change the name of the gym to “Blast” as part of a nationwide revision. This space includes indoor air sample locations IA-2 and IA-4 and sub-slab vacuum monitoring well VMW-2.
- ▶ The western side of the large retail space remains vacant and includes indoor air sample locations IA-1 and IA-3, vapor extraction well EW-5 and sub-slab vacuum monitoring locations VMW-1, VMW-3, and VMW-4.

### **ASD System Monitoring/Maintenance**

The ASD system performance is monitored monthly by Clean Harbors Environmental Services. Over the last six months the system shut down briefly September 20, September 23 and September 25, 2016 and again January 23, 2017. All four of these shut downs were due to power interruptions and the system was back on line within hours. There were no other system shutdowns during the reporting period. Vacuum monitoring conducted at the time of the February 2017 indoor air monitoring event indicated that the desired negative pressure condition existed at the various sub-slab monitoring points.

### **Next Reporting Period**

The next Semi-Annual report (August 2017) will cover the monitoring period from March 2017 through August 2017. The report will be prepared and submitted to the Rhode Island Department of Environmental Management in September 2017.

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

Sincerely,

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



Mark Maggioro  
Environmental Scientist



David E. Heislein  
Senior Project Manager

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

Figure 1 Vapor Mitigation Sample Locations

Textron, Inc.  
Former Gorham Manufacturing Facility, Providence, RI  
Retail Complex, Active Sub-Slab Depressurization System  
February 2017 Semi-Annual Air Monitoring Report  
March 3, 2017  
Project No.: 3652150005

Appendix A – Laboratory Reports  
Appendix B – Analytical Laboratory Detection Limits

cc: Robert Azar, Deputy Director - Providence Planning & Development  
G. Simpson, Textron, Inc. (Electronic)  
Knight Memorial Library Repository  
Shane Brackett, Paolino Properties (including tenants)  
AMEC Project File

P:\BOS\Textron\3652150005 - Textron Gorham ASD System\8.0 Proj Deliverables\8.1 Reports\Febuary 2017 \_Semiannual\Gorham\_Febuary\_2017 Final 030317.docx

## **TABLES**

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

Parameter (ug/m <sup>3</sup> )	Outdoor Air Reference Locations																							
	AA-1 011609 1/16/2009	AA-1- 020309 2/3/2009	AA-1- 021109 2/11/2009	AA-1- 021809 2/18/2009	AA-1- 022609 2/26/2009	AA-1- 030609 3/6/2009	AA-1- 033109 3/31/2009	AA-1- 041409 4/14/2009	AA-1- 042409 4/24/2009	AA-1- 051509 5/15/2009	AA-1- 061109 6/11/2009	AA-1- 091709 9/17/2009	AA-1- 092409 9/24/2009	AA-1- 100109 10/1/2009	AA-1- 100809 10/8/2009	AA-1- 122909 12/29/2009	AA-1- 012810 1/28/2010	AA-1- 020510 2/5/2010	AA-1- 021210 2/12/2010	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
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	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	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	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	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	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	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	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	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	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	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	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	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	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	0.23 U	0.11 U	0.23 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	0.21 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	0.30 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	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	0.88	1.5	1.4	2.4	
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	0.20 U	0.29	0.29	0.49	
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	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	0.34	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	
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	3.7	9.5	12	20	
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	0.41	0.69	0.35	0.19	
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	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	0.33 U	0.33 U	0.33 U	0.33 U	
Bromoforn	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	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	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	0.44	0.16 U	0.16 U	0.16 U	
Carbon tetrachloride	0.38	0.44	0.52	0.56	0.43	0.61	0.47	0.22 U	0.41	0.78	0.43	0.40	0.40	0.43	0.46	0.39	0.42	0.39	0.31 U	0.43	0.49	0.47	0.52	
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	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	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	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	1.1	1.4	0.78	1.1	
cis-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 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	0.20 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	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	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	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	2.9	1.8	2.1	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	1.2	4.9	4.0	3.3	
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	1.1	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	0.22 U	0.22 U	0.22 U	0.82	
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	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	0.24	0.23	1.1	0.51	
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	0.80	0.73	0.69	1.6	
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	0.43 U	0.49	0.43 U	0.43 U	
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	0.70 U	0.70 U	0.70 U	1.1	
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	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	0.26	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 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-1-091610 9/16/2010	AA-1-120710 12/7/2010	AA-1-021711 2/17/2011	AA-1-060211 6/2/2011	AA-1-091511 9/15/2011	AA-1-120811 12/8/2011	AA-1-030812 3/8/2012	AA-1-061412 6/14/2012	AA-1-091312 9/13/2012	AA-1-010313 1/3/2013	AA-1-031513 3/15/2013	AA-1-060713 6/7/2013	AA-1-090613 9/6/2013	AA-1-100313 10/3/2013	AA-1-121313 12/13/2013	AA-1-030714 3/7/2014	AA-1-061314 6/13/2014	AA-1-091214 9/12/2014	AA-1-121914 12/19/2014	AA-01-032715 3/27/2015	AA-1-061115 6/11/2015	AA-1-091615 9/16/2015	AA-1-121815 12/18/2015	AA-1-021816 2/18/2016	AA-1-080516 8/5/2016	AA-1-021017 2/10/2017
1,1,1-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.29	0.082 U	0.10	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.055 U	0.19 U	0.19 U	0.19 U	0.073 J	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	0.42 U	0.44 U	0.44 U	0.44 U	0.25 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	0.21 U	0.10	0.21 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.069 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	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.11 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	0.063	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	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	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.16 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	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	0.26 U	0.26 U	0.26 U	0.25 U	0.26 U	0.26 U	0.26 U	0.15 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,2,4-Trimethylbenzene	0.94	0.25 U	1.1	0.25 U	0.25 U	0.16	0.15 U	0.15 U	0.26	0.17 U	0.069	0.21	0.17 U	0.19	0.17 U	0.17 U	0.51	0.069 J	0.17 U	0.2	0.059 J	0.29	0.31	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	0.23 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	0.27 U	0.27 U	0.27 U	0.077 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	0.34	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	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	0.066	0.061 U	0.046	0.14 U	0.14 U	0.057	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.037 J	0.14 U	0.14 U	0.054 J	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	0.14 U	0.069 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,2-Dichlorotetrafluoroethane	0.35 U																						0.25 U			0.25 U
1,3,5-Trimethylbenzene	0.28	0.25 U	0.33	0.25 U	0.25 U	0.068	0.15 U	0.15 U	0.16	0.17 U	0.17 U	0.17 U	0.17 U	0.047	0.17 U	0.17 U	0.18	0.098 U	0.17 U	0.062 J	0.17 U	0.076 J	0.17 U	0.17 U	0.17 U	0.17 U
1,3-Butadiene	0.29	0.11 U	0.11 U	0.11 U	0.11 U	0.066 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.075 U	0.078 U	0.078 U	0.078 U	0.044 U	0.078 U	0.078 U	0.078 U	0.18	0.23	0.078 U	0.078 U	0.078 U
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.12 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	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.12 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																		1.3 U			1.3 U
2-Butanone	2.7	0.37	1.8 B	2.9 U	5.9 U	0.35	1.4	1.1	2.0	0.89	1.9	3.9	3.7	0.94	0.82	1.4	2.2	1.1 J	1.2 J	0.96 J	2.1 J	1 J	2 J	0.69 J	1.2 J	0.91 J
2-Hexanone	0.41	0.20 U	0.20 U	4.1 U	0.67	0.12 U	0.34	0.14	0.27	0.14 U	0.13	0.49	0.32	0.14 U	0.14 U	0.26	0.34	0.16	0.14 U	0.17	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
4-Ethyltoluene	0.30	0.25 U	0.34	0.25 U	0.25 U	0.053	0.15 U	0.15 U	0.093	0.17 U	0.17 U	0.17 U	0.17 U	0.063	0.17 U	0.17 U	0.18	0.098 U	0.17 U	0.079 J	0.17 U	0.093 J	0.17 U	0.17 U	0.17 U	0.17 U
4-Methyl-2-pentanone	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	0.2	0.036 J	0.14 U	0.092 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Acetone	14	5.7 B	19 B	8.7 B	20	4.9	9.4	10	12	8.7	18	28	16	12	26	9.3	22	25	10	8.7	10	13	18	6.3	11	3.1 J
Benzene	1.2	0.28	2.3	0.16 U	0.19	0.40	0.29	0.20	0.68	0.42	1.0	0.31	0.70	0.95	0.43	1.0	0.9	0.2	0.6	0.7	0.41	0.82	1.4	0.45	0.35	0.37
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	0.18 U	0.18 U	0.052 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	0.34 U	0.34 U	0.34 U	0.34 U	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
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	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
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	0.13 U	0.14 U	0.14 U	0.14 U	0.078 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Carbon disulfide	0.16 U	0.38	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	0.098 J	1.1 U	0.057 J	1.1 U	0.09 J	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Carbon tetrachloride	0.43	0.42	0.48	0.53	0.48	0.49	0.43	0.43	0.36	0.52	0.41	0.55	0.47	0.43	0.45	0.22	0.42	0.45	0.36	0.34	0.36	0.43	0.55	0.38	0.39	0.44
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	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	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.089 U	0.093 U	0.093 U	0.11	0.053 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	0.24 U	0.24 U	0.094	0.073 U	0.067	0.096	0.17 U	0.21	0.17 U	0.17 U	0.10	0.17 U	0.17 U	0.17 U	0.08	0.082 J	0.065 J	0.11 J	0.18	0.31	0.17 U	0.17 U	0.17 U
Chloromethane	0.99	0.94	1.0	0.96	1.4	0.062 U	1.1	1.5	1.1	1.0	1.6	1.4	1.1	0.96	1.1	1.3	1.4	0.64	0.96	1.1	1.2	1.1	1.2	1	1.2	1.2
cis-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12	0.059 U	0.12 U	0.14 U	0.14 U	0.092	0.14 U	0.16	0.13 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
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	0.16 U	0.16 U	0.16 U	0.045 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	0.46	0.17 U	0.17 U	0.17 U	0.17 U	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.31	0.069 U	0.12 U	0.12 U	0.12 U	0.12 U	0.59	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	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.29 U	0.30 U	0.30 U	0.30 U	0.085 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	2.9	1.9	3.1	1.9	1.7	2.5	2.0	2.4	2.8	2.5	1.7	3.0	2.0	1.8	2.7	1.4	2	2.2	2.1	1.4	2.3	1.7	2.7	1.6	0.6	1.0
Ethanol	14	2.3	12	2.7	5.8	1.5	4.1	7.4	5.2	2.7	1.2	6.1	6.7	6.7	5.4	9.0	17.0	2.9	2.7	2 J	5	12	7	2.5 J	6	2.5 J
Ethyl acetate	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	1.7	0.12 U	0.13 U	0.18	0.13 U	0.17	0.13 U	0.27	0.13 U	0.68	0.14	0.42	6.5	2.3
Ethylbenzene	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	0.18	0.14 U	0.21	0.62	0.047 J	0.046 J	0.19	0.1 J	0.37	0.46	0.15 U	0.16	0.15 U
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	0.36 U	0.37 U	0.37 U	0.37 U	0.37 U	0.21 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Hexane	1.2	0.35 U	3.3	0.88	7.0 U	0.47	0.54	1.3	0.67	1.4	1.3	1.8	2.3	0.81	0.32	0.44	1.2	0.19 J	0.39 J	5.1	0.29 J	1 J	0.64 J	0.28 J	7.7	0.69 J
Isopropyl alcohol	0.25 U	0.29	2.4</																							

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

Parameter (ug/m <sup>3</sup> )	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	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
1,1,1-Trichloroethane	190000	41000	17000	7100	1800	2600	3100	1900	3500	920	540	550	460	210	400	340	430	130	81	100	190	0.55 U	0.55 U	59
1,1,1,2-Tetrachloroethane																	25 U		12 U	1.2 U	1.2 U	1.2 U		1.2 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 U	1.4 U	6.9 U	14 U	3.4 U	3.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 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 U	1.1 U	5.5 U	11 U	2.7 U	2.7 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
1,1-Dichloroethane	11000	1900	890	770	190	360	450	430	230	100	50	53	42	29	34	33	44	16	11	12	21	0.40 U	0.40 U	6.4
1,1-Dichloroethene	2500	290	130	190	61	160	160	160	98	30	18	21	15	13	15	11	14	5	4.5	4.5	6.9	0.40 U	0.40 U	1.7
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 U	1.5 U	7.4 U	30 U	7.4 U	15 U	1.5 U	1.5 U	1.5 U	1.5 U	0.74 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	5.0 U	2.5 U	5.0 U	0.98 U	0.98 U	4.9 U	9.8 U	2.5 U	4.9 U	0.2	0.63	0.49 U	0.49 U	0.49 U	0.49 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	7.6 U	3.8 U	7.6 U	1.5 U	1.5 U	7.7 U	15 U	3.8 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 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 U	1.2 U	6.0 U	12 U	3.0 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 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 U	0.81 U	4.0 U	8.1 U	2.0 U	2.0 U	0.17	0.40 U	0.40 U	0.40 U	0.40 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 U	0.92 U	4.6 U	9.2 U	2.3 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 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 U	0.98 U	4.9 U	9.8 U	2.5 U	4.9 U	0.49 U	0.19	0.49 U	0.49 U	0.49 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 U	0.44 U	2.2 U	4.4 U	1.1 U	2.2 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 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 U	1.2 U	6.0 U	12 U	3.0 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 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 U	1.2 U	6.0 U	12 U	3.0 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
1,4-Dioxane																	7.2 U							
2-Butanone	6.3	89	75	170	3700	64000	100000	230000	110000	7800	18000	28000	15000	4000	7200 B	17000	13000	2700	1800	870	840	9.5	1.7	1900
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 U	0.82 U	4.0 U	8.2 U	2.0 U	4.1 U	0.43	0.41 U	0.41 U	0.41 U	0.41 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 U	0.98 U	4.9 U	9.8 U	2.5 U	4.9 U	0.49 U	0.18	0.49 U	0.49 U	0.49 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 U	0.82 U	4.1 U	8.2 U	2.0 U	4.1 U	0.27	0.34	0.41 U	0.41 U	0.41 U
Acetone	530	32	52	29	460	5600	14000	6900	9200	1700	3200	6000	4500	2000 B	1800 B	2200 B	3400	710	400	440	670	11	8.5	610
Benzene	13.0	12.0	6.2	4.8	5.6	32 U	11.0	7.1	11.0	6.3	5.5	8.2	5.0	4.2	4.5	4.2	6.4 U	2.8	2.0	1.1	3.7	0.5	0.5	1.0
Benzyl chloride	5.2 U	5.2 U	5.2 U	5.2 U	1.3 U	52 U	2.6 U	2.6 U	2.6 U	2.6 U	5.2 U	2.6 U	5.2 U	1.0 U	1.0 U	5.2 U	10 U	2.6 U	5.2 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 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 U	1.3 U	6.7 U	13 U	3.4 U	3.4 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
Bromoforn	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 U	2.1 U	10 U	21 U	5.2 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 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 U	0.78 U	3.9 U	7.8 U	1.9 U	3.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Carbon disulfide	3.2 U	3.2 U	3.2 U	3.2 U	0.80 U	230	4	5.4	8.2	2.9	5.7	12	14	8	15	22	62 U	13	11	25	49	3.1 U	3.1 U	19
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 U	1.3 U	6.3 U	13 U	1.2	3.1 U	0.4	0.38	0.63 U	0.39	0.63 U
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 U	0.92 U	4.6 U	9.2 U	2.3 U	4.6 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
Chloroethane	260	23	16	11	4.5	26 U	11	15	7	6.5	3.5	3.6	5.5	3.1	3.4	2.6 U	7.5	1.3 U	2.6 U	2.9	5.3	0.26 U	0.26 U	1.5
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	1.2	4.9 U	9.8 U	1.1	2.4 U	0.98	1.1	0.49 U	0.49 U	0.59
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 U	0.41 U	2.1 U	4.1 U	1.0 U	2.1 U	0.21 U	0.21 U	1	1.1	0.41 U
cis-1,2-Dichloroethene	2900.00	710.00	400.00	410.00	100.00	150.00	270.00	250.00	170.00	58.00	32.00	43.00	31.00	17.00	27.00	27.00	35.00	11.00	6.90	8.60	14.00	0.40 U	0.40 U	4.30
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 U	0.91 U	4.5 U	9.1 U	2.3 U	2.3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 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 U	0.69 U	3.4 U	6.9 U	1.7 U	3.4 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 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 U	1.7 U	8.5 U	17 U	4.3 U	4.3 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U
Dichlorodifluoromethane	5.0 U	5.0 U	5.0 U	5.0 U	2.7 U	50 U	3.0	3.2	2.5 U	2.5 U	5.0 U	2.5	5.0 U	2.4	3.7	4.9 U	9.9 U	2.8	4.9 U	2.9	2.6	2.5	2.5	2.1
Ethanol	320	36	46	33	22	130	30	26	3.8 U	45	28	68	89	23	19	24 J	150 U	12	290	14	100	9.9	3.5	13
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	0.72 U	3.8	7.2 U	3.6	26	4.2	30	0.36 U	1.2	2.6
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 U	0.87 U	4.3 U	8.7 U	2.2 U	4.3 U	0.12	0.69	0.43 U	0.43 U	0.43 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 U	2.1 U	11 U	21 U	4.2	11 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	5	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 U	0.70 U	3.5 U	280 U	70 U	9.4	4.3	2	0.74	2.2	14 U
Isopropyl alcohol	190	5.1	4.6	5.0 U	4.6	290	24	57	35	2.5 U	20	54	59	11	13	25 U	200 U	49 U	13	9.8 U	11	1.1	9.8 U	9.8 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 U	1.7 U	8.7 U	17 U	4.3 U	5.4	0.87 U	1.9	0.75	0.87 U	0.87 U
Methyl methacrylate																								





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

Extraction Well - Center Small Retail Space															
Parameter (ug/m <sup>3</sup> )	EW-6-031513 3/15/2013	EW-6-060713 6/7/2013	EW-6-090613 9/6/2013	EW-6-121313 12/13/2013	EW-6-030714 3/7/2014	EW-6-061314 6/13/2014	EW-6-091214 9/12/2014	EW-6-121914 12/19/2014	EW-06-032715 3/27/2015	EW-6-061115 6/11/2015	EW-6-091615 9/16/2015	EW-6-121815 12/18/2015	EW-6-021816 2/18/2016	EW-6-080516 8/5/2016	EW-6-021017 2/10/2017
1,1,1-Trichloroethane	0.55 U	4.3	71	18	13	26	58	19	14	13	5.9	27	10	180	4
1,1,1,2-Tetrachloroethane	1.2 U	1.2 U	0.44 U	1.2 U	1.2 U	1.2 U	2.5 U	1.2 U	1.2 U	1.2 U	2.5 U		2.5 U		1.2 U
1,1,2,2-Tetrachloroethane	0.69 U	0.69 U	0.24 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	1.4 U	1.4 U	1.4 U	6.9 U	0.69 U
1,1,2-Trichloroethane	0.55 U	0.55 U	0.19 U	0.55 U	0.55 U	0.55 U	1.1 U	0.55 U	0.55 U	0.55 U	1.1 U	1.1 U	1.1 U	5.5 U	0.55 U
1,1-Dichloroethane	0.40 U	0.78	13	2.7	2.2	4.7	8.2	3.5	2.8	2.5	1.1	3.1	1.7	24	0.88
1,1-Dichloroethene	0.40 U	0.40 U	1.1	0.40 U	0.40 U	0.40 U	0.52	0.4 U	0.4 U	0.4 U	0.79 U	0.79 U	0.79 U	4 U	0.4 U
1,2,4-Trichlorobenzene	1.5 U	0.74 U	0.26 U	0.74 U	0.74 U	0.74 U	1.5 U	0.74 U	0.74 U	0.74 U	1.5 U	1.5 U	1.5 U	7.4 U	0.74 U
1,2,4-Trimethylbenzene	0.49 U	0.49 U	0.59	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.2 J	0.24 J	0.98 U	0.98 U	0.98 U	4.9 U	0.49 U
1,2-Dibromoethane (EDB)	0.77 U	0.77 U	0.27 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	1.5 U	1.5 U	1.5 U	7.7 U	0.77 U
1,2-Dichlorobenzene	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	1.2 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U
1,2-Dichloroethane	0.40 U	0.40 U	0.14 U	0.40 U	0.40 U	0.40 U	0.4 U	0.4 U	0.4 U	0.4 U	0.81 U	0.81 U	0.81 U	4 U	0.4 U
1,2-Dichloropropane	0.46 U	0.46 U	0.16 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.92 U	0.92 U	4.6 U	0.46 U
1,2-Dichlorotetrafluoroethane												1.4 U		7 U	
1,3,5-Trimethylbenzene	0.49 U	0.49 U	0.3	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.98 U	0.98 U	4.9 U	0.49 U
1,3-Butadiene	0.22 U	0.22 U	0.078 U	0.22 U	0.22 U	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.44 U	0.44 U	0.44 U	2.2 U	0.22 U
1,3-Dichlorobenzene	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	1.2 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U
1,4-Dichlorobenzene	0.60 U	0.60 U	0.21 U	0.60 U	0.60 U	0.60 U	1.2 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U
1,4-Dioxane												7.2 U		36 U	
2-Butanone	1.9	120	95	4	4	6.8	11 J	5.2 J	11 J	13	7 J	2.2 J	6.1 J	79 J	3.1 J
2-Hexanone	0.41 U	0.41 U	0.38	0.41 U	0.41 U	0.41 U	0.82 U	0.41 U	0.32 J	0.18 J	0.82 U	0.82 U	0.82 U	4.1 U	0.41 U
4-Ethyltoluene	0.49 U	0.49 U	0.17 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.12 J	0.98 U	0.98 U	0.98 U	4.9 U	0.49 U
4-Methyl-2-pentanone	0.41 U	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	0.82 U	0.41 U	0.13 J	0.41 U	0.82 U	0.82 U	0.82 U	4.1 U	0.41 U
Acetone	6.3	42	35	17	16	27	36	35	39	35	44	17 J	33	210	25
Benzene	0.4	0.32 U	1.2	0.4	1.0	0.7	1.1	0.7	0.7	0.6	0.56 J	0.64 U	0.64 U	9.6	1.3
Benzyl chloride	0.52 U	0.52 U	0.18 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	1 U	1 U	1 U	5.2 U	0.52 U
Bromodichloromethane	0.67 U	0.67 U	0.24 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	1.3 U	1.3 U	1.3 U	6.7 U	0.67 U
Bromoform	1.0 U	1.0 U	0.36 U	1.0 U	1.0 U	1.0 U	2.1 U	1 U	1 U	1 U	2.1 U	2.1 U	2.1 U	10 U	1 U
Bromomethane	0.39 U	0.39 U	0.14	0.39 U	0.39 U	0.39 U	0.78 U	0.39 U	0.39 U	0.39 U	0.78 U	0.78 U	0.78 U	3.9 U	0.39 U
Carbon disulfide	3.1 U	0.35	74	5.6	6.3	31	71	8	15	14	19	6.2 U	6 J	420	3.6
Carbon tetrachloride	0.23	0.63 U	0.48	0.63 U	0.63 U	0.63 U	0.63 U	0.35 J	0.3 J	0.36 J	0.4 J	1.3 U	1.3 U	6.3 U	0.63 U
Chlorobenzene	0.46 U	0.46 U	0.16 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.92 U	0.92 U	4.6 U	0.46 U
Chloroethane	0.26 U	0.26 U	1.7	0.26 U	0.26 U	0.67	1.1	0.26 U	0.26 U	0.26 U	0.53 U	0.53 U	0.53 U	2.6 U	0.26 U
Chloroform	0.49 U	0.49 U	1.7	0.49 U	0.49 U	0.64	1	0.63	0.37 J	0.45 J	0.39 J	0.98 U	0.98 U	4.9 U	0.49 U
Chloromethane	1.2	1.3	35	3.4	1.8	3.3	4.4	1.4	2.4	3.6	3.3	1.2	1.4	38	1.4
cis-1,2-Dichloroethene	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.71	1.10	0.21 J	0.29 J	0.25 J	0.79 U	0.79 U	0.79 U	4 U	0.4 U
cis-1,3-Dichloropropene	0.45 U	0.45 U	0.16 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.91 U	0.91 U	0.91 U	4.5 U	0.45 U
Cyclohexane	0.34 U	0.34 U	0.12 U	0.34 U	0.34 U	0.34 U	0.69 U	0.34 U	0.34 U	0.34 U	0.69 U	0.69 U	0.69 U	3.4 U	0.34 U
Dibromochloromethane	0.85 U	0.85 U	0.30 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	1.7 U	1.7 U	1.7 U	8.5 U	0.85 U
Dichlorodifluoromethane	2.5	2.3	1.3	2.6	2.3	2.0	2.3	2.6	1.8	2.7	2.7	3.1	2.5	5.5	1.4
Ethanol	3.5	13	14	4.3	7.5 U	6.9	15 U	3.5 J	5.6 J	27	28	7.2 J	15 U	75 U	24
Ethyl acetate	0.36 U	0.94	0.13 U	0.36 U	0.36 U	0.36 U	0.72 U	0.36 U	0.37	0.36 U	0.72 U	0.72 U	0.72 U	9.4	140
Ethylbenzene	0.43 U	0.43 U	0.38	0.43 U	0.43 U	0.43 U	0.87 U	0.43 U	0.34 J	0.43 U	0.87 U	0.87 U	0.87 U	4.3 U	0.43 U
Hexachlorobutadiene	1.1 U	1.1 U	0.37 U	1.1 U	1.1 U	1.1 U	2.1 U	1.1 U	1.1 U	1.1 U	2.1 U	2.1 U	2.1 U	11 U	1.1 U
Hexane	0.6	1.6	0.89	14. U	14 U	14 U	28 U	14 U	7.3 J	14 U	28 U	28 U	28 U	16 J	5.3 J
Isopropyl alcohol	9.8 U	9.8 U	3.4 U	9.8 U	9.8 U	1.1	5.9 J	9.8 U	1.8 J	5 J	4.4 J	20 U	20 U	11 J	4.5 J
m,p-Xylene	0.87 U	0.87 U	0.76	0.87 U	0.87 U	0.52	1.7 U	0.87 U	0.35 J	0.3 J	1.7 U	1.7 U	1.7 U	8.7 U	0.87 U
Methyl methacrylate	0.41 U	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	0.82 U	0.41 U	0.41 U	0.41 U	0.82 U		0.82 U	0.82 U	0.41 U
Methylene chloride	1.4	3.8	0.84	0.99	0.89	1.2	1.6 J	3.5 U	0.43 J	3.5 U	6.9 U	6.9 U	6.9 U	24 J	4.4
Methyl-t-butyl ether	0.36 U	0.36 U	0.13 U	0.36 U	0.36 U	0.36 U	0.72 U	0.36 U	0.36 U	0.36 U	0.72 U	0.72 U	0.72 U	3.6 U	0.36 U
n-Heptane	0.41 U	0.41 U	0.45	0.41 U	0.41 U	0.41 U	0.82 U	0.41 U	0.41 U	0.41 U	0.82 U	0.82 U	0.82 U	4.1 U	0.41 U
o-Xylene	0.43 U	0.43 U	0.37	0.43 U	0.43 U	0.43 U	0.87 U	0.43 U	0.16 J	0.43 U	0.87 U	0.87 U	0.87 U	4.3 U	0.43 U
Propylene (Propene)	6.9 U	6.9 U	2.4 U	6.9 U	6.9 U	1	2.1 J	0.84 J	0.91 J	6.9 U	14 U	14 U	14 U	11 J	1.3 J
Styrene	0.43 U	0.43 U	0.28	0.43 U	0.43 U	0.43 U	0.85 U	0.43 U	0.43 U	0.094 J	0.85 U	0.85 U	0.85 U	4.3 U	0.43 U
Tetrachloroethene	0.68 U	0.68 U	8.3	1.5	1.1	3.3	5.9	3.1	1.4	1.1	1.4 U	1.7	1.4 U	26	0.68 U
Tetrahydrofuran	0.27	58	35000	650	54	1200	4100	260	680	600	170	1.7	140	3600	21
Toluene	0.31	0.5	2.5	0.38 U	1	0.97	0.68 J	0.25 J	0.49	0.66	0.92	0.75 U	0.75 U	7.4	4.1
trans-1,2-Dichloroethene	0.40 U	0.40 U	0.14 U	0.40 U	0.40 U	0.40 U	0.4 U	0.4 U	0.4 U	0.4 U	0.79 U	0.79 U	0.79 U	4 U	0.4 U
trans-1,3-Dichloropropene	0.45 U	0.45 U	0.16 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.91 U	0.91 U	0.91 U	4.5 U	0.45 U
Trichloroethene	0.54 U	5.7	150	36	28	60	110	44	33	25	2.4	47	25	350	3.3
Trichlorofluoromethane	1.3	4.7	6.2	12	6.9	14	21	15	8.6	12	4.4 J	20	7.3	66	7.4
Trichlorotrifluoroethane	0.63	0.77 U	0.72	0.77 U	0.77 U	0.77 U	1.5 U	0.63 J	0.41 J	0.58 J	0.61 J	6.1 U	6.1 U	31 U	3.1 U
Vinyl acetate	0.70 U	7.0 U	2.5 U	7.0 U	7.0 U	7.0 U	2.1 J	7 U	7 U	7 U	14 U	0.79 J	14 U	8.6 J	7 U
Vinyl chloride	0.26 U	0.26 U	2.2	0.26 U	0.26 U	0.65	1.3	0.26 U	0.26 U	0.26 U	0.37 J	0.51 U	0.51 U	4.8	0.26 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 - Western Small Retail Space																							
	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	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
1,1,1-Trichloroethane	5600	8500	7800	8200	8100	1600	3600	2600	1400	340	51	250	290	160	110	5.5 U	110	66	11	47	95	0.55 U	3.1	15
1,1,2,2-Tetrachloroethane																	2.5 U		12 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,1,2,2-Tetrachloroethane	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	0.68 U	0.68 U	0.68 U	0.69 U	0.69 U	6.9 U	1.4 U	0.69 U	3.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
1,1,2-Trichloroethane	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	0.54 U	0.54 U	0.54 U	0.55 U	0.55 U	5.5 U	1.1 U	0.55 U	2.7 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
1,1-Dichloroethane	1700	1800	1600	2100	1700	590	1000	1100	970	470	85	320	340	220	150	45	150	80	6.4	42	100	0.40 U	2	7
1,1-Dichloroethane	14	15	8.5	9.4	6.6	4.0 U	4.2	4.2	4.5	2.0 U	0.40 U	0.81	0.94	0.63	0.40 U	4.0 U	0.79 U	0.13	2.0 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
1,2,4-Trichlorobenzene	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	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	7.4 U	3.0 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
1,2,4-Trimethylbenzene	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	2.5 U	0.50 U	0.50 U	0.49 U	0.49 U	4.9 U	0.98 U	0.32	4.9 U	0.32	0.97	0.92	0.3	0.49 U
1,2-Dibromoethane (EDB)	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	0.76 U	0.76 U	0.76 U	0.77 U	0.77 U	7.7 U	1.5 U	0.77 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
1,2-Dichlorobenzene	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	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	6.0 U	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
1,2-Dichloroethane	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	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	4.0 U	0.81 U	0.40 U	2.0 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
1,2-Dichloropropane	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	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	0.92 U	0.46 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 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	0.70 U	0.70 U	0.70 U											
1,3,5-Trimethylbenzene	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	1.1	0.50 U	0.50 U	0.49 U	0.49 U	4.9 U	0.98 U	0.49 U	4.9 U	0.49 U	0.5	0.49 U	0.49 U	0.49 U
1,3-Butadiene	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	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	2.2 U	0.44 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,3-Dichlorobenzene	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	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	6.0 U	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
1,4-Dichlorobenzene	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	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	6.0 U	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
1,4-Dioxane																	0.72 U							
2-Butanone	8.7	12	7.3	8.5	5.5	4.5	7.1	16	4.9	3.5	31	3.8	1.8	4.1	5.3 B	59 U	24 U	6.2	100	14	3.6	18	210	99
2-Hexanone	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	0.40 U	0.40 U	1	0.40 U	0.41 U	4.1 U	0.82 U	0.14	4.1 U	0.28	0.64	0.41 U	0.39	0.41 U
4-Ethyltoluene	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	0.50 U	0.50 U	0.50 U	0.49 U	0.49 U	4.9 U	0.98 U	0.49 U	4.9 U	0.49 U	0.21	0.49 U	0.49 U	0.49 U
4-Methyl-2-pentanone	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	0.40 U	0.40 U	0.40 U	0.41 U	0.41 U	4.1 U	0.82 U	0.13	4.1 U	1.6	0.31	0.55	0.41 U	0.41 U
Acetone	580	38	58	30	24	15	24	24	7.9	49	26	25	12	42 B	35 B	48 U	23	12	46	31	17	23	55	28
Benzene	3.2 U	3.9	4.5	1.9	2.3	3.2 U	2.6	2.8	3.0	2.2	1.5	1.7	2.1	1.4	1.6	3.2 U	2.5	1.6	3.2 U	1.5	1.2	0.9	0.5	0.6
Benzyl chloride	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	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	5.2 U	1.0 U	0.52 U	5.2 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Bromodichloromethane	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	0.66 U	0.66 U	0.66 U	0.67 U	0.67 U	6.7 U	1.3 U	0.67 U	3.4 U	3.2	0.67 U	0.67 U	0.67 U	0.67 U
Bromoform	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	1.1 U	1.1 U	1.1 U	1.0 U	1.0 U	10 U	2.1 U	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	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	0.38 U	0.38 U	0.38 U	0.39 U	0.39 U	3.9 U	0.78 U	0.39 U	3.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Carbon disulfide	5.7	3.4	2.7	3.7	3.3	3.2 U	3.2	2.7	2.1	1.6 U	1.5	0.93	0.9	0.78	0.31 U	3.1 U	6.2 U	3.1 U	31 U	0.41	3.1 U	3.1 U	0.57	7.4
Carbon tetrachloride	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	0.62 U	0.62 U	0.62 U	0.63 U	0.63 U	6.3 U	1.3 U	0.34	3.1 U	0.3	0.33	0.78	0.47	0.63 U
Chlorobenzene	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	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	0.92 U	0.46 U	4.6 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
Chloroethane	170	150	88	41	33	7.1	9.6	10	8.1	6.5	1.6	2.2	3.6	2	0.26 U	2.6 U	1.9	0.26 U	2.6 U	0.82	0.26 U	0.26 U	0.26 U	0.26 U
Chloroform	4.8 U	1	1.2 U	1.3	1.2 U	4.8 U	2.7	2.6	4.6	2.7	1.1	4.2	4.4	3.9	3	4.9 U	5	3.8	2.4 U	3.1	4.1	0.49 U	0.36	2
Chloromethane	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	0.20 U	0.20 U	0.20 U	0.21 U	0.21 U	2.1 U	0.41 U	0.21 U	2.1 U	0.21 U	0.21 U	0.21 U	0.21 U	0.41 U
cis-1,2-Dichloroethene	1100.00	1300.00	1200.00	1700.00	1200.00	520.00	1100.00	1200.00	1300.00	680.00	120.00	660.00	490.00	350.00	250.00	65.00	210.00	99.00	5.10	53.00	120.00	0.40 U	1.40	5.10
cis-1,3-Dichloropropene	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	0.44 U	0.44 U	0.44 U	0.45 U	0.45 U	4.5 U	0.91 U	0.45 U	2.3 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Cyclohexane	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	0.34 U	0.34 U	0.41	0.34 U	0.34 U	3.4 U	0.69 U	0.34 U	3.4 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dibromochloromethane	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	0.86 U	0.86 U	0.86 U	0.85 U	0.85 U	8.5 U	1.7 U	0.85 U	4.3 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U
Dichlorodifluoromethane	5.0 U	2.5	3.2	770.0	2.6	5.0 U	2.9	3.3	2.5 U	2.5 U	1.5	2.2	1.5	2.1	0.49 U	4.9 U	2.7	2.6	4.9 U	3.0	0.49 U	2.7	2.5	2.0
Ethanol	350	26	29	17	15	3.8 U	19	18	12	18	37	31	1.9 U	1.9 U	18	38 U	22	23	160	31	140	1200	27	22
Ethyl acetate	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	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	0.72 U	0.36 U	11	0.63	0.36 U	0.36 U	3	3.6
Ethylbenzene	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	0.57 U	0.44 U	0.44 U	0.43 U	0.43 U	4.3 U	0.87 U	0.26	4.3 U	0.21	0.47	0.44	0.13	0.43 U
Hexachlorobutadiene	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	2.2 U	1.1 U	1.1 U	1.1 U	1.1 U	11 U	2.1 U	1.1 U	11 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	10	10	7.6	5.5	3.1	3.6 U	4	2.1	1.8 U	1.8 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	3.6 U	0.72 U	0.36 U	14 U	4	0.55	14 U	1.5	3.5
Isopropyl alcohol	210	18	21	12	8.5	5.0 U	12	17	2.5 U	2.5 U	80	2.2	2.6	2.8	0.25 U	25 U	30	9.8 U	98 U	14	9.8 U	12	9.8 U	9.8 U
m,p-Xylene	8.6 U	1.8 U	2.2 U	2.2 U	2.2 U	8.6 U	4.3 U	4.3 U																







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

Parameter (ug/m <sup>3</sup> )	Indoor Air - Western Small Retail Space																						
	IA-6-021711	IA-6-060211	IA-6-091511	IA-6-120811	IA-6-030812	IA-6-061412	IA-6-091312	IA-6-010313	IA-6-031513	IA-6-060713	IA-6-090613	IA-6-121313	IA-6-030714	IA-6-061314	IA-6-091214	IA-6-121914	IA-6-032715	IA-6-061115	IA-6-091615	IA-6-121815	IA-6-021816	IA-6-080516	IA-6-021017
1,1,1-Trichloroethane	0.27 U	0.27 U	0.27 U	0.085	0.082 U	0.072	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.12	0.19 U	0.19 U	0.19 U	0.14 J	0.19 U	0.19 U	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	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	0.069 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	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U	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	0.12 U	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	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	0.74 U	0.45 U	0.45 U	2.8	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.15 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
1,2,4-Trimethylbenzene	0.35	0.25 U	0.25	0.16	0.15 U	0.21	0.17 U	0.17 U	0.076	0.21	0.27	0.17 U	0.55	0.21	0.29	0.17 U	0.13 J	0.13 J	0.066 J	0.17 U	0.17 U	0.31	0.17 U
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.077 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	0.18 U	0.18 U	1.7	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 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	0.056	0.061 U	0.056	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.039 J	0.14 U	0.14 U	0.054 J	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	0.14 U	0.069 U	0.061	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 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	0.25 U	0.25 U	0.25 U	0.059	0.15 U	0.091	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.071 J	0.17 U	0.038 J	0.052 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,3,5-Trimethylbenzene	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	0.59	0.078 U	0.044 U	0.078 U	0.061 J	0.078 U	0.14	0.12	0.078 U	0.078 U	0.078 U	0.078 U
1,3-Butadiene	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,3-Dichlorobenzene	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	0.21 U	0.21 U	0.12 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	0.18 U	0.18 U	0.13	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 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																	1.3 U			1.3 U
2-Butanone	1.9 B	2.9 U	5.9 U	1.3	0.63	1.4	2.8	1.4	1.4	0.91	2.8	2.2	1.6	3.1	0.66 J	0.81 J	1 J	1.2 J	1.1 J	0.73 J	0.51 J	1.8 J	0.65 J
2-Hexanone	0.22	4.1 U	0.60	0.15	0.12 U	0.20	0.27	0.14 U	0.20	0.14 U	0.48	0.14 U	0.29	0.41	0.043 J	0.14 U	0.18	0.12 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.080	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.19	0.17 U	0.073 J	0.17 U	0.045 J	0.055 J	0.059 J	0.17 U	0.17 U	0.17 U	0.17 U
4-Methyl-2-pentanone	0.20 U	0.28	0.31	0.13	0.12 U	0.92	0.25	0.14 U	0.14 U	0.14 U	0.30	0.14 U	0.22	0.24	0.09	0.14 U	0.12 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Acetone	14 B	19 B	26	10	7.4	15	18	11	10	20	29	27	12	26	9.2	8.2	9.2	11	17	9.3	5	21	7
Benzene	1.3	0.29	0.31	0.42	0.39	0.20	0.49	0.48	0.80	0.23	0.70	0.53	2.4	0.7	0.3	0.4	0.5	0.23	0.56	1.1	0.39	0.41	0.61
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.16 U	0.16 U	0.16 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.052 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	0.34 U	0.34 U	0.34 U	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Bromoforn	0.52 U	0.52 U	0.52 U	0.31 U	0.31 U	0.31 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Bromomethane	0.19 U	0.19 U	0.19 U	0.12 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.078 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Carbon disulfide	0.16 U	0.16 U	1.6 U	0.93 U	0.93 U	0.93 U	0.20	1.1 U	1.1 U	1.1 U	0.13	1.1 U	1.1 U	0.23	0.057 J	1.1 U	0.039 J	0.083 J	0.16 J	1.1 U	1.1 U	1.1 U	1.1 U
Carbon tetrachloride	0.57 [a]	0.64 [a]	0.52	0.46	0.48	0.44	0.37	0.55 [a]	0.42	0.58 [a]	0.47	0.45	0.45	0.43	0.42	0.33	0.31	0.37	0.41	0.54	0.35	0.42	0.44
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.45	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 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	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.2	0.053 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	0.10	0.073 U	0.24	0.17	0.17 U	0.075	0.17 U	0.19	0.17 U	0.17 U	0.25	0.11	0.082 J	0.069 J	0.15 J	0.18	0.17 U	0.17 U	0.17 U	0.17 U
Chloromethane	0.92	1.1	1.4	1.3	1.2	1.4	1.2	1.1	1.4	1.5	1.1	1.2	1.3	1.9	1	0.88	0.95	1.2	1.1	1.3	1	1.2	1.2
cis-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.098	0.059 U	0.052	0.042	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.1 J	0.14 U	0.14 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	0.23 U	0.23 U	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Cyclohexane	0.17 U	0.29	0.17 U	0.10 U	0.10 U	0.10 U	0.20	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.34	0.16	0.069 U	0.12 U	0.12 U	0.12 U	0.12 U	0.49	0.12 U	0.12 U	0.12 U
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.3	0.085 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	3.1	1.8	1.9	2.9	2.0	2.9	2.8	2.7	1.7	3.4	1.9	2.5	1.5	2.1	2.1	1.9	1.4	2.6	1.7	2.3	1.5	0.55	0.99
Ethanol	10	7.7	14	24	41	67	23	8.4	2.9	20	21	6.1	20	38	160	9.4	17	29	31	8.5	3.6	15	6.5
Ethyl acetate	0.18 U	0.18 U	0.18 U	0.48	0.69	0.31	1.0	0.42	0.34	0.64	0.42	0.13 U	0.17	0.34	1.7	0.13 U	0.3	0.13 U	0.51	1.6	0.13 U	40	30
Ethylbenzene	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	0.2	0.18	0.088 J	0.18	0.13 J	0.22	0.26	0.15 U	0.26	0.15 U
Hexachlorobutadiene	0.53 U	0.53 U	0.53 U	0.32 U	0.32 U	0.32 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.21 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	1.5	0.41	7.0 U	0.41	0.48	0.73	1.0	0.64	0.76	0.83	0.85	0.38	1.2	0.69	0.35 J	0.29 J	4.9 J	0.32 J	0.72 J	0.9 J	4.9 U	2.1 J	1.8 J
Isopropyl alcohol	2.8	1.2 U	11	2.9 U	2.9 U	2.9 U	6.7	3.4 U	3.4 U	3.4 U	3.4 U	0.85	1.7	8.1	3.4	0.52 J	3.1 J	4.7	7.7	3.4 U	3.4 U	3.3 J	1.6 J
m,p-Xylene	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	0.6	0.4	0.3	0.4	0.35	0.53	0.87	0.2 J	0.77	0.22 J
Methyl methacrylate	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	0.082 U	0.14 U	0.14 U			0.14 U			0.14 U
Methylene chloride	3.0	1.0	1.7 U	1.5	1.8	1.5	2.2	1.6	1.1	1.3	1.1	0.71	0.64	0.83	0.64 J	0.28 J	0.49 J	0.41 J	0.49 J	1.2 J	0.37 J	2.6	2.1
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.14	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.072 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.35	0.20 U	0.20	0.11	0.15	0.25	0.31	0.095	0.10	0.14	0.47	0.14 U	0.71	1.1	0.16	0.14 U	0.15	0.14 J	0.24	0.36	0.14 U	0.49	0.14 U
o-Xylene	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	0.14	0.085 J	0.18	0.13 J	0.17	0.29	0.15 U	0.29	0.15 U
Propylene (Propene)	0.86 U	0.86 U	3.4 U	2.1 U	2.1 U	2.1 U	1.4	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	0.81	1.4 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> )	IA-7-011609 1/16/2009	IA-7-020309 2/3/2009	IA-7-021109 2/11/2009	IA-7-021809 2/18/2009	IA-7-022609 2/26/2009	IA-7-030609 3/6/2009	IA-7-041409 4/14/2009	IA-7-051509 5/15/2009	IA-7-061109 6/11/2009	IA-7-091709 9/17/2009	IA-7-122909 12/29/2009	IA-7-032610 3/26/2010	IA-7-070110 7/1/2010	IA-7-091610 9/16/2010	IA-7-120710 12/7/2010	IA-7-021711 2/17/2011	IA-7-060211 6/2/2011	IA-7-091511 9/15/2011	IA-7-120811 12/8/2011	
1,1,1-Trichloroethane	44	2.4		0.40	1.3	0.27 U	0.27 U	0.87	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.069	
1,1,1,2-Tetrachloroethane																			0.62 U	
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	
1,1-Dichloroethane	1.3	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	
1,1-Dichloroethene	0.52	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	
1,2,4-Trichlorobenzene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.45 U	
1,2,4-Trimethylbenzene	0.25 U	0.34	0.34	0.99	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.39	0.25 U	0.35	0.36	0.36	0.25 U	0.25 U	0.56	0.41	0.32	
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.23 U	
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	
1,2-Dichloroethane	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.070	
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.30	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.10	
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.10	
1,3-Butadiene	0.11 U	0.11 U	0.14	0.97	0.11 U	0.11 U	0.080 U	0.11 U	0.11 U	0.23 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.066 U	
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	
1,4-Dioxane																			0.18 U	
2-Butanone	70	6.5	3.9	5.2	2.2	1.3	1.3	2.3	7.3	2.2	0.49	2.1	4.3	1.8	0.42	1.7 B	4.7	5.9 U	2.1	
2-Hexanone	0.20 U	0.29	0.20 U	0.91	0.20 U	0.20 U	0.14 U	0.53	1.5	0.53	0.20 U	0.20 U	0.82	0.55	0.20 U	0.20 U	1.4 J	0.73	0.12 U	
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.27	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.074	
4-Methyl-2-pentanone	0.20 U	0.20 U	0.20 U	0.42	0.20 U	0.20 U	0.14 U	0.22	0.79	0.24	0.20 U	0.20 U	0.43	0.61	0.20 U	0.20 U	0.53	0.36	0.15	
Acetone	29	12	13	32	7.8	6.6	6.5	10	31	22	31	12	41	27	12 B	15 B	48 B	38	17	
Benzene	0.95	0.75	1.1	3.2	0.67	0.73	0.42	0.35	0.52	0.43	0.52	0.53	0.27	0.56	0.45	1.1	0.41	0.34	0.44	
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.16 U	
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.34 U	0.34 U	0.34 U	0.34 U	0.20 U	
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U	0.52 U	0.52 U	0.31 U	
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.12 U	
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.26	0.16 U	0.16 U	0.26	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.27	1.6 U	0.93 U	
Carbon tetrachloride	0.32	0.44	0.52	0.56 [a]	0.48	0.6 [a]	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	
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.079 U	
Chloroform	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.38	0.24 U	0.24 U	0.24 U	0.34	0.12	
Chloromethane	1.7	0.98	1.4	1.5	1.0	1.2	1.1	0.93	1.8	1.2	2.1	1.2	1.3	1.4	0.99	1.0	1.6	1.6	1.3	
cis-1,2-Dichloroethene	0.29	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14	0.20 U	0.20 U	0.20 U	0.27	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.064	
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	
Cyclohexane	0.17 U	0.17 U	0.32	0.70	0.17 U	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.10 U	
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.26 U	
Dichlorodifluoromethane	2.1	2.2	2.6	2.7	2.6	2.6	2.0	2.4	2.7	2.3	2.1	1.8	2.7	1.7	2.0	3.1	2.5	1.8	2.8	
Ethanol	7.3	16	11	26	7.9	8.4	7.1	11	14	11	10	13	39	240	13	14	28	76	60	
Ethyl acetate	0.37 U	0.37 U	0.18 U	0.21	0.37 U	0.18 U	0.26 U	0.18 U	0.24	2.6	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.70	0.21	1.8		
Ethylbenzene	0.23	0.29	0.36	0.95	0.24	0.22 U	0.16 U	0.22 U	0.25	0.32	0.68	0.32	0.45	0.45	0.22 U	0.22 U	0.68	0.45	0.24	
Hexachlorobutadiene	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.75 U	1.1 U	1.1 U	0.53 U	1.1 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.32 U	
Hexane	0.90	0.87	0.91	2.0	1.1	0.60	0.69	0.33	1.5	0.88	0.25	0.33	0.70	0.64	0.50	1.3	0.58	7.0 U	3.9	
Isopropyl alcohol	3.7	6.2	3.6	8.3	0.25 U	2.7	0.18 U	7.0	14	4.0	1.9	18	5.8	28	2.8	11	1.2 U	77	2.9 U	
m,p-Xylene	0.61	0.82	0.94	2.8	0.73	0.43 U	0.31 U	0.43 U	0.72	0.86	2.8	0.82	1.2	1.2	0.43 U	0.43 U	1.5	1.1	0.72	
Methyl methacrylate															0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	
Methylene chloride	1.9	5.7	0.92	1.5	6.3	1.4	4.2	2.3	5.7	0.70 U	2.9	0.70 U	1.3	0.60	1.3	2.5	1.1	1.7 U	13	
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.11 U	
n-Heptane	0.20	0.20 U	0.37	1.2	0.20 U	0.20 U	0.17	0.20 U	0.34	0.37	0.20 U	0.29	0.50	0.68	0.33	0.47	2.0	1.1	0.46	
o-Xylene	0.24	0.31	0.39	0.97	0.24	0.22 U	0.16 U	0.22 U	0.25	0.31	0.6	0.28	0.43	0.43	0.22 U	0.22 U	0.69	0.41	0.30	
Propylene (Propene)	0.18 U	0.18 U	0.090 U	0.090 U	0.18 U	0.090 U	0.13 U	0.090 U	0.090 U	0.35 U	0.35 U	0.35 U	0.87 U	0.35 U	0.86 U	0.86 U	0.86 U	3.4 U	2.1 U	
Styrene	0.21 U	0.21 U	0.21 U	0.26	0.21 U	0.21 U	0.15 U	0.21 U	0.29	0.39	0.21 U	0.26	0.70	0.39	0.21 U	0.21 U	0.97	0.63	0.18	
Tetrachloroethene	1.6	0.34 U	0.65	0.63	0.34 U	0.34 U	0.48	0.34 U	0.34 U	0.34 U	1	0.34 U	0.34 U	0.36	0.34 U	1.7	0.34 U	0.62	0.66	
Tetrahydrofuran	45	2.1	0.74	0.43	0.15 U	0.15 U	0.27	0.15 U	0.15 U	0.51	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.24	0.18	0.088 U	
Toluene	1.5	1.6	2.7	7.5	1.5	0.76	0.48	0.61	2.3	4.0	0.6	7.2	8.4	3.5	0.48	1.6	6.6	3.7	1.2	
trans-1,2-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 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	
trans-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	
Trichloroethene	4.6	1.1	0.28	0.58	0.27 U	0.27 U	0.30	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	
Trichlorofluoromethane	4.7	1.4	1.7	3.1	1.6	1.7	1.3	1.1	1.9	1.3	1.7	1.3	1.3	2.9	1.2	1.6	1.3	1.6	1.3	
Trichlorotrifluoroethane	0.62	0.57	0.47	0.44	0.66	0.45	0.54	0.69	0.57	0.51	0.54	0.64	0.54	0.43	0.55	0.67	0.76	0.54	0.67	
Vinyl acetate	0.71 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-7-030812 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 12/13/2013	IA-7-030714 3/7/2014	IA-7-061314 6/13/2014	IA-7-091214 9/12/2014	IA-7-121914 12/19/2014	IA-07-032715 3/27/2015	IA-7-061115 6/11/2015	IA-7-091615 9/16/2015	IA-7-121815 12/18/2015	IA-7-021816 2/18/2016	IA-7-080516 8/5/2016	IA-7-021017 2/10/2017	
1,1,1-Trichloroethane	0.082 U	0.088	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.055 U	0.19 U	0.19 U	0.19 U	0.054 J	0.19 U	0.19 U	0.19 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	0.42 U	0.44 U	0.44 U	0.25 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-Tetrachloroethane	0.10 U	0.21 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.069 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2-Trichloroethane	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-Dichloroethane	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,1-Dichloroethene	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	0.45 U	0.17	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.25 U	0.26 U	0.26 U	0.15 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
1,2,4-Trimethylbenzene	0.36	0.21	0.46	0.17 U	0.10	0.58	0.40	0.70	0.25	0.38	0.31	0.37	0.052 J	0.33	0.21	0.15 J	0.28	0.17 U	0.23	0.17 U	0.17 U
1,2-Dibromoethane (EDB)	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.27 U	0.27 U	0.077 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,2-Dichlorobenzene	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	0.061 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	0.14 U	0.15	0.14 U	0.065 J	0.19	0.18	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2-Dichloropropane	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	0.16 U	0.085	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,2-Dichlorotetrafluoroethane																	0.25 U		0.25 U		
1,3,5-Trimethylbenzene	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	0.17 U	0.057 J	0.17 U	0.083 J	0.083 J	0.048 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,3-Butadiene	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.075 U	0.078 U	0.48	0.078 U	0.044 U	0.078 U	0.078 U	0.078 U	0.078 U	0.14	0.078 U	0.078 U	0.078 U	0.078 U
1,3-Dichlorobenzene	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.06 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-Dichlorobenzene	0.18 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	0.21 U	0.12 U	0.21 U	0.16 J	0.15 J	0.055 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-Dioxane																	1.3 U		1.3 U		
2-Butanone	0.97	1.1	2.8	1.9	1.9	1.7	1.6	3.8	0.69	1.5	3	2.2 J	0.75 J	1.4 J	1.7 J	1.7 J	2 J	0.59 J	1.9 J	0.81 J	0.81 J
2-Hexanone	0.081	0.23	0.41	0.20	0.35	0.14 U	0.15	1.1	0.14 U	0.37	0.35	0.41	0.14 U	0.43	0.17	0.14 U	0.28	0.14 U	0.36	0.14 U	0.14 U
4-Ethyltoluene	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	0.17 U	0.065 J	0.17 U	0.09 J	0.069 J	0.055 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
4-Methyl-2-pentanone	0.13	1.4	0.29	0.18	0.14 U	0.21	0.20	0.44	0.14 U	0.14 U	0.34	0.18	0.14 U	0.18	0.15	0.14 U	0.18	0.14 U	0.14 U	0.14 U	0.14 U
Acetone	13	18	24	14	15	49	46	46	20	15	30	41	12	16	24	39	15	9.1	33	7.5	7.5
Benzene	0.36	0.20	0.49	0.58	0.87	0.32	0.43	1.8	0.54	1.9	0.57	0.36	0.4	0.57	0.27	0.91	0.97	0.43	0.27	0.47	0.47
Benzyl chloride	0.16 U	0.16 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.052 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Bromoform	0.31 U	0.31 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.35 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Bromomethane	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.056 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Carbon disulfide	0.93 U	0.93 U	0.090	1.1 U	1.1 U	0.16	0.60	0.14	1.1 U	1.1 U	0.15	1.1 U	1.1 U	0.042 J	0.1 J	0.15 J	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Carbon tetrachloride	0.46	0.43	0.38	0.51	0.39	0.55 [a]	0.46	0.45	0.49	0.42	0.45	0.46	0.33	0.34	0.36	0.39	0.51	0.37	0.45	0.42	0.42
Chlorobenzene	0.14 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloroethane	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.089 U	0.093 U	0.093 U	0.093 U	0.053 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
Chloroform	0.073 U	0.13	0.20	0.17 U	0.082	0.21	0.47	0.17	0.24	0.17 U	0.18	0.12	0.096 J	0.079 J	0.19	0.23	0.17 U	0.17 U	0.2	0.15 J	0.15 J
Chloromethane	1.6	1.2	1.3	1.1	1.4	1.5	1.3	1.2	1.2	1.4	1.4	0.76	0.86	1	1.3	1.3	1.4	1	1.4	1.2	1.2
cis-1,2-Dichloroethene	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.086 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U	0.16 U	0.045 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
Cyclohexane	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	0.12 U	0.069 U	0.12 U	0.12 U	0.12 U	0.12 U	0.46	0.12 U	0.12 U	0.12 U	0.12 U
Dibromochloromethane	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.29 U	0.30 U	0.30 U	0.30 U	0.085 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	2.1	2.7	2.9	2.6	1.7	3.1	2.1	1.5	2.7	1.5	2.1	2.2	1.8	1.3	1.9	1.8	2.3	1.6	0.57	0.88	0.88
Ethanol	70	110	60	52	11	45	21	40	25	50	79	96	39	110	110	440 E	33	13	23	15	15
Ethyl acetate	0.94	0.39	0.57	0.77	0.13 U	5.5	1.3	1.9	0.34	0.56	0.41	0.37	0.13 U	0.64	0.39	1.1	0.31	0.32	1.4	3.5	3.5
Ethylbenzene	0.12	0.24	0.45	0.19	0.14	0.36	0.48	0.62	0.15 U	0.43	0.35	0.2	0.085 J	0.58	0.19	0.3	0.25	0.15 U	0.31	0.15 U	0.15 U
Hexachlorobutadiene	0.32 U	0.32 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.36 U	0.37 U	0.37 U	0.37 U	0.21 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
Hexane	0.80	0.67	0.97	0.86	0.87	2.9	1.3	0.97	0.39	1.1	0.9	0.37 J	0.35 J	4.9 J	0.36 J	0.67 J	0.52 J	0.28 J	1.9 J	0.36 J	0.36 J
Isopropyl alcohol	2.9 U	48	22	3.3	3.4 U	3.4 U	3.4 U	6.0	40	1.9	11.0	2 U	1.4 J	30.0	11	30	3.4 U	4.8	3.4 U	8.5	8.5
m,p-Xylene	0.30	0.54	1.4	0.71	0.40	1.1	1.2	1.8	0.25	1.2	1.1	0.54	0.29 J	0.67	0.48	0.64	0.84	0.27 J	0.93	0.16 J	0.16 J
Methyl methacrylate	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.082 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Methylene chloride	2.8	1.4	2.3	2.6	1.4	6.1	1.3	1.1	0.76	0.68	0.74	0.63 J	0.39 J	0.6 J	0.58 J	0.54 J	1.2 J	0.4 J	1.1 J	0.49 J	0.49 J
Methyl-t-butyl ether	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	0.13 U	0.072 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.47	0.65	0.99	0.14 U	0.16	0.42	1.1	1.6	0.45	1.3	4.6	1.9	4.3	0.19	0.14 J	0.25	0.28	0.14 U	0.29	0.14 U	0.14 U
o-Xylene	0.17	0.20	0.56	0.24	0.15	0.40	0.44	0.85	0.15 U	0.44	0.39	0.19	0.088 J	0.26	0.19	0.23	0.3	0.15 U	0.34	0.15 U	0.15 U
Propylene (Propene)	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	1.5	1.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	0.78 J	0.78 J
Styrene	0.097	0.26	0.89	0.15 U	0.081	0.29	2.6	0.37	0.15 U	0.17	0.29	0.24	0.15 U	0.096 J	0.29	0.27	0.18	0.15 U	0.41	0.15 U	0.15 U
Tetrachloroethene	0.14	0.15	1.7	0.24 U	0.15	0.24 U	5.5	0.22	0.24 U	0.40	0.34	0.13	0.13 J	0.23 J	0.25	0.23 J	0.36	0.24 U	0.38	0.24 U	0.24 U
Tetrahydrofuran	0.088 U	0.088	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.65	0.15	0.10 U	0.10 U	0.13	0.1 U	0.11	0.15	0.11	0.1 U	0.1 U	0.1 U	0	



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

Date	Pressure Differential (inches of water)		
	VMW-5	VMW-6	VMW-7
2/3/2009	-0.25	-0.17	0.00
2/18/2009	-0.212	-0.155	-0.011
2/26/2009	-0.230	-0.120	-0.025
3/6/2009	-0.200	-0.086	-0.012
4/14/2009	-0.108	-0.054	-0.014
5/15/2009	-0.081	-0.073	-0.016
6/11/2009	-0.090	-0.076	-0.098
9/17/2009	-0.110	-0.102	+0.074
12/29/2009**	-0.011	-0.010	-0.061
3/26/2010	-0.245	-0.142	-0.018
7/1/2010	-0.542	-0.114	-0.176
9/16/2010	-0.247	-0.874	-0.013
12/7/2010	-0.044	-0.028	+0.022
2/17/2011	-0.212	-0.599	-0.337
6/2/2011	-0.277	-0.236	-0.138**
9/15/2011	-0.234	-0.212	-0.010
12/8/2011	-0.609	-0.115	-0.009
3/8/2012	-0.003	-0.246	-0.114
6/14/2012	-0.237	-0.103	-0.132
9/13/2012	-0.243	-0.119	-0.210
1/3/2013	-0.150	-0.060	-0.052
3/15/2013	-0.228	-0.354	-0.002
6/7/2013	-0.226	-0.123	-0.011
9/6/2013	-0.232	-0.829	-0.007
10/3/2013	NM	NM	-0.006
12/13/2013	-0.215	-0.002	-0.002
3/7/2014	-0.177	-0.002	-0.002
6/13/2014	-0.185	-0.010	-0.011
9/12/2014	-0.258	-0.256	-0.014
12/19/2014	-0.222	-0.100	-0.001
3/27/2015	-0.301	-0.097	-0.036
6/11/2015	-0.23***	-0.1***	NM***
9/16/2015	-0.246	-0.050	-0.013
12/18/2015	-0.378	-0.177	-0.005
2/18/2016	-0.228	-0.987	-0.009
8/5/2016	-0.243	-0.095	-0.088
2/13/2017	-0.0195	-0.080	-0.107

\*\* ASD system offline.

NM = Not Measured

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

Prepared by/Date: MAM 02/16/17

Checked by/Date: DEH 02/20/17

**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	AA-1- 021910 2/19/2010	AA-1- 032610 3/26/2010	AA-1- 043010 4/30/2010
1,1,1,2-Tetrachloroethane	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	0.27 U	0.27 U	
1,1,1,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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	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	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	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	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	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	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	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	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	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	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	0.11 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	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	
1,4-Dichlorobenzene	0.30 U	0.30 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	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	0.88	1.5	1.4
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	0.20 U	0.29	0.29
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.60	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	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	0.34	0.20 U	0.20 U	0.20 U	0.20 U
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	3.7	9.5	12
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	0.41	0.69	0.35
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	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	0.33 U	0.33 U	0.33 U
Bromofrom	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	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	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	0.44	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	0.43	0.49	0.47
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 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
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	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	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	1.1	1.4	0.78
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	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	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	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	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	2.9	1.8	2.1
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	1.2	4.9	4.0
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	1.1	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	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	1.1 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	0.24	0.23	1.1
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	0.80	0.73	0.69
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	0.43 U	0.49	0.43 U
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	0.70 U	0.70 U	0.70 U
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 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
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	0.26	0.20 U	0.20 U	0.20 U	0.20 U	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	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	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	0.21 U	0.21 U	0.21 U
Tetrachloroethane	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													

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-1-052810 5/28/2010	AA-1-070110 7/1/2010	AA-1-091610 9/16/2010	AA-1-120710 12/7/2010	AA-1-021711 2/17/2011	AA-1-060211 6/6/2011	AA-1-091511 9/15/2011	AA-1-120811 12/8/2011	AA-1-030812 3/8/2012	AA-1-061412 6/14/2012	AA-1-091312 9/13/2012	AA-1-010313 1/3/2013	AA-1-031513 3/15/2013	AA-1-060713 6/7/2013	AA-1-090613 9/6/2013	AA-1-100313 10/3/2013	AA-1-121313 12/13/13	AA-1-030714 03/07/14	AA-1-061314 6/13/2014	AA-1-091214 9/12/2014	AA-1-121914 12/19/2014	
1,1,1-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.29	0.082 U	0.10	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.055 U	0.19 U	
1,1,1,2-Tetrachloroethane									0.62 U	0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.42 U	0.44 U	0.44 U	0.44 U	0.25 U	0.44 U
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.10 U	0.21 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U	0.069 U	0.24 U	
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11 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	0.063	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	
1,1-Dichloroethene	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.16	0.04 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	0.74 U	0.62	0.45 U	0.12	0.52 U	0.52 U	0.26 U	0.26 U	0.25 U	0.26 U	0.26 U	0.26 U	0.15 U	0.26 U	
1,2,4-Trimethylbenzene	0.25 U	0.25 U	0.94	0.25 U	1.1	0.25 U	0.25 U	0.16	0.15 U	0.15 U	0.26	0.17 U	0.069	0.21	0.17 U	0.19	0.17 U	0.17 U	0.51	0.069 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	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.27 U	0.27 U	0.077 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	0.34	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.12 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	0.066	0.061 U	0.046	0.14 U	0.14 U	0.057	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.037 U	0.14 U	
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	
1,2-Dichlorotetrafluoroethane	0.35 U	0.35 U	0.35 U																			
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.28	0.25 U	0.33	0.25 U	0.25 U	0.068	0.15 U	0.15 U	0.16	0.17 U	0.17 U	0.17 U	0.17 U	0.047	0.17 U	0.17 U	0.18	0.098 U	0.17 U	
1,3-Butadiene	0.11 U	0.11 U	0.29	0.11 U	0.11 U	0.11 U	0.11 U	0.066 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.075 U	0.078 U	0.078 U	0.078 U	0.044 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	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.20 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	
1,4-Dioxane								0.18 U														
2-Butanone	2.4	2.3	2.7	0.37	1.8 B	2.9 U	5.9 U	0.35	1.4	1.1	2.0	0.89	1.9	3.9	3.7	0.94	0.82	1.4	2.2	1.1 J	1.2 J	
2-Hexanone	0.49	0.49	0.41	0.20 U	0.20 U	0.20 U	0.20 U	0.67	0.12 U	0.34	0.27	0.14 U	0.13	0.49	0.32	0.14 U	0.14 U	0.26	0.34	0.16	0.14 U	
4-Ethyltoluene	0.25 U	0.25 U	0.30	0.25 U	0.34	0.25 U	0.25 U	0.053	0.15 U	0.15 U	0.093	0.17 U	0.17 U	0.17 U	0.17 U	0.063	0.17 U	0.17 U	0.18	0.098 U	0.17 U	
4-Methyl-2-pentanone	0.20 U	0.20 U	2.8	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.12 U	0.23	0.10	0.14 U	0.083	0.24	0.14 U	0.14 U	0.14 U	0.14 U	0.2	0.036 J	0.14 U	
Acetone	20	13	14	5.7 B	19 B	8.7 B	20	4.9	9.4	10	12	8.7	18	28	16	12	26	9.3	22	25	10	
Benzene	0.19	0.16 U	1.2	0.28	2.3	0.16 U	0.19	0.40	0.29	0.20	0.68	0.42	1.0	0.31	0.70	0.95	0.43	1.0	0.9	0.2	0.6	
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.16 U	0.16 U	0.16 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.052 U	0.18 U	
Bromodichloromethane	0.33 U	0.33 U	0.33 U	0.34 U	0.34 U	0.34 U	0.34 U	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	
Bromomethane	0.51 U	0.51 U	0.51 U	0.52 U	0.52 U	0.52 U	0.52 U	0.31 U	0.31 U	0.31 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.35 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.38	0.16 U	0.16 U	1.6 U	0.058	0.93 U	0.11	1.1 U	1.1 U	0.052	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.098 U	1.1 U	
Carbon tetrachloride	0.52	0.51	0.43	0.42	0.48	0.53	0.48	0.49	0.43	0.43	0.36	0.52	0.41	0.55	0.47	0.43	0.45	0.22	0.42	0.45	0.36	
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.079 U	0.079 U	0.079 U	0.093 U	0.093 U	0.093 U	0.093 U	0.089 U	0.093 U	0.093 U	0.093 U	0.11	0.053 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	0.094	0.073 U	0.067	0.096	0.17 U	0.21	0.17 U	0.17 U	0.10	0.17 U	0.17 U	0.17 U	0.08	0.082 U	
Chloromethane	1.1	0.96	0.99	0.94	1.0	0.96	1.4	0.62 U	1.1	1.5	1.1	1.0	1.6	1.4	1.1	0.96	1.1	1.3	1.4	0.64	0.96	
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	0.12	0.059 U	0.12 U	0.14 U	0.14 U	0.092	0.14 U	0.16	0.13 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	
cis-1,3-Dichloropropene	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.15 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	
Cyclohexane	0.17 U	0.17 U	0.46	0.17 U	0.17 U	0.17 U	0.17 U	0.10 U	0.10 U	0.10 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.31	0.069 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	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.29 U	0.30 U	0.30 U	0.30 U	0.085 U	0.30 U	
Dichlorodifluoromethane	2.5	2.4	2.9	1.9	3.1	1.9	1.7	2.5	2.0	2.4	2.8	2.5	1.7	3.0	2.0	1.8	2.7	1.4	2	2.2	2.1	
Ethanol	3.3	4.0	14	2.3	12	2.7	5.8	1.5	4.1	7.4	5.2	2.7	1.2	6.1	6.7	6.7	5.4	9.0	17.0	2.9	2.7	
Ethyl acetate	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.46	0.56	0.43	0.67	0.35	1.1	0.56	17	0.12 U	0.13 U	0.18	0.13 U	0.17	0.13 U	
Ethylbenzene	0.22 U	0.82	1.4	0.22 U	1.1	0.22 U	0.22 U	0.31	0.13 U	0.065	0.19	0.15 U	0.12	0.16	0.15 U	0.21	0.15 U	0.16	0.44	0.047 U	0.046 U	
Hexachlorobutadiene	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.32 U	0.32 U	0.32 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.36 U	0.37 U	0.37 U	0.37 U	0.21 U	0.37 U	
Hexane	0.51	0.37	1.2	0.35 U	3.3	0.88	7.0 U	0.47	0.54	1.3	0.67	1.4	1.3	1.8	2.3	0.81	0.32	0.44	1.2	0.19 U	0.39 U	
Isopropyl alcohol	1.6	0.79	0.25 U	0.29	2.4	1.2 U	4.9 U	0.60	0.88	2.9 U	0.58	0.47	0.52	1.3	6.2	3.3 U	0.77	0.92	3.1	0.61 J	3.4 U	
m,p-Xylene	0.43 U	2.2	3.7	0.43 U	3.3	0.43 U	0.43 U	0.41	0.17	0.18	0.64	0.30 U	0.34	0.58	0.21	0.53	0.30 U	0.42	1.4	0.14 J	0.11 U	
Methyl methacrylate				0.20 U	0.48	0.20 U	0.20 U	0.12 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.082 U	0.14 U	
Methylene chloride	0.35 U	1.1	1.1	0.66	3.0	2.3	1.7 U	1.5	1.6	3.0	2.1	4.4	2.9	2.3	9.1	1.0	0.76	0.55	1.20	0.54 J	0.47 U	
Methyl-t-butyl ether	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.11 U	0.11 U	0.11 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.12 U	0.13 U	0.13 U	0.13 U	0.072 U	0.13 U	
n-Heptane	0.20 U	0.20 U	0.91	0.20 U	0.95	0.20 U	0.20 U	0.12	0.089 U	0.11	0.18	0.14 U	0.12	0.21	0.15	0.18	0.14 U	0.21	0.62	0.054 U	0.14 U	
o-Xylene	0.22 U	0.46	1.2	0.22 U	1.1	0.22 U	0.22 U	0.22	0.086	0.078	0.31	0.15 U	0.12	0.20	0.15 U	0.24	0.15 U	0.17	0.5	0.054 J	0.046 U	
Propylene (Propene)	0.87 U	0.87 U	1.9	0.86 U	0.86 U	0.86 U	3.4 U	2.1 U	2.1 U	0.77	1.3	2.4 U	2.4 U	2.4 U	2.4 U	2.3 U	2.4 U	2.4 U	1.3	1.4 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	0.37	0.13 U	0.10	0.13	0.15 U	0.039	0.15 U	0.15 U	0.052	0.15 U	0.15 U	0.16	0.085 U	0.15 U	
Tetrachloroethene	0.34 U	0.34 U	0.49	0.34 U	5.3	0.34 U	0.34 U	0.73	0.10 U	0.20 U	0.87	0.24 U	0.90	0.24 U	0.24 U	0.30	0.24 U	0.24 U	0.40	0.07	0.09 U	
Tetrahydrofuran	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.057	0.088 U	0.088 U	0.43	0.10 U	0.10 U	0.10 U	1.4	0.10 U	0.10 U	0.23	0.10 U	0.059 U	0.1 U	
Toluene	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							

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							Extraction Well - Large Retail Space																															
	AA-01-032715	AA-1-061115	AA-1-091615	AA-1-121815	AA-1-021816	AA-1-080516	AA-1-021017	EW-Combined-020309	EW-COMBINE D-021109	EW-COMBINE D-021809	EW-COMBINE D-022609	EW-COMBINE D-041409	EW-COMBINE D-042409	EW-COMBINE D-091709	EW-COMBINE D-092409	EW-COMBINE D-100109	EW-COMBINE D-100809	EW-COMBINE D-012810	EW-COMBINE D-020510	EW-COMBINE D-021210	EW-COMBINE D-021910	EW-COMBINE D-043010	EW-COMBINE D-052810	EW-COMBINE D-070110	EW-COMBINE D-091610	EW-COMBINE D-120710	EW-COMBINE D-021711	EW-COMBINE D-091511	EW-COMBINE D-120811	EW-COMBINE D-030812	EW-COMBINE D-061412	EW-COMBINE D-091312	EW-COMBINE d-010313	EW-COMBINE D-031513	EW-COMBINE D-060713	EW-COMBINE D-090613	EW-COMBINE D-121313	EW-COMBINE D-030714	
1,1,1-Trichloroethane	0.19 U	0.19 U	0.073 J	0.19 U	0.19 U	0.19 U	0.19 U	190000	91000	73000	32000	3500	19000	11000	8100	7900	6800	1500	2500	150	1200	1400	1700	2000	4700	280	2500	2400	340	1100	1800	2800	1800	610	850	1900	1500	780	
1,1,1,2-Tetrachloroethane	0.44 U	0.44 U	0.44 U		0.44 U		0.44 U																																
1,1,2,2-Tetrachloroethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	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	0.68 U	0.68 U	0.69 U	0.69 U	0.69 U	1.4 U	0.69 U	3.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	
1,1,2-Trichloroethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	5.4 U	5.4 U	11 U	11 U	5.4 U	0.65 U	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	0.54 U	0.55 U	0.55 U	0.55 U	1.1 U	0.55 U	2.7 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	19000	7800	5300	4800	390	2200	1600	1900	1900	1700	280	370	31	310	200	270	290	330	36	170	200	70	78	130	200	99	59	68	150	62	53	
1,1-Dichloroethene	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	7800	1800	1000	630	73	420	310	250	260	280	52	66	7.3	62	30	40	52	81	7.3	58	44	21	34	42	15	28	24	38	56	24	27	
1,2,4-Trichlorobenzene	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	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	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	3.0 U	1.5 U	3800	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
1,2,4-Trimethylbenzene	0.2	0.059 J	0.29	0.31	0.17 U	0.17 U	0.17 U	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	0.50 U	0.50 U	0.49 U	0.49 U	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		
1,2-Dibromoethane (EDB)	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	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	0.76 U	0.76 U	0.77 U	0.77 U	1.5 U	0.77 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	
1,2-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	6.0 U	6.0 U	12 U	12 U	6.0 U	0.30 U	3.0 U	6.0 U	12 U	12 U	0.60 U	6.0 U	0.30 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	1.2 U	0.60 U	7.3	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	
1,2-Dichloroethane	0.14 U	0.054 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	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	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.81 U	0.40 U	2.0 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	
1,2-Dichloropropane	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	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	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane				0.25 U		0.25 U		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	0.70 U	0.70 U															
1,3,5-Trimethylbenzene	0.062 J	0.17 U	0.076 J	0.17 U	0.17 U	0.17 U	0.17 U	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	0.50 U	0.50 U	0.49 U	0.49 U	0.98 U	0.29	4.9 U	0.15	0.49 U	0.49 U	0.49 U	3.9	0.49 U	0.17 U	0.49 U	0.49 U	
1,3-Butadiene	0.078 U	0.078 U	0.18	0.23	0.078 U	0.078 U	0.078 U	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	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	
1,3-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	6.0 U	6.0 U	12 U	12 U	6.0 U	0.30 U	3.0 U	6.0 U	12 U	12 U	0.60 U	6.0 U	0.30 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	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	0.60 U
1,4-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	6.0 U	6.0 U	12 U	12 U	6.0 U	0.30 U	3.0 U	6.0 U	12 U	12 U	0.60 U	6.0 U	0.30 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	1.2 U	0.60 U	6.0 U	0.60 U	0.60 U	0.60 U	0.60 U	0.64	0.60 U	0.21 U	0.60 U	0.60 U
1,4-Dioxane				1.3 U		1.3 U																																	
2-Butanone	0.96 J	2.1 J	1 J	2 J	0.69 J	1.2 J	0.91 J	37	32	48	60	21	40	7.8	31	30	21	4.0	11	10	9.0	12	22	22	10	4.5	4.5 B	24 U	1.3	120 U	110	16	2.9	22	5.3	7.6	0.97	2.5	
2-Hexanone	0.17	0.17	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	4.0 U	4.0 U	8.0 U	8.0 U	4.0 U	0.50 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	0.40 U	0.40 U	0.41 U	0.41 U	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-Ethyltoluene	0.079 J	0.17 U	0.093 J	0.17 U	0.17 U	0.17 U	0.17 U	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	0.50 U	0.49 U	0.49 U	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			
4-Methyl-2-pentanone	0.092 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	4.0 U	4.0 U	8.0 U	8.0 U	4.0 U	0.59 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	0.40 U	0.41 U	0.41 U	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			
Acetone	8.7	10	13	18	6.3	11	3.1 J	1600	31	75	63	4.8 U	0.24 U	2.0	9.6 U	20 U	20 U	31	9.6 U	13	0.96 U	16	24	16	6.6	11 B	6.3 B	19 U	6.6	22	19	14	10	75	12	11	6.6	15	
Benzene	0.7	0.41	0.82	1.4	0.5	0.35	0.37	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	1.7	0.5	0.72	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	
Benzyl chloride	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	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	0.52 U	0.52 U	0.52 U	0.52 U	1.0 U	0.52 U	5.2 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U		
Bromodichloromethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	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	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	1.3 U	0.67 U	3.4 U	10	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U		
Bromoform	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	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	1.1 U	1.1 U	1.1 U	1.0 U	1.0 U	2.1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U			
Bromomethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	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	0.38 U	0.38 U	0.39 U	0.39 U	0.78 U	0.39 U	3.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U			
Carbon disulfide	0.057 J	1.1 U	0.09 J	1.1 U	1.1 U	1.1 U	1.1 U	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	1.3	0.31 U	0.73	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	
Carbon tetrachloride	0.34	0.36	0.43	0.55	0.38	0.39	0.44	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																				

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

Parameter (ug/m <sup>3</sup> )	Extraction Well - Large Retail Space																Post Treatment - Large Retail Space								CT IACTIND 2003 (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space										
	EW- Combined- 061314 6/13/2014	EW- Combined- 091214 9/12/2014	EW- Combined- 121914 12/19/2014	EW- Combined- 032715 3/27/2015	EW- Combined- 061115 6/11/2015	EW- Combined- 091615 9/16/2015	EW- combined- 121815 12/18/2015	EW- combined- 021816 2/18/2016	EW- Combined- 080516 8/5/2016	EW- Combined- 021017 2/10/2017	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	Post carbon- 020309 2/3/2009	POST CARBON- 021109 2/11/2009	POST CARBON- 021809 2/18/2009	POST CARBON- 022609 2/26/2009	POST CARBON- 041409 4/14/2009	POST CARBON- 100809 10/8/2009		Post- Carbon- 010810 1/8/2010	IA-1- 011609 1/16/2009	IA-1- 020309 2/3/2009	IA-1- 021109 2/11/2009	IA-1- 021809 2/18/2009	IA-1- 022609 2/26/2009	IA-1- 030609 3/6/2009				
1,1,1-Trichloroethane	770	1300	420	500	1200	3400	E	1600	320	4000	260	59000	66000	26000	30000	54000	72000	11000	14000	1.0	15	45	1.9	13000	0.56	450	500	1.1	10	0.56	1.1	0.99	0.35	1.8		
1,1,1,2-Tetrachloroethane	1.2 U	2.5 U	1.2 U	1.2 U	1.2 U	2.5 U			2.5 U		1.2 U																									
1,1,2,2-Tetrachloroethane	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	1.4 U	1.4 U	1.4 U	6.9 U	0.69 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	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	0.34 U		
1,1,2-Trichloroethane	0.55 U	1.1 U	0.55 U	0.55 U	0.28 J	1.1 U	1.1 U	1.1 U	5.5 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	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	0.27 U		
1,1-Dichloroethane	68	130	55	49	100	190	69	25	360	25	4100	4400	5700	7000	1600	2300	690	1400	0.20 U	1.0 U	5.4	11000	490	370	610	430	0.71	0.20 U	0.20 U	0.20 U	0.20 U	0.27	0.32			
1,1-Dichloroethene	40	52	14	22	46	160	21	9	160	11	570	1200	330	640	340	560	97	210	0.20 U	1.0 U	0.40 U	6400	96	78	87	20	0.38	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U			
1,2,4-Trichlorobenzene	0.74 U	1.5 U	0.74 U	0.74 U	0.74 U	1.5 U	1.5 U	1.5 U	7.4 U	0.74 U		7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	1.9 U	7.4 U	0.37 U	1.9 U	0.74 U	0.74 U	74 U	0.37 U	0.37 U	NA	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U			
1,2,4-Trimethylbenzene	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.98 U	0.98 U	4.9 U	0.49 U		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.3 U	5.0 U	0.25 U	1.3 U	0.50 U	0.50 U	50 U	0.25 U	0.25 U	52	0.25 U	0.36	0.70	0.77	0.25 U	0.25 U				
1,2-Dibromoethane (EDB)	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	1.5 U	1.5 U	1.5 U	7.7 U	0.77 U		7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	7.6 U	0.38 U	1.9 U	0.76 U	0.76 U	76 U	0.38 U	0.38 U	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U			
1,2-Dichlorobenzene	0.60 U	1.2 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U		6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	0.30 U	1.5 U	0.60 U	0.60 U	60 U	0.30 U	0.30 U	410	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U			
1,2-Dichloroethane	0.40 U	0.4 U	0.4 U	0.4 U	0.4 U	0.81 U	0.81 U	0.81 U	4 U	0.4 U		4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	4.0 U	0.20 U	1.0 U	0.40 U	0.40 U	40 U	0.20 U	0.20 U	0.31	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U			
1,2-Dichloropropane	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.92 U	0.92 U	4.6 U	0.46 U		4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	4.6 U	0.23 U	1.2 U	0.46 U	0.46 U	46 U	0.23 U	0.23 U	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U			
1,2-Dichlorotetrafluoroethane									7 U			7.0 U	7.0 U	7.0 U	7.0 U	7.0 U	1.8 U	7.0 U	0.35 U	1.8 U	0.70 U	0.70 U	70 U	0.35 U	0.35 U	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U			
1,3,5-Trimethylbenzene	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.98 U	0.98 U	4.9 U	0.49 U		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.3 U	5.0 U	2.1	1.3 U	0.50 U	0.50 U	50 U	0.25 U	0.25 U	52	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U			
1,3-Butadiene	0.22 U	0.44 U	0.22 U	0.22 U	0.22 U	0.44 U	0.44 U	0.44 U	2.2 U	0.22 U		2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.55 U	2.2 U	0.11 U	0.55 U	0.22 U	0.22 U	22 U	0.23 U	0.23 U	NA	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U			
1,3-Dichlorobenzene	0.60 U	1.2 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U		6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	2.9	1.5 U	0.60 U	0.60 U	60 U	0.30 U	0.30 U	410	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U			
1,4-Dichlorobenzene	0.60 U	1.2 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U		6.0 U	6.0 U	6.0 U	6.0 U	6.0 U	1.5 U	6.0 U	0.30 U	1.5 U	0.60 U	0.60 U	60 U	0.30 U	0.30 U	24	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U			
1,4-Dioxane									36 U																											
2-Butanone	5.1	3.3 J	1.4 J	1.2 J	1.2 J	1.3 J	1.5 J	24 U	14 J	0.59 J		3.5	8.9	12	11	36	10	36	6.4	10	6.3	9.4	5.5	330	1.9	2.0	500	20	3.1	5.8	3.4	2.6	2.2			
2-Hexanone	0.41 U	0.82 U	0.41 U	0.41 U	0.41 U	0.82 U	0.82 U	0.82 U	4.1 U	0.41 U		4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	4.0 U	0.20 U	1.0 U	0.40 U	0.40 U	13000	0.27	0.34	NA	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U			
4-Ethyltoluene	0.49 U	0.98 U	0.49 U	0.49 U	0.49 U	0.98 U	0.98 U	0.98 U	4.9 U	0.49 U		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.3 U	5.0 U	2.1	1.3 U	0.50 U	0.50 U	50 U	0.25 U	0.25 U	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U			
4-Methyl-2-pentanone	0.41 U	0.82 U	0.41 U	0.13 J	0.41 U	0.82 U	0.82 U	0.82 U	4.1 U	0.41 U		4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	1.0 U	4.0 U	5.0	1.0 U	0.40 U	0.40 U	40 U	0.20 U	0.20 U	200	0.20 U	0.20 U	0.43	0.30	0.20 U	0.20 U				
Acetone	9.8	19 U	6.2 J	6.1 J	9.5 U	12 J	6.7 J	19 U	39 J	3.7 J		35	16	9.6 U	9.6 U	53	24	26	12	1200	11	19	12	430	3.6	5.7	500	18	7.7	19	21	10	8.7			
Benzene	0.66	0.35 J	0.33	0.39	0.36	0.55 J	0.69	0.64 U	3.2 U	0.33		5.3	11.0	5.6	7.8	3.2 U	6.8	1.4	3.2 U	1.3	0.80 U	0.32 U	0.32 U	32 U	0.16 U	0.16 U	3.3	1.0	0.68	1.9	3.0	0.69	0.87			
Benzyl chloride	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	1 U	1 U	1 U	5.2 U	0.52 U		5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	1.3 U	5.2 U	0.26 U	1.3 U	0.52 U	0.52 U	52 U	0.26 U	0.26 U	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U			
Bromodichloromethane	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	1.3 U	9.1	1.3 U	6.7 U	1.6		6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	1.7 U	6.6 U	0.33 U	1.7 U	0.66 U	0.66 U	66 U	0.33 U	0.33 U	0.46	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U			
Bromoform	1 U	2.1 U	1 U	1 U	1 U	2.1 U	2.1 U	2.1 U	10 U	1 U		11 U	11 U	11 U	11 U	11 U	2.6 U	11 U	0.51 U	2.6 U	1.1 U	1.1 U	110 U	0.51 U	0.51 U	7.3	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U			
Bromomethane	0.39 U	0.78 U	0.39 U	0.39 U	0.39 U	0.78 U	0.78 U	0.78 U	3.9 U	0.39 U		3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	0.95 U	3.8 U	0.19 U	0.95 U	0.38 U	0.38 U	38 U	0.19 U	0.19 U	NA	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U			
Carbon disulfide	0.40	0.52 J	0.33 J	0.24 J	0.37 J	1 J	6.2 U	6.2 U	31 U	3.1 U		3.2 U	3.2 U	27	25	3.2 U	3.2 U	1.8	3.2 U	0.16 U	0.80 U	4.1	27	250	0.16 U	0.20	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U			
Carbon tetrachloride	0.63 U	0.58 J	0.4 J	0.28 J	0.49 J	0.75 J	1.3 U	1.3 U	6.3 U	0.63 U		6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	1.6 U	6.2 U	0.38	1.6 U	0.62 U	0.62 U	62 U	0.31 U	0.31 U	0.54	0.35	0.41	0.52	0.55 [a]	0.46	0.59 [a]				
Chlorobenzene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.92 U	0.92 U	4.6 U	0.46 U		4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	4.6 U	0.23 U	1.2 U	0.46 U	0.46 U	46 U	0.23 U	0.23 U	200	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U			
Chloroethane	1.5	1.8	0.8	0.4	1	2.7	0.93	0.53 U	8.6	0.3		170	250	700	590	41	44	17	33	0.13 U	5100	1800	480	64	19	10	500	0.13 U	0.13 U	0.42	0.13 U	0.13 U	0.13 U			
Chloroform	3.4	4.9	3.4	2.5	6.4	4.1	3.1	1.6	20	1.5		20	34	9.6	15	13	23	3.6	7.5	0.24 U	1.2 U	0.48 U	0.67	48 U	0.24 U	6.8	0.5	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U			
Chloromethane	0.41 U	0.83 U	0.41 U	0.41 U	0.41 U	0.83 U	15	0.83 U	4.1 U	0.41 U		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	0.50 U	2.0 U	0.59	0.50 U	0.20 U	0.20 U	23	0.10 U	0.10 U	80	1.1	1.0	1.4	1.5	1.0	1.0				
cis-1,2-Dichloroethene	30	57	25	21	52	41	20	12	160	7.3		2000.0	2200.0	6100.0	7600.0	610.0	1200.0	560.0	1300.0	0.27	1.0 U	3.9	5200	820	230	570	100	2.0	0.20 U	1.0	1.1	0.73	1.3			
cis-1,3-Dichloropropene	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.91 U	0.91 U	0.91 U	4.5 U	0.45 U		4.4 U	4.4 U	4.4 U	4.4 U	4.4 U	1.1 U	4.4 U	0.22 U	1.1 U	0.44 U	0.44 U	44 U	0.22 U	0.22 U	2.9	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U			
Cyclohexane	0.34 U	0.69 U	0.34 U	0.34 U	0.34 U																															



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

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																					
	IA-1-033109 3/31/2009	IA-1-041409 4/14/2009	IA-1-042409 4/24/2009	IA-1-091709 9/17/2009	IA-1-092409 9/24/2009	IA-1-100109 10/1/2009	IA-1-100809 10/8/2009	IA-1-120209 12/2/2009	IA-1-010810 1/8/2010	IA-1-012810 1/28/2010	IA-1-020510 2/5/2010	IA-1-021210 2/12/2010	IA-1-021910 2/19/2010	IA-1-032610 3/26/2010	IA-1-043010 4/30/2010	IA-1-052810 5/28/2010	IA-1-070110 7/1/2010	IA-1-091610 9/16/2010	IA-1-120710 12/7/2010	IA-1-021711 2/17/2011	IA-1-060211 6/2/2011	IA-1-091511 9/15/2011
1,1,1,2-Tetrachloroethane	1.5	1.4	2.0	0.27 U	0.27 U	0.27 U	0.27 U	0.24	0.27 U	0.27 U	0.76	0.30	0.88	0.27 U	1.2	0.33	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1,1,2-Tetrachloroethane																						0.62 U
1,1,2-Trichloroethane	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1-Dichloroethane	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,1-Dichloroethane	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2,4-Trichlorobenzene	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.52 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.75 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
1,2,4-Trimethylbenzene	0.25 U	0.18 U	0.48	0.29	0.35	0.28	0.51	0.52	0.37	0.25 U	0.26	0.25 U	0.25 U	0.25 U	0.25 U	0.40	0.43	0.56	0.25 U	0.55	0.25 U	0.25 U
1,2-Dibromoethane (EDB)	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,2-Dichloroethane	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,3,5-Trimethylbenzene	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 U	0.23 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
1,3-Dichlorobenzene	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dichlorobenzene	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane																						0.18 U
2-Butanone	1.3	1.2	4.4	2.0	2.6	2.7	1.3	2.7	1.6	0.30 U	2.4	1.1	1.2	1.3	0.78	2.6	3.3	0.85	0.68	1.7 B	2.9 U	5.9 U
2-Hexanone	0.20 U	0.14 U	0.48	0.43	0.52	0.73	0.31	0.71	0.36	0.20 U	0.47	0.20 U	0.27	0.27	0.20 U	0.67	0.75	0.20 U	0.20 U	0.20 U	4.1 U	0.62
4-Ethyltoluene	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.20 U	0.14 U	0.52	0.21	0.35	0.32	0.20 U	0.34	0.20 U	0.20 U	0.20 U	0.22	0.20 U	0.20 U	0.20 U	0.28	0.35	0.35	0.20 U	0.20 U	0.20 U	0.23
Acetone	14	12	310	11	18	13	10	13	12	2.0	19	7.3	8.5	7.0	6.5	18	18	11	12 B	15 B	11 B	18
Benzene	0.71	0.56	0.78	0.49	0.47	0.39	0.48	1.1	1.2	0.16 U	0.98	0.64	0.53	0.59	0.64	0.50	0.46	0.8	0.49	1.5	0.25	0.32
Benzyl chloride	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.24 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.34 U
Bromoform	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
Bromomethane	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.12 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 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	0.31	0.43	0.48	0.38	0.42	0.43	0.48	0.43	0.31 U	0.40	0.31 U	0.45	0.44	0.48	0.55 [a]	0.52	0.50	0.46	0.47	0.53	0.57 [a]
Chlorobenzene	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.24 U	0.17 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.17 U	0.24 U	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
Chloromethane	1.2	1.1	1.3	1.1	1.1	0.98	0.95	1.3	1.1	1.4	1.3	1.3	1.2	1.3	0.79	1.2	1.2	1.1	0.97	1.0	0.92	1.3
cis-1,2-Dichloroethene	0.50	0.60	1.3	0.20 U	0.20 U	0.83	0.44	0.57	0.20 U	0.20 U	0.20 U	0.56	0.20 U	1.3	0.20 U	0.50	0.20 U	1.7	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,3-Dichloropropene	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.16 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U
Cyclohexane	0.17 U	0.12 U	0.34	0.18 U	0.17 U	0.17 U	0.17 U	0.28	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Dibromochloromethane	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
Dichlorodifluoromethane	3.1	2.0	8.3	2.4	2.0	2.3	2.1	1.6	3.1	2.4	2.4	2.6	3.0	1.6	2.2	2.3	2.7	1.7	2.0	3.1	1.5	2.0
Ethanol	18	5.0	39	6.2	7.0	6.5	8.8	10	8.4	7.0	29	19	43	4.6	4.4	6.0	6.5	9.0	2.7	9.0	2.8	6.4
Ethyl acetate	0.18 U	0.26 U	0.37 U	0.32	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Ethylbenzene	0.22 U	0.16 U	0.94	0.23	0.23	0.22 U	0.28	0.46	0.40	0.22 U	0.32	0.22 U	0.22 U	0.22 U	0.23	0.29	0.27	0.51	0.22 U	0.54	0.22 U	0.22 U
Hexachlorobutadiene	1.1 U	0.75 U	1.1 U	0.53 U	0.53 U	0.53 U	0.53 U	0.75 U	0.53 U	0.53 U	0.53 U	0.53 U	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	0.53 U
Hexane	0.53	0.65	1.7	0.99	1.3	0.41	0.77	0.78	0.74	0.18 U	0.82	1.3	0.45	0.20	1.1	0.80	0.46	0.61	0.35 U	1.9	0.43	7.0 U
Isopropyl alcohol	9.1	0.18 U	240	5.2	5.2	0.25 U	2.7	1.8	2.4	0.25 U	9.4	0.25 U	1.6	0.65	3.4	0.12 U	0.74	1.4	0.25 U	1.7	1.2 U	4.9 U
m,p-Xylene	0.63	0.31 U	2.5	0.79	0.91	0.73	1.0	1.4	1.1	0.43 U	1.0	0.43 U	0.43 U	0.50	0.77	1.1	1.2	1.7	0.43 U	1.6	0.42 U	0.51
Methyl methacrylate																				0.20 U	0.20 U	0.20 U
Methylene chloride	6.7	3.5	4.8	1.6	3.6	0.70 U	0.70 U	2.9	0.70 U	1.4	1.5	1.9	0.70 U	0.70 U	0.70 U	0.35 U	1.2	0.56	0.56	4.8	1.3	1.7 U
Methyl-t-butyl ether	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.13 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
n-Heptane	0.20 U	0.14 U	0.67	0.20 U	0.20 U	0.20 U	0.26	0.42	0.35	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.36	0.20 U	0.50	0.20 U	0.20 U
o-Xylene	0.22 U	0.16 U	0.70	0.31	0.40	0.28	0.40	0.52	0.44	0.22 U	0.38	0.22 U	0.22 U	0.22 U	0.28	0.46	0.51	0.69	0.22 U	0.56	0.22 U	0.22 U
Propylene (Propene)	0.090 U	0.13 U	0.18 U	0.35 U	0.35 U	0.18 U	0.35 U	0.25 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.87 U	0.87 U	0.35 U	0.86 U	0.86 U	0.86 U	3.4 U
Styrene	0.21 U	0.15 U	0.24	0.21 U	0.21 U	0.21 U	0.21 U	0.19	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.25	0.31	0.24	0.21 U	0.21 U	0.21 U	0.21 U
Tetrachloroethene	1.5	1.9	6.1 [a]	0.34 U	0.34 U	2.0	1.1	3.2	0.34 U	0.34 U	0.34 U	1.2	0.34 U	4.5	0.55	1.1						

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

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																				Indoor Air - Large Retail Space																				
	IA-1-120811	IA-1-030812	IA-1-061412	IA-1-091312	IA-1-010313	IA-1-031513	IA-1-060713	IA-1-090613	IA-1-121313	IA-1-030714	IA-1-061314	IA-1-091214	IA-1-121914	IA-1-032715	IA-1-061115	IA-1-091615	IA-1-121815	IA-1-021816	IA-1-080516	IA-1-021017	IA-2-011609	IA-2-020309	IA-2-021109	IA-2-021809	IA-2-022609	IA-2-041409	IA-2-042409	IA-2-091709	IA-2-092409	IA-2-100109	IA-2-100809	IA-2-012810	IA-2-020510	IA-2-021210	IA-2-021910	IA-2-032610	IA-2-043010	IA-2-091610	IA-2-070110		
1,1,1-Trichloroethane	0.12	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11	0.19 U	0.2	0.16 J	0.05 J	0.19 U	0.28	0.19 U	0.19 U	0.19 U	0.19 U	9.9	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	1.0	0.27 U	0.28		
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	0.35 J	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U																					
1,1,2,2-Tetrachloroethane	0.21 U	0.10 U	0.21 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.1 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	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	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.16 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	0.27 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-Dichloroethane	0.12 U	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.061 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.72	0.20 U	0.20 U	0.20 U	0.32	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	0.20 U	0.20 U	0.20 U
1,1-Dichloroethene	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.059 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.41	0.20 U	0.20 U	0.20 U	0.20 U	0.14 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	
1,2,4-Trichlorobenzene	0.45 U	0.45 U	0.45 U	0.52 U	0.52 U	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	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	0.10	0.15 U	0.16	0.55	0.17 U	0.17 U	0.21	0.32	0.17 U	0.52	0.25	0.14 J	0.17 U	0.12 J	0.14 J	0.14 J	0.32	0.74	0.24	0.17 U	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	0.48		
1,2-Dibromoethane (EDB)	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.12 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	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	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.18 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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	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	0.056	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.061 U	0.14 U	0.14 U	0.14 U	0.06 J	0.099 J	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	0.20 U	
1,2-Dichloropropane	0.14 U	0.069 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.069 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	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	0.35 U		
1,3,5-Trimethylbenzene	0.044	0.15 U	0.059	0.32	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.16	0.17 U	0.17 U	0.068 J	0.17 U	0.041 J	0.069 J	0.059 J	0.17 U	0.17 U	0.17 U	0.25 U	0.25 U	0.25	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	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	
2-Butanone	0.066 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.55	0.078 U	0.066 U	0.078 U	0.048 J	0.078 U	0.13	0.16	0.078 U	0.078 U	0.078 U	0.11 U	0.11 U	0.30	0.66	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	
1,3-Dichlorobenzene	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.18 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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	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	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.18 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	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	
1,4-Dioxane																					1.3 U																				
2-Butanone	1.8	1.2	1.4	3.0	0.87	0.64	2.9	2.0	0.92	1.6	3.1	2.8 J	0.84 J	1.5 J	1.1 J	1.2 J	1.4 J	0.5 J	1.6 J	0.72 J	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	3.4		
2-Hexanone	0.22	0.26	0.12 U	0.28	0.14 U	0.14 U	0.38	0.27	0.14 U	0.30	0.45	0.25	0.14 U	0.30	0.14 U	0.14 U	0.14 U	0.16	0.14 U	0.14 U	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	0.26	0.84	0.68			
4-Ethyltoluene	0.15 U	0.15 U	0.071	0.19	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.15 U	0.17 U	0.045 J	0.17 U	0.055 J	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	0.18 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	0.39	0.13	0.093	0.26	0.14 U	0.14 U	0.24	0.52	0.14 U	0.23	0.49	0.33	0.14 U	0.14 J	0.08 J	0.14 U	0.21	0.14 U	0.33	0.14 U	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	0.49		
Acetone	8.0	6.0	12	16	7.0	5.0	21	35	19	13	23	13	9.3	12	7.7	17	12	9.8	15	4.9	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	20		
Benzene	0.47	0.34	0.19	0.67	0.51	0.72	0.28	0.75	0.59	2.3	0.46	0.39	0.38	0.53	0.23	0.46	0.98	1	0.27	0.44	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	0.48		
Benzyl chloride	0.16 U	0.16 U	0.16 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U		
Bromochloromethane	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.1 U	0.24 U	0.24 U	0.24 U	0.12 J	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	0.33 U		
Bromoform	0.31 U	0.31 U	0.31 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 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	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U		
Bromomethane	0.12 U	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.12	0.14 U	0.14 U	0.14 U	0.095 J	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	0.19 U		
Carbon disulfide	0.93 U	0.93 U	0.93 U	1.1 U	1.1 U	1.1 U	1.1 U	0.23	0.20	1.1 U	0.21	0.11 J	1.1 U	1.1 U	0.22 J	0.97 J	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	0.12 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	0.16 U		
Carbon tetrachloride	0.49	0.46	0.46	0.39	0.54	0.44	0.53	0.53	0.54	0.41	0.42	0.4	0.29	0.32	0.34	0.49	0.5	0.42	0.4	0.39	0.33	0.41	0.55 [a]	0.57 [a]	0.48	0.41															



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-2-091610 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-2-061314 6/13/2014	IA-2-091214 9/12/2014	IA-2-121914 12/19/2014	IA-2-032715 3/27/2015	IA-2-061115 6/11/2015	IA-2-091615 9/16/2015	IA-2-121815 12/18/2015	IA-2-021816 2/18/2016	IA-2-080516 8/5/2016	IA-2-021017 2/10/2017	
1,1,1-Trichloroethane	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	0.19 U	0.055 U	0.16 J	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	0.25 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-Tetrachloroethane	0.34 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	0.069 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U	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	0.12 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	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
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	0.045	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.15	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
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	0.15 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
1,2,4-Trimethylbenzene	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	0.27	0.2	0.17 U	0.25	0.23	0.17 U	0.48	0.27	0.21	0.17 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	0.27 U	0.27 U	0.077 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	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	0.063	0.061 U	0.051	0.08	0.16	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04	0.14 U	0.14 U	0.14 U	0.065 J	0.051 J	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	0.14 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	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,2-Dichlorotetrafluoroethane	0.35 U																					0.25 U				0.25 U
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.080	0.26	0.28	0.17 U	0.17 U	0.17 U	0.17 U	0.17	0.17 U	0.059 J	0.17 U	0.079 J	0.069 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,3-Butadiene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.066 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	0.044 U	0.078 U	0.078 U	0.078 U	0.15	0.2	0.078 U	0.078 U	0.087	0.087
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	0.08	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	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	0.18 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	0.21 U	0.12 U	0.21 U	0.063 J	0.097 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-Dioxane						0.18 U																1.3 U				1.3 U
2-Butanone	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	1.6	4.9	0.92 J	1.7 J	1.8 J	1.7 J	1.9 J	1.3 J	1.3 J	0.74 J	0.74 J
2-Hexanone	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	0.14 U	0.16	0.14 U	0.2	0.12 J	0.14 U	0.18	0.2	0.14 U	0.14 U	0.14 U
4-Ethyltoluene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.086	0.19	0.24	0.17 U	0.17 U	0.17 U	0.17 U	0.18	0.17 U	0.049 J	0.17 U	0.072 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
4-Methyl-2-pentanone	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	1.1	1.3	0.14 U	0.84	0.9	1.2	1.1	0.39	1.4	0.14 U	0.14 U
Acetone	11	9.8 B	15 B	8.9 B	18	6.2	5.4	14	17	19	46	32	22	32	32	29	37	9.7	40	29	170 E	33	26	36	8.8	8.8
Benzene	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	0.62	0.30	0.36	0.67	0.39	0.66	1.10	0.52	0.25	0.49	0.49
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	0.18 U	0.052 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	0.33 U	0.34 U	0.34 U	0.34 U	0.34 U	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
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	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
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	0.14 U	0.14 U	0.078 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Carbon disulfide	0.16 U	0.16 U	0.16 U	0.16 U	0.16 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	0.56	0.49 J	1.1 U	0.29 J	0.39 J	0.41 J	0.26 J	0.13 J	0.34 J	1.1 U	1.1 U
Carbon tetrachloride	0.50	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	0.42	0.43	0.37	0.36	0.35	0.32	0.49	0.38	0.4	0.45	0.45
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.14 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloroethane	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.079 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	0.093 U	0.053 U	0.093 U	0.061 J	0.093 U	0.059 J	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U
Chloroform	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	0.53	1	0.13 J	0.41	0.62	0.24	0.33	0.21	0.73	0.17 U	0.17 U
Chloromethane	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	1.2	0.71	0.8	1.4	1.3	1.1	1.7	0.97	1.4	1.3	1.3
cis-1,2-Dichloroethene	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	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.053 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 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	0.16 U	0.16 U	0.045 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
Cyclohexane	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	0.22	0.069 U	0.12 U	0.12 U	0.12 U	0.14	0.89	0.15	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	0.26 U	0.13 U	0.26 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.3 U	0.085 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	1.7	1.9	3.2	1.6	2.0	2.7	2.1	2.7	2.8	2.6	4.7	3.3	1.8	2.6	1.5	2	2.1	1.8	1.4	2.4	1.7	2.4	1.5	0.63	0.95	0.95
Ethanol	9.0	2.7	10	2.5	8.5	2.1	2.1	10	9.8	8.1	380	66	46	89	130	240	140	27	150	220	51	72	110	180	48	48
Ethyl acetate	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	0.25	0.35	0.17	0.45	0.49	7.5	0.75	0.13 U	0.39	0.23	0.23
Ethylbenzene	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	0.27	0.14	0.076 J	0.2	0.15	0.16	0.73	0.2	0.16	0.15 U	0.15 U
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	0.37 U	0.37 U	0.21 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
Hexane	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	0.74	0.56 J	0.29 J	5	0.44 J	1.1 J	2.4 J	0.4 J	0.47 J	0.27 J	0.27 J
Isopropyl alcohol	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												





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-3-061314 6/13/2014	IA-3-091214 9/12/2014	IA-3-121914 12/19/2014	IA-3-032715 3/27/2015	IA-3-061115 6/11/2015	IA-3-091615 9/16/2015	IA-3-121815 12/18/2015	IA-3-021816 2/18/2016	IA-3-080516 8/5/2016	IA-3-021017 2/10/2017
1,1,1-Trichloroethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19	0.16 J	0.05 J	0.19 U	0.092 J	0.19 U	0.19 U	0.19 U	0.19 U
1,1,1,2-Tetrachloroethane	0.44 U	0.44 U	0.44 U	0.46	0.44 U	0.44 U	0.44 U	0.25 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-Tetrachloroethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.069 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2-Trichloroethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,1-Dichloroethene	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	0.52 U	0.52 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.15 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
1,2,4-Trimethylbenzene	0.17 U	0.076	0.26	0.33	0.17 U	0.53	0.23	0.32	0.12 J	0.12 J	0.13 J	0.13 J	0.17 U	0.17 U	0.26	0.17 U
1,2-Dibromoethane (EDB)	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.077 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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.032 J	0.14 U	0.14 U	0.057 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2-Dichloropropane	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 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													0.25 U			0.25 U
1,3,5-Trimethylbenzene	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.069 J	0.17 U	0.038 J	0.079 J	0.041 J	0.17 U	0.17 U	0.17 U	0.17 U
1,3-Butadiene	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.55	0.078 U	0.044 U	0.078 U	0.045 J	0.078 U	0.062 J	0.17	0.078 U	0.078 U	0.078 U
1,3-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.068 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-Dioxane													1.3 U			1.3 U
2-Butanone	0.93	2.2	2.0	2.9	0.66	1.1	1.5	2.1 J	1.1 J	1.4 J	1.5 J	0.96 J	0.99 J	0.8 J	2.3 J	0.62 J
2-Hexanone	0.14 U	0.32	0.28	0.31	0.14 U	0.14 U	0.14 U	0.21	0.14 U	0.27	0.14	0.14 U	0.14 U	0.14 U	0.47	0.14 U
4-Ethyltoluene	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.18	0.17 U	0.051 J	0.059 J	0.086 J	0.045 J	0.066 J	0.17 U	0.17 U	0.17 U	0.17 U
4-Methyl-2-pentanone	0.14 U	0.14 U	0.19	0.36	0.14 U	0.17	0.35	0.26	0.27	0.15	0.13 J	0.14 U	0.24	0.14 U	0.14 U	0.14 U
Acetone	6.7	12	28	16	14	11	15	42	29	11	10	15	9.9	8.5	19	4.9
Benzene	0.53	0.75	0.23	0.75	0.54	2.4	0.41	0.29	0.5	0.5	0.28	0.43	1.1	0.55	0.62	0.43
Benzyl chloride	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.052 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Bromoform	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Bromomethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.16	0.099	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Carbon disulfide	1.1 U	1.1 U	1.1 U	0.25	1.1 U	1.1 U	1.1 U	0.15	0.16 J	0.24 J	1.1 U	0.092 J	0.13 J	1.1 U	1.1 U	1.1 U
Carbon tetrachloride	0.32	0.39	0.42	0.47	0.47	0.45	0.44	0.42	0.34	0.36	0.36	0.39	0.53	0.41	0.43	0.42
Chlorobenzene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloroethane	0.093 U	0.093 U	0.098	0.093 U	0.093 U	0.093 U	0.093 U	0.053 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	0.17 U	0.075	0.17 U	0.21	0.17 U	0.17 U	0.24	0.28	0.4	0.065 J	0.14 J	0.21	0.28	0.17 U	0.55	0.17 U
Chloromethane	0.95	1.3	1.3	1.1	1.0	1.3	1.2	0.7	0.9	1.0	1.7	1.1	1.4	1.0	1.4	1.2
cis-1,2-Dichloroethene	0.14 U	0.14 U	0.14 U	0.19	0.14 U	0.14 U	0.14 U	0.04 U	0.46	0.14 U	0.14 U	0.11 J	0.15	0.14 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Cyclohexane	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.34	0.12 U	0.069 U	0.12 U	0.12 U	0.12 U	0.12 U	1	0.12 U	0.12 U	0.12 U
Dibromochloromethane	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.3 U	0.085 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	2.5	1.8	2.7	1.8	2.7	1.5	2.1	2.2	1.8	1.4	2.3	1.6	2.4	1.6	0.64	0.87
Ethanol	2.7	2.5	21	27	11	24	64	41	580	8.7	16	25	14	61	21	2.8
Ethyl acetate	0.68	0.44	0.28	0.34	2.6	2.5	0.13 U	0.25	0.47	0.27	0.13 U	4.5	0.13 U	1.1	0.13 U	0.83
Ethylbenzene	0.27	0.098	0.18	0.36	0.15 U	0.55	0.22	0.17	0.14 J	0.13 J	0.12 J	0.15 J	0.41	0.15 U	0.22	0.15 U
Hexachlorobutadiene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.21 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Hexane	0.89	1.0	0.68	0.94	0.76	2.1	0.44	0.43 J	0.41 J	5.1	0.45 J	0.72 J	1.9 J	0.49 J	0.59 J	0.23 J
Isopropyl alcohol	0.57	0.62	3.4 U	3.4 U	1.9	2.1	5.2	4.8	7.7	1.9 J	0.87 J	2.1 J	3.4 U	3.4 U	5.4	0.93 J
m,p-Xylene	1.0	0.31	0.72	1.1	0.19	1.6	0.84	0.62	0.58	0.37	0.39	0.5	1.7	0.42	0.81	0.15 J
Methyl methacrylate	0.14 U	0.14 U	0.14 U	0.18	0.14 U	0.14 U	0.14 U	0.16	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	3.3	2.1	1.1	1.2	1.3	2.2	0.77	0.58 J	0.29 J	2.1	0.54 J	0.73 J	1.2	0.69 J	0.71 J	0.29 J
Methyl-t-butyl ether	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.072 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
n-Heptane	0.14 U	0.083	0.15	0.83	0.14 U	0.65	0.43	0.52	0.14 U	0.13 J	0.19	0.17	0.39	0.2	0.22	0.14 U
o-Xylene	0.35	0.13	0.26	0.46	0.15 U	0.62	0.30	0.22	0.18	0.14 J	0.14 J	0.19	0.41	0.17	0.29	0.15 U
Propylene (Propene)	2.4 U	1.1	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	1.8	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	0.87 J	0.69 J
Styrene	0.15 U	0.15 U	0.15 U	0.3	0.15 U	0.18	0.16	0.15	0.12 J	0.15 U	0.033 J	0.087 J	0.15 U	0.15 U	0.15 U	0.15 U
Tetrachloroethene	0.25	0.095	0.30	0.24 U	0.24 U	0.24 U	0.30	0.12	1.90	0.24 U	0.26	0.2 J	13.00	0.24 U	0.50	0.24 U
Tetrahydrofuran	0.10 U	0.10 U	0.14	0.73	0.10 U	0.10 U	0.13	0.16	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.18	0.1 U
Toluene	0.62	0.56	0.9	4.6	0.66	3.4	1.8	2.5	1.3	0.63	0.77	1.3	1.6	1	1.2	0.43
trans-1,2-Dichloroethene	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
trans-1,3-Dichloropropene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trichloroethene	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.26	0.19 U	0.075	0.64	0.072 J	0.19 U	0.22	0.64	0.19 U	0.19 U	0.19 U
Trichlorofluoromethane	1.2	1.3	1.5	1.6	1.4	1.7	1.4	1.3	1.3	1	1.7	1.3	1.6	1.2	1	1.3
Trichlorotrifluoroethane	0.59	0.65	0.65	0.62	0.61	0.51	0.59	0.57	0.63	0.47 J	0.69 J	0.55 J	0.59 J	0.54 J	0.56 J	0.59 J
Vinyl acetate	0.25 U	0.25 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	1.4 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Vinyl chloride	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.090 U	0.09 U	0.026 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U

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

Parameter (ug/m <sup>3</sup> )	Indoor Air - Large Retail Space																															
	IA-4 011609	IA-4 020309	IA-4 021109	IA-4 021809	IA-4 022609	IA-4 041409	IA-4 042409	IA-4 091709	IA-4 092409	IA-4 100109	IA-4 100809	IA-4 012810	IA-4 020510	IA-4 021210	IA-4 021910	IA-4 032610	IA-4 043010	IA-4 052810	IA-4 070110	IA-4 091610	IA-4 120710	IA-4 021711	IA-4 060211	IA-4 091511	IA-4 120811	IA-4 030812	IA-4 061412	IA-4 091312	IA-4 010313	IA-4 031513		
1,1,1,2-Tetrachloroethane	10	0.62	1.1	1.1	0.45	1.5	2.2	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	
1,1,2,2-Tetrachloroethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	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	
1,1,2-Trichloroethane	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	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	
1,1-Dichloroethane	0.73	0.20 U	0.20 U	0.20 U	0.31	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	0.20 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	
1,1-Dichloroethene	0.42	0.20 U	0.20 U	0.20 U	0.20 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	
1,2,4-Trichlorobenzene	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	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	0.26	0.37	0.74	0.65	0.29	0.18 U	0.25 U	0.25 U	0.41	0.28	0.41	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.34	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	0.13	
1,2-Dibromoethane (EDB)	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	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	
1,2-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	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	
1,2-Dichloroethane	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	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	
1,2-Dichloropropane	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	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	
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	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	
1,3,5-Trimethylbenzene	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 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	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	
1,3-Butadiene	0.11 U	0.11 U	0.33	0.77	0.11 U	0.08 U	0.11 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.066 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	
1,3-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	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	
1,4-Dichlorobenzene	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	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	
1,4-Dioxane																									0.18 U							
2-Butanone	21	4.4	6.0	3.2	2.5	1.1	1.6	1.5	2.0	1.3	1.2	0.30 U	0.69	1.2	0.50	1.6	1.5	2.2	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	2.3	
2-Hexanone	0.20 U	0.33	0.73	0.39	0.20 U	0.14 U	0.20 U	0.29	0.45	0.32	0.27	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.35	0.096	0.32	0.098	0.18	0.19	0.25	
4-Ethyltoluene	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	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	
4-Methyl-2-pentanone	0.20 U	0.20 U	0.43	0.28	0.20 U	0.14 U	0.20 U	0.20 U	0.32	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	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	0.28	
Acetone	17	10	15	20	7.8	7.9	20	9.3	16	9.3	10	2.3	4.9	5.9	2.5	6.9	8.7	15	31	19	13 B	12 B	12 B	15	7.4	6.8	9.1	12	17	44	44	
Benzene	1.1	0.68	1.8	3.0	0.76	0.59	0.44	0.40	0.43	0.37	0.48	0.16 U	0.88	0.66	0.54	0.57	0.64	0.48	0.47	0.66	0.49	1.4	0.31	0.30	0.38	0.35	0.23	0.64	0.67	0.82	0.82	
Benzyl chloride	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.16 U	0.16 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	
Bromodichloromethane	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	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.20 U	0.10 U	0.20 U	0.24 U	0.24 U	0.24 U	0.24 U	
Bromoform	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.36 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	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	
Bromomethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.12 U	0.24	0.14 U	0.14 U	0.14 U	0.13	0.13	
Carbon disulfide	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	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.93 U	0.93 U	0.052	1.1 U	1.6	0.52	0.52	
Carbon tetrachloride	0.40	0.43	0.50	0.58 [a]	0.46	0.22 U	0.45	0.41	0.40	0.46	0.40	0.31 U	0.43	0.31 U	0.42	0.43	0.47	0.52	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	0.41	
Chlorobenzene	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	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		
Chloroethane	0.13 U	0.13 U	0.41	0.13 U	0.13 U	0.10 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	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		
Chloroform	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	0.24 U	0.24 U	0.24 U	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	0.11	
Chloromethane	1.2	0.99	1.4	1.3	1.0	1.1	1.2	0.90	1.1	1.0	1.0	1.3	1.3	1.3	1.2	1.1	0.77	1.2	1.2	1.0	0.95	0.95	1.1	1.5	1.4	1.0	1.3	1.3	1.1	1.3	1.3	
cis-1,2-Dichloroethene	2.4	0.20 U	1.1	1.1	0.98	0.61	1.7	0.20 U	0.20 U	0.84	0.48	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.44	0.20 U	1.8	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	0.14 U	
cis-1,3-Dichloropropene	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	0.22 U	0.22 U	0.22 U	0.22 U	0.14 U	0.068 U	0.14 U	0.16 U	0.16 U	0.16 U	0.16 U		
Cyclohexane	0.17 U	0.17 U	0.44	0.64	0.17 U	0.12 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	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		
Dibromochloromethane	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.31 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	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	
Dichlorodifluoromethane	1.9	2.2	2.5	2.8	2.6	2.1	2.4	2.1	2.0	2.2	2.2	2.4	2.5	2.6																		



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-4-060713 6/7/2013	IA-4-090613 9/6/2013	IA-4-121313 12/13/13	IA-4-030714 03/07/14	IA-4-061314 6/13/2014	IA-4-091214 9/12/2014	IA-4-121914 12/19/2014	IA-4-032715 3/27/2015	IA-4-061115 6/11/2015	IA-4-091615 9/16/2015	IA-4-121815 12/18/2015	IA-4-021816 2/18/2016	IA-4-080516 8/5/2016	IA-4-021017 2/10/2017	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	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.055 U	0.28	0.19 U	0.19 U	0.054 J	0.19 U	0.19 U	0.19 U	0.19 U	0.45	0.52	0.65	0.57	0.51	0.44	0.69	0.50	0.49	0.53
1,1,1,2-Tetrachloroethane	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.25 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-Tetrachloroethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.069 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,1-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	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	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	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	0.26 U	0.15 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	0.37 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	0.47	0.20	0.17 U	0.56	0.26	0.17	0.14 J	0.25	0.2	0.22	0.45	0.24	0.2	0.17 U	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)	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.077 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
1,2-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,2-Dichloroethane	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.051 J	0.14 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
1,2-Dichloropropane	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorotetrafluoroethane											0.25 U	0.25 U	0.25 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
1,3,5-Trimethylbenzene	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.098 U	0.17 U	0.066 J	0.066 J	0.066 J	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	0.25 U	0.25 U	0.25 U	0.25 U
1,3-Butadiene	0.078 U	0.078 U	0.078 U	0.078 U	0.47	0.11	0.044 U	0.078 U	0.078 U	0.078 U	0.16	0.1	0.078 U	0.078 U	0.093	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dichlorobenzene	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.12 U	0.08 J	0.063 J	0.12 J	0.084 J	0.21 U	0.21 U	0.21 U	0.21 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
1,4-Dioxane											1.3 U	1.3 U	1.3 U	1.3 U										
2-Butanone	3.9	0.95	1.2	1.1	2.9	4.6	1.1 J	1.9 J	1.9 J	1.8 J	2.5 J	1.1 J	1.6 J	0.98 J	3.3	3.4	2.1	2.6	2.0	1.6	3.1	2.5	2.6	1.4
2-Hexanone	0.51	0.14 U	0.14 U	0.15	0.36	0.2	0.14 U	0.25	0.14 U	0.14 U	0.22	0.14 U	0.14 U	0.14 U	0.73	0.66	0.38	0.51	0.37	0.38	0.61	0.48	0.43	0.29
4-Ethyltoluene	0.17 U	0.17 U	0.17 U	0.18	0.17 U	0.098 U	0.055 J	0.069 J	0.041 J	0.076 J	0.17 U	0.17 U	0.18	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
4-Methyl-2-pentanone	0.56	0.47	0.16	0.48	1.3	1	0.34	0.89	0.97	1.6	1.5	0.52	0.14 U	0.13 J	0.42	0.39	0.32	0.36	0.54	0.27	0.32	0.30	0.61	0.23
Acetone	36	18	29	29	37	38	27	42	28	170 E	28	31	38	11	12	13	10	11	8.5	7.7	13	11	9.8	6.9
Benzene	0.55	0.47	0.56	2.2	0.68	0.39	0.47	0.69	0.36	0.79	1.1	0.54	0.25	0.48	0.54	0.60	0.67	0.55	0.56	0.51	0.53	0.60	0.51	0.57
Benzyl chloride	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.052 U	0.18 U	0.18 U	0.18 U	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	0.26 U	0.26 U	0.26 U	0.26 U
Bromodichloromethane	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.067 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.33 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	0.36 U	0.21 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.51 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	0.14 U	0.078 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Carbon disulfide	0.38	0.39	0.15	0.19	0.62	0.46 J	0.27 J	0.31 J	0.35 J	0.44 J	0.31 J	0.14 J	0.3 J	1.1 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	0.65 [a]	0.45	0.46	0.45	0.40	0.39	0.37	0.35	0.31	0.41	0.54	0.36	0.44	0.43	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	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Chloroethane	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.053 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.093 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroform	0.17 U	0.27	0.44	0.46	0.84	1.2	0.69	0.39	1.2	0.28	0.34	0.24	0.74	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
Chloromethane	1.6	1.0	1.1	1.4	1.2	0.89	0.97	1.2	1.8	1.2	1.3	1.2	1.3	1.2	1.0	0.98	1.0	0.95	1.0	1.0	0.92	1.1	0.91	1.2
cis-1,2-Dichloroethene	0.14 U	0.18	0.14 U	0.14 U	0.14 U	0.04 U	0.87	0.14 U	0.14 U	0.053 J	0.14 U	0.14 U	0.14 U	0.14 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
cis-1,3-Dichloropropene	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.045 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 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	0.22 U	0.22 U	0.22 U	0.22 U
Cyclohexane	0.12 U	0.12 U	0.12 U	0.33	0.12 U	0.069 U	0.12 U	0.12 U	0.12 U	0.12 U	1.3	0.12 U	0.12 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
Dibromochloromethane	0.30 U	0.30 U	0.30 U	0.30 U	0.3 U	0.085 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 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	3.3	1.8	2.7	1.3	2.1	2.1	1.7	1.4	2.1	1.7	2.2	1.6	0.61	0.91	2.5	2.3	2.6	2.4	2.7	2.4	2.4	2.8	2.3	2.7
Ethanol	79	71	91	83	240	150	260	190	330	57	69	120	2.6 U	47	65	9.0	6.5	5.9	6.0	5.6	5.9	14	44	14
Ethyl acetate	0.94	0.13 U	0.13 U	0.88	0.26	0.38	0.46	0.69	0.69	9.9	0.6	0.73	1.5	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	0.18 U
Ethylbenzene	0.43	0.19	0.15 U	0.57	0.27	0.12	0.14 J	0.19	0.16	0.34	0.86	0.17	0.17	0.15 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
Hexachlorobutadiene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.21 U	0.37 U	0.37 U	0.37 U	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	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	2.8	0.53	4.9 U	1.3	0.75	0.58 J	0.44 J	5.6	0.45 J	1.6 J	2.5 J	0.42 J	0.81 J	0.3 J	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	4.0	1.6	8.4	4.4	3.9	4.8	8.2	7.1	3.9	7.1	3.4 U	2.7 J	3.4 U	1.5 J	3.3	3.4	3.7	3.5	3.6	3.4	4.4	3.6	2.8	3.2
m,p-Xylene	1.6	0.53	0.28	1.6	0.86	0.4	0.56	0.62	0.46	1.1	4.4	0.53	0.53	0.24 J	0.58	0.57	0.58	0.55	0.49	0.50	0.48	0.53	1.0	0.50
Methyl methacrylate	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.082 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Methylene chloride	3.1	0																						

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

Date	Pressure Differential (inches of water)			
	VMW-1	VMW-2	VMW-3	VMW-4
2/3/2009	-0.20	-0.62	-0.15	-0.12
2/18/2009	-0.509	-0.738	-0.650	-0.253
2/26/2009	-0.511	-0.710	-0.665	-0.273
3/6/2009	-0.507	-0.610	-0.715	-0.251
3/6/2009*	-0.120	-0.195	-0.230	-0.028
3/31/2009	-0.148	-0.221	-0.244	-0.072
4/14/2009	-0.140	-0.210	-0.215	-0.081
5/15/2009	-0.133	-0.193	-0.208	-0.087
9/17/2009	-0.132	-0.172	-0.209	-0.087
9/24/2009	-0.146	-0.189	-0.254	-0.094
10/1/2009	-0.181	-0.232	-0.233	-0.097
10/8/2009	-0.197	-0.212	-0.255	-0.087
12/29/2009**	-0.021	-0.020	-0.160	-0.023
1/28/2010	-0.947	-0.642	-0.709	-0.237
2/5/2010	-0.497	-0.714	-0.510	-0.258
2/12/2010	-0.509	-0.706	-0.537	-0.261
2/19/2010	-0.526	-0.733	-0.667	-0.242
3/26/2010	-0.636	-0.860	-0.671	-0.331
4/30/2010	-0.519	-0.713	-0.378	-0.287
5/28/2010	-0.546	-0.727	+1.371	-0.279
7/1/2010	-0.505	-0.678	+1.568	-0.272
9/16/2010	-0.496	-0.654	+0.980	-0.272
12/7/2010	-0.126	-0.202	-0.155	-0.052
2/17/2011	-0.491	-0.683	-0.737	-0.263
6/2/2011	-0.561	-0.767	-0.393	-0.290
9/15/2011	-0.517	-0.710	+1.071	-0.260
12/8/2011	-0.609	-0.826	+1.502	-0.313
3/8/2012	-0.422	-0.680	+0.329	-0.288
6/14/2012	-0.372	-0.767	+2.389	-0.280
9/13/2012	-0.543	-1.021	-0.665	-0.283
1/3/2013	-0.495	-0.628	-1.141	-0.674
3/15/2013	-0.539	-0.636	-0.754	-0.254
6/7/2013	-0.121	-0.681	-0.787	-0.223
9/6/2013	-0.421	-0.743	-0.766	-0.265
12/13/2013	-0.435	-0.580	-0.031	-0.190
3/7/2014	-0.311	-0.541	-0.741	-0.157
6/13/2014	-0.538	-0.627	-0.010	-0.058
9/12/2014	-0.549	-0.528	-0.295	-0.002
12/19/2014	-0.492	-0.427	-0.002	-0.143
3/27/2015	-0.433	-0.655	-0.011	-0.108
6/11/2015	-0.49***	-0.66***	-0.5***	-0.15***
9/16/2015	-0.535	-0.409	-0.611	-0.123
12/18/2015	-0.436	-0.495	-0.692	-0.181
2/20/2016	-0.49	-0.592	-0.804	-0.0225
8/5/2016	-0.542	-0.503	-0.746	-0.165
2/13/2017	-0.390	-0.602	-0.494	-0.206

\* vacuum reduced at extraction wells

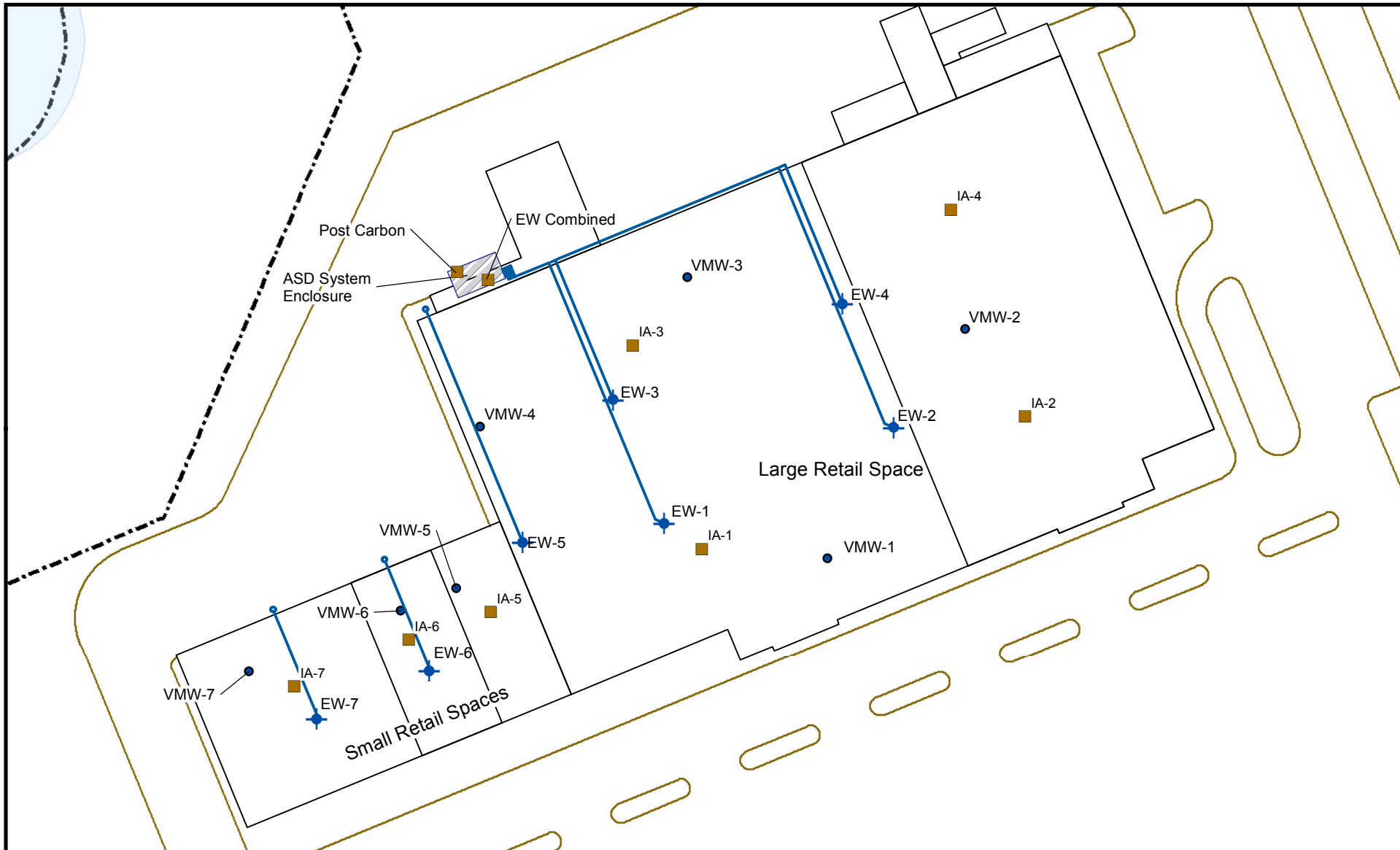
\*\* ASD system offline

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

Prepared by/Date: MAM 02/16/17

Checked by/Date: DEH 02/20/17

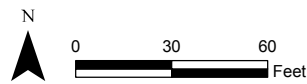
**FIGURE 1**



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

## **APPENDIX A**



February 21, 2017

Dave Heislein  
AMEC E&I, Inc.  
271 Mill Road, 3rd Floor  
Chelmsford, MA 01824

Project Location: Textron Gorham - Providence, RI  
Client Job Number:  
Project Number: 3652150005  
Laboratory Work Order Number: 17B0494

Enclosed are results of analyses for samples received by the laboratory on February 10, 2017. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven Case", written in a cursive style.

Steven M. Case  
Project Manager

AMEC E&I, Inc.  
 271 Mill Road, 3rd Floor  
 Chelmsford, MA 01824  
 ATTN: Dave Heislein

REPORT DATE: 2/21/2017

PURCHASE ORDER NUMBER: C012206368

PROJECT NUMBER: 3652150005

**ANALYTICAL SUMMARY**

WORK ORDER NUMBER: 17B0494

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

PROJECT LOCATION: Textron Gorham - Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
IA-1-021017	17B0494-01	Indoor air		EPA TO-15	
IA-2-021017	17B0494-02	Indoor air		EPA TO-15	
IA-3-021017	17B0494-03	Indoor air		EPA TO-15	
IA-4-021017	17B0494-04	Indoor air		EPA TO-15	
IA-5-021017	17B0494-05	Indoor air		EPA TO-15	
IA-6-021017	17B0494-06	Indoor air		EPA TO-15	
IA-7-021017	17B0494-07	Indoor air		EPA TO-15	
EW-5-021017	17B0494-08	Indoor air		EPA TO-15	
EW-6-021017	17B0494-09	Indoor air		EPA TO-15	
EW-7-021017	17B0494-10	Indoor air		EPA TO-15	
EW-Combined-021017	17B0494-11	Indoor air		EPA TO-15	
AA-1-021017	17B0494-12	Indoor air		EPA TO-15	

**CASE NARRATIVE SUMMARY**

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

**EPA TO-15**

**Qualifications:**

---

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

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

**Acetone, Ethanol, Isopropanol**

17B0494-01[IA-1-021017], 17B0494-02[IA-2-021017], 17B0494-03[IA-3-021017], 17B0494-04[IA-4-021017], 17B0494-05[IA-5-021017], 17B0494-06[IA-6-021017], 17B0494-07[IA-7-021017], 17B0494-08[EW-5-021017], 17B0494-09[EW-6-021017], 17B0494-10[EW-7-021017], 17B0494- 11[EW-Combined-021017], 17B0494-12[AA-1-021017], B170946-BLK1, B170946-BS1, B170946-DUP1

---

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

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

**Acetone, Ethanol, Isopropanol**

17B0494-01[IA-1-021017], 17B0494-02[IA-2-021017], 17B0494-03[IA-3-021017], 17B0494-04[IA-4-021017], 17B0494-05[IA-5-021017], 17B0494-06[IA-6-021017], 17B0494-07[IA-7-021017], 17B0494-08[EW-5-021017], 17B0494-09[EW-6-021017], 17B0494-10[EW-7-021017], 17B0494- 11[EW-Combined-021017], 17B0494-12[AA-1-021017], B170946-BLK1, B170946-BS1, B170946-DUP1

---

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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

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

B170946-BS2

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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.



Lisa A. Worthington  
Project Manager

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-1-021017**  
**Sample ID: 17B0494-01**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:16

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1161  
 Canister Size: 6 liter  
 Flow Controller ID: 4176  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -30  
 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		Analyzed		
Acetone	2.1	1.4	0.49	V-05, L-03	4.9	3.3	0.702	2/18/17 22:47	CMR	
Benzene	0.14	0.035	0.018		0.44	0.11	0.702	2/18/17 22:47	CMR	
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	2/18/17 22:47	CMR	
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	2/18/17 22:47	CMR	
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	2/18/17 22:47	CMR	
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	2/18/17 22:47	CMR	
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	2/18/17 22:47	CMR	
2-Butanone (MEK)	0.24	1.4	0.026	J	0.72	4.1	0.702	2/18/17 22:47	CMR	
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	2/18/17 22:47	CMR	
Carbon Tetrachloride	0.062	0.035	0.0085		0.39	0.22	0.702	2/18/17 22:47	CMR	
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	2/18/17 22:47	CMR	
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	2/18/17 22:47	CMR	
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	2/18/17 22:47	CMR	
Chloromethane	0.58	0.070	0.015		1.2	0.14	0.702	2/18/17 22:47	CMR	
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/18/17 22:47	CMR	
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	2/18/17 22:47	CMR	
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	2/18/17 22:47	CMR	
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	2/18/17 22:47	CMR	
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	2/18/17 22:47	CMR	
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	2/18/17 22:47	CMR	
Dichlorodifluoromethane (Freon 12)	0.24	0.035	0.015		1.2	0.17	0.702	2/18/17 22:47	CMR	
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	2/18/17 22:47	CMR	
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	2/18/17 22:47	CMR	
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	2/18/17 22:47	CMR	
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	2/18/17 22:47	CMR	
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	2/18/17 22:47	CMR	
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	2/18/17 22:47	CMR	
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	2/18/17 22:47	CMR	
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	2/18/17 22:47	CMR	
Ethanol	1.6	1.4	0.63	V-05, L-03	3.0	2.6	0.702	2/18/17 22:47	CMR	
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	2/18/17 22:47	CMR	
Ethylbenzene	ND	0.035	0.0097		ND	0.15	0.702	2/18/17 22:47	CMR	
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	2/18/17 22:47	CMR	
Heptane	ND	0.035	0.011		ND	0.14	0.702	2/18/17 22:47	CMR	
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	2/18/17 22:47	CMR	
Hexane	0.084	1.4	0.062	J	0.29	4.9	0.702	2/18/17 22:47	CMR	
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	2/18/17 22:47	CMR	
Isopropanol	0.37	1.4	0.043	V-05, L-03, J	0.91	3.4	0.702	2/18/17 22:47	CMR	

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-1-021017**  
**Sample ID: 17B0494-01**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:16

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1161  
 Canister Size: 6 liter  
 Flow Controller ID: 4176  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -30  
 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 Analyzed	Analyst
		RL	MDL		Results	RL			
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	2/18/17 22:47	CMR
Methylene Chloride	0.12	0.35	0.043	J	0.41	1.2	0.702	2/18/17 22:47	CMR
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	2/18/17 22:47	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	2/18/17 22:47	CMR
Propene	0.46	1.4	0.11	J	0.80	2.4	0.702	2/18/17 22:47	CMR
Styrene	ND	0.035	0.0068		ND	0.15	0.702	2/18/17 22:47	CMR
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	2/18/17 22:47	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	2/18/17 22:47	CMR
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	2/18/17 22:47	CMR
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	2/18/17 22:47	CMR
Toluene	0.12	0.035	0.011		0.44	0.13	0.702	2/18/17 22:47	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	2/18/17 22:47	CMR
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	2/18/17 22:47	CMR
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	2/18/17 22:47	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	2/18/17 22:47	CMR
Trichlorofluoromethane (Freon 11)	0.23	0.14	0.012		1.3	0.79	0.702	2/18/17 22:47	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.072	0.14	0.0098	J	0.55	1.1	0.702	2/18/17 22:47	CMR
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	2/18/17 22:47	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	2/18/17 22:47	CMR
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	2/18/17 22:47	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	2/18/17 22:47	CMR
m&p-Xylene	0.034	0.070	0.018	J	0.15	0.30	0.702	2/18/17 22:47	CMR
o-Xylene	ND	0.035	0.010		ND	0.15	0.702	2/18/17 22:47	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	107	70-130	2/18/17 22:47
4-Bromofluorobenzene (2)	109	70-130	2/18/17 22:47

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-2-021017**  
**Sample ID: 17B0494-02**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 11:33

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1834  
 Canister Size: 6 liter  
 Flow Controller ID: 4073  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -6.1  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
	Results	RL	MDL		Results	RL			
Acetone	3.7	1.4	0.49	L-03, V-05	8.8	3.3	0.702	2/18/17 23:34	CMR
Benzene	0.15	0.035	0.018		0.49	0.11	0.702	2/18/17 23:34	CMR
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	2/18/17 23:34	CMR
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	2/18/17 23:34	CMR
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	2/18/17 23:34	CMR
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	2/18/17 23:34	CMR
1,3-Butadiene	0.039	0.035	0.018		0.087	0.078	0.702	2/18/17 23:34	CMR
2-Butanone (MEK)	0.25	1.4	0.026	J	0.74	4.1	0.702	2/18/17 23:34	CMR
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	2/18/17 23:34	CMR
Carbon Tetrachloride	0.072	0.035	0.0085		0.45	0.22	0.702	2/18/17 23:34	CMR
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	2/18/17 23:34	CMR
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	2/18/17 23:34	CMR
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	2/18/17 23:34	CMR
Chloromethane	0.62	0.070	0.015		1.3	0.14	0.702	2/18/17 23:34	CMR
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/18/17 23:34	CMR
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	2/18/17 23:34	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	2/18/17 23:34	CMR
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	2/18/17 23:34	CMR
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	2/18/17 23:34	CMR
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	2/18/17 23:34	CMR
Dichlorodifluoromethane (Freon 12)	0.19	0.035	0.015		0.95	0.17	0.702	2/18/17 23:34	CMR
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	2/18/17 23:34	CMR
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	2/18/17 23:34	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	2/18/17 23:34	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	2/18/17 23:34	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	2/18/17 23:34	CMR
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	2/18/17 23:34	CMR
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	2/18/17 23:34	CMR
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	2/18/17 23:34	CMR
Ethanol	26	1.4	0.63	L-03, V-05	48	2.6	0.702	2/18/17 23:34	CMR
Ethyl Acetate	0.065	0.035	0.026		0.23	0.13	0.702	2/18/17 23:34	CMR
Ethylbenzene	ND	0.035	0.0097		ND	0.15	0.702	2/18/17 23:34	CMR
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	2/18/17 23:34	CMR
Heptane	ND	0.035	0.011		ND	0.14	0.702	2/18/17 23:34	CMR
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	2/18/17 23:34	CMR
Hexane	0.076	1.4	0.062	J	0.27	4.9	0.702	2/18/17 23:34	CMR
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	2/18/17 23:34	CMR
Isopropanol	0.64	1.4	0.043	L-03, V-05, J	1.6	3.4	0.702	2/18/17 23:34	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-2-021017**  
**Sample ID: 17B0494-02**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 11:33

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1834  
 Canister Size: 6 liter  
 Flow Controller ID: 4073  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -5  
 Receipt Vacuum(in Hg): -6.1  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time Analyzed	Analyst
		RL	MDL		Results	RL			
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	2/18/17 23:34	CMR
Methylene Chloride	0.067	0.35	0.043	J	0.23	1.2	0.702	2/18/17 23:34	CMR
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	2/18/17 23:34	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	2/18/17 23:34	CMR
Propene	ND	1.4	0.11		ND	2.4	0.702	2/18/17 23:34	CMR
Styrene	ND	0.035	0.0068		ND	0.15	0.702	2/18/17 23:34	CMR
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	2/18/17 23:34	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	2/18/17 23:34	CMR
Tetrachloroethylene	0.048	0.035	0.010		0.33	0.24	0.702	2/18/17 23:34	CMR
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	2/18/17 23:34	CMR
Toluene	0.33	0.035	0.011		1.3	0.13	0.702	2/18/17 23:34	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	2/18/17 23:34	CMR
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	2/18/17 23:34	CMR
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	2/18/17 23:34	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	2/18/17 23:34	CMR
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.012		1.3	0.79	0.702	2/18/17 23:34	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.069	0.14	0.0098	J	0.53	1.1	0.702	2/18/17 23:34	CMR
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	2/18/17 23:34	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	2/18/17 23:34	CMR
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	2/18/17 23:34	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	2/18/17 23:34	CMR
m&p-Xylene	0.067	0.070	0.018	J	0.29	0.30	0.702	2/18/17 23:34	CMR
o-Xylene	ND	0.035	0.010		ND	0.15	0.702	2/18/17 23:34	CMR

Surrogates	% Recovery	% REC Limits	Date/Time Analyzed
4-Bromofluorobenzene (1)	108	70-130	2/18/17 23:34
4-Bromofluorobenzene (2)	110	70-130	2/18/17 23:34

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-3-021017**  
**Sample ID: 17B0494-03**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:18

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1318  
 Canister Size: 6 liter  
 Flow Controller ID: 4186  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	2.1	1.4	0.49	L-03, V-05	4.9	3.3	0.702	2/19/17	0:21	CMR
Benzene	0.13	0.035	0.018		0.43	0.11	0.702	2/19/17	0:21	CMR
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	2/19/17	0:21	CMR
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	2/19/17	0:21	CMR
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	2/19/17	0:21	CMR
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	2/19/17	0:21	CMR
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	2/19/17	0:21	CMR
2-Butanone (MEK)	0.21	1.4	0.026	J	0.62	4.1	0.702	2/19/17	0:21	CMR
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	2/19/17	0:21	CMR
Carbon Tetrachloride	0.067	0.035	0.0085		0.42	0.22	0.702	2/19/17	0:21	CMR
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	2/19/17	0:21	CMR
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	2/19/17	0:21	CMR
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	2/19/17	0:21	CMR
Chloromethane	0.58	0.070	0.015		1.2	0.14	0.702	2/19/17	0:21	CMR
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/19/17	0:21	CMR
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	2/19/17	0:21	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	2/19/17	0:21	CMR
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	2/19/17	0:21	CMR
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	2/19/17	0:21	CMR
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	2/19/17	0:21	CMR
Dichlorodifluoromethane (Freon 12)	0.18	0.035	0.015		0.87	0.17	0.702	2/19/17	0:21	CMR
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	2/19/17	0:21	CMR
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	2/19/17	0:21	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	2/19/17	0:21	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	2/19/17	0:21	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	2/19/17	0:21	CMR
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	2/19/17	0:21	CMR
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	2/19/17	0:21	CMR
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	2/19/17	0:21	CMR
Ethanol	1.5	1.4	0.63	L-03, V-05	2.8	2.6	0.702	2/19/17	0:21	CMR
Ethyl Acetate	0.23	0.035	0.026		0.83	0.13	0.702	2/19/17	0:21	CMR
Ethylbenzene	ND	0.035	0.0097		ND	0.15	0.702	2/19/17	0:21	CMR
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	2/19/17	0:21	CMR
Heptane	ND	0.035	0.011		ND	0.14	0.702	2/19/17	0:21	CMR
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	2/19/17	0:21	CMR
Hexane	0.066	1.4	0.062	J	0.23	4.9	0.702	2/19/17	0:21	CMR
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	2/19/17	0:21	CMR
Isopropanol	0.38	1.4	0.043	L-03, V-05, J	0.93	3.4	0.702	2/19/17	0:21	CMR



**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-3-021017**  
**Sample ID: 17B0494-03**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:18

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1318  
 Canister Size: 6 liter  
 Flow Controller ID: 4186  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -29  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	2/19/17	0:21	CMR
Methylene Chloride	0.082	0.35	0.043	J	0.29	1.2	0.702	2/19/17	0:21	CMR
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	2/19/17	0:21	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	2/19/17	0:21	CMR
Propene	0.40	1.4	0.11	J	0.69	2.4	0.702	2/19/17	0:21	CMR
Styrene	ND	0.035	0.0068		ND	0.15	0.702	2/19/17	0:21	CMR
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	2/19/17	0:21	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	2/19/17	0:21	CMR
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	2/19/17	0:21	CMR
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	2/19/17	0:21	CMR
Toluene	0.11	0.035	0.011		0.43	0.13	0.702	2/19/17	0:21	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	2/19/17	0:21	CMR
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	2/19/17	0:21	CMR
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	2/19/17	0:21	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	2/19/17	0:21	CMR
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.012		1.3	0.79	0.702	2/19/17	0:21	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.077	0.14	0.0098	J	0.59	1.1	0.702	2/19/17	0:21	CMR
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	2/19/17	0:21	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	2/19/17	0:21	CMR
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	2/19/17	0:21	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	2/19/17	0:21	CMR
m&p-Xylene	0.035	0.070	0.018	J	0.15	0.30	0.702	2/19/17	0:21	CMR
o-Xylene	ND	0.035	0.010		ND	0.15	0.702	2/19/17	0:21	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	108	70-130	2/19/17 0:21
4-Bromofluorobenzene (2)	106	70-130	2/19/17 0:21

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-4-021017**  
**Sample ID: 17B0494-04**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 11:35

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1169  
 Canister Size: 6 liter  
 Flow Controller ID: 4181  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -6.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	4.8	1.4	0.49	L-03, V-05	11	3.3	0.702	2/19/17	1:09	CMR
Benzene	0.15	0.035	0.018		0.48	0.11	0.702	2/19/17	1:09	CMR
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	2/19/17	1:09	CMR
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	2/19/17	1:09	CMR
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	2/19/17	1:09	CMR
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	2/19/17	1:09	CMR
1,3-Butadiene	0.042	0.035	0.018		0.093	0.078	0.702	2/19/17	1:09	CMR
2-Butanone (MEK)	0.33	1.4	0.026	J	0.98	4.1	0.702	2/19/17	1:09	CMR
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	2/19/17	1:09	CMR
Carbon Tetrachloride	0.068	0.035	0.0085		0.43	0.22	0.702	2/19/17	1:09	CMR
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	2/19/17	1:09	CMR
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	2/19/17	1:09	CMR
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	2/19/17	1:09	CMR
Chloromethane	0.59	0.070	0.015		1.2	0.14	0.702	2/19/17	1:09	CMR
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/19/17	1:09	CMR
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	2/19/17	1:09	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	2/19/17	1:09	CMR
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	2/19/17	1:09	CMR
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	2/19/17	1:09	CMR
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	2/19/17	1:09	CMR
Dichlorodifluoromethane (Freon 12)	0.18	0.035	0.015		0.91	0.17	0.702	2/19/17	1:09	CMR
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	2/19/17	1:09	CMR
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	2/19/17	1:09	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	2/19/17	1:09	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	2/19/17	1:09	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	2/19/17	1:09	CMR
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	2/19/17	1:09	CMR
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	2/19/17	1:09	CMR
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	2/19/17	1:09	CMR
Ethanol	25	1.4	0.63	L-03, V-05	47	2.6	0.702	2/19/17	1:09	CMR
Ethyl Acetate	0.086	0.035	0.026		0.31	0.13	0.702	2/19/17	1:09	CMR
Ethylbenzene	ND	0.035	0.0097		ND	0.15	0.702	2/19/17	1:09	CMR
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	2/19/17	1:09	CMR
Heptane	ND	0.035	0.011		ND	0.14	0.702	2/19/17	1:09	CMR
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	2/19/17	1:09	CMR
Hexane	0.085	1.4	0.062	J	0.30	4.9	0.702	2/19/17	1:09	CMR
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	2/19/17	1:09	CMR
Isopropanol	0.63	1.4	0.043	L-03, V-05, J	1.5	3.4	0.702	2/19/17	1:09	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-4-021017**  
**Sample ID: 17B0494-04**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 11:35

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1169  
 Canister Size: 6 liter  
 Flow Controller ID: 4181  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -6.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	2/19/17 1:09	CMR	
Methylene Chloride	0.073	0.35	0.043	J	0.25	1.2	0.702	2/19/17 1:09	CMR	
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	2/19/17 1:09	CMR	
4-Methyl-2-pentanone (MIBK)	0.031	0.035	0.0084	J	0.13	0.14	0.702	2/19/17 1:09	CMR	
Propene	ND	1.4	0.11		ND	2.4	0.702	2/19/17 1:09	CMR	
Styrene	ND	0.035	0.0068		ND	0.15	0.702	2/19/17 1:09	CMR	
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	2/19/17 1:09	CMR	
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	2/19/17 1:09	CMR	
Tetrachloroethylene	0.053	0.035	0.010		0.36	0.24	0.702	2/19/17 1:09	CMR	
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	2/19/17 1:09	CMR	
Toluene	0.26	0.035	0.011		0.96	0.13	0.702	2/19/17 1:09	CMR	
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	2/19/17 1:09	CMR	
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	2/19/17 1:09	CMR	
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	2/19/17 1:09	CMR	
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	2/19/17 1:09	CMR	
Trichlorofluoromethane (Freon 11)	0.23	0.14	0.012		1.3	0.79	0.702	2/19/17 1:09	CMR	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.076	0.14	0.0098	J	0.59	1.1	0.702	2/19/17 1:09	CMR	
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	2/19/17 1:09	CMR	
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	2/19/17 1:09	CMR	
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	2/19/17 1:09	CMR	
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	2/19/17 1:09	CMR	
m&p-Xylene	0.055	0.070	0.018	J	0.24	0.30	0.702	2/19/17 1:09	CMR	
o-Xylene	ND	0.035	0.010		ND	0.15	0.702	2/19/17 1:09	CMR	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	108	70-130	2/19/17 1:09
4-Bromofluorobenzene (2)	108	70-130	2/19/17 1:09

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-5-021017**  
**Sample ID: 17B0494-05**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:37

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1870  
 Canister Size: 6 liter  
 Flow Controller ID: 4199  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -5.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	2.3	1.4	0.49	L-03, V-05	5.4	3.3	0.702	2/19/17	1:56	CMR
Benzene	0.14	0.035	0.018		0.45	0.11	0.702	2/19/17	1:56	CMR
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	2/19/17	1:56	CMR
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	2/19/17	1:56	CMR
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	2/19/17	1:56	CMR
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	2/19/17	1:56	CMR
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	2/19/17	1:56	CMR
2-Butanone (MEK)	0.23	1.4	0.026	J	0.67	4.1	0.702	2/19/17	1:56	CMR
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	2/19/17	1:56	CMR
Carbon Tetrachloride	0.069	0.035	0.0085		0.43	0.22	0.702	2/19/17	1:56	CMR
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	2/19/17	1:56	CMR
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	2/19/17	1:56	CMR
Chloroform	0.035	0.035	0.0082		0.17	0.17	0.702	2/19/17	1:56	CMR
Chloromethane	0.58	0.070	0.015		1.2	0.14	0.702	2/19/17	1:56	CMR
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/19/17	1:56	CMR
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	2/19/17	1:56	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	2/19/17	1:56	CMR
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	2/19/17	1:56	CMR
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	2/19/17	1:56	CMR
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	2/19/17	1:56	CMR
Dichlorodifluoromethane (Freon 12)	0.21	0.035	0.015		1.1	0.17	0.702	2/19/17	1:56	CMR
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	2/19/17	1:56	CMR
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	2/19/17	1:56	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	2/19/17	1:56	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	2/19/17	1:56	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	2/19/17	1:56	CMR
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	2/19/17	1:56	CMR
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	2/19/17	1:56	CMR
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	2/19/17	1:56	CMR
Ethanol	1.7	1.4	0.63	L-03, V-05	3.3	2.6	0.702	2/19/17	1:56	CMR
Ethyl Acetate	ND	0.035	0.026		ND	0.13	0.702	2/19/17	1:56	CMR
Ethylbenzene	ND	0.035	0.0097		ND	0.15	0.702	2/19/17	1:56	CMR
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	2/19/17	1:56	CMR
Heptane	ND	0.035	0.011		ND	0.14	0.702	2/19/17	1:56	CMR
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	2/19/17	1:56	CMR
Hexane	ND	1.4	0.062		ND	4.9	0.702	2/19/17	1:56	CMR
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	2/19/17	1:56	CMR
Isopropanol	0.33	1.4	0.043	L-03, V-05, J	0.81	3.4	0.702	2/19/17	1:56	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-5-021017**  
**Sample ID: 17B0494-05**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:37

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1870  
 Canister Size: 6 liter  
 Flow Controller ID: 4199  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -5.5  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	2/19/17	1:56	CMR
Methylene Chloride	0.073	0.35	0.043	J	0.25	1.2	0.702	2/19/17	1:56	CMR
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	2/19/17	1:56	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	2/19/17	1:56	CMR
Propene	0.45	1.4	0.11	J	0.78	2.4	0.702	2/19/17	1:56	CMR
Styrene	ND	0.035	0.0068		ND	0.15	0.702	2/19/17	1:56	CMR
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	2/19/17	1:56	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	2/19/17	1:56	CMR
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	2/19/17	1:56	CMR
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	2/19/17	1:56	CMR
Toluene	0.11	0.035	0.011		0.43	0.13	0.702	2/19/17	1:56	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	2/19/17	1:56	CMR
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	2/19/17	1:56	CMR
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	2/19/17	1:56	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	2/19/17	1:56	CMR
Trichlorofluoromethane (Freon 11)	0.23	0.14	0.012		1.3	0.79	0.702	2/19/17	1:56	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.069	0.14	0.0098	J	0.53	1.1	0.702	2/19/17	1:56	CMR
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	2/19/17	1:56	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	2/19/17	1:56	CMR
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	2/19/17	1:56	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	2/19/17	1:56	CMR
m&p-Xylene	0.034	0.070	0.018	J	0.15	0.30	0.702	2/19/17	1:56	CMR
o-Xylene	ND	0.035	0.010		ND	0.15	0.702	2/19/17	1:56	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	108	70-130	2/19/17 1:56
4-Bromofluorobenzene (2)	107	70-130	2/19/17 1:56

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-6-021017**  
**Sample ID: 17B0494-06**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:41

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1165  
 Canister Size: 6 liter  
 Flow Controller ID: 4038  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -11  
 Receipt Vacuum(in Hg): -3.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	3.0	1.4	0.49	L-03, V-05	7.0	3.3	0.702	2/19/17	2:44	CMR
Benzene	0.19	0.035	0.018		0.61	0.11	0.702	2/19/17	2:44	CMR
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	2/19/17	2:44	CMR
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	2/19/17	2:44	CMR
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	2/19/17	2:44	CMR
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	2/19/17	2:44	CMR
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	2/19/17	2:44	CMR
2-Butanone (MEK)	0.22	1.4	0.026	J	0.65	4.1	0.702	2/19/17	2:44	CMR
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	2/19/17	2:44	CMR
Carbon Tetrachloride	0.070	0.035	0.0085		0.44	0.22	0.702	2/19/17	2:44	CMR
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	2/19/17	2:44	CMR
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	2/19/17	2:44	CMR
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	2/19/17	2:44	CMR
Chloromethane	0.60	0.070	0.015		1.2	0.14	0.702	2/19/17	2:44	CMR
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/19/17	2:44	CMR
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	2/19/17	2:44	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	2/19/17	2:44	CMR
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	2/19/17	2:44	CMR
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	2/19/17	2:44	CMR
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	2/19/17	2:44	CMR
Dichlorodifluoromethane (Freon 12)	0.20	0.035	0.015		0.99	0.17	0.702	2/19/17	2:44	CMR
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	2/19/17	2:44	CMR
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	2/19/17	2:44	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	2/19/17	2:44	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	2/19/17	2:44	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	2/19/17	2:44	CMR
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	2/19/17	2:44	CMR
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	2/19/17	2:44	CMR
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	2/19/17	2:44	CMR
Ethanol	3.5	1.4	0.63	L-03, V-05	6.5	2.6	0.702	2/19/17	2:44	CMR
Ethyl Acetate	8.4	0.035	0.026		30	0.13	0.702	2/19/17	2:44	CMR
Ethylbenzene	ND	0.035	0.0097		ND	0.15	0.702	2/19/17	2:44	CMR
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	2/19/17	2:44	CMR
Heptane	ND	0.035	0.011		ND	0.14	0.702	2/19/17	2:44	CMR
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	2/19/17	2:44	CMR
Hexane	0.51	1.4	0.062	J	1.8	4.9	0.702	2/19/17	2:44	CMR
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	2/19/17	2:44	CMR
Isopropanol	0.66	1.4	0.043	L-03, V-05, J	1.6	3.4	0.702	2/19/17	2:44	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-6-021017**  
**Sample ID: 17B0494-06**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:41

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1165  
 Canister Size: 6 liter  
 Flow Controller ID: 4038  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -11  
 Receipt Vacuum(in Hg): -3.7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	2/19/17	2:44	CMR
Methylene Chloride	0.60	0.35	0.043		2.1	1.2	0.702	2/19/17	2:44	CMR
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	2/19/17	2:44	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	2/19/17	2:44	CMR
Propene	ND	1.4	0.11		ND	2.4	0.702	2/19/17	2:44	CMR
Styrene	ND	0.035	0.0068		ND	0.15	0.702	2/19/17	2:44	CMR
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	2/19/17	2:44	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	2/19/17	2:44	CMR
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	2/19/17	2:44	CMR
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	2/19/17	2:44	CMR
Toluene	0.37	0.035	0.011		1.4	0.13	0.702	2/19/17	2:44	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	2/19/17	2:44	CMR
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	2/19/17	2:44	CMR
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	2/19/17	2:44	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	2/19/17	2:44	CMR
Trichlorofluoromethane (Freon 11)	0.25	0.14	0.012		1.4	0.79	0.702	2/19/17	2:44	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.070	0.14	0.0098	J	0.54	1.1	0.702	2/19/17	2:44	CMR
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	2/19/17	2:44	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	2/19/17	2:44	CMR
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	2/19/17	2:44	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	2/19/17	2:44	CMR
m&p-Xylene	0.050	0.070	0.018	J	0.22	0.30	0.702	2/19/17	2:44	CMR
o-Xylene	ND	0.035	0.010		ND	0.15	0.702	2/19/17	2:44	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	108	70-130	2/19/17 2:44
4-Bromofluorobenzene (2)	108	70-130	2/19/17 2:44

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-7-021017**  
**Sample ID: 17B0494-07**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:52

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1641  
 Canister Size: 6 liter  
 Flow Controller ID: 4206  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -5.4  
 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	3.2	1.4	0.49	L-03, V-05	7.5	3.3	0.702	2/19/17	3:32	CMR
Benzene	0.15	0.035	0.018		0.47	0.11	0.702	2/19/17	3:32	CMR
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	2/19/17	3:32	CMR
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	2/19/17	3:32	CMR
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	2/19/17	3:32	CMR
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	2/19/17	3:32	CMR
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	2/19/17	3:32	CMR
2-Butanone (MEK)	0.28	1.4	0.026	J	0.81	4.1	0.702	2/19/17	3:32	CMR
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	2/19/17	3:32	CMR
Carbon Tetrachloride	0.067	0.035	0.0085		0.42	0.22	0.702	2/19/17	3:32	CMR
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	2/19/17	3:32	CMR
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	2/19/17	3:32	CMR
Chloroform	0.032	0.035	0.0082	J	0.15	0.17	0.702	2/19/17	3:32	CMR
Chloromethane	0.60	0.070	0.015		1.2	0.14	0.702	2/19/17	3:32	CMR
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/19/17	3:32	CMR
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	2/19/17	3:32	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	2/19/17	3:32	CMR
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	2/19/17	3:32	CMR
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	2/19/17	3:32	CMR
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	2/19/17	3:32	CMR
Dichlorodifluoromethane (Freon 12)	0.18	0.035	0.015		0.88	0.17	0.702	2/19/17	3:32	CMR
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	2/19/17	3:32	CMR
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	2/19/17	3:32	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	2/19/17	3:32	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	2/19/17	3:32	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	2/19/17	3:32	CMR
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	2/19/17	3:32	CMR
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	2/19/17	3:32	CMR
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	2/19/17	3:32	CMR
Ethanol	7.7	1.4	0.63	L-03, V-05	15	2.6	0.702	2/19/17	3:32	CMR
Ethyl Acetate	0.98	0.035	0.026		3.5	0.13	0.702	2/19/17	3:32	CMR
Ethylbenzene	ND	0.035	0.0097		ND	0.15	0.702	2/19/17	3:32	CMR
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	2/19/17	3:32	CMR
Heptane	ND	0.035	0.011		ND	0.14	0.702	2/19/17	3:32	CMR
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	2/19/17	3:32	CMR
Hexane	0.10	1.4	0.062	J	0.36	4.9	0.702	2/19/17	3:32	CMR
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	2/19/17	3:32	CMR
Isopropanol	3.5	1.4	0.043	L-03, V-05	8.5	3.4	0.702	2/19/17	3:32	CMR



**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: IA-7-021017**  
**Sample ID: 17B0494-07**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:52

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1641  
 Canister Size: 6 liter  
 Flow Controller ID: 4206  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -6  
 Receipt Vacuum(in Hg): -5.4  
 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	2/19/17	3:32	CMR
Methylene Chloride	0.14	0.35	0.043	J	0.49	1.2	0.702	2/19/17	3:32	CMR
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	2/19/17	3:32	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	2/19/17	3:32	CMR
Propene	0.45	1.4	0.11	J	0.78	2.4	0.702	2/19/17	3:32	CMR
Styrene	ND	0.035	0.0068		ND	0.15	0.702	2/19/17	3:32	CMR
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	2/19/17	3:32	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	2/19/17	3:32	CMR
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	2/19/17	3:32	CMR
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	2/19/17	3:32	CMR
Toluene	0.14	0.035	0.011		0.51	0.13	0.702	2/19/17	3:32	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	2/19/17	3:32	CMR
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	2/19/17	3:32	CMR
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	2/19/17	3:32	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	2/19/17	3:32	CMR
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.012		1.4	0.79	0.702	2/19/17	3:32	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.076	0.14	0.0098	J	0.58	1.1	0.702	2/19/17	3:32	CMR
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	2/19/17	3:32	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	2/19/17	3:32	CMR
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	2/19/17	3:32	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	2/19/17	3:32	CMR
m&p-Xylene	0.037	0.070	0.018	J	0.16	0.30	0.702	2/19/17	3:32	CMR
o-Xylene	ND	0.035	0.010		ND	0.15	0.702	2/19/17	3:32	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	107	70-130	2/19/17 3:32
4-Bromofluorobenzene (2)	108	70-130	2/19/17 3:32

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: EW-5-021017**  
**Sample ID: 17B0494-08**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:20

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1876  
 Canister Size: 6 liter  
 Flow Controller ID: 4105  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): 0  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analyzed		
Acetone	4.8	4.0	1.4	L-03, V-05	11	9.5	2	2/19/17	4:14	CMR
Benzene	0.12	0.10	0.052		0.38	0.32	2	2/19/17	4:14	CMR
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	2/19/17	4:14	CMR
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	2/19/17	4:14	CMR
Bromoform	ND	0.10	0.019		ND	1.0	2	2/19/17	4:14	CMR
Bromomethane	ND	0.10	0.069		ND	0.39	2	2/19/17	4:14	CMR
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	2/19/17	4:14	CMR
2-Butanone (MEK)	9.8	4.0	0.075		29	12	2	2/19/17	4:14	CMR
Carbon Disulfide	0.37	1.0	0.034	J	1.2	3.1	2	2/19/17	4:14	CMR
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	2/19/17	4:14	CMR
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	2/19/17	4:14	CMR
Chloroethane	ND	0.10	0.038		ND	0.26	2	2/19/17	4:14	CMR
Chloroform	ND	0.10	0.023		ND	0.49	2	2/19/17	4:14	CMR
Chloromethane	ND	0.20	0.044		ND	0.41	2	2/19/17	4:14	CMR
Cyclohexane	ND	0.10	0.057		ND	0.34	2	2/19/17	4:14	CMR
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	2/19/17	4:14	CMR
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	2/19/17	4:14	CMR
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	2/19/17	4:14	CMR
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	2/19/17	4:14	CMR
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	2/19/17	4:14	CMR
Dichlorodifluoromethane (Freon 12)	0.31	0.10	0.043		1.5	0.49	2	2/19/17	4:14	CMR
1,1-Dichloroethane	0.46	0.10	0.028		1.8	0.40	2	2/19/17	4:14	CMR
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	2/19/17	4:14	CMR
1,1-Dichloroethylene	0.10	0.10	0.024		0.40	0.40	2	2/19/17	4:14	CMR
cis-1,2-Dichloroethylene	ND	0.10	0.038		ND	0.40	2	2/19/17	4:14	CMR
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	2/19/17	4:14	CMR
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	2/19/17	4:14	CMR
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	2/19/17	4:14	CMR
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	2/19/17	4:14	CMR
Ethanol	3.5	4.0	1.8	L-03, V-05, J	6.7	7.5	2	2/19/17	4:14	CMR
Ethyl Acetate	0.69	0.10	0.075		2.5	0.36	2	2/19/17	4:14	CMR
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	2/19/17	4:14	CMR
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	2/19/17	4:14	CMR
Heptane	ND	0.10	0.032		ND	0.41	2	2/19/17	4:14	CMR
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	2/19/17	4:14	CMR
Hexane	0.40	4.0	0.18	J	1.4	14	2	2/19/17	4:14	CMR
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	2/19/17	4:14	CMR
Isopropanol	0.82	4.0	0.12	L-03, V-05, J	2.0	9.8	2	2/19/17	4:14	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: EW-5-021017**  
**Sample ID: 17B0494-08**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:20

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1876  
 Canister Size: 6 liter  
 Flow Controller ID: 4105  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): 0  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	2/19/17	4:14	CMR
Methylene Chloride	0.36	1.0	0.12	J	1.3	3.5	2	2/19/17	4:14	CMR
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	2/19/17	4:14	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	2/19/17	4:14	CMR
Propene	ND	4.0	0.31		ND	6.9	2	2/19/17	4:14	CMR
Styrene	ND	0.10	0.019		ND	0.43	2	2/19/17	4:14	CMR
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	2/19/17	4:14	CMR
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	2/19/17	4:14	CMR
Tetrachloroethylene	ND	0.10	0.028		ND	0.68	2	2/19/17	4:14	CMR
Tetrahydrofuran	4.3	0.10	0.042		13	0.29	2	2/19/17	4:14	CMR
Toluene	0.11	0.10	0.031		0.43	0.38	2	2/19/17	4:14	CMR
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	2/19/17	4:14	CMR
1,1,1-Trichloroethane	1.4	0.10	0.018		7.4	0.55	2	2/19/17	4:14	CMR
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	2/19/17	4:14	CMR
Trichloroethylene	3.1	0.10	0.030		16	0.54	2	2/19/17	4:14	CMR
Trichlorofluoromethane (Freon 11)	0.40	0.40	0.035		2.2	2.2	2	2/19/17	4:14	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	0.028		ND	3.1	2	2/19/17	4:14	CMR
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	2/19/17	4:14	CMR
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	2/19/17	4:14	CMR
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	2/19/17	4:14	CMR
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	2/19/17	4:14	CMR
m&p-Xylene	ND	0.20	0.050		ND	0.87	2	2/19/17	4:14	CMR
o-Xylene	ND	0.10	0.029		ND	0.43	2	2/19/17	4:14	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	109	70-130	2/19/17 4:14
4-Bromofluorobenzene (2)	109	70-130	2/19/17 4:14

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: EW-6-021017**  
**Sample ID: 17B0494-09**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:45

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1337  
 Canister Size: 6 liter  
 Flow Controller ID: 4104  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -11  
 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		Analyzed		
Acetone	10	4.0	1.4	L-03, V-05	25	9.5	2	2/19/17	4:56	CMR
Benzene	0.40	0.10	0.052		1.3	0.32	2	2/19/17	4:56	CMR
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	2/19/17	4:56	CMR
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	2/19/17	4:56	CMR
Bromoform	ND	0.10	0.019		ND	1.0	2	2/19/17	4:56	CMR
Bromomethane	ND	0.10	0.069		ND	0.39	2	2/19/17	4:56	CMR
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	2/19/17	4:56	CMR
2-Butanone (MEK)	1.0	4.0	0.075	J	3.1	12	2	2/19/17	4:56	CMR
Carbon Disulfide	1.2	1.0	0.034		3.6	3.1	2	2/19/17	4:56	CMR
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	2/19/17	4:56	CMR
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	2/19/17	4:56	CMR
Chloroethane	ND	0.10	0.038		ND	0.26	2	2/19/17	4:56	CMR
Chloroform	ND	0.10	0.023		ND	0.49	2	2/19/17	4:56	CMR
Chloromethane	0.65	0.20	0.044		1.4	0.41	2	2/19/17	4:56	CMR
Cyclohexane	ND	0.10	0.057		ND	0.34	2	2/19/17	4:56	CMR
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	2/19/17	4:56	CMR
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	2/19/17	4:56	CMR
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	2/19/17	4:56	CMR
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	2/19/17	4:56	CMR
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	2/19/17	4:56	CMR
Dichlorodifluoromethane (Freon 12)	0.28	0.10	0.043		1.4	0.49	2	2/19/17	4:56	CMR
1,1-Dichloroethane	0.22	0.10	0.028		0.88	0.40	2	2/19/17	4:56	CMR
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	2/19/17	4:56	CMR
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	2/19/17	4:56	CMR
cis-1,2-Dichloroethylene	ND	0.10	0.038		ND	0.40	2	2/19/17	4:56	CMR
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	2/19/17	4:56	CMR
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	2/19/17	4:56	CMR
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	2/19/17	4:56	CMR
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	2/19/17	4:56	CMR
Ethanol	13	4.0	1.8	L-03, V-05	24	7.5	2	2/19/17	4:56	CMR
Ethyl Acetate	38	0.10	0.075		140	0.36	2	2/19/17	4:56	CMR
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	2/19/17	4:56	CMR
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	2/19/17	4:56	CMR
Heptane	ND	0.10	0.032		ND	0.41	2	2/19/17	4:56	CMR
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	2/19/17	4:56	CMR
Hexane	1.5	4.0	0.18	J	5.3	14	2	2/19/17	4:56	CMR
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	2/19/17	4:56	CMR
Isopropanol	1.8	4.0	0.12	L-03, V-05, J	4.5	9.8	2	2/19/17	4:56	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: EW-6-021017**  
**Sample ID: 17B0494-09**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:45

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1337  
 Canister Size: 6 liter  
 Flow Controller ID: 4104  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -30  
 Final Vacuum(in Hg): -11  
 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		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	2/19/17	4:56	CMR
Methylene Chloride	1.3	1.0	0.12		4.4	3.5	2	2/19/17	4:56	CMR
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	2/19/17	4:56	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	2/19/17	4:56	CMR
Propene	0.76	4.0	0.31	J	1.3	6.9	2	2/19/17	4:56	CMR
Styrene	ND	0.10	0.019		ND	0.43	2	2/19/17	4:56	CMR
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	2/19/17	4:56	CMR
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	2/19/17	4:56	CMR
Tetrachloroethylene	ND	0.10	0.028		ND	0.68	2	2/19/17	4:56	CMR
Tetrahydrofuran	7.1	0.10	0.042		21	0.29	2	2/19/17	4:56	CMR
Toluene	1.1	0.10	0.031		4.1	0.38	2	2/19/17	4:56	CMR
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	2/19/17	4:56	CMR
1,1,1-Trichloroethane	0.74	0.10	0.018		4.0	0.55	2	2/19/17	4:56	CMR
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	2/19/17	4:56	CMR
Trichloroethylene	0.61	0.10	0.030		3.3	0.54	2	2/19/17	4:56	CMR
Trichlorofluoromethane (Freon 11)	1.3	0.40	0.035		7.4	2.2	2	2/19/17	4:56	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	0.028		ND	3.1	2	2/19/17	4:56	CMR
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	2/19/17	4:56	CMR
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	2/19/17	4:56	CMR
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	2/19/17	4:56	CMR
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	2/19/17	4:56	CMR
m&p-Xylene	ND	0.20	0.050		ND	0.87	2	2/19/17	4:56	CMR
o-Xylene	ND	0.10	0.029		ND	0.43	2	2/19/17	4:56	CMR

Surrogates	% Recovery	% REC Limits	Date/Time
4-Bromofluorobenzene (1)	108	70-130	2/19/17 4:56
4-Bromofluorobenzene (2)	108	70-130	2/19/17 4:56

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: EW-7-021017**  
**Sample ID: 17B0494-10**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:56

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1497  
 Canister Size: 6 liter  
 Flow Controller ID: 4103  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -27  
 Final Vacuum(in Hg): -11  
 Receipt Vacuum(in Hg): -11.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	10	4.0	1.4	L-03, V-05	25	9.5	2	2/19/17	5:40	CMR
Benzene	0.14	0.10	0.052		0.44	0.32	2	2/19/17	5:40	CMR
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	2/19/17	5:40	CMR
Bromodichloromethane	ND	0.10	0.022		ND	0.67	2	2/19/17	5:40	CMR
Bromoform	ND	0.10	0.019		ND	1.0	2	2/19/17	5:40	CMR
Bromomethane	ND	0.10	0.069		ND	0.39	2	2/19/17	5:40	CMR
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	2/19/17	5:40	CMR
2-Butanone (MEK)	2.0	4.0	0.075	J	6.0	12	2	2/19/17	5:40	CMR
Carbon Disulfide	ND	1.0	0.034		ND	3.1	2	2/19/17	5:40	CMR
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	2/19/17	5:40	CMR
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	2/19/17	5:40	CMR
Chloroethane	ND	0.10	0.038		ND	0.26	2	2/19/17	5:40	CMR
Chloroform	0.45	0.10	0.023		2.2	0.49	2	2/19/17	5:40	CMR
Chloromethane	ND	0.20	0.044		ND	0.41	2	2/19/17	5:40	CMR
Cyclohexane	ND	0.10	0.057		ND	0.34	2	2/19/17	5:40	CMR
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	2/19/17	5:40	CMR
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	2/19/17	5:40	CMR
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	2/19/17	5:40	CMR
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	2/19/17	5:40	CMR
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	2/19/17	5:40	CMR
Dichlorodifluoromethane (Freon 12)	0.23	0.10	0.043		1.1	0.49	2	2/19/17	5:40	CMR
1,1-Dichloroethane	1.6	0.10	0.028		6.3	0.40	2	2/19/17	5:40	CMR
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	2/19/17	5:40	CMR
1,1-Dichloroethylene	ND	0.10	0.024		ND	0.40	2	2/19/17	5:40	CMR
cis-1,2-Dichloroethylene	0.68	0.10	0.038		2.7	0.40	2	2/19/17	5:40	CMR
trans-1,2-Dichloroethylene	2.3	0.10	0.026		9.0	0.40	2	2/19/17	5:40	CMR
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	2/19/17	5:40	CMR
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	2/19/17	5:40	CMR
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	2/19/17	5:40	CMR
Ethanol	6.8	4.0	1.8	L-03, V-05	13	7.5	2	2/19/17	5:40	CMR
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	2/19/17	5:40	CMR
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	2/19/17	5:40	CMR
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	2/19/17	5:40	CMR
Heptane	ND	0.10	0.032		ND	0.41	2	2/19/17	5:40	CMR
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	2/19/17	5:40	CMR
Hexane	ND	4.0	0.18		ND	14	2	2/19/17	5:40	CMR
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	2/19/17	5:40	CMR
Isopropanol	2.1	4.0	0.12	L-03, V-05, J	5.1	9.8	2	2/19/17	5:40	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: EW-7-021017**  
**Sample ID: 17B0494-10**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 09:56

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1497  
 Canister Size: 6 liter  
 Flow Controller ID: 4103  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -27  
 Final Vacuum(in Hg): -11  
 Receipt Vacuum(in Hg): -11.8  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analyzed		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	2/19/17	5:40	CMR
Methylene Chloride	0.38	1.0	0.12	J	1.3	3.5	2	2/19/17	5:40	CMR
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	2/19/17	5:40	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	2/19/17	5:40	CMR
Propene	0.45	4.0	0.31	J	0.77	6.9	2	2/19/17	5:40	CMR
Styrene	ND	0.10	0.019		ND	0.43	2	2/19/17	5:40	CMR
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	2/19/17	5:40	CMR
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	2/19/17	5:40	CMR
Tetrachloroethylene	4.0	0.10	0.028		27	0.68	2	2/19/17	5:40	CMR
Tetrahydrofuran	0.85	0.10	0.042		2.5	0.29	2	2/19/17	5:40	CMR
Toluene	0.10	0.10	0.031		0.39	0.38	2	2/19/17	5:40	CMR
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	2/19/17	5:40	CMR
1,1,1-Trichloroethane	5.6	0.10	0.018		30	0.55	2	2/19/17	5:40	CMR
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	2/19/17	5:40	CMR
Trichloroethylene	27	0.10	0.030		140	0.54	2	2/19/17	5:40	CMR
Trichlorofluoromethane (Freon 11)	160	8.0	0.70		890	45	40	2/18/17	2:18	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.12	0.40	0.028	J	0.90	3.1	2	2/19/17	5:40	CMR
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	2/19/17	5:40	CMR
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	2/19/17	5:40	CMR
Vinyl Acetate	ND	2.0	0.051		ND	7.0	2	2/19/17	5:40	CMR
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	2/19/17	5:40	CMR
m&p-Xylene	ND	0.20	0.050		ND	0.87	2	2/19/17	5:40	CMR
o-Xylene	ND	0.10	0.029		ND	0.43	2	2/19/17	5:40	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	87.1	70-130	2/18/17 2:18
4-Bromofluorobenzene (1)	108	70-130	2/19/17 5:40
4-Bromofluorobenzene (2)	108	70-130	2/19/17 5:40



**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: EW-Combined-021017**  
**Sample ID: 17B0494-11**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 12:12

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1721  
 Canister Size: 6 liter  
 Flow Controller ID: 4188  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -4  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	ppbv			Flag	ug/m3		Dilution	Date/Time		Analyst
	Results	RL	MDL		Results	RL		Analized		
Acetone	1.6	4.0	1.4	L-03, V-05, J	3.7	9.5	2	2/19/17	6:22	CMR
Benzene	0.10	0.10	0.052		0.33	0.32	2	2/19/17	6:22	CMR
Benzyl chloride	ND	0.10	0.019		ND	0.52	2	2/19/17	6:22	CMR
Bromodichloromethane	0.24	0.10	0.022		1.6	0.67	2	2/19/17	6:22	CMR
Bromoform	ND	0.10	0.019		ND	1.0	2	2/19/17	6:22	CMR
Bromomethane	ND	0.10	0.069		ND	0.39	2	2/19/17	6:22	CMR
1,3-Butadiene	ND	0.10	0.051		ND	0.22	2	2/19/17	6:22	CMR
2-Butanone (MEK)	0.20	4.0	0.075	J	0.59	12	2	2/19/17	6:22	CMR
Carbon Disulfide	ND	1.0	0.034		ND	3.1	2	2/19/17	6:22	CMR
Carbon Tetrachloride	ND	0.10	0.024		ND	0.63	2	2/19/17	6:22	CMR
Chlorobenzene	ND	0.10	0.035		ND	0.46	2	2/19/17	6:22	CMR
Chloroethane	0.12	0.10	0.038		0.31	0.26	2	2/19/17	6:22	CMR
Chloroform	0.31	0.10	0.023		1.5	0.49	2	2/19/17	6:22	CMR
Chloromethane	2.7	0.20	0.044		5.7	0.41	2	2/19/17	6:22	CMR
Cyclohexane	0.15	0.10	0.057		0.53	0.34	2	2/19/17	6:22	CMR
Dibromochloromethane	ND	0.10	0.027		ND	0.85	2	2/19/17	6:22	CMR
1,2-Dibromoethane (EDB)	ND	0.10	0.022		ND	0.77	2	2/19/17	6:22	CMR
1,2-Dichlorobenzene	ND	0.10	0.027		ND	0.60	2	2/19/17	6:22	CMR
1,3-Dichlorobenzene	ND	0.10	0.022		ND	0.60	2	2/19/17	6:22	CMR
1,4-Dichlorobenzene	ND	0.10	0.025		ND	0.60	2	2/19/17	6:22	CMR
Dichlorodifluoromethane (Freon 12)	0.26	0.10	0.043		1.3	0.49	2	2/19/17	6:22	CMR
1,1-Dichloroethane	6.3	0.10	0.028		25	0.40	2	2/19/17	6:22	CMR
1,2-Dichloroethane	ND	0.10	0.028		ND	0.40	2	2/19/17	6:22	CMR
1,1-Dichloroethylene	2.7	0.10	0.024		11	0.40	2	2/19/17	6:22	CMR
cis-1,2-Dichloroethylene	1.8	0.10	0.038		7.3	0.40	2	2/19/17	6:22	CMR
trans-1,2-Dichloroethylene	ND	0.10	0.026		ND	0.40	2	2/19/17	6:22	CMR
1,2-Dichloropropane	ND	0.10	0.035		ND	0.46	2	2/19/17	6:22	CMR
cis-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	2/19/17	6:22	CMR
trans-1,3-Dichloropropene	ND	0.10	0.027		ND	0.45	2	2/19/17	6:22	CMR
Ethanol	3.1	4.0	1.8	L-03, V-05, J	5.9	7.5	2	2/19/17	6:22	CMR
Ethyl Acetate	ND	0.10	0.075		ND	0.36	2	2/19/17	6:22	CMR
Ethylbenzene	ND	0.10	0.028		ND	0.43	2	2/19/17	6:22	CMR
4-Ethyltoluene	ND	0.10	0.023		ND	0.49	2	2/19/17	6:22	CMR
Heptane	ND	0.10	0.032		ND	0.41	2	2/19/17	6:22	CMR
Hexachlorobutadiene	ND	0.10	0.038		ND	1.1	2	2/19/17	6:22	CMR
Hexane	ND	4.0	0.18		ND	14	2	2/19/17	6:22	CMR
2-Hexanone (MBK)	ND	0.10	0.026		ND	0.41	2	2/19/17	6:22	CMR
Isopropanol	0.27	4.0	0.12	L-03, V-05, J	0.66	9.8	2	2/19/17	6:22	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: EW-Combined-021017**  
**Sample ID: 17B0494-11**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 12:12

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1721  
 Canister Size: 6 liter  
 Flow Controller ID: 4188  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -4  
 Receipt Vacuum(in Hg): -4  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv		Flag	ug/m3		Dilution	Date/Time		Analyst
		RL	MDL		Results	RL		Analized		
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.031		ND	0.36	2	2/19/17 6:22	CMR	
Methylene Chloride	ND	1.0	0.12		ND	3.5	2	2/19/17 6:22	CMR	
Methyl methacrylate	ND	0.10	0.031		ND	0.41	2	2/19/17 6:22	CMR	
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.024		ND	0.41	2	2/19/17 6:22	CMR	
Propene	0.81	4.0	0.31	J	1.4	6.9	2	2/19/17 6:22	CMR	
Styrene	ND	0.10	0.019		ND	0.43	2	2/19/17 6:22	CMR	
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	2	2/19/17 6:22	CMR	
1,1,2,2-Tetrachloroethane	ND	0.10	0.024		ND	0.69	2	2/19/17 6:22	CMR	
Tetrachloroethylene	9.7	0.10	0.028		66	0.68	2	2/19/17 6:22	CMR	
Tetrahydrofuran	ND	0.10	0.042		ND	0.29	2	2/19/17 6:22	CMR	
Toluene	0.096	0.10	0.031	J	0.36	0.38	2	2/19/17 6:22	CMR	
1,2,4-Trichlorobenzene	ND	0.10	0.038		ND	0.74	2	2/19/17 6:22	CMR	
1,1,1-Trichloroethane	48	0.10	0.018		260	0.55	2	2/19/17 6:22	CMR	
1,1,2-Trichloroethane	ND	0.10	0.030		ND	0.55	2	2/19/17 6:22	CMR	
Trichloroethylene	33	0.10	0.030		180	0.54	2	2/19/17 6:22	CMR	
Trichlorofluoromethane (Freon 11)	16	0.40	0.035		88	2.2	2	2/19/17 6:22	CMR	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	0.028		ND	3.1	2	2/19/17 6:22	CMR	
1,2,4-Trimethylbenzene	ND	0.10	0.025		ND	0.49	2	2/19/17 6:22	CMR	
1,3,5-Trimethylbenzene	ND	0.10	0.020		ND	0.49	2	2/19/17 6:22	CMR	
Vinyl Acetate	0.16	2.0	0.051	J	0.56	7.0	2	2/19/17 6:22	CMR	
Vinyl Chloride	ND	0.10	0.043		ND	0.26	2	2/19/17 6:22	CMR	
m&p-Xylene	ND	0.20	0.050		ND	0.87	2	2/19/17 6:22	CMR	
o-Xylene	ND	0.10	0.029		ND	0.43	2	2/19/17 6:22	CMR	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	108	70-130	2/19/17 6:22
4-Bromofluorobenzene (2)	106	70-130	2/19/17 6:22

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: AA-1-021017**  
**Sample ID: 17B0494-12**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 11:40

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1110  
 Canister Size: 6 liter  
 Flow Controller ID: 4072  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -5.2  
 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	1.3	1.4	0.49	L-03, V-05, J	3.1	3.3	0.702	2/18/17 22:00	CMR
Benzene	0.12	0.035	0.018		0.37	0.11	0.702	2/18/17 22:00	CMR
Benzyl chloride	ND	0.035	0.0068		ND	0.18	0.702	2/18/17 22:00	CMR
Bromodichloromethane	ND	0.035	0.0076		ND	0.24	0.702	2/18/17 22:00	CMR
Bromoform	ND	0.035	0.0067		ND	0.36	0.702	2/18/17 22:00	CMR
Bromomethane	ND	0.035	0.024		ND	0.14	0.702	2/18/17 22:00	CMR
1,3-Butadiene	ND	0.035	0.018		ND	0.078	0.702	2/18/17 22:00	CMR
2-Butanone (MEK)	0.31	1.4	0.026	J	0.91	4.1	0.702	2/18/17 22:00	CMR
Carbon Disulfide	ND	0.35	0.012		ND	1.1	0.702	2/18/17 22:00	CMR
Carbon Tetrachloride	0.070	0.035	0.0085		0.44	0.22	0.702	2/18/17 22:00	CMR
Chlorobenzene	ND	0.035	0.012		ND	0.16	0.702	2/18/17 22:00	CMR
Chloroethane	ND	0.035	0.013		ND	0.093	0.702	2/18/17 22:00	CMR
Chloroform	ND	0.035	0.0082		ND	0.17	0.702	2/18/17 22:00	CMR
Chloromethane	0.60	0.070	0.015		1.2	0.14	0.702	2/18/17 22:00	CMR
Cyclohexane	ND	0.035	0.020		ND	0.12	0.702	2/18/17 22:00	CMR
Dibromochloromethane	ND	0.035	0.0093		ND	0.30	0.702	2/18/17 22:00	CMR
1,2-Dibromoethane (EDB)	ND	0.035	0.0079		ND	0.27	0.702	2/18/17 22:00	CMR
1,2-Dichlorobenzene	ND	0.035	0.0093		ND	0.21	0.702	2/18/17 22:00	CMR
1,3-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.702	2/18/17 22:00	CMR
1,4-Dichlorobenzene	ND	0.035	0.0088		ND	0.21	0.702	2/18/17 22:00	CMR
Dichlorodifluoromethane (Freon 12)	0.21	0.035	0.015		1.0	0.17	0.702	2/18/17 22:00	CMR
1,1-Dichloroethane	ND	0.035	0.0099		ND	0.14	0.702	2/18/17 22:00	CMR
1,2-Dichloroethane	ND	0.035	0.0098		ND	0.14	0.702	2/18/17 22:00	CMR
1,1-Dichloroethylene	ND	0.035	0.0086		ND	0.14	0.702	2/18/17 22:00	CMR
cis-1,2-Dichloroethylene	ND	0.035	0.013		ND	0.14	0.702	2/18/17 22:00	CMR
trans-1,2-Dichloroethylene	ND	0.035	0.0093		ND	0.14	0.702	2/18/17 22:00	CMR
1,2-Dichloropropane	ND	0.035	0.012		ND	0.16	0.702	2/18/17 22:00	CMR
cis-1,3-Dichloropropene	ND	0.035	0.0093		ND	0.16	0.702	2/18/17 22:00	CMR
trans-1,3-Dichloropropene	ND	0.035	0.0094		ND	0.16	0.702	2/18/17 22:00	CMR
Ethanol	1.3	1.4	0.63	L-03, V-05, J	2.5	2.6	0.702	2/18/17 22:00	CMR
Ethyl Acetate	0.65	0.035	0.026		2.3	0.13	0.702	2/18/17 22:00	CMR
Ethylbenzene	ND	0.035	0.0097		ND	0.15	0.702	2/18/17 22:00	CMR
4-Ethyltoluene	ND	0.035	0.0079		ND	0.17	0.702	2/18/17 22:00	CMR
Heptane	ND	0.035	0.011		ND	0.14	0.702	2/18/17 22:00	CMR
Hexachlorobutadiene	ND	0.035	0.013		ND	0.37	0.702	2/18/17 22:00	CMR
Hexane	0.20	1.4	0.062	J	0.69	4.9	0.702	2/18/17 22:00	CMR
2-Hexanone (MBK)	ND	0.035	0.0090		ND	0.14	0.702	2/18/17 22:00	CMR
Isopropanol	0.31	1.4	0.043	V-05, L-03, J	0.76	3.4	0.702	2/18/17 22:00	CMR

**ANALYTICAL RESULTS**

Project Location: Textron Gorham - Providence, RI  
 Date Received: 2/10/2017  
**Field Sample #: AA-1-021017**  
**Sample ID: 17B0494-12**  
 Sample Matrix: Indoor air  
 Sampled: 2/10/2017 11:40

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1110  
 Canister Size: 6 liter  
 Flow Controller ID: 4072  
 Sample Type: 30 min

**Work Order: 17B0494**  
 Initial Vacuum(in Hg): -28  
 Final Vacuum(in Hg): -7  
 Receipt Vacuum(in Hg): -5.2  
 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 Analyzed	Analyst
		RL	MDL		Results	RL			
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.011		ND	0.13	0.702	2/18/17 22:00	CMR
Methylene Chloride	0.29	0.35	0.043	J	1.0	1.2	0.702	2/18/17 22:00	CMR
Methyl methacrylate	ND	0.035	0.011		ND	0.14	0.702	2/18/17 22:00	CMR
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.0084		ND	0.14	0.702	2/18/17 22:00	CMR
Propene	0.37	1.4	0.11	J	0.63	2.4	0.702	2/18/17 22:00	CMR
Styrene	ND	0.035	0.0068		ND	0.15	0.702	2/18/17 22:00	CMR
1,1,1,2-Tetrachloroethane	ND	0.064	0.023		ND	0.44	0.702	2/18/17 22:00	CMR
1,1,2,2-Tetrachloroethane	ND	0.035	0.0084		ND	0.24	0.702	2/18/17 22:00	CMR
Tetrachloroethylene	ND	0.035	0.010		ND	0.24	0.702	2/18/17 22:00	CMR
Tetrahydrofuran	ND	0.035	0.015		ND	0.10	0.702	2/18/17 22:00	CMR
Toluene	0.65	0.035	0.011		2.4	0.13	0.702	2/18/17 22:00	CMR
1,2,4-Trichlorobenzene	ND	0.035	0.013		ND	0.26	0.702	2/18/17 22:00	CMR
1,1,1-Trichloroethane	ND	0.035	0.0063		ND	0.19	0.702	2/18/17 22:00	CMR
1,1,2-Trichloroethane	ND	0.035	0.011		ND	0.19	0.702	2/18/17 22:00	CMR
Trichloroethylene	ND	0.035	0.010		ND	0.19	0.702	2/18/17 22:00	CMR
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.012		1.3	0.79	0.702	2/18/17 22:00	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.072	0.14	0.0098	J	0.55	1.1	0.702	2/18/17 22:00	CMR
1,2,4-Trimethylbenzene	ND	0.035	0.0086		ND	0.17	0.702	2/18/17 22:00	CMR
1,3,5-Trimethylbenzene	ND	0.035	0.0070		ND	0.17	0.702	2/18/17 22:00	CMR
Vinyl Acetate	ND	0.70	0.018		ND	2.5	0.702	2/18/17 22:00	CMR
Vinyl Chloride	ND	0.035	0.015		ND	0.090	0.702	2/18/17 22:00	CMR
m&p-Xylene	0.081	0.070	0.018		0.35	0.30	0.702	2/18/17 22:00	CMR
o-Xylene	0.028	0.035	0.010	J	0.12	0.15	0.702	2/18/17 22:00	CMR

Surrogates	% Recovery	% REC Limits	Date/Time Analyzed
4-Bromofluorobenzene (1)	107	70-130	2/18/17 22:00
4-Bromofluorobenzene (2)	109	70-130	2/18/17 22:00

**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
17B0494-01 [IA-1-021017]	B170946	1.5	1	N/A	1000	400	855	02/18/17
17B0494-02 [IA-2-021017]	B170946	1.5	1	N/A	1000	400	855	02/18/17
17B0494-03 [IA-3-021017]	B170946	1.5	1	N/A	1000	400	855	02/18/17
17B0494-04 [IA-4-021017]	B170946	1.5	1	N/A	1000	400	855	02/18/17
17B0494-05 [IA-5-021017]	B170946	1.5	1	N/A	1000	400	855	02/18/17
17B0494-06 [IA-6-021017]	B170946	1.5	1	N/A	1000	400	855	02/18/17
17B0494-07 [IA-7-021017]	B170946	1.5	1	N/A	1000	400	855	02/18/17
17B0494-08 [EW-5-021017]	B170946	1.5	1	N/A	1000	400	300	02/18/17
17B0494-09 [EW-6-021017]	B170946	1.5	1	N/A	1000	400	300	02/18/17
17B0494-10 [EW-7-021017]	B170946	2	1	N/A	1000	400	400	02/18/17
17B0494-11 [EW-Combined-021017]	B170946	1.5	1	N/A	1000	400	300	02/18/17
17B0494-12 [AA-1-021017]	B170946	1.5	1	N/A	1000	400	855	02/18/17

**Prep Method: APH 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
17B0494-10RE1 [EW-7-021017]	B170957	2	1	N/A	1000	400	20	02/17/17



QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

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

Batch B170946 - TO-15 Prep

Blank (B170946-BLK1)

Prepared & Analyzed: 02/18/17

Acetone	ND	0.80								L-03, V-05
Benzene	ND	0.020								
Benzyl chloride	ND	0.020								
Bromodichloromethane	ND	0.020								
Bromoform	ND	0.020								
Bromomethane	ND	0.020								
1,3-Butadiene	ND	0.020								
2-Butanone (MEK)	ND	0.80								
Carbon Disulfide	ND	0.20								
Carbon Tetrachloride	ND	0.020								
Chlorobenzene	ND	0.020								
Chloroethane	ND	0.020								
Chloroform	ND	0.020								
Chloromethane	ND	0.040								
Cyclohexane	ND	0.020								
Dibromochloromethane	ND	0.020								
1,2-Dibromoethane (EDB)	ND	0.020								
1,2-Dichlorobenzene	ND	0.020								
1,3-Dichlorobenzene	ND	0.020								
1,4-Dichlorobenzene	ND	0.020								
Dichlorodifluoromethane (Freon 12)	ND	0.020								
1,1-Dichloroethane	ND	0.020								
1,2-Dichloroethane	ND	0.020								
1,1-Dichloroethylene	ND	0.020								
cis-1,2-Dichloroethylene	ND	0.020								
trans-1,2-Dichloroethylene	ND	0.020								
1,2-Dichloropropane	ND	0.020								
cis-1,3-Dichloropropene	ND	0.020								
trans-1,3-Dichloropropene	ND	0.020								
Ethanol	ND	0.80								L-03, V-05
Ethyl Acetate	ND	0.020								
Ethylbenzene	ND	0.020								
4-Ethyltoluene	ND	0.020								
Heptane	ND	0.020								
Hexachlorobutadiene	ND	0.020								
Hexane	ND	0.80								
2-Hexanone (MBK)	ND	0.020								
Isopropanol	ND	0.80								L-03, V-05
Methyl tert-Butyl Ether (MTBE)	ND	0.020								
Methylene Chloride	ND	0.20								
Methyl methacrylate	ND	0.020								
4-Methyl-2-pentanone (MIBK)	ND	0.020								
Propene	ND	0.80								
Styrene	ND	0.020								
1,1,1,2-Tetrachloroethane	ND	0.036								
1,1,2,2-Tetrachloroethane	ND	0.020								

**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 B170946 - TO-15 Prep**

**Blank (B170946-BLK1)**

Prepared & Analyzed: 02/18/17

Tetrachloroethylene	ND	0.020
Tetrahydrofuran	ND	0.020
Toluene	ND	0.020
1,2,4-Trichlorobenzene	ND	0.020
1,1,1-Trichloroethane	ND	0.020
1,1,2-Trichloroethane	ND	0.020
Trichloroethylene	ND	0.020
Trichlorofluoromethane (Freon 11)	ND	0.080
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.080
1,2,4-Trimethylbenzene	ND	0.020
1,3,5-Trimethylbenzene	ND	0.020
Vinyl Acetate	ND	0.40
Vinyl Chloride	ND	0.020
m&p-Xylene	ND	0.040
o-Xylene	ND	0.020

<i>Surrogate: 4-Bromofluorobenzene (1)</i>	8.35		8.00		104	70-130
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	8.34		8.00		104	70-130

**LCS (B170946-BS1)**

Prepared & Analyzed: 02/18/17

Acetone	3.41		5.00		68.2 *	70-130	L-03, V-05
Benzene	3.88		5.00		77.6	70-130	
Benzyl chloride	5.56		5.00		111	70-130	
Bromodichloromethane	3.99		5.00		79.9	70-130	
Bromoform	5.12		5.00		102	70-130	
Bromomethane	5.47		5.00		109	70-130	
1,3-Butadiene	4.34		5.00		86.8	70-130	
2-Butanone (MEK)	3.78		5.00		75.6	70-130	
Carbon Disulfide	4.54		5.00		90.9	70-130	
Carbon Tetrachloride	4.03		5.00		80.6	70-130	
Chlorobenzene	4.55		5.00		91.1	70-130	
Chloroethane	4.96		5.00		99.1	70-130	
Chloroform	4.77		5.00		95.5	70-130	
Chloromethane	5.28		5.00		106	70-130	
Cyclohexane	3.50		5.00		70.0	70-130	
Dibromochloromethane	4.73		5.00		94.6	70-130	
1,2-Dibromoethane (EDB)	4.39		5.00		87.8	70-130	
1,2-Dichlorobenzene	5.06		5.00		101	70-130	
1,3-Dichlorobenzene	5.58		5.00		112	70-130	
1,4-Dichlorobenzene	5.34		5.00		107	70-130	
Dichlorodifluoromethane (Freon 12)	4.76		5.00		95.3	70-130	
1,1-Dichloroethane	4.56		5.00		91.3	70-130	
1,2-Dichloroethane	4.44		5.00		88.7	70-130	
1,1-Dichloroethylene	3.86		5.00		77.2	70-130	
cis-1,2-Dichloroethylene	4.24		5.00		84.7	70-130	
trans-1,2-Dichloroethylene	4.37		5.00		87.4	70-130	
1,2-Dichloropropane	3.70		5.00		73.9	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 B170946 - TO-15 Prep</b>											
<b>LCS (B170946-BS1)</b>					Prepared & Analyzed: 02/18/17						
cis-1,3-Dichloropropene	3.89				5.00		77.9	70-130			
trans-1,3-Dichloropropene	4.02				5.00		80.3	70-130			
Ethanol	3.46				5.00		<b>69.2</b> *	70-130			L-03, V-05
Ethyl Acetate	4.64				5.00		92.9	70-130			
Ethylbenzene	4.03				5.00		80.5	70-130			
4-Ethyltoluene	4.61				5.00		92.3	70-130			
Heptane	3.54				5.00		70.8	70-130			
Hexachlorobutadiene	5.01				5.00		100	70-130			
Hexane	3.91				5.00		78.2	70-130			
2-Hexanone (MBK)	3.66				5.00		73.1	70-130			
Isopropanol	2.98				5.00		<b>59.6</b> *	70-130			V-05, L-03
Methyl tert-Butyl Ether (MTBE)	4.35				5.00		87.0	70-130			
Methylene Chloride	3.50				5.00		70.1	70-130			
Methyl methacrylate	3.95				5.00		78.9	70-130			
4-Methyl-2-pentanone (MIBK)	3.94				5.00		78.9	70-130			
Propene	4.80				5.00		96.1	70-130			
Styrene	4.70				5.00		94.0	70-130			
1,1,2,2-Tetrachloroethane	4.28				5.00		85.6	70-130			
Tetrachloroethylene	4.49				5.00		89.7	70-130			
Tetrahydrofuran	3.60				5.00		72.1	70-130			
Toluene	4.00				5.00		80.1	70-130			
1,2,4-Trichlorobenzene	5.02				5.00		100	70-130			
1,1,1-Trichloroethane	3.64				5.00		72.8	70-130			
1,1,2-Trichloroethane	4.33				5.00		86.6	70-130			
Trichloroethylene	4.08				5.00		81.6	70-130			
Trichlorofluoromethane (Freon 11)	4.93				5.00		98.7	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.81				5.00		96.1	70-130			
1,2,4-Trimethylbenzene	4.54				5.00		90.7	70-130			
1,3,5-Trimethylbenzene	4.43				5.00		88.5	70-130			
Vinyl Acetate	3.73				5.00		74.5	70-130			
Vinyl Chloride	5.02				5.00		100	70-130			
m&p-Xylene	8.35				10.0		83.5	70-130			
o-Xylene	4.26				5.00		85.1	70-130			
Surrogate: 4-Bromofluorobenzene (1)	8.82				8.00		110	70-130			
Surrogate: 4-Bromofluorobenzene (2)	0.00				8.00		*	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	Limits	Limit		
<b>Batch B170946 - TO-15 Prep</b>											
<b>LCS (B170946-BS2)</b>											
						Prepared & Analyzed: 02/18/17					
1,1,1,2-Tetrachloroethane	1.15				0.910		126	70-130			V-20
Surrogate: 4-Bromofluorobenzene (1)	0.00				8.00		*	70-130			
Surrogate: 4-Bromofluorobenzene (2)	8.71				8.00		109	70-130			
<b>Duplicate (B170946-DUP1)</b>											
						Source: 17B0494-11 Prepared: 02/18/17 Analyzed: 02/19/17					
Acetone	1.5	4.0	3.6	9.5		1.6			3.25	25	L-03, V-05, J
Benzene	0.10	0.10	0.33	0.32		0.10			1.94	25	
Benzyl chloride	ND	0.10	ND	0.52		ND				25	
Bromodichloromethane	ND	0.10	ND	0.67		0.24				25	
Bromoform	ND	0.10	ND	1.0		ND				25	
Bromomethane	ND	0.10	ND	0.39		ND				25	
1,3-Butadiene	ND	0.10	ND	0.22		ND				25	
2-Butanone (MEK)	0.20	4.0	0.58	12		0.20			2.02	25	J
Carbon Disulfide	ND	1.0	ND	3.1		ND				25	
Carbon Tetrachloride	ND	0.10	ND	0.63		ND				25	
Chlorobenzene	ND	0.10	ND	0.46		ND				25	
Chloroethane	ND	0.10	ND	0.26		0.12				25	
Chloroform	0.30	0.10	1.5	0.49		0.31			3.24	25	
Chloromethane	ND	0.20	ND	0.41		2.7				25	
Cyclohexane	ND	0.10	ND	0.34		0.15				25	
Dibromochloromethane	ND	0.10	ND	0.85		ND				25	
1,2-Dibromoethane (EDB)	ND	0.10	ND	0.77		ND				25	
1,2-Dichlorobenzene	ND	0.10	ND	0.60		ND				25	
1,3-Dichlorobenzene	ND	0.10	ND	0.60		ND				25	
1,4-Dichlorobenzene	ND	0.10	ND	0.60		ND				25	
Dichlorodifluoromethane (Freon 12)	0.26	0.10	1.3	0.49		0.26			1.55	25	
1,1-Dichloroethane	6.2	0.10	25	0.40		6.3			1.15	25	
1,2-Dichloroethane	ND	0.10	ND	0.40		ND				25	
1,1-Dichloroethylene	2.8	0.10	11	0.40		2.7			0.508	25	
cis-1,2-Dichloroethylene	1.8	0.10	7.2	0.40		1.8			1.75	25	
trans-1,2-Dichloroethylene	ND	0.10	ND	0.40		ND				25	
1,2-Dichloropropane	ND	0.10	ND	0.46		ND				25	
cis-1,3-Dichloropropene	ND	0.10	ND	0.45		ND				25	
trans-1,3-Dichloropropene	ND	0.10	ND	0.45		ND				25	
Ethanol	3.1	4.0	5.8	7.5		3.1			2.71	25	L-03, V-05, J
Ethyl Acetate	ND	0.10	ND	0.36		ND				25	
Ethylbenzene	ND	0.10	ND	0.43		ND				25	
4-Ethyltoluene	ND	0.10	ND	0.49		ND				25	
Heptane	ND	0.10	ND	0.41		ND				25	
Hexachlorobutadiene	ND	0.10	ND	1.1		ND				25	
Hexane	ND	4.0	ND	14		ND				25	
2-Hexanone (MBK)	ND	0.10	ND	0.41		ND				25	
Isopropanol	ND	4.0	ND	9.8		0.27				25	L-03, V-05
Methyl tert-Butyl Ether (MTBE)	ND	0.10	ND	0.36		ND				25	
Methylene Chloride	ND	1.0	ND	3.5		ND				25	

**QUALITY CONTROL**

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

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

**Batch B170946 - TO-15 Prep**

**Duplicate (B170946-DUP1)**

Source: 17B0494-11

Prepared: 02/18/17 Analyzed: 02/19/17

Methyl methacrylate	ND	0.10	ND	0.41		ND			25	
4-Methyl-2-pentanone (MIBK)	ND	0.10	ND	0.41		ND			25	
Propene	0.84	4.0	1.4	6.9		0.81		2.91	25	J
Styrene	ND	0.10	ND	0.43		ND			25	
1,1,1,2-Tetrachloroethane	ND	0.18	ND	1.2		ND			25	
1,1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.69		ND			25	
Tetrachloroethylene	9.6	0.10	65	0.68		9.7		1.26	25	
Tetrahydrofuran	ND	0.10	ND	0.29		ND			25	
Toluene	0.092	0.10	0.35	0.38		0.096		4.26	25	J
1,2,4-Trichlorobenzene	ND	0.10	ND	0.74		ND			25	
1,1,1-Trichloroethane	48	0.10	260	0.55		48		0.0580	25	
1,1,2-Trichloroethane	ND	0.10	ND	0.55		ND			25	
Trichloroethylene	33	0.10	180	0.54		33		0.0858	25	
Trichlorofluoromethane (Freon 11)	16	0.40	87	2.2		16		0.756	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	ND	3.1		ND			25	
1,2,4-Trimethylbenzene	ND	0.10	ND	0.49		ND			25	
1,3,5-Trimethylbenzene	ND	0.10	ND	0.49		ND			25	
Vinyl Acetate	ND	2.0	ND	7.0		0.16			25	
Vinyl Chloride	ND	0.10	ND	0.26		ND			25	
m&p-Xylene	ND	0.20	ND	0.87		ND			25	
o-Xylene	ND	0.10	ND	0.43		ND			25	
Surrogate: 4-Bromofluorobenzene (1)	8.58				8.00		107	70-130		
Surrogate: 4-Bromofluorobenzene (2)	8.56				8.00		107	70-130		

**Batch B170957 - APH Prep**

**Blank (B170957-BLK1)**

Prepared & Analyzed: 02/17/17

Acetone	ND	1.4								
Benzene	ND	0.035								
Benzyl chloride	ND	0.035								
Bromodichloromethane	ND	0.035								
Bromoform	ND	0.035								
Bromomethane	ND	0.035								
1,3-Butadiene	ND	0.035								
2-Butanone (MEK)	ND	1.4								
Carbon Disulfide	ND	0.35								
Carbon Tetrachloride	ND	0.035								
Chlorobenzene	ND	0.035								
Chloroethane	ND	0.035								
Chloroform	ND	0.035								
Chloromethane	ND	0.070								
Cyclohexane	ND	0.035								
Dibromochloromethane	ND	0.035								
1,2-Dibromoethane (EDB)	ND	0.035								
1,2-Dichlorobenzene	ND	0.035								
1,3-Dichlorobenzene	ND	0.035								

**QUALITY CONTROL**

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

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

**Batch B170957 - APH Prep**

**Blank (B170957-BLK1)**

Prepared & Analyzed: 02/17/17

1,4-Dichlorobenzene	ND	0.035								
Dichlorodifluoromethane (Freon 12)	ND	0.035								
1,1-Dichloroethane	ND	0.035								
1,2-Dichloroethane	ND	0.035								
1,1-Dichloroethylene	ND	0.035								
cis-1,2-Dichloroethylene	ND	0.035								
trans-1,2-Dichloroethylene	ND	0.035								
1,2-Dichloropropane	ND	0.035								
cis-1,3-Dichloropropene	ND	0.035								
trans-1,3-Dichloropropene	ND	0.035								
Ethanol	ND	1.4								
Ethyl Acetate	ND	0.035								
Ethylbenzene	ND	0.035								
4-Ethyltoluene	ND	0.035								
Heptane	ND	0.035								
Hexachlorobutadiene	ND	0.035								
Hexane	ND	1.4								
2-Hexanone (MBK)	ND	0.035								
Isopropanol	ND	1.4								
Methyl tert-Butyl Ether (MTBE)	ND	0.035								
Methylene Chloride	ND	0.35								
Methyl methacrylate	ND	0.035								
4-Methyl-2-pentanone (MIBK)	ND	0.035								
Propene	ND	1.4								
Styrene	ND	0.035								
1,1,1,2-Tetrachloroethane	ND	0.064								
1,1,2,2-Tetrachloroethane	ND	0.035								
Tetrachloroethylene	ND	0.035								
Tetrahydrofuran	ND	0.035								
Toluene	ND	0.035								
1,2,4-Trichlorobenzene	ND	0.035								
1,1,1-Trichloroethane	ND	0.035								
1,1,2-Trichloroethane	ND	0.035								
Trichloroethylene	ND	0.035								
Trichlorofluoromethane (Freon 11)	ND	0.14								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14								
1,2,4-Trimethylbenzene	ND	0.035								
1,3,5-Trimethylbenzene	ND	0.035								
Vinyl Acetate	ND	0.70								
Vinyl Chloride	ND	0.035								
m&p-Xylene	ND	0.070								
o-Xylene	ND	0.035								
Surrogate: 4-Bromofluorobenzene (1)	7.00				8.00		87.4		70-130	
Surrogate: 4-Bromofluorobenzene (2)	0.00				8.00		*		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		

**Batch B170957 - APH Prep**

**LCS (B170957-BS1)**

Prepared & Analyzed: 02/17/17

Acetone	5.39				5.00		108	70-130			
Benzene	5.12				5.00		102	70-130			
Benzyl chloride	3.73				5.00		74.7	70-130			
Bromodichloromethane	5.36				5.00		107	70-130			
Bromoform	4.20				5.00		84.1	70-130			
Bromomethane	3.54				5.00		70.7	70-130			
1,3-Butadiene	3.92				5.00		78.4	70-130			
2-Butanone (MEK)	4.22				5.00		84.3	70-130			
Carbon Disulfide	4.68				5.00		93.6	70-130			
Carbon Tetrachloride	4.45				5.00		89.0	70-130			
Chlorobenzene	5.26				5.00		105	70-130			
Chloroethane	4.08				5.00		81.7	70-130			
Chloroform	4.76				5.00		95.2	70-130			
Chloromethane	4.26				5.00		85.3	70-130			
Cyclohexane	4.77				5.00		95.4	70-130			
Dibromochloromethane	4.79				5.00		95.7	70-130			
1,2-Dibromoethane (EDB)	5.31				5.00		106	70-130			
1,2-Dichlorobenzene	3.83				5.00		76.7	70-130			
1,3-Dichlorobenzene	4.14				5.00		82.9	70-130			
1,4-Dichlorobenzene	3.94				5.00		78.8	70-130			
Dichlorodifluoromethane (Freon 12)	4.80				5.00		95.9	70-130			
1,1-Dichloroethane	4.68				5.00		93.6	70-130			
1,2-Dichloroethane	5.68				5.00		114	70-130			
1,1-Dichloroethylene	4.66				5.00		93.1	70-130			
cis-1,2-Dichloroethylene	4.97				5.00		99.5	70-130			
trans-1,2-Dichloroethylene	4.91				5.00		98.3	70-130			
1,2-Dichloropropane	4.84				5.00		96.8	70-130			
cis-1,3-Dichloropropene	5.58				5.00		112	70-130			
trans-1,3-Dichloropropene	5.58				5.00		112	70-130			
Ethanol	4.75				5.00		94.9	70-130			
Ethyl Acetate	4.36				5.00		87.3	70-130			
Ethylbenzene	5.19				5.00		104	70-130			
4-Ethyltoluene	4.64				5.00		92.9	70-130			
Heptane	4.92				5.00		98.4	70-130			
Hexachlorobutadiene	4.40				5.00		88.0	70-130			
Hexane	4.90				5.00		98.0	70-130			
2-Hexanone (MBK)	5.60				5.00		112	70-130			
Isopropanol	4.65				5.00		93.0	70-130			
Methyl tert-Butyl Ether (MTBE)	4.30				5.00		86.1	70-130			
Methylene Chloride	4.58				5.00		91.7	70-130			
Methyl methacrylate	4.74				5.00		94.8	70-130			
4-Methyl-2-pentanone (MIBK)	5.37				5.00		107	70-130			
Propene	4.22				5.00		84.3	70-130			
Styrene	4.84				5.00		96.8	70-130			
1,1,1,2-Tetrachloroethane	ND	0.091		0.62				70-130			
1,1,2,2-Tetrachloroethane	4.69				5.00		93.8	70-130			

**QUALITY CONTROL**

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

Analyte	ppbv		ug/m3		Spike Level	Source	%REC	RPD	RPD Limit	Flag
	Results	RL	Results	RL	ppbv	Result	%REC	RPD		
<b>Batch B170957 - APH Prep</b>										
<b>LCS (B170957-BS1)</b>					Prepared & Analyzed: 02/17/17					
Tetrachloroethylene	4.64				5.00		92.9		70-130	
Tetrahydrofuran	4.08				5.00		81.5		70-130	
Toluene	5.87				5.00		117		70-130	
1,2,4-Trichlorobenzene	4.80				5.00		96.0		70-130	
1,1,1-Trichloroethane	4.81				5.00		96.2		70-130	
1,1,2-Trichloroethane	5.01				5.00		100		70-130	
Trichloroethylene	5.11				5.00		102		70-130	
Trichlorofluoromethane (Freon 11)	4.55				5.00		91.0		70-130	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.57				5.00		91.5		70-130	
1,2,4-Trimethylbenzene	4.48				5.00		89.6		70-130	
1,3,5-Trimethylbenzene	4.58				5.00		91.7		70-130	
Vinyl Acetate	4.54				5.00		90.7		70-130	
Vinyl Chloride	4.16				5.00		83.3		70-130	
m&p-Xylene	12.0				10.0		120		70-130	
o-Xylene	5.19				5.00		104		70-130	
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	<i>7.03</i>				<i>8.00</i>		<i>87.9</i>		<i>70-130</i>	
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	<i>0.00</i>				<i>8.00</i>		<i>*</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.
  - V-05 Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
  - V-20 Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

**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 - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Public Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2018
RI	Rhode Island Department of Health	LAO00112	12/30/2017
NC	North Carolina Div. of Water Quality	652	12/31/2017
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2017
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

17B0494  
 Phone: 413-525-2332  
 Fax: 413-525-6405  
 Email: info@contestlabs.com

Company Name: Aimee Foster Wreck  
 Address: 271 Mill Rd. Chelmsford, MA 01824  
 Phone: 978-692-9090  
 Project Location: Providence, RP  
 Project Number: 305215005  
 Project Manager: David Heikin  
 Con-Test Bid: \_\_\_\_\_  
 Invoice Recipient: \_\_\_\_\_  
 Sampled By: Mark Maguire 339-927-3797

Lab Use	Con-Test Work Order#	Client Sample ID / Description	Client Use	Collection Data		Duration Total Minutes Sampled	Flow Rate m <sup>3</sup> /min L/min	Matrix	Code	Volume Liters m <sup>3</sup>	X	" Hg		Summa Can ID	Flow Controller ID
				Beginning Date/Time	Ending Date/Time							Initial Pressure	Final Pressure		
01	IA-1-021017			2-10-17 8:46	2-10-17 9:16	30	200	IA	IA	6	X	-30	-5	1161	1176
02	IA-2-021017			2-10-17 11:03	2-10-17 11:33	30	200	IA	IA	6	X	-24	-5	1831	1073
03	IA-3-021017			2-10-17 8:48	2-10-17 9:18	30	200	IA	IA	6	X	-24	-8	1318	1186
04	IA-4-021017			2-10-17 11:05	2-10-17 11:35	30	200	IA	IA	6	X	-28	-7	1169	1191
05	IA-5-021017			2-10-17 9:07	2-10-17 9:37	30	200	IA	IA	6	X	-28	-4	1870	1199
06	IA-6-021017			2-10-17 9:11	2-10-17 9:41	30	200	IA	IA	6	X	-30	-11	1165	4038
07	IA-7-021017			2-10-17 9:32	2-10-17 9:52	30	200	IA	IA	6	X	-28	-6	1641	1206
08	EW-5-021017			2-10-17 8:50	2-10-17 9:20	30	200	SS	SS	6	X	-30	-8	1876	1105
09	EW-6-021017			2-10-17 9:15	2-10-17 9:45	30	200	SS	SS	6	X	-30	-11	1337	1101

Comments: \_\_\_\_\_

Relinquished by: (signature) \_\_\_\_\_ Date/Time: 2-10-17 13:15  
 Received by: (signature) \_\_\_\_\_ Date/Time: 2-10-17 16:39  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time: 2-16-17 18:40  
 Received by: (signature) \_\_\_\_\_ Date/Time: 2/16/17 18:40  
 Relinquished by: (signature) \_\_\_\_\_ Date/Time: 2/17/2020  
 Received by: (signature) \_\_\_\_\_ Date/Time: 2-10-17 20:20

Matrix Codes:  
 SG = SOIL GAS  
 IA = INDOOR AIR  
 AMB = AMBIENT  
 SS = SUB SLAB  
 D = DUP  
 BL = BLANK  
 O = Other

Special Requirements: \_\_\_\_\_  
 Enhanced Data Package Required:   
 Turnaround Time (Business Days) Starts at 9:00 AM the day after sample receipt unless there are questions on this chain. If this form is not filled out completely or is incorrect, turnaround time cannot start until all questions have been answered.







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

**AIR Only Receipt Checklist**

CLIENT NAME AMEC Foster + Wheeler RECEIVED BY: PB DATE: 2.10.17

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

6) Location where samples are stored:  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

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

Unused Summas/PUF Media:  
1848/4180 - 5.5

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:	1161	1870	1937	1848	4188	4181	4206	4176			
	1834	1165	1497		4199	4073	4104				
	1318	1641	1721		4186	4672	4103				
	1169	1876	1110		4180	4038	4105				

**Login Sample Receipt Checklist**

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

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

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

Doc #278 Rev. 5 October 2014

Who notified of False statements?

Log-In Technician Initials: PB

Date/Time:

Date/Time: 2-10-17

20:20

## **APPENDIX B**

## Analytical Method Information

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

Analytical Method Information

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