



Wood Environment & Infrastructure Solutions, Inc.  
271 Mill Road, 3<sup>rd</sup> Floor  
Chelmsford, MA 01824  
USA

December 4, 2020

T: 978-692-9090  
[www.woodplc.com](http://www.woodplc.com)

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**  
**September 2020 Semi-Annual Monitoring**  
**Retail Complex, Active Sub-Slab Depressurization System**  
**Former Gorham Manufacturing Facility**  
**333 Adelaide Avenue, Providence, Rhode Island**  
**Wood Project No. 3652200287**

Dear Mr. Martella:

This letter report presents the results of semi-annual compliance sampling and analysis conducted by Wood Environment and Infrastructure Solutions, Inc. (Wood) at the retail complex located at the Former Gorham Manufacturing Facility, 333 Adelaide Avenue, Providence, Rhode Island (Site). The reporting period is from April 2020 through October 2020 which includes one semi-annual compliance sampling event conducted on September 9, 2020.

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.



## **Current Monitoring Results**

The following provides a discussion of results from sampling conducted on September 9, 2020. The sampling was performed consistent with the requirements of the Orders of Approval. This is the ninth semi-annual monitoring event since the change from quarterly monitoring after February 2016, based on the historical indoor air data and performance of the existing vapor mitigation system.

The laboratory analytical reports (Con-test W. O. 2010614) for September and (Con-test W.O 20J1669) for October 29, 2020 analyses are provided in **Appendix A**, and the laboratory's detection limits are provided in **Appendix B**.

Consistent with previous reports, analytical results of the most recent 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.

## **Outdoor Reference Sample**

One outdoor reference air sample (AA-1) was located southwest of the property, upwind of the retail building. The results for the outdoor reference sample are provided in **Table 1** (two most recent sampling events). All historic outdoor reference sample results are provided in **Appendix C**.

## **Small Retail Spaces**

The September 2020 sampling event included an indoor air sample from each of the three small retail spaces (locations IA-5, IA-6, and IA-7) and one air sample collected from each of the three vapor extraction wells (EW-5, EW-6, and EW-7). The sub-slab vacuum monitoring (pressure differential measurements) was conducted at locations VMW-5, VMW-6, and VMW-7 on February 14, 2020 in conjunction with the semi-annual air sampling program. The indoor air and vapor extraction sampling and sub-slab vacuum monitoring locations are shown in **Figure 1**.

During the reporting period, the eastern small retail space (indoor air sample location IA-5) was intermittently occupied as storage/staging area for a clothing consignment shop which occupied the center small retail space (sample location IA-6). The western small retail space (sample location IA-7) was intermittently occupied as a church hall.

Analytical results for the small retail spaces are summarized in **Table 2a** (indoor air, two most recent sampling events), and **Table 2b** (extraction wells, two most recent sampling events). For reference, all analytical results for the small retail spaces from initiation of sampling in 2009, including a baseline event prior to system start-up in February 2009, and all subsequent sampling events are presented in **Appendix D1** (indoor air, small retail) and **Appendix D2** (extraction wells, small retail). The vacuum monitoring results for the small retail spaces are presented in **Table 3**.

The following conclusions are based on Site observations and the September 9, 2020 analytical results:

- The indoor air sample results for the September 9, 2020 sampling event in the small retail spaces (sample locations IA-5 through IA-7) were in compliance with TAC action levels.
- The eastern small retail space (indoor air sample location IA-5) was intermittently occupied as storage/staging area for the consignment shop during the reporting period.
- The center small retail space (sample location IA-6) was occupied as a consignment shop during the reporting period.

- The western small retail space (sample location IA-7) was intermittently occupied as a church hall.
- The mitigation systems in the small retail areas were functioning correctly during the sampling event

## Large Retail Space

The September 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) and from the manifold where air from the four vapor extraction wells is combined (EW-Combined). In addition, one sample of exhaust from the carbon treatment system (Post Carbon) was collected. The sub-slab vacuum monitoring (pressure differential measurements) was conducted on September 9, 2020 at locations VMW-1 through VMW-4 in conjunction with the air sampling program. The sampling locations are shown in **Figure 1**.

- Because of anomalous results for PCE and TCE in samples IA-2 as compared to more than 10 years of prior results, Wood reviewed sampling procedures prior to sampling, laboratory handling of the sample canisters before and after sampling, and contacted property management of the large retail space air handling operations and prior activities before Wood collected indoor air samples. It was determined that the air handling system within the large retail space may not have been fully operational during the September 2020 sampling event. Possible contributing factors for the anomalous results include laboratory induced errors, incomplete cleaning of sampling canisters, or usage of solvent-containing products within the space by others.
- Consequently, additional indoor air samples were collected at IA-2 and IA-4 and an outdoor air reference location on October 28, 2020. Results for both sampling events are discussed below.

Analytical results for the large retail spaces are summarized in **Table 4a** (indoor air, two most recent samples for IA-1 and IA-3 and two most recent samples for IA-2 and IA-4), and **Table 4b** (extraction wells and post-carbon treatment, two most recent sampling events). For reference, all analytical results for the large retail spaces from initiation of sampling in 2009, including a baseline event prior to system start-up in February 2009, and all subsequent sampling events are presented in **Appendix E1** (indoor air, large space) and **Appendix E2** (extraction wells, large space). The vacuum monitoring results for the large retail spaces are presented in **Table 5**.

The following conclusions are based on Site observations and a review of analytical results:

- The indoor air sample results for the September 9, 2020 and October 28 sampling events in the large retail spaces (sample locations IA-1 through IA-4) were in compliance with TAC action levels, with one exception.
- The September indoor air sample results for some compounds for sample IA-2 were anomalous (higher than historical levels) and the concentrations of 1,1,1 -Trichloroethane, chloroform, tetrachloroethene (PCE) and trichloroethene (TCE) were above the TAC action levels. Chloroform is not considered a site constituent of concern. The concentrations of all parameters in the October 28 re-sample at IA-2 were in compliance with TAC action levels. The anomalous results in the September IA-2 sample are indicative of a transient condition and not representative of long-term air quality.
- 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.

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- The mitigation system in the large retail area was functioning correctly during the sampling event
- A sample (Post Carbon-090920) was collected from the exhaust air of the treatment system. The concentration of total VOCs was higher than the total VOC concentration in the previous sampling round in February 2020. Wood will continue to monitor the total VOC's in the exhaust air to determine when a carbon change-out may be required in the future.

## **ASD System Monitoring/Maintenance**

The ASD system performance is monitored monthly by Clean Harbors Environmental Services. There were no system shutdowns during the reporting period. Vacuum monitoring conducted at the time of the September 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 will cover the monitoring period from October 2020 through March 2021. The report will be prepared and submitted to the Rhode Island Department of Environmental Management in April 2021.

Please contact the undersigned at (401) 648-9243 if we can provide additional information or answer any questions concerning these monitoring events and system adjustments.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.



Mark Maggiore  
Environmental Scientist



Gregory Avenia, PE, CFM  
Project Manager

### Attachments:

- Table 1. Outdoor Air Reference Sampling
- Table 2a. Summary of Analytical Results – Indoor Air Sampling for Small Retail Spaces
- Table 2b. Summary of Analytical Results – Extraction Wells (Small Retail)
- Table 3. Vacuum Monitoring Results – Small Retail Spaces
- Table 4a. Summary of Analytical Results – Indoor Air Sampling for Large Retail Space
- Table 4b. Summary of Analytical Results – Extraction Well and Post-Treatment Sampling for Large Retail Space
- Table 5. Vacuum Monitoring Results – Large Retail Space

### Figure 1. Vapor Mitigation Sample Locations

- Appendix A. Laboratory Report
- Appendix B. Analytical Laboratory Detection Limits
- Appendix C. Outdoor Reference Sample Results

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- Appendix D1. Summary of All Analytical Results – Indoor Air Samples for Small Retail Space
- Appendix D2. Summary of All Analytical Results – Extraction Well Samples for Small Retail Space
- Appendix E1. Summary of All Analytical Results – Indoor Air Samples for Large Retail Space
- Appendix E2. Summary of All Analytical Results – Extraction Well and Post-Treatment Samples for Large Retail Space

cc: Robert Azar, Deputy Director - Providence Planning & Development  
G. Simpson, Textron, Inc. (Electronic)

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## **Tables**

**Table 1.**  
**Summary of Analytical Results - Outdoor Air Reference Sampling**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Outdoor Air Reference Location		
Location:		AA-1		
Sample ID:		AA-1-021420	AA-1-09092020	AA-1-10292020
Sample Date:		2/14/2020	9/9/2020	10/29/2020
Analyte	Units			
1,1,1,2-Tetrachloroethane	ug/m3	0.44 U	0.44 U	0.44 U
1,1,1-Trichloroethane	ug/m3	0.19 U	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	ug/m3	0.24 U	0.24 U	0.24 U
1,1,2-Trichloroethane	ug/m3	0.19 U	0.19 U	0.19 U
1,1-Dichloroethane	ug/m3	0.14 U	0.14 U	0.14 U
1,1-Dichloroethene	ug/m3	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	ug/m3	0.26 U	0.26 U	0.26 U
1,2,4-Trimethylbenzene	ug/m3	0.17 U	0.17 U	0.73
1,2-Dibromoethane (EDB)	ug/m3	0.27 U	0.27 U	0.27 U
1,2-Dichlorobenzene	ug/m3	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	ug/m3	0.14 U	0.14 U	0.14 U
1,2-Dichloropropane	ug/m3	0.16 U	0.16 U	0.16 U
1,3,5-Trimethylbenzene	ug/m3	0.17 U	0.17 U	0.19
1,3-Butadiene	ug/m3	0.078 U	0.077 U	0.077 U
1,3-Dichlorobenzene	ug/m3	0.21 U	0.21 U	0.21 U
1,4-Dichlorobenzene	ug/m3	0.21 U	0.21 U	0.21 U
2-Butanone	ug/m3	1.6 J	1.4 J	0.73 J
2-Hexanone	ug/m3	0.14 U	0.29 U	0.29 U
4-Ethyltoluene	ug/m3	0.17 U	0.17 U	0.17 U
4-Methyl-2-pentanone	ug/m3	0.14 U	0.14 U	0.14 U
Acetone	ug/m3	9.8	8.2	15
Benzene	ug/m3	0.34	0.15	1.2
Benzyl chloride	ug/m3	0.18 U	0.18 U	0.18 U
Bromodichloromethane	ug/m3	0.24 U	0.23 U	0.23 U
Bromoform	ug/m3	0.36 U	0.36 U	0.36 U
Bromomethane	ug/m3	0.27 U	0.14 U	0.14 U
Carbon Disulfide	ug/m3	1.1 U	1.1 U	1.1 U
Carbon Tetrachloride	ug/m3	0.41	0.43	0.39
Chlorobenzene	ug/m3	0.16 U	0.16 U	0.16 U
Chloroethane	ug/m3	0.093 U	0.092 U	0.092 U
Chloroform	ug/m3	0.17 U	0.13 J	0.31
Chloromethane	ug/m3	1.5	0.14 U	0.14 U
cis-1,2-Dichloroethene	ug/m3	0.14 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	ug/m3	0.16 U	0.16 U	0.16 U
Cyclohexane	ug/m3	0.12 U	0.12 U	0.12 U
Dibromochloromethane	ug/m3	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	ug/m3	1.6	2	2.5
Ethanol	ug/m3	3.9	6.3	14
Ethyl Acetate	ug/m3	0.13 U	1.3 U	1.3 U
Ethylbenzene	ug/m3	0.15 U	0.079 J	0.67
Hexachlorobutadiene	ug/m3	0.37 U	0.37 U	0.37 U
Hexane	ug/m3	4.9 U	4.9 U	0.94 J
Isopropyl alcohol	ug/m3	0.53 J	3.4 U	2.2 J
m,p-Xylene	ug/m3	0.3 U	0.18 J	1.8
Methyl methacrylate	ug/m3	0.14 U	0.14 U	0.14 U
Methylene Chloride	ug/m3	0.42 J	1.2 U	1 J
Methyl-t-butyl ether	ug/m3	0.13 U	0.13 U	0.13 U
n-Heptane	ug/m3	0.14 U	0.14 U	0.65
o-Xylene	ug/m3	0.15 U	0.15 U	0.71
Propylene (Propene)	ug/m3	2.4 U	2.4 U	2.4 U
Styrene	ug/m3	0.15 U	0.15 U	0.15
Tetrachloroethene	ug/m3	0.24 U	0.1 J	0.44
Tetrahydrofuran	ug/m3	0.1 U	1 U	1 U
Toluene	ug/m3	0.26	0.52	3.4
trans-1,2-Dichloroethene	ug/m3	0.14 U	0.14 U	0.14 U
trans-1,3-Dichloropropene	ug/m3	0.16 U	0.16 U	0.16 U
Trichloroethene	ug/m3	0.19 U	0.19 U	0.19
Trichlorofluoromethane	ug/m3	1.5	1.1	1.3
Trichlorotrifluoroethane	ug/m3	1.3	0.48 J	1.1 U
Vinyl Acetate	ug/m3	2.5 U	2.5 U	2.5 U
Vinyl Chloride	ug/m3	0.09 U	0.089 U	0.089 U

Notes:

NA - not available

U - Not detected, value is the detection limit

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

J - Indicates compound was detected at an estimated value.

D - Result from diluted analyses

ug/m3 - micrograms per cubic meter

Prepared By: AKN, 11/23/2020

Checked By: MM, 11/23/2020

**Table 2a.**  
**Summary of Analytical Results - Indoor Air Sampling for Small Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Eastern Small Retail Space		Small Center Retail Space		Western Small Retail Space	
Location:		IA-5		IA-6		IA-7	
Sample ID:		IA-5-09092020	IA-6-09092020	IA-6-09092020	IA-7-09092020	IA-7-09092020	IA-7-09092020
Sample Date:		2/14/2020	9/9/2020	2/14/2020	9/9/2020	2/14/2020	9/9/2020
Analyte	Units	CT IACTIND 2003					
1,1,1,2-Tetrachloroethane	ug/m3	1.1	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,1-Trichloroethane	ug/m3	500	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	ug/m3	0.14	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2-Trichloroethane	ug/m3	12	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1-Dichloroethane	ug/m3	430	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,1-Dichloroethene	ug/m3	20	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	ug/m3	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,2,4-Trimethylbenzene	ug/m3	52	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2-Dibromoethane (EDB)	ug/m3	0.038	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
1,2-Dichlorobenzene	ug/m3	410	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloroethane	ug/m3	0.31	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2-Dichloropropane	ug/m3	0.42	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,3,5-Trimethylbenzene	ug/m3	52	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,3-Butadiene	ug/m3	NA	0.078 U	0.078 U	0.078 U	0.078 U	0.077 U
1,3-Dichlorobenzene	ug/m3	410	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
1,4-Dichlorobenzene	ug/m3	24	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
2-Butanone	ug/m3	500	1.6 J	4.1 U	0.59 J	0.63 J	0.91 J
2-Hexanone	ug/m3	NA	0.14 U	0.29 U	0.14 U	0.29 U	0.14 U
4-Ethyltoluene	ug/m3	NA	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
4-Methyl-2-pentanone	ug/m3	200	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Acetone	ug/m3	500	12	7.2	7.7	11	26
Benzene	ug/m3	3.3	0.38	0.15	0.4	0.11 U	0.41
Benzyl chloride	ug/m3	NA	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	ug/m3	0.46	0.24 U	0.23 U	0.24 U	0.23 U	0.23 U
Bromoform	ug/m3	7.3	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Bromomethane	ug/m3	NA	0.27 U	0.14 U	0.27 U	0.14 U	0.27 U
Carbon Disulfide	ug/m3	NA	1.1 U	1.1 U	1.1 U	0.38 J	1.1 U
Carbon Tetrachloride	ug/m3	0.54	0.44	0.45	0.45	0.44	0.43
Chlorobenzene	ug/m3	200	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloroethane	ug/m3	500	0.093 U	0.092 U	0.093 U	0.092 U	0.093 U
Chloroform	ug/m3	0.5	0.17 U	0.12 J	0.17 U	0.22	0.17 U
Chloromethane	ug/m3	80	1	0.14 U	1.1	0.14 U	1
cis-1,2-Dichloroethene	ug/m3	100	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	ug/m3	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Cyclohexane	ug/m3	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Dibromochloromethane	ug/m3	NA	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	ug/m3	500	1.5	0.17 U	1.5	0.17 U	1.4
Ethanol	ug/m3	NA	24	99	41	1500	190
Ethyl Acetate	ug/m3	NA	0.13 U	1.3 U	0.13 U	1.3 U	0.13 U
Ethylbenzene	ug/m3	290	0.15 U	0.079 J	0.15 U	0.15 J	0.15 U
Hexachlorobutadiene	ug/m3	NA	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Hexane	ug/m3	NA	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Isopropyl alcohol	ug/m3	NA	1.9 J	3.4 U	2 J	3.4 U	8.9
m,p-Xylene	ug/m3	NA	0.3 U	0.24 J	0.3 U	0.39	0.23 J
Methyl methacrylate	ug/m3	NA	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Methylene Chloride	ug/m3	17	0.54 J	0.6 J	0.56 J	1.2 U	0.56 J
Methyl-t-butyl ether	ug/m3	190	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
n-Heptane	ug/m3	NA	0.14 U	0.14 U	0.14 U	0.34	0.14 U
o-Xylene	ug/m3	NA	0.15 U	0.1 J	0.15 U	0.18	0.15 U
Propylene (Propene)	ug/m3	NA	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
Styrene	ug/m3	290	0.15 U	0.11 J	0.15 U	0.21	0.15 U
Tetrachloroethene	ug/m3	5	0.24 U	0.18 J	0.24 U	0.62	1.9
Tetrahydrofuran	ug/m3	NA	0.1 U	1 U	0.1 U	1 U	0.1 U
Toluene	ug/m3	500	0.34	0.54	0.36	1.3	0.42
trans-1,2-Dichloroethene	ug/m3	200	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
trans-1,3-Dichloropropene	ug/m3	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trichloroethene	ug/m3	1	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Trichlorofluoromethane	ug/m3	500	1.2	1.1	1.2	1.1	1.2
Trichlorotrifluoroethane	ug/m3	NA	0.42 J	1.1 U	0.42 J	1.1 U	0.41 J
Vinyl Acetate	ug/m3	NA	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Vinyl Chloride	ug/m3	1.9	0.09 U	0.089 U	0.09 U	0.089 U	0.089 U

Notes:  
NA - not available  
U - Not detected, value is the detection limit

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

J - Indicates compound was detected at an estimated value.

D - Result from diluted analyses

ug/m3 - micrograms per cubic meter

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

Prepared By: AKN, 9/25/2020

Checked By: MM, 9/25/2020

**Table 2b.**  
**Summary of Analytical Results - Extraction Wells**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Eastern Small		Extraction Well - Center Small		Extraction Well - Western Small	
Location:		EW-5		EW-6		EW-7	
Sample ID:		EW-5-09092020	EW-6-09092020	EW-6-09092020	EW-7-09092020		
Sample Date:		2/14/2020	9/9/2020	2/14/2020	9/9/2020	2/14/2020	9/9/2020
Analyte	Units						
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,1,1-Trichloroethane	ug/m3	11	73	0.55 U	0.55 U	9.4	8.7
1,1,2,2-Tetrachloroethane	ug/m3	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
1,1,2-Trichloroethane	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
1,1-Dichloroethane	ug/m3	1.7	0.4 U	0.4 U	0.4 U	0.81	0.4 U
1,1-Dichloroethene	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2,4-Trichlorobenzene	ug/m3	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
1,2,4-Trimethylbenzene	ug/m3	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
1,2-Dibromoethane (EDB)	ug/m3	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
1,2-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
1,2-Dichloroethane	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
1,3-Butadiene	ug/m3	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,3-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
1,4-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Butanone	ug/m3	160	12 U	6.1 J	10 J	32	18
2-Hexanone	ug/m3	0.41 U	0.82 U	0.41 U	0.82 U	0.41 U	0.82 U
4-Ethyltoluene	ug/m3	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
4-Methyl-2-pentanone	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Acetone	ug/m3	66	15	26	63	26	15
Benzene	ug/m3	1.6	0.32 U	0.69	1.9	1	0.32 U
Benzyl chloride	ug/m3	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
Bromodichloromethane	ug/m3	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
Bromoform	ug/m3	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/m3	0.78 U	0.39 U	0.78 U	0.39 U	0.78 U	0.39 U
Carbon Disulfide	ug/m3	44	3.1 U	3.1 U	3.1 U	25	3.1 U
Carbon Tetrachloride	ug/m3	0.63 U	0.47 J	0.63 U	0.4 J	0.63 U	0.63 U
Chlorobenzene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
Chloroethane	ug/m3	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Chloroform	ug/m3	0.49 U	0.93	0.49 U	0.49 U	0.86	1.3
Chloromethane	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
cis-1,2-Dichloroethene	ug/m3	0.52	0.73	0.4 U	0.4 U	0.59	1.3
cis-1,3-Dichloropropene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Cyclohexane	ug/m3	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dibromochloromethane	ug/m3	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U
Dichlorodifluoromethane	ug/m3	1.8	0.49 U	1.7	2	1.7	0.49 U
Ethanol	ug/m3	30	71	8.8	350	140	45
Ethyl Acetate	ug/m3	0.36 U	3.6 U	0.36 U	9.1	0.36 U	3.6 U
Ethylbenzene	ug/m3	0.43 U	0.16 J	0.43 U	0.25 J	0.43 U	0.16 J
Hexachlorobutadiene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	ug/m3	14 U	14 U	14 U	14 U	14 U	14 U
Isopropyl alcohol	ug/m3	9.8 U	9.8 U	9.8 U	9.8 U	11	9.8 U
m,p-Xylene	ug/m3	0.87 U	0.51 J	0.87 U	0.54 J	0.55 J	0.4 J
Methyl methacrylate	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Methylene Chloride	ug/m3	0.5 J	3.5 U	0.69 J	1.6 J	0.51 J	3.5 U
Methyl-t-butyl ether	ug/m3	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
n-Heptane	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
o-Xylene	ug/m3	0.43 U	0.2 J	0.43 U	0.25 J	0.43 U	0.43 U
Propylene (Propene)	ug/m3	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U	6.9 U
Styrene	ug/m3	0.43 U	0.43 U	0.43 U	0.21 J	0.71	0.31 J
Tetrachloroethene	ug/m3	0.68 U	6.8	0.73	0.79	45	53
Tetrahydrofuran	ug/m3	880	2.9 U	4	3.6	980	1300
Toluene	ug/m3	0.45	0.74	0.38	1.4	0.61	0.81
trans-1,2-Dichloroethene	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U	0.82	1.4
trans-1,3-Dichloropropene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U	0.45 U
Trichloroethene	ug/m3	30	54	3.8	0.54 U	81	130
Trichlorodifluoromethane	ug/m3	1.8 J	2.2 U	1.2 J	1.1 J	170	120
Trichlorotrifluoroethane	ug/m3	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U
Vinyl Acetate	ug/m3	7 U	7 U	7 U	7 U	7 U	7 U
Vinyl Chloride	ug/m3	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U

Notes:

NA - not available

U - Not detected, value is the detection limit

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

J - Indicates compound was detected at an estimated value.

D - Result from diluted analyses

ug/m3 - micrograms per cubic meter

Prepared By: AKN, 9/25/2020

Checked By: MM, 9/25/2020

**Table 3**  
**Vacuum Monitoring Results - Small Retail Spaces**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Date	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	-0.08	-0.107
9/6/2017	-0.242	-0.045	-0.003
2/28/2018	-0.227	-0.100	-0.010
9/12/2018	-0.237	-0.058	-0.006
2/8/2019	-0.129	-0.078	-0.127
9/6/2019	-0.217	-0.107	-0.002
2/14/2020	-0.195	-0.074	-0.011
9/9/2020	-0.217	-0.109	-0.137

\*\* ASD system offline.

NM = Not Measured

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

Prepared by/Date: MAM 11/13/2020

Checked by/Date:

**Table 4a.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space								
Location:		IA-1		IA-2		IA-3		IA-4		
Sample ID:		IA-1-021420	IA-1-09092020	IA-2-021420	IA-2-09092020	IA-2-10292020	IA-3-021420	IA-3-09092020	IA-4-021420	IA-4-09092020
Sample Date:		2/14/2020	9/9/2020	2/14/2020	9/9/2020	10/29/2020	2/14/2020	9/9/2020	2/14/2020	9/9/2020
Analyte	Units	CT IACTIND 2003								
1,1,1,2-Tetrachloroethane	ug/m3	1.1	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,1-Trichloroethane	ug/m3	500	0.19 U	0.19 U	0.19 U	530	0.19 U	0.19 U	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	ug/m3	0.14	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	ug/m3	12	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	ug/m3	430	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	ug/m3	20	0.14 U	0.14 U	0.14 U	6.1	0.14 U	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	ug/m3	NA	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	ug/m3	52	0.17 U	0.2	0.17 U	0.17 U	0.62	0.17 U	0.17 U	0.17 U
1,2-Dibromoethane (EDB)	ug/m3	0.038	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	ug/m3	410	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	ug/m3	0.31	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2-Dichloropropane	ug/m3	0.42	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,3,5-Trimethylbenzene	ug/m3	52	0.17 U	0.062 J	0.17 U	0.17 U	0.2	0.17 U	0.17 U	0.17 U
1,3-Butadiene	ug/m3	NA	0.078 U	0.077 U	0.078 U	0.077 U	0.077 U	0.078 U	0.077 U	0.078 U
1,3-Dichlorobenzene	ug/m3	410	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	ug/m3	24	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
2-Butanone	ug/m3	500	1.1 J	2 J	1.3 J	4.1 U	4.1 U	0.71 J	4.1 U	1.6 J
2-Hexanone	ug/m3	NA	0.14 U	0.29 U	0.14 U	0.29 U	0.29 U	0.14 U	0.29 U	0.14 U
4-Ethyltoluene	ug/m3	NA	0.17 U	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	ug/m3	200	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Acetone	ug/m3	500	7.8	9.3	7.9	13	14	6.7	13	9.3
Benzene	ug/m3	3.3	0.36	0.24	0.36	0.45	1.1	0.35	0.25	0.37
Benzyl chloride	ug/m3	NA	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	ug/m3	0.46	0.24 U	0.23 U	0.24 U	0.23 U	0.24 U	0.23 U	0.24 U	0.23 U
Bromoform	ug/m3	7.3	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	ug/m3	NA	0.27 U	0.14 U	0.27 U	0.14 U	0.14 U	0.27 U	0.14 U	0.27 U
Carbon Disulfide	ug/m3	NA	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Carbon Tetrachloride	ug/m3	0.54	0.44	0.38	0.42	0.46	0.37	0.42	0.44	0.45
Chlorobenzene	ug/m3	200	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	ug/m3	500	0.093 U	0.092 U	0.093 U	0.092 U	0.092 U	0.093 U	0.092 U	0.092 U
Chloroform	ug/m3	0.5	0.17 U	0.13 J	0.17 U	4	0.27	0.17 U	0.13 J	0.17 U
Chloromethane	ug/m3	80	1.3	0.14 U	1	0.14 U	0.14 U	1.1	0.14 U	1
cis-1,2-Dichloroethene	ug/m3	100	0.14 U	0.14 U	0.19	33	0.14 U	0.14 U	0.14 U	0.41
cis-1,3-Dichloropropene	ug/m3	NA	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	ug/m3	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Dibromochloromethane	ug/m3	NA	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	ug/m3	500	1.5	2.1	1.4	0.17 U	2.6	1.5	0.17 U	1.4
Ethanol	ug/m3	NA	5.1	81	5.6	32	16	4.1	80	6.7
Ethyl Acetate	ug/m3	NA	0.13 U	1.3 U	0.13 U	1.3 U	1.3 U	0.13 U	1.3 U	1.3 U
Ethylbenzene	ug/m3	290	0.15 U	0.14 J	0.15 U	0.14 J	0.66	0.15 U	0.15 J	0.15 U
Hexachlorobutadiene	ug/m3	NA	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	ug/m3	NA	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	1.3 J	4.9 U	4.9 U
Isopropyl alcohol	ug/m3	NA	3.4 U	3.4 U	3.4 U	3.4 U	2.5 J	3.4 U	3.4 U	3.4 U
m,p-Xylene	ug/m3	NA	0.3 U	0.47	0.3 U	0.44	2	0.3 U	0.49	0.3 U
Methyl methacrylate	ug/m3	NA	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	ug/m3	17	0.68 J	1.2 U	0.64 J	1.2 U	0.5 J	2.2	0.58 J	0.74 J
Methyl-t-butyl ether	ug/m3	190	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	ug/m3	NA	0.14 U	0.14 U	0.14 U	0.14 U	0.51	0.14 U	0.14 U	0.14 U
o-Xylene	ug/m3	NA	0.15 U	0.2	0.15 U	0.2	0.79	0.15 U	0.2	0.15 U
Propylene (Propene)	ug/m3	NA	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
Styrene	ug/m3	290	0.15 U	0.08 J	0.15 U	0.29	0.15	0.15 U	0.15 U	0.15 U
Tetrachloroethene	ug/m3	5	0.24 U	0.3	0.59	620	0.72	0.24 U	0.4	1.4
Tetrahydrofuran	ug/m3	NA	0.1 U	0.4 J	0.1 U	1.4	1 U	0.1 U	1 U	0.1 U
Toluene	ug/m3	500	0.28	0.72	0.3	0.69	4.1	0.26	0.76	0.3
trans-1,2-Dichloroethene	ug/m3	200	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	ug/m3	NA	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	ug/m3	1	0.19 U	0.19 U	0.19 U	0.19 U	770	0.23	0.19 U	0.19 U
Trichlorofluoromethane	ug/m3	500	1.2	1.1	1.2	130	1.3	1.2	1.1	1.2
Trichlorotrifluoroethane	ug/m3	NA	0.43 J	0.49 J	0.42 J	1.1 U	0.56 J	0.41 J	1.1 U	0.41 J
Vinyl Acetate	ug/m3	NA	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	ug/m3	1.9	0.09 U	0.089 U	0.09 U	0.089 U	0.089 U	0.09 U	0.089 U	0.089 U

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
Bolted and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

Prepared By: AKN, 11/23/2020

Checked By: MM, 11/23/2020

**Table 4a.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail S	
Location:		IA-4	
Sample ID:		IA-4-10292020	
Sample Date:		10/29/2020	
Analyte	Units	CT IACTIND 2003	
1,1,1,2-Tetrachloroethane	ug/m3	1.1	0.44 U
1,1,1-Trichloroethane	ug/m3	500	0.19 U
1,1,2,2-Tetrachloroethane	ug/m3	0.14	0.24 U
1,1,2-Trichloroethane	ug/m3	12	0.19 U
1,1-Dichloroethane	ug/m3	430	0.14 U
1,1-Dichloroethene	ug/m3	20	0.14 U
1,2,4-Trichlorobenzene	ug/m3	NA	0.26 U
1,2,4-Trimethylbenzene	ug/m3	52	0.61
1,2-Dibromoethane (EDB)	ug/m3	0.038	0.27 U
1,2-Dichlorobenzene	ug/m3	410	0.21 U
1,2-Dichloroethane	ug/m3	0.31	0.14 U
1,2-Dichloropropane	ug/m3	0.42	0.16 U
1,3,5-Trimethylbenzene	ug/m3	52	0.17 U
1,3-Butadiene	ug/m3	NA	0.077 U
1,3-Dichlorobenzene	ug/m3	410	0.21 U
1,4-Dichlorobenzene	ug/m3	24	0.21 U
2-Butanone	ug/m3	500	0.98 J
2-Hexanone	ug/m3	NA	0.29 U
4-Ethyltoluene	ug/m3	NA	0.17 U
4-Methyl-2-pentanone	ug/m3	200	0.14 U
Acetone	ug/m3	500	14
Benzene	ug/m3	3.3	1.1
Benzyl chloride	ug/m3	NA	0.18 U
Bromodichloromethane	ug/m3	0.46	0.23 U
Bromoform	ug/m3	7.3	0.36 U
Bromomethane	ug/m3	NA	0.14 U
Carbon Disulfide	ug/m3	NA	1.1 U
Carbon Tetrachloride	ug/m3	0.54	0.38
Chlorobenzene	ug/m3	200	0.16 U
Chloroethane	ug/m3	500	0.092 U
Chloroform	ug/m3	0.5	0.25
Chloromethane	ug/m3	80	1
cis-1,2-Dichloroethene	ug/m3	100	0.14 U
cis-1,3-Dichloropropene	ug/m3	NA	0.16 U
Cyclohexane	ug/m3	NA	0.12 U
Dibromochloromethane	ug/m3	NA	0.3 U
Dichlorodifluoromethane	ug/m3	500	2.6
Ethanol	ug/m3	NA	14
Ethyl Acetate	ug/m3	NA	1.3 U
Ethylbenzene	ug/m3	290	0.63
Hexachlorobutadiene	ug/m3	NA	0.37 U
Hexane	ug/m3	NA	0.85 J
Isopropyl alcohol	ug/m3	NA	2.6 J
m,p-Xylene	ug/m3	NA	1.9
Methyl methacrylate	ug/m3	NA	0.14 U
Methylene Chloride	ug/m3	17	1.2
Methyl-t-butyl ether	ug/m3	190	0.13 U
n-Heptane	ug/m3	NA	0.6
o-Xylene	ug/m3	NA	0.82
Propylene (Propene)	ug/m3	NA	2.4 U
Styrene	ug/m3	290	0.14 J
Tetrachloroethene	ug/m3	5	0.74
Tetrahydrofuran	ug/m3	NA	1 U
Toluene	ug/m3	500	3.9
trans-1,2-Dichloroethene	ug/m3	200	0.14 U
trans-1,3-Dichloropropene	ug/m3	NA	0.16 U
Trichloroethene	ug/m3	1	0.28
Trichlorofluoromethane	ug/m3	500	1.4
Trichlorotrifluoroethane	ug/m3	NA	0.48 J
Vinyl Acetate	ug/m3	NA	2.5 U
Vinyl Chloride	ug/m3	1.9	0.089 U

Notes:

NA - not available

U - Not detected, value is the detection limit  
 B - Compounds detected in method blank as well as field sample

J - Indicates compound was detected at an estimated value.

D - Result from diluted analyses

ug/m3 - micrograms per cubic meter

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

Prepared By: AKN, 11/23/2020

Checked By: MM, 11/23/2020

**Table 4b.**  
**Summary of Analytical Results - Extraction Well and Post-Treatment Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Location:	Area:	Extraction Well - Large Retail		Post Treatment - Large Retail	
	Sample ID:	EW-Combined		PostCarbon	
		EW-Combined-021420	EW-Comb.-09092020	Post Carbon-021420	Post Carbon-09092020
Sample Date:	2/14/2020	9/9/2020	2/14/2020	9/9/2020	9/9/2020
Analyte	Units				
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U
1,1,1-Trichloroethane	ug/m3	200	470	2.4	840
1,1,2,2-Tetrachloroethane	ug/m3	0.69 U	0.69 U	0.69 U	0.69 U
1,1,2-Trichloroethane	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U
1,1-Dichloroethane	ug/m3	19	29	17	62
1,1-Dichloroethene	ug/m3	10	27	9.1	41
1,2,4-Trichlorobenzene	ug/m3	0.74 U	0.74 U	0.74 U	0.74 U
1,2,4-Trimethylbenzene	ug/m3	0.49 U	0.49 U	0.49 U	0.49 U
1,2-Dibromoethane (EDB)	ug/m3	0.77 U	0.77 U	0.77 U	0.77 U
1,2-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U
1,2-Dichloroethane	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.49 U	0.49 U	0.49 U
1,3-Butadiene	ug/m3	0.22 U	0.22 U	0.22 U	0.22 U
1,3-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U
1,4-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U
2-Butanone	ug/m3	2 J	8 J	1.9 J	12 U
2-Hexanone	ug/m3	0.41 U	0.82 U	0.41 U	0.82 U
4-Ethyltoluene	ug/m3	0.49 U	0.49 U	0.49 U	0.49 U
4-Methyl-2-pentanone	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
Acetone	ug/m3	12	12	10	9.5 U
Benzene	ug/m3	0.33	0.32 U	0.32 U	0.32 U
Benzyl chloride	ug/m3	0.52 U	0.52 U	0.52 U	0.52 U
Bromodichloromethane	ug/m3	0.67 U	0.67 U	0.67 U	0.67 U
Bromoform	ug/m3	1 U	1 U	1 U	1 U
Bromomethane	ug/m3	0.78 U	0.39 U	0.78 U	0.39 U
Carbon Disulfide	ug/m3	3.1 U	3.1 U	3.1 U	3.1 U
Carbon Tetrachloride	ug/m3	0.63 U	1.1	0.63 U	0.63 U
Chlorobenzene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U
Chloroethane	ug/m3	0.26 U	0.26 U	0.26 U	0.26 U
Chloroform	ug/m3	1	4.7	0.49 U	3.7
Chloromethane	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
cis-1,2-Dichloroethene	ug/m3	6.4	11	9.4	40
cis-1,3-Dichloropropene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
Cyclohexane	ug/m3	0.34 U	0.34 U	0.34 U	0.34 U
Dibromochloromethane	ug/m3	0.85 U	0.85 U	0.85 U	0.85 U
Dichlorodifluoromethane	ug/m3	1.7	0.49 U	1.6	0.49 U
Ethanol	ug/m3	14	18	6.8 J	6 J
Ethyl Acetate	ug/m3	0.36 U	3.6 U	0.36 U	3.6 U
Ethylbenzene	ug/m3	0.43 U	0.18 J	0.43 U	0.43 U
Hexachlorobutadiene	ug/m3	1.1 U	1.1 U	1.1 U	1.1 U
Hexane	ug/m3	14 U	14 U	14 U	14 U
Isopropyl alcohol	ug/m3	2.3 J	9.8 U	1.5 J	9.8 U
m,p-Xylene	ug/m3	0.87 U	0.57 J	0.87 U	0.87 U
Methyl methacrylate	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
Methylene Chloride	ug/m3	3.5 U	3.5 U	0.75 J	3.5 U
Methyl-t-butyl ether	ug/m3	0.36 U	0.36 U	0.36 U	0.36 U
n-Heptane	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U
o-Xylene	ug/m3	0.43 U	0.25 J	0.43 U	0.43 U
Propylene (Propene)	ug/m3	6.9 U	6.9 U	6.9 U	6.9 U
Styrene	ug/m3	0.43 U	0.43 U	0.43 U	0.43 U
Tetrachloroethene	ug/m3	20	64	7	3.1
Tetrahydrofuran	ug/m3	0.29 U	8	0.29 U	2.9 U
Toluene	ug/m3	0.57	0.7	0.38 U	0.19 J
trans-1,2-Dichloroethene	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U
trans-1,3-Dichloropropene	ug/m3	0.45 U	0.45 U	0.45 U	0.45 U
Trichloroethene	ug/m3	100	1100	5.9	1200
Trichlorofluoromethane	ug/m3	51	310	110	230
Trichlorotrifluoroethane	ug/m3	1 J	3.1 U	3.1 U	3.1 U
Vinyl Acetate	ug/m3	7 U	7 U	7 U	7 U
Vinyl Chloride	ug/m3	0.26 U	0.26 U	0.26 U	0.26 U

Notes:

NA - not available

U - Not detected, value is the detection limit

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

J - Indicates compound was detected at an estimated value.

D - Result from diluted analyses

ug/m3 - micrograms per cubic meter

Prepared By: AKN, 9/25/2020

Checked By: MM, 9/25/2020

**Table 5**  
**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	-0.39	-0.602	-0.494	-0.206
9/6/2017	-0.593	-0.649	-0.031	-0.290
2/28/2018	-0.489	-0.677	-0.779	-0.241
9/12/2018	-0.512	-0.723	-0.477	-0.071
2/8/2019	-0.274	-0.633	-0.677	-0.229
4/11/2019	NM	-0.681	NM	NM
9/12/2019	-0.525	-0.68	-0.131	-0.267
2/14/2020	-0.564	-0.728	-0.003	-0.271
9/9/2020	-0.476	-0.659	-0.560	-0.251

\* vacuum reduced at extraction wells

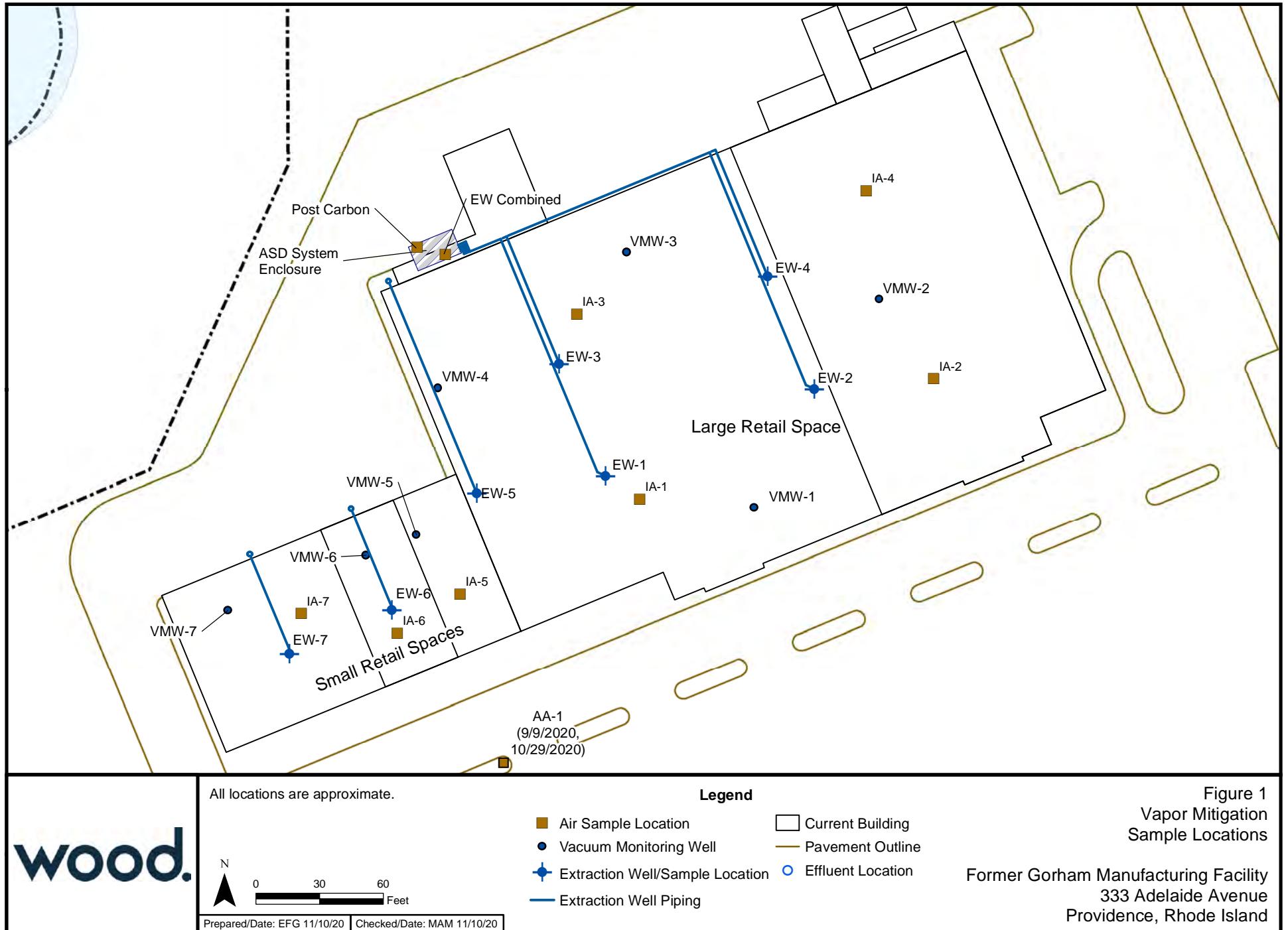
\*\* ASD system offline

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

NM - not measured

Prepared by/Date: MAM 11/13/2020  
 Checked by/Date:

# **Figures**



# **Appendix A**

Laboratory Report

September 22, 2020

Herb Colby  
WOOD PLC- MA  
271 Mill Road  
Chelmsford, MA 01824

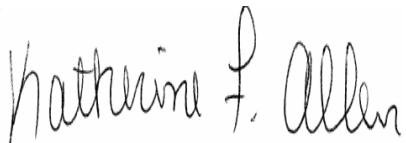
Project Location: Providence, RI  
Client Job Number:  
Project Number: 365170068  
Laboratory Work Order Number: 20I0614

Enclosed are results of analyses for samples received by the laboratory on September 10, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kaitlyn A. Feliciano  
Project Manager



QA Officer  
Katherine Allen



Laboratory Manager  
Daren Damboragian

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

WOOD PLC- MA  
271 Mill Road  
Chelmsford, MA 01824  
ATTN: Herb Colby

REPORT DATE: 9/22/2020

PURCHASE ORDER NUMBER: C012206368

PROJECT NUMBER: 365170068

#### ANALYTICAL SUMMARY

WORK ORDER NUMBER: 20I0614

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

PROJECT LOCATION: Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
IA-1-09092020	20I0614-01	Indoor air		EPA TO-15	
IA-2-09092020	20I0614-02	Indoor air		EPA TO-15	
IA-3-09092020	20I0614-03	Indoor air		EPA TO-15	
IA-4-09092020	20I0614-04	Indoor air		EPA TO-15	
IA-5-09092020	20I0614-05	Indoor air		EPA TO-15	
IA-6-09092020	20I0614-06	Indoor air		EPA TO-15	
IA-7-09092020	20I0614-07	Indoor air		EPA TO-15	
AA-1-09092020	20I0614-08	Ambient Air		EPA TO-15	
EW-5-09092020	20I0614-09	Sub Slab		EPA TO-15	
EW-6-09092020	20I0614-10	Sub Slab		EPA TO-15	
EW-7-09092020	20I0614-11	Sub Slab		EPA TO-15	
EW-Comb.-09092020	20I0614-12	Sub Slab		EPA TO-15	
Post Carbon-09092020	20I0614-13	Sub Slab		EPA TO-15	

#### CASE NARRATIVE SUMMARY

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

For sample 20I0614-02, client's final pressure and the labs receipt pressure do not agree. Client requested sample still be analyzed.

#### EPA TO-15

##### **Qualifications:**

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

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

###### **1,2,4-Trichlorobenzene**

20I0614-01[IA-1-09092020], 20I0614-02[IA-2-09092020], 20I0614-03[IA-3-09092020], 20I0614-04[IA-4-09092020], 20I0614-05[IA-5-09092020],  
20I0614-06[IA-6-09092020], 20I0614-07[IA-7-09092020], 20I0614-08[AA-1-09092020], 20I0614-09[EW-5-09092020], 20I0614-10[EW-6-09092020],  
20I0614-11[EW-7-09092020], 20I0614-12[EW-Comb.-09092020], 20I0614-13[Post Carbon-09092020], B266919-BLK1, B266919-BS1, B266919-DUP1, B267018-BLK1,  
B267018-BS1, S052553-CCV1, S052626-CCV1

Sample had a final vacuum of zero. Flow controllers have been verified to be okay, RPD was <20%

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

20I0614-02[IA-2-09092020], 20I0614-08[AA-1-09092020]

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  
Technical Representative

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-1-09092020

**Sample ID:** 2010614-01

Sample Matrix: Indoor air

Sampled: 9/9/2020 12:50

Sample Description/Location:

Sub Description/Location:

Canister ID: 1065

Canister Size: 6 liter

Flow Controller ID: 4091

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -0.2

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	3.9	1.4	0.84			9.3	3.3	2.0	0.698	9/18/20 12:06	BRF
Benzene	0.075	0.035	0.010			0.24	0.11	0.033	0.698	9/18/20 12:06	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	9/18/20 12:06	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	9/18/20 12:06	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	9/18/20 12:06	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	9/18/20 12:06	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	9/18/20 12:06	BRF
2-Butanone (MEK)	0.67	1.4	0.12	J		2.0	4.1	0.34	0.698	9/18/20 12:06	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	9/18/20 12:06	BRF
Carbon Tetrachloride	0.060	0.035	0.0093			0.38	0.22	0.058	0.698	9/18/20 12:06	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	9/18/20 12:06	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	9/18/20 12:06	BRF
Chloroform	0.027	0.035	0.0084	J		0.13	0.17	0.041	0.698	9/18/20 12:06	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	9/18/20 12:06	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	9/18/20 12:06	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	9/18/20 12:06	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	9/18/20 12:06	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	9/18/20 12:06	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	9/18/20 12:06	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	9/18/20 12:06	BRF
Dichlorodifluoromethane (Freon 12)	0.43	0.035	0.011			2.1	0.17	0.054	0.698	9/18/20 12:06	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	9/18/20 12:06	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	9/18/20 12:06	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	9/18/20 12:06	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	9/18/20 12:06	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	9/18/20 12:06	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	9/18/20 12:06	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	9/18/20 12:06	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	9/18/20 12:06	BRF
Ethanol	43	4.0	1.2			81	7.5	2.3	2	9/21/20 13:05	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	9/18/20 12:06	BRF
Ethylbenzene	0.033	0.035	0.0073	J		0.14	0.15	0.032	0.698	9/18/20 12:06	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	9/18/20 12:06	BRF
Heptane	ND	0.035	0.015			ND	0.14	0.062	0.698	9/18/20 12:06	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	9/18/20 12:06	BRF
Hexane	ND	1.4	0.063			ND	4.9	0.22	0.698	9/18/20 12:06	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	9/18/20 12:06	BRF
Isopropanol	ND	1.4	0.32			ND	3.4	0.79	0.698	9/18/20 12:06	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	9/18/20 12:06	BRF
Methylene Chloride	ND	0.35	0.080			ND	1.2	0.28	0.698	9/18/20 12:06	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	9/18/20 12:06	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	9/18/20 12:06	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	9/18/20 12:06	BRF
Styrene	0.019	0.035	0.010	J		0.080	0.15	0.042	0.698	9/18/20 12:06	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	9/18/20 12:06	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	9/18/20 12:06	BRF
Tetrachloroethylene	0.045	0.035	0.011			0.30	0.24	0.077	0.698	9/18/20 12:06	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-1-09092020

**Sample ID:** 2010614-01

Sample Matrix: Indoor air

Sampled: 9/9/2020 12:50

Sample Description/Location:

Sub Description/Location:

Canister ID: 1065

Canister Size: 6 liter

Flow Controller ID: 4091

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -0.2

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	0.14	0.35	0.086	J	0.40	1.0	0.25	0.698	9/18/20 12:06	BRF	
Toluene	0.19	0.035	0.010		0.72	0.13	0.038	0.698	9/18/20 12:06	BRF	
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34	ND	0.26	0.16	0.698	9/18/20 12:06	BRF	
1,1,1-Trichloroethane	ND	0.035	0.011		ND	0.19	0.062	0.698	9/18/20 12:06	BRF	
1,1,2-Trichloroethane	ND	0.035	0.013		ND	0.19	0.070	0.698	9/18/20 12:06	BRF	
Trichloroethylene	ND	0.035	0.013		ND	0.19	0.069	0.698	9/18/20 12:06	BRF	
Trichlorofluoromethane (Freon 11)	0.20	0.14	0.027		1.1	0.78	0.15	0.698	9/18/20 12:06	BRF	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.063	0.14	0.026	J	0.49	1.1	0.20	0.698	9/18/20 12:06	BRF	
1,2,4-Trimethylbenzene	0.040	0.035	0.0080		0.20	0.17	0.039	0.698	9/18/20 12:06	BRF	
1,3,5-Trimethylbenzene	0.013	0.035	0.0091	J	0.062	0.17	0.045	0.698	9/18/20 12:06	BRF	
Vinyl Acetate	ND	0.70	0.098		ND	2.5	0.34	0.698	9/18/20 12:06	BRF	
Vinyl Chloride	ND	0.035	0.019		ND	0.089	0.050	0.698	9/18/20 12:06	BRF	
m&p-Xylene	0.11	0.070	0.012		0.47	0.30	0.053	0.698	9/18/20 12:06	BRF	
o-Xylene	0.046	0.035	0.0093		0.20	0.15	0.041	0.698	9/18/20 12:06	BRF	

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.7	70-130	9/21/20 13:05
4-Bromofluorobenzene (1)	96.1	70-130	9/18/20 12:06
4-Bromofluorobenzene (2)	82.8	70-130	9/18/20 12:06

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-2-09092020

**Sample ID:** 2010614-02

Sample Matrix: Indoor air

Sampled: 9/9/2020 12:57

Sample Description/Location:

Sub Description/Location:

Canister ID: 2146

Canister Size: 6 liter

Flow Controller ID: 4295

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): 0

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling: &lt;20%

**EPA TO-15**

Sample Flags: Z-01

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	5.6	1.4	0.84			13	3.3	2.0	0.698	9/18/20 12:37	BRF
Benzene	0.14	0.035	0.010			0.45	0.11	0.033	0.698	9/18/20 12:37	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	9/18/20 12:37	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	9/18/20 12:37	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	9/18/20 12:37	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	9/18/20 12:37	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	9/18/20 12:37	BRF
2-Butanone (MEK)	ND	1.4	0.12			ND	4.1	0.34	0.698	9/18/20 12:37	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	9/18/20 12:37	BRF
Carbon Tetrachloride	0.073	0.035	0.0093			0.46	0.22	0.058	0.698	9/18/20 12:37	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	9/18/20 12:37	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	9/18/20 12:37	BRF
Chloroform	0.82	0.035	0.0084			4.0	0.17	0.041	0.698	9/18/20 12:37	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	9/18/20 12:37	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	9/18/20 12:37	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	9/18/20 12:37	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	9/18/20 12:37	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	9/18/20 12:37	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	9/18/20 12:37	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	9/18/20 12:37	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.035	0.011			ND	0.17	0.054	0.698	9/18/20 12:37	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	9/18/20 12:37	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	9/18/20 12:37	BRF
1,1-Dichloroethylene	1.5	0.035	0.019			6.1	0.14	0.075	0.698	9/18/20 12:37	BRF
cis-1,2-Dichloroethylene	8.2	0.035	0.012			33	0.14	0.047	0.698	9/18/20 12:37	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	9/18/20 12:37	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	9/18/20 12:37	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	9/18/20 12:37	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	9/18/20 12:37	BRF
Ethanol	17	1.4	0.42			32	2.6	0.80	0.698	9/18/20 12:37	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	9/18/20 12:37	BRF
Ethylbenzene	0.032	0.035	0.0073	J		0.14	0.15	0.032	0.698	9/18/20 12:37	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	9/18/20 12:37	BRF
Heptane	ND	0.035	0.015			ND	0.14	0.062	0.698	9/18/20 12:37	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	9/18/20 12:37	BRF
Hexane	ND	1.4	0.063			ND	4.9	0.22	0.698	9/18/20 12:37	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	9/18/20 12:37	BRF
Isopropanol	ND	1.4	0.32			ND	3.4	0.79	0.698	9/18/20 12:37	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	9/18/20 12:37	BRF
Methylene Chloride	ND	0.35	0.080			ND	1.2	0.28	0.698	9/18/20 12:37	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	9/18/20 12:37	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	9/18/20 12:37	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	9/18/20 12:37	BRF
Styrene	0.067	0.035	0.010			0.29	0.15	0.042	0.698	9/18/20 12:37	BRF
1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	9/18/20 12:37	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	9/18/20 12:37	BRF
Tetrachloroethylene	91	0.20	0.065			620	1.4	0.44	4	9/21/20 13:30	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-2-09092020

**Sample ID:** 2010614-02

Sample Matrix: Indoor air

Sampled: 9/9/2020 12:57

Sample Description/Location:

Sub Description/Location:

Canister ID: 2146

Canister Size: 6 liter

Flow Controller ID: 4295

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): 0

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling: &lt;20%

**EPA TO-15**

Sample Flags: Z-01

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	0.47	0.35	0.086			1.4	1.0	0.25	0.698	9/18/20 12:37	BRF
Toluene	0.18	0.035	0.010			0.69	0.13	0.038	0.698	9/18/20 12:37	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	9/18/20 12:37	BRF
1,1,1-Trichloroethane	98	0.20	0.065			530	1.1	0.36	4	9/21/20 13:30	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	9/18/20 12:37	BRF
Trichloroethylene	140	0.20	0.074			770	1.1	0.40	4	9/21/20 13:30	BRF
Trichlorofluoromethane (Freon 11)	23	0.14	0.027			130	0.78	0.15	0.698	9/18/20 12:37	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14	0.026			ND	1.1	0.20	0.698	9/18/20 12:37	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.0080			ND	0.17	0.039	0.698	9/18/20 12:37	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.0091			ND	0.17	0.045	0.698	9/18/20 12:37	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	9/18/20 12:37	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	9/18/20 12:37	BRF
m&p-Xylene	0.10	0.070	0.012			0.44	0.30	0.053	0.698	9/18/20 12:37	BRF
o-Xylene	0.046	0.035	0.0093			0.20	0.15	0.041	0.698	9/18/20 12:37	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.1	70-130	9/21/20 13:30
4-Bromofluorobenzene (1)	94.7	70-130	9/18/20 12:37
4-Bromofluorobenzene (2)	84.4	70-130	9/18/20 12:37

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-3-09092020

**Sample ID:** 2010614-03

Sample Matrix: Indoor air

Sampled: 9/9/2020 12:52

Sample Description/Location:

Sub Description/Location:

Canister ID: 2042

Canister Size: 6 liter

Flow Controller ID: 4106

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -5.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	5.3	1.4	0.84			13	3.3	2.0	0.698	9/18/20 13:08	BRF
Benzene	0.079	0.035	0.010			0.25	0.11	0.033	0.698	9/18/20 13:08	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	9/18/20 13:08	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	9/18/20 13:08	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	9/18/20 13:08	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	9/18/20 13:08	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	9/18/20 13:08	BRF
2-Butanone (MEK)	ND	1.4	0.12			ND	4.1	0.34	0.698	9/18/20 13:08	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	9/18/20 13:08	BRF
Carbon Tetrachloride	0.070	0.035	0.0093			0.44	0.22	0.058	0.698	9/18/20 13:08	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	9/18/20 13:08	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	9/18/20 13:08	BRF
Chloroform	0.027	0.035	0.0084	J		0.13	0.17	0.041	0.698	9/18/20 13:08	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	9/18/20 13:08	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	9/18/20 13:08	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	9/18/20 13:08	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	9/18/20 13:08	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	9/18/20 13:08	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	9/18/20 13:08	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	9/18/20 13:08	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.035	0.011			ND	0.17	0.054	0.698	9/18/20 13:08	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	9/18/20 13:08	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	9/18/20 13:08	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	9/18/20 13:08	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	9/18/20 13:08	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	9/18/20 13:08	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	9/18/20 13:08	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	9/18/20 13:08	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	9/18/20 13:08	BRF
Ethanol	42	4.0	1.2			80	7.5	2.3	2	9/21/20 14:03	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	9/18/20 13:08	BRF
Ethylbenzene	0.033	0.035	0.0073	J		0.15	0.15	0.032	0.698	9/18/20 13:08	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	9/18/20 13:08	BRF
Heptane	ND	0.035	0.015			ND	0.14	0.062	0.698	9/18/20 13:08	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	9/18/20 13:08	BRF
Hexane	0.37	1.4	0.063	J		1.3	4.9	0.22	0.698	9/18/20 13:08	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	9/18/20 13:08	BRF
Isopropanol	ND	1.4	0.32			ND	3.4	0.79	0.698	9/18/20 13:08	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	9/18/20 13:08	BRF
Methylene Chloride	0.63	0.35	0.080			2.2	1.2	0.28	0.698	9/18/20 13:08	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	9/18/20 13:08	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	9/18/20 13:08	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	9/18/20 13:08	BRF
Styrene	ND	0.035	0.010			ND	0.15	0.042	0.698	9/18/20 13:08	BRF
1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	9/18/20 13:08	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	9/18/20 13:08	BRF
Tetrachloroethylene	0.059	0.035	0.011			0.40	0.24	0.077	0.698	9/18/20 13:08	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-3-09092020

**Sample ID:** 2010614-03

Sample Matrix: Indoor air

Sampled: 9/9/2020 12:52

Sample Description/Location:

Sub Description/Location:

Canister ID: 2042

Canister Size: 6 liter

Flow Controller ID: 4106

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -5.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	9/18/20 13:08	BRF
Toluene	0.20	0.035	0.010			0.76	0.13	0.038	0.698	9/18/20 13:08	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	9/18/20 13:08	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	9/18/20 13:08	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	9/18/20 13:08	BRF
Trichloroethylene	ND	0.035	0.013			ND	0.19	0.069	0.698	9/18/20 13:08	BRF
Trichlorofluoromethane (Freon 11)	0.20	0.14	0.027			1.1	0.78	0.15	0.698	9/18/20 13:08	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14	0.026			ND	1.1	0.20	0.698	9/18/20 13:08	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.0080			ND	0.17	0.039	0.698	9/18/20 13:08	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.0091			ND	0.17	0.045	0.698	9/18/20 13:08	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	9/18/20 13:08	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	9/18/20 13:08	BRF
m&p-Xylene	0.11	0.070	0.012			0.49	0.30	0.053	0.698	9/18/20 13:08	BRF
o-Xylene	0.045	0.035	0.0093			0.20	0.15	0.041	0.698	9/18/20 13:08	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.1	70-130	9/21/20 14:03
4-Bromofluorobenzene (1)	95.4	70-130	9/18/20 13:08
4-Bromofluorobenzene (2)	84.8	70-130	9/18/20 13:08

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-4-09092020

**Sample ID:** 2010614-04

Sample Matrix: Indoor air

Sampled: 9/9/2020 13:00

Sample Description/Location:

Sub Description/Location:

Canister ID: 2203

Canister Size: 6 liter

Flow Controller ID: 4376

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -6

Receipt Vacuum(in Hg): -4.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	5.3	1.4	0.84			13	3.3	2.0	0.698	9/18/20 13:40	BRF
Benzene	0.071	0.035	0.010			0.23	0.11	0.033	0.698	9/18/20 13:40	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	9/18/20 13:40	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	9/18/20 13:40	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	9/18/20 13:40	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	9/18/20 13:40	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	9/18/20 13:40	BRF
2-Butanone (MEK)	0.65	1.4	0.12	J		1.9	4.1	0.34	0.698	9/18/20 13:40	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	9/18/20 13:40	BRF
Carbon Tetrachloride	0.075	0.035	0.0093			0.47	0.22	0.058	0.698	9/18/20 13:40	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	9/18/20 13:40	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	9/18/20 13:40	BRF
Chloroform	ND	0.035	0.0084			ND	0.17	0.041	0.698	9/18/20 13:40	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	9/18/20 13:40	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	9/18/20 13:40	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	9/18/20 13:40	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	9/18/20 13:40	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	9/18/20 13:40	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	9/18/20 13:40	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	9/18/20 13:40	BRF
Dichlorodifluoromethane (Freon 12)	0.41	0.035	0.011			2.0	0.17	0.054	0.698	9/18/20 13:40	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	9/18/20 13:40	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	9/18/20 13:40	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	9/18/20 13:40	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	9/18/20 13:40	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	9/18/20 13:40	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	9/18/20 13:40	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	9/18/20 13:40	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	9/18/20 13:40	BRF
Ethanol	43	4.0	1.2			81	7.5	2.3	2	9/21/20 14:29	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	9/18/20 13:40	BRF
Ethylbenzene	0.033	0.035	0.0073	J		0.15	0.15	0.032	0.698	9/18/20 13:40	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	9/18/20 13:40	BRF
Heptane	ND	0.035	0.015			ND	0.14	0.062	0.698	9/18/20 13:40	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	9/18/20 13:40	BRF
Hexane	ND	1.4	0.063			ND	4.9	0.22	0.698	9/18/20 13:40	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	9/18/20 13:40	BRF
Isopropanol	ND	1.4	0.32			ND	3.4	0.79	0.698	9/18/20 13:40	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	9/18/20 13:40	BRF
Methylene Chloride	0.21	0.35	0.080	J		0.74	1.2	0.28	0.698	9/18/20 13:40	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	9/18/20 13:40	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	9/18/20 13:40	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	9/18/20 13:40	BRF
Styrene	ND	0.035	0.010			ND	0.15	0.042	0.698	9/18/20 13:40	BRF
1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	9/18/20 13:40	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	9/18/20 13:40	BRF
Tetrachloroethylene	0.052	0.035	0.011			0.35	0.24	0.077	0.698	9/18/20 13:40	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-4-09092020

**Sample ID:** 2010614-04

Sample Matrix: Indoor air

Sampled: 9/9/2020 13:00

Sample Description/Location:

Sub Description/Location:

Canister ID: 2203

Canister Size: 6 liter

Flow Controller ID: 4376

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -6

Receipt Vacuum(in Hg): -4.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	9/18/20 13:40	BRF
Toluene	0.18	0.035	0.010			0.69	0.13	0.038	0.698	9/18/20 13:40	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	9/18/20 13:40	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	9/18/20 13:40	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	9/18/20 13:40	BRF
Trichloroethylene	0.021	0.035	0.013	J		0.11	0.19	0.069	0.698	9/18/20 13:40	BRF
Trichlorofluoromethane (Freon 11)	0.19	0.14	0.027			1.1	0.78	0.15	0.698	9/18/20 13:40	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.065	0.14	0.026	J		0.50	1.1	0.20	0.698	9/18/20 13:40	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.0080			ND	0.17	0.039	0.698	9/18/20 13:40	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.0091			ND	0.17	0.045	0.698	9/18/20 13:40	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	9/18/20 13:40	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	9/18/20 13:40	BRF
m&p-Xylene	0.10	0.070	0.012			0.44	0.30	0.053	0.698	9/18/20 13:40	BRF
o-Xylene	0.041	0.035	0.0093			0.18	0.15	0.041	0.698	9/18/20 13:40	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.7	70-130	9/21/20 14:29
4-Bromofluorobenzene (1)	94.1	70-130	9/18/20 13:40
4-Bromofluorobenzene (2)	81.3	70-130	9/18/20 13:40

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-5-09092020

**Sample ID:** 2010614-05

Sample Matrix: Indoor air

Sampled: 9/9/2020 07:45

Sample Description/Location:

Sub Description/Location:

Canister ID: 2054

Canister Size: 6 liter

Flow Controller ID: 4366

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -4.7

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	3.0	1.4	0.84			7.2	3.3	2.0	0.698	9/18/20 14:11	BRF
Benzene	0.046	0.035	0.010			0.15	0.11	0.033	0.698	9/18/20 14:11	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	9/18/20 14:11	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	9/18/20 14:11	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	9/18/20 14:11	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	9/18/20 14:11	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	9/18/20 14:11	BRF
2-Butanone (MEK)	ND	1.4	0.12			ND	4.1	0.34	0.698	9/18/20 14:11	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	9/18/20 14:11	BRF
Carbon Tetrachloride	0.071	0.035	0.0093			0.45	0.22	0.058	0.698	9/18/20 14:11	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	9/18/20 14:11	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	9/18/20 14:11	BRF
Chloroform	0.024	0.035	0.0084	J		0.12	0.17	0.041	0.698	9/18/20 14:11	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	9/18/20 14:11	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	9/18/20 14:11	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	9/18/20 14:11	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	9/18/20 14:11	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	9/18/20 14:11	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	9/18/20 14:11	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	9/18/20 14:11	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.035	0.011			ND	0.17	0.054	0.698	9/18/20 14:11	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	9/18/20 14:11	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	9/18/20 14:11	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	9/18/20 14:11	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	9/18/20 14:11	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	9/18/20 14:11	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	9/18/20 14:11	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	9/18/20 14:11	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	9/18/20 14:11	BRF
Ethanol	52	4.0	1.2			99	7.5	2.3	2	9/21/20 14:55	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	9/18/20 14:11	BRF
Ethylbenzene	0.018	0.035	0.0073	J		0.079	0.15	0.032	0.698	9/18/20 14:11	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	9/18/20 14:11	BRF
Heptane	ND	0.035	0.015			ND	0.14	0.062	0.698	9/18/20 14:11	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	9/18/20 14:11	BRF
Hexane	ND	1.4	0.063			ND	4.9	0.22	0.698	9/18/20 14:11	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	9/18/20 14:11	BRF
Isopropanol	ND	1.4	0.32			ND	3.4	0.79	0.698	9/18/20 14:11	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	9/18/20 14:11	BRF
Methylene Chloride	0.17	0.35	0.080	J		0.60	1.2	0.28	0.698	9/18/20 14:11	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	9/18/20 14:11	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	9/18/20 14:11	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	9/18/20 14:11	BRF
Styrene	0.025	0.035	0.010	J		0.11	0.15	0.042	0.698	9/18/20 14:11	BRF
1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	9/18/20 14:11	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	9/18/20 14:11	BRF
Tetrachloroethylene	0.027	0.035	0.011	J		0.18	0.24	0.077	0.698	9/18/20 14:11	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-5-09092020

**Sample ID:** 2010614-05

Sample Matrix: Indoor air

Sampled: 9/9/2020 07:45

Sample Description/Location:

Sub Description/Location:

Canister ID: 2054

Canister Size: 6 liter

Flow Controller ID: 4366

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -4.7

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	9/18/20 14:11	BRF
Toluene	0.14	0.035	0.010			0.54	0.13	0.038	0.698	9/18/20 14:11	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	9/18/20 14:11	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	9/18/20 14:11	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	9/18/20 14:11	BRF
Trichloroethylene	ND	0.035	0.013			ND	0.19	0.069	0.698	9/18/20 14:11	BRF
Trichlorofluoromethane (Freon 11)	0.20	0.14	0.027			1.1	0.78	0.15	0.698	9/18/20 14:11	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14	0.026			ND	1.1	0.20	0.698	9/18/20 14:11	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.0080			ND	0.17	0.039	0.698	9/18/20 14:11	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.0091			ND	0.17	0.045	0.698	9/18/20 14:11	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	9/18/20 14:11	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	9/18/20 14:11	BRF
m&p-Xylene	0.056	0.070	0.012	J		0.24	0.30	0.053	0.698	9/18/20 14:11	BRF
o-Xylene	0.023	0.035	0.0093	J		0.100	0.15	0.041	0.698	9/18/20 14:11	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	95.2	70-130	9/21/20 14:55
4-Bromofluorobenzene (1)	95.4	70-130	9/18/20 14:11
4-Bromofluorobenzene (2)	81.5	70-130	9/18/20 14:11

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-6-09092020

**Sample ID:** 2010614-06

Sample Matrix: Indoor air

Sampled: 9/9/2020 07:39

Sample Description/Location:

Sub Description/Location:

Canister ID: 1649

Canister Size: 6 liter

Flow Controller ID: 4365

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -2.5

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	4.8	1.4	0.84			11	3.3	2.0	0.698	9/18/20 14:42	BRF
Benzene	ND	0.035	0.010			ND	0.11	0.033	0.698	9/18/20 14:42	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	9/18/20 14:42	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	9/18/20 14:42	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	9/18/20 14:42	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	9/18/20 14:42	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	9/18/20 14:42	BRF
2-Butanone (MEK)	0.21	1.4	0.12	J		0.63	4.1	0.34	0.698	9/18/20 14:42	BRF
Carbon Disulfide	0.12	0.35	0.089	J		0.38	1.1	0.28	0.698	9/18/20 14:42	BRF
Carbon Tetrachloride	0.070	0.035	0.0093			0.44	0.22	0.058	0.698	9/18/20 14:42	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	9/18/20 14:42	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	9/18/20 14:42	BRF
Chloroform	0.046	0.035	0.0084			0.22	0.17	0.041	0.698	9/18/20 14:42	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	9/18/20 14:42	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	9/18/20 14:42	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	9/18/20 14:42	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	9/18/20 14:42	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	9/18/20 14:42	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	9/18/20 14:42	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	9/18/20 14:42	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.035	0.011			ND	0.17	0.054	0.698	9/18/20 14:42	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	9/18/20 14:42	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	9/18/20 14:42	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	9/18/20 14:42	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	9/18/20 14:42	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	9/18/20 14:42	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	9/18/20 14:42	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	9/18/20 14:42	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	9/18/20 14:42	BRF
Ethanol	800	60	18			1500	110	34	30	9/22/20 7:52	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	9/18/20 14:42	BRF
Ethylbenzene	0.034	0.035	0.0073	J		0.15	0.15	0.032	0.698	9/18/20 14:42	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	9/18/20 14:42	BRF
Heptane	0.084	0.035	0.015			0.34	0.14	0.062	0.698	9/18/20 14:42	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	9/18/20 14:42	BRF
Hexane	ND	1.4	0.063			ND	4.9	0.22	0.698	9/18/20 14:42	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	9/18/20 14:42	BRF
Isopropanol	ND	1.4	0.32			ND	3.4	0.79	0.698	9/18/20 14:42	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	9/18/20 14:42	BRF
Methylene Chloride	ND	0.35	0.080			ND	1.2	0.28	0.698	9/18/20 14:42	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	9/18/20 14:42	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	9/18/20 14:42	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	9/18/20 14:42	BRF
Styrene	0.049	0.035	0.010			0.21	0.15	0.042	0.698	9/18/20 14:42	BRF
1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	9/18/20 14:42	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	9/18/20 14:42	BRF
Tetrachloroethylene	0.091	0.035	0.011			0.62	0.24	0.077	0.698	9/18/20 14:42	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-6-09092020

**Sample ID:** 2010614-06

Sample Matrix: Indoor air

Sampled: 9/9/2020 07:39

Sample Description/Location:

Sub Description/Location:

Canister ID: 1649

Canister Size: 6 liter

Flow Controller ID: 4365

Sample Type: 30 min

**Work Order:** 20I0614

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -2.5

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	9/18/20 14:42	BRF
Toluene	0.34	0.035	0.010			1.3	0.13	0.038	0.698	9/18/20 14:42	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	9/18/20 14:42	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	9/18/20 14:42	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	9/18/20 14:42	BRF
Trichloroethylene	ND	0.035	0.013			ND	0.19	0.069	0.698	9/18/20 14:42	BRF
Trichlorofluoromethane (Freon 11)	0.19	0.14	0.027			1.1	0.78	0.15	0.698	9/18/20 14:42	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14	0.026			ND	1.1	0.20	0.698	9/18/20 14:42	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.0080			ND	0.17	0.039	0.698	9/18/20 14:42	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.0091			ND	0.17	0.045	0.698	9/18/20 14:42	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	9/18/20 14:42	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	9/18/20 14:42	BRF
m&p-Xylene	0.089	0.070	0.012			0.39	0.30	0.053	0.698	9/18/20 14:42	BRF
o-Xylene	0.041	0.035	0.0093			0.18	0.15	0.041	0.698	9/18/20 14:42	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	93.3	70-130	9/22/20 7:52
4-Bromofluorobenzene (1)	94.7	70-130	9/18/20 14:42
4-Bromofluorobenzene (2)	81.4	70-130	9/18/20 14:42

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-7-09092020

**Sample ID:** 2010614-07

Sample Matrix: Indoor air

Sampled: 9/9/2020 08:42

Sample Description/Location:

Sub Description/Location:

Canister ID: 1025

Canister Size: 6 liter

Flow Controller ID: 4038

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -6.5

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	6.9	1.4	0.84			16	3.3	2.0	0.698	9/18/20 15:14	BRF
Benzene	ND	0.035	0.010			ND	0.11	0.033	0.698	9/18/20 15:14	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	9/18/20 15:14	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	9/18/20 15:14	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	9/18/20 15:14	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	9/18/20 15:14	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	9/18/20 15:14	BRF
2-Butanone (MEK)	0.49	1.4	0.12	J		1.5	4.1	0.34	0.698	9/18/20 15:14	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	9/18/20 15:14	BRF
Carbon Tetrachloride	ND	0.035	0.0093			ND	0.22	0.058	0.698	9/18/20 15:14	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	9/18/20 15:14	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	9/18/20 15:14	BRF
Chloroform	ND	0.035	0.0084			ND	0.17	0.041	0.698	9/18/20 15:14	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	9/18/20 15:14	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	9/18/20 15:14	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	9/18/20 15:14	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	9/18/20 15:14	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	9/18/20 15:14	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	9/18/20 15:14	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	9/18/20 15:14	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.035	0.011			ND	0.17	0.054	0.698	9/18/20 15:14	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	9/18/20 15:14	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	9/18/20 15:14	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	9/18/20 15:14	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	9/18/20 15:14	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	9/18/20 15:14	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	9/18/20 15:14	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	9/18/20 15:14	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	9/18/20 15:14	BRF
Ethanol	520	40	12			990	75	23	20	9/22/20 8:17	BRF
Ethyl Acetate	0.35	0.35	0.21			1.3	1.3	0.75	0.698	9/18/20 15:14	BRF
Ethylbenzene	ND	0.035	0.0073			ND	0.15	0.032	0.698	9/18/20 15:14	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	9/18/20 15:14	BRF
Heptane	ND	0.035	0.015			ND	0.14	0.062	0.698	9/18/20 15:14	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	9/18/20 15:14	BRF
Hexane	ND	1.4	0.063			ND	4.9	0.22	0.698	9/18/20 15:14	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	9/18/20 15:14	BRF
Isopropanol	14	1.4	0.32			33	3.4	0.79	0.698	9/18/20 15:14	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	9/18/20 15:14	BRF
Methylene Chloride	ND	0.35	0.080			ND	1.2	0.28	0.698	9/18/20 15:14	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	9/18/20 15:14	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	9/18/20 15:14	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	9/18/20 15:14	BRF
Styrene	ND	0.035	0.010			ND	0.15	0.042	0.698	9/18/20 15:14	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	9/18/20 15:14	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	9/18/20 15:14	BRF
Tetrachloroethylene	ND	0.035	0.011			ND	0.24	0.077	0.698	9/18/20 15:14	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** IA-7-09092020

**Sample ID:** 2010614-07

Sample Matrix: Indoor air

Sampled: 9/9/2020 08:42

Sample Description/Location:

Sub Description/Location:

Canister ID: 1025

Canister Size: 6 liter

Flow Controller ID: 4038

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -6.5

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	9/18/20 15:14	BRF
Toluene	ND	0.035	0.010			ND	0.13	0.038	0.698	9/18/20 15:14	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	9/18/20 15:14	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	9/18/20 15:14	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	9/18/20 15:14	BRF
Trichloroethylene	ND	0.035	0.013			ND	0.19	0.069	0.698	9/18/20 15:14	BRF
Trichlorofluoromethane (Freon 11)	ND	0.14	0.027			ND	0.78	0.15	0.698	9/18/20 15:14	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14	0.026			ND	1.1	0.20	0.698	9/18/20 15:14	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.0080			ND	0.17	0.039	0.698	9/18/20 15:14	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.0091			ND	0.17	0.045	0.698	9/18/20 15:14	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	9/18/20 15:14	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	9/18/20 15:14	BRF
m&p-Xylene	ND	0.070	0.012			ND	0.30	0.053	0.698	9/18/20 15:14	BRF
o-Xylene	ND	0.035	0.0093			ND	0.15	0.041	0.698	9/18/20 15:14	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.5	70-130	9/18/20 15:14
4-Bromofluorobenzene (1)	94.8	70-130	9/22/20 8:17
4-Bromofluorobenzene (2)	80.9	70-130	9/18/20 15:14

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** AA-1-09092020

**Sample ID:** 2010614-08

Sample Matrix: Ambient Air

Sampled: 9/9/2020 07:48

Sample Description/Location:

Sub Description/Location:

Canister ID: 1968

Canister Size: 6 liter

Flow Controller ID: 4293

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -3

Receipt Vacuum(in Hg): -0.1

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling: &lt;20%

**EPA TO-15**

Sample Flags: Z-01

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	3.5	1.4	0.84			8.2	3.3	2.0	0.698	9/18/20 15:45	BRF
Benzene	0.047	0.035	0.010			0.15	0.11	0.033	0.698	9/18/20 15:45	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	9/18/20 15:45	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	9/18/20 15:45	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	9/18/20 15:45	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	9/18/20 15:45	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	9/18/20 15:45	BRF
2-Butanone (MEK)	0.46	1.4	0.12	J		1.4	4.1	0.34	0.698	9/18/20 15:45	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	9/18/20 15:45	BRF
Carbon Tetrachloride	0.068	0.035	0.0093			0.43	0.22	0.058	0.698	9/18/20 15:45	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	9/18/20 15:45	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	9/18/20 15:45	BRF
Chloroform	0.026	0.035	0.0084	J		0.13	0.17	0.041	0.698	9/18/20 15:45	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	9/18/20 15:45	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	9/18/20 15:45	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	9/18/20 15:45	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	9/18/20 15:45	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	9/18/20 15:45	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	9/18/20 15:45	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	9/18/20 15:45	BRF
Dichlorodifluoromethane (Freon 12)	0.41	0.035	0.011			2.0	0.17	0.054	0.698	9/18/20 15:45	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	9/18/20 15:45	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	9/18/20 15:45	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	9/18/20 15:45	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	9/18/20 15:45	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	9/18/20 15:45	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	9/18/20 15:45	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	9/18/20 15:45	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	9/18/20 15:45	BRF
Ethanol	3.3	1.4	0.42			6.3	2.6	0.80	0.698	9/18/20 15:45	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	9/18/20 15:45	BRF
Ethylbenzene	0.018	0.035	0.0073	J		0.079	0.15	0.032	0.698	9/18/20 15:45	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	9/18/20 15:45	BRF
Heptane	ND	0.035	0.015			ND	0.14	0.062	0.698	9/18/20 15:45	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	9/18/20 15:45	BRF
Hexane	ND	1.4	0.063			ND	4.9	0.22	0.698	9/18/20 15:45	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	9/18/20 15:45	BRF
Isopropanol	ND	1.4	0.32			ND	3.4	0.79	0.698	9/18/20 15:45	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	9/18/20 15:45	BRF
Methylene Chloride	ND	0.35	0.080			ND	1.2	0.28	0.698	9/18/20 15:45	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	9/18/20 15:45	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	9/18/20 15:45	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	9/18/20 15:45	BRF
Styrene	ND	0.035	0.010			ND	0.15	0.042	0.698	9/18/20 15:45	BRF
1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	9/18/20 15:45	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	9/18/20 15:45	BRF
Tetrachloroethylene	0.015	0.035	0.011	J		0.10	0.24	0.077	0.698	9/18/20 15:45	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** AA-1-09092020

**Sample ID:** 2010614-08

Sample Matrix: Ambient Air

Sampled: 9/9/2020 07:48

Sample Description/Location:

Sub Description/Location:

Canister ID: 1968

Canister Size: 6 liter

Flow Controller ID: 4293

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -3

Receipt Vacuum(in Hg): -0.1

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling: &lt;20%

**EPA TO-15**

Sample Flags: Z-01

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	9/18/20 15:45	BRF
Toluene	0.14	0.035	0.010			0.52	0.13	0.038	0.698	9/18/20 15:45	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	9/18/20 15:45	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	9/18/20 15:45	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	9/18/20 15:45	BRF
Trichloroethylene	ND	0.035	0.013			ND	0.19	0.069	0.698	9/18/20 15:45	BRF
Trichlorofluoromethane (Freon 11)	0.20	0.14	0.027			1.1	0.78	0.15	0.698	9/18/20 15:45	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.063	0.14	0.026	J		0.48	1.1	0.20	0.698	9/18/20 15:45	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.0080			ND	0.17	0.039	0.698	9/18/20 15:45	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.0091			ND	0.17	0.045	0.698	9/18/20 15:45	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	9/18/20 15:45	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	9/18/20 15:45	BRF
m&p-Xylene	0.042	0.070	0.012	J		0.18	0.30	0.053	0.698	9/18/20 15:45	BRF
o-Xylene	ND	0.035	0.0093			ND	0.15	0.041	0.698	9/18/20 15:45	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	95.7	70-130	9/18/20 15:45
4-Bromofluorobenzene (2)	82.8	70-130	9/18/20 15:45

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** EW-5-09092020

**Sample ID:** 2010614-09

Sample Matrix: Sub Slab

Sampled: 9/9/2020 11:10

Sample Description/Location:

Sub Description/Location:

Canister ID: 2214

Canister Size: 6 liter

Flow Controller ID: 4375

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -7.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	6.2	4.0	2.4			15	9.5	5.7	2	9/18/20 16:12	BRF
Benzene	ND	0.10	0.029			ND	0.32	0.093	2	9/18/20 16:12	BRF
Benzyl chloride	ND	0.10	0.045			ND	0.52	0.23	2	9/18/20 16:12	BRF
Bromodichloromethane	ND	0.10	0.028			ND	0.67	0.19	2	9/18/20 16:12	BRF
Bromoform	ND	0.10	0.034			ND	1.0	0.36	2	9/18/20 16:12	BRF
Bromomethane	ND	0.10	0.053			ND	0.39	0.21	2	9/18/20 16:12	BRF
1,3-Butadiene	ND	0.10	0.073			ND	0.22	0.16	2	9/18/20 16:12	BRF
2-Butanone (MEK)	ND	4.0	0.33			ND	12	0.98	2	9/18/20 16:12	BRF
Carbon Disulfide	ND	1.0	0.25			ND	3.1	0.79	2	9/18/20 16:12	BRF
Carbon Tetrachloride	0.074	0.10	0.027	J		0.47	0.63	0.17	2	9/18/20 16:12	BRF
Chlorobenzene	ND	0.10	0.024			ND	0.46	0.11	2	9/18/20 16:12	BRF
Chloroethane	ND	0.10	0.098			ND	0.26	0.26	2	9/18/20 16:12	BRF
Chloroform	0.19	0.10	0.024			0.93	0.49	0.12	2	9/18/20 16:12	BRF
Chloromethane	ND	0.20	0.076			ND	0.41	0.16	2	9/18/20 16:12	BRF
Cyclohexane	ND	0.10	0.049			ND	0.34	0.17	2	9/18/20 16:12	BRF
Dibromochloromethane	ND	0.10	0.034			ND	0.85	0.29	2	9/18/20 16:12	BRF
1,2-Dibromoethane (EDB)	ND	0.10	0.026			ND	0.77	0.20	2	9/18/20 16:12	BRF
1,2-Dichlorobenzene	ND	0.10	0.037			ND	0.60	0.22	2	9/18/20 16:12	BRF
1,3-Dichlorobenzene	ND	0.10	0.036			ND	0.60	0.22	2	9/18/20 16:12	BRF
1,4-Dichlorobenzene	ND	0.10	0.022			ND	0.60	0.13	2	9/18/20 16:12	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10	0.031			ND	0.49	0.16	2	9/18/20 16:12	BRF
1,1-Dichloroethane	ND	0.10	0.031			ND	0.40	0.13	2	9/18/20 16:12	BRF
1,2-Dichloroethane	ND	0.10	0.037			ND	0.40	0.15	2	9/18/20 16:12	BRF
1,1-Dichloroethylene	ND	0.10	0.054			ND	0.40	0.22	2	9/18/20 16:12	BRF
cis-1,2-Dichloroethylene	0.18	0.10	0.034			0.73	0.40	0.13	2	9/18/20 16:12	BRF
trans-1,2-Dichloroethylene	ND	0.10	0.030			ND	0.40	0.12	2	9/18/20 16:12	BRF
1,2-Dichloropropane	ND	0.10	0.036			ND	0.46	0.17	2	9/18/20 16:12	BRF
cis-1,3-Dichloropropene	ND	0.10	0.046			ND	0.45	0.21	2	9/18/20 16:12	BRF
trans-1,3-Dichloropropene	ND	0.10	0.034			ND	0.45	0.15	2	9/18/20 16:12	BRF
Ethanol	38	4.0	1.2			71	7.5	2.3	2	9/18/20 16:12	BRF
Ethyl Acetate	ND	1.0	0.59			ND	3.6	2.1	2	9/18/20 16:12	BRF
Ethylbenzene	0.038	0.10	0.021	J		0.16	0.43	0.090	2	9/18/20 16:12	BRF
4-Ethyltoluene	ND	0.10	0.031			ND	0.49	0.15	2	9/18/20 16:12	BRF
Heptane	ND	0.10	0.043			ND	0.41	0.18	2	9/18/20 16:12	BRF
Hexachlorobutadiene	ND	0.10	0.044			ND	1.1	0.47	2	9/18/20 16:12	BRF
Hexane	ND	4.0	0.18			ND	14	0.64	2	9/18/20 16:12	BRF
2-Hexanone (MBK)	ND	0.20	0.056			ND	0.82	0.23	2	9/18/20 16:12	BRF
Isopropanol	ND	4.0	0.92			ND	9.8	2.3	2	9/18/20 16:12	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.040			ND	0.36	0.14	2	9/18/20 16:12	BRF
Methylene Chloride	ND	1.0	0.23			ND	3.5	0.80	2	9/18/20 16:12	BRF
Methyl methacrylate	ND	0.10	0.057			ND	0.41	0.23	2	9/18/20 16:12	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.052			ND	0.41	0.21	2	9/18/20 16:12	BRF
Propene	ND	4.0	0.34			ND	6.9	0.58	2	9/18/20 16:12	BRF
Styrene	ND	0.10	0.029			ND	0.43	0.12	2	9/18/20 16:12	BRF
1,1,1,2-Tetrachloroethane	ND	0.18	0.066			ND	1.2	0.45	2	9/18/20 16:12	BRF
1,1,2,2-Tetrachloroethane	ND	0.10	0.027			ND	0.69	0.18	2	9/18/20 16:12	BRF
Tetrachloroethylene	1.0	0.10	0.033			6.8	0.68	0.22	2	9/18/20 16:12	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** EW-5-09092020

**Sample ID:** 2010614-09

Sample Matrix: Sub Slab

Sampled: 9/9/2020 11:10

Sample Description/Location:

Sub Description/Location:

Canister ID: 2214

Canister Size: 6 liter

Flow Controller ID: 4375

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -7.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	1.0	0.25			ND	2.9	0.73	2	9/18/20 16:12	BRF
Toluene	0.20	0.10	0.029			0.74	0.38	0.11	2	9/18/20 16:12	BRF
1,2,4-Trichlorobenzene	ND	0.10	0.061	V-34		ND	0.74	0.45	2	9/18/20 16:12	BRF
1,1,1-Trichloroethane	13	0.10	0.033			73	0.55	0.18	2	9/18/20 16:12	BRF
1,1,2-Trichloroethane	ND	0.10	0.037			ND	0.55	0.20	2	9/18/20 16:12	BRF
Trichloroethylene	10	0.10	0.037			54	0.54	0.20	2	9/18/20 16:12	BRF
Trichlorofluoromethane (Freon 11)	ND	0.40	0.076			ND	2.2	0.43	2	9/18/20 16:12	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	0.075			ND	3.1	0.58	2	9/18/20 16:12	BRF
1,2,4-Trimethylbenzene	ND	0.10	0.023			ND	0.49	0.11	2	9/18/20 16:12	BRF
1,3,5-Trimethylbenzene	ND	0.10	0.026			ND	0.49	0.13	2	9/18/20 16:12	BRF
Vinyl Acetate	ND	2.0	0.28			ND	7.0	0.99	2	9/18/20 16:12	BRF
Vinyl Chloride	ND	0.10	0.056			ND	0.26	0.14	2	9/18/20 16:12	BRF
m&p-Xylene	0.12	0.20	0.035	J		0.51	0.87	0.15	2	9/18/20 16:12	BRF
o-Xylene	0.046	0.10	0.027	J		0.20	0.43	0.12	2	9/18/20 16:12	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.0	70-130	9/18/20 16:12
4-Bromofluorobenzene (2)	81.2	70-130	9/18/20 16:12

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** EW-6-09092020

**Sample ID:** 2010614-10

Sample Matrix: Sub Slab

Sampled: 9/9/2020 07:59

Sample Description/Location:

Sub Description/Location:

Canister ID: 1509

Canister Size: 6 liter

Flow Controller ID: 4292

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -12

Receipt Vacuum(in Hg): -12.4

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	26	4.0	2.4			63	9.5	5.7	2	9/18/20 17:05	BRF
Benzene	0.59	0.10	0.029			1.9	0.32	0.093	2	9/18/20 17:05	BRF
Benzyl chloride	ND	0.10	0.045			ND	0.52	0.23	2	9/18/20 17:05	BRF
Bromodichloromethane	ND	0.10	0.028			ND	0.67	0.19	2	9/18/20 17:05	BRF
Bromoform	ND	0.10	0.034			ND	1.0	0.36	2	9/18/20 17:05	BRF
Bromomethane	ND	0.10	0.053			ND	0.39	0.21	2	9/18/20 17:05	BRF
1,3-Butadiene	ND	0.10	0.073			ND	0.22	0.16	2	9/18/20 17:05	BRF
2-Butanone (MEK)	3.4	4.0	0.33	J		10	12	0.98	2	9/18/20 17:05	BRF
Carbon Disulfide	ND	1.0	0.25			ND	3.1	0.79	2	9/18/20 17:05	BRF
Carbon Tetrachloride	0.064	0.10	0.027	J		0.40	0.63	0.17	2	9/18/20 17:05	BRF
Chlorobenzene	ND	0.10	0.024			ND	0.46	0.11	2	9/18/20 17:05	BRF
Chloroethane	ND	0.10	0.098			ND	0.26	0.26	2	9/18/20 17:05	BRF
Chloroform	ND	0.10	0.024			ND	0.49	0.12	2	9/18/20 17:05	BRF
Chloromethane	ND	0.20	0.076			ND	0.41	0.16	2	9/18/20 17:05	BRF
Cyclohexane	ND	0.10	0.049			ND	0.34	0.17	2	9/18/20 17:05	BRF
Dibromochloromethane	ND	0.10	0.034			ND	0.85	0.29	2	9/18/20 17:05	BRF
1,2-Dibromoethane (EDB)	ND	0.10	0.026			ND	0.77	0.20	2	9/18/20 17:05	BRF
1,2-Dichlorobenzene	ND	0.10	0.037			ND	0.60	0.22	2	9/18/20 17:05	BRF
1,3-Dichlorobenzene	ND	0.10	0.036			ND	0.60	0.22	2	9/18/20 17:05	BRF
1,4-Dichlorobenzene	ND	0.10	0.022			ND	0.60	0.13	2	9/18/20 17:05	BRF
Dichlorodifluoromethane (Freon 12)	0.41	0.10	0.031			2.0	0.49	0.16	2	9/18/20 17:05	BRF
1,1-Dichloroethane	ND	0.10	0.031			ND	0.40	0.13	2	9/18/20 17:05	BRF
1,2-Dichloroethane	ND	0.10	0.037			ND	0.40	0.15	2	9/18/20 17:05	BRF
1,1-Dichloroethylene	ND	0.10	0.054			ND	0.40	0.22	2	9/18/20 17:05	BRF
cis-1,2-Dichloroethylene	ND	0.10	0.034			ND	0.40	0.13	2	9/18/20 17:05	BRF
trans-1,2-Dichloroethylene	ND	0.10	0.030			ND	0.40	0.12	2	9/18/20 17:05	BRF
1,2-Dichloropropane	ND	0.10	0.036			ND	0.46	0.17	2	9/18/20 17:05	BRF
cis-1,3-Dichloropropene	ND	0.10	0.046			ND	0.45	0.21	2	9/18/20 17:05	BRF
trans-1,3-Dichloropropene	ND	0.10	0.034			ND	0.45	0.15	2	9/18/20 17:05	BRF
Ethanol	190	20	6.1			350	38	11	10	9/22/20 8:41	BRF
Ethyl Acetate	2.5	1.0	0.59			9.1	3.6	2.1	2	9/18/20 17:05	BRF
Ethylbenzene	0.058	0.10	0.021	J		0.25	0.43	0.090	2	9/18/20 17:05	BRF
4-Ethyltoluene	ND	0.10	0.031			ND	0.49	0.15	2	9/18/20 17:05	BRF
Heptane	ND	0.10	0.043			ND	0.41	0.18	2	9/18/20 17:05	BRF
Hexachlorobutadiene	ND	0.10	0.044			ND	1.1	0.47	2	9/18/20 17:05	BRF
Hexane	ND	4.0	0.18			ND	14	0.64	2	9/18/20 17:05	BRF
2-Hexanone (MBK)	ND	0.20	0.056			ND	0.82	0.23	2	9/18/20 17:05	BRF
Isopropanol	ND	4.0	0.92			ND	9.8	2.3	2	9/18/20 17:05	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.040			ND	0.36	0.14	2	9/18/20 17:05	BRF
Methylene Chloride	0.47	1.0	0.23	J		1.6	3.5	0.80	2	9/18/20 17:05	BRF
Methyl methacrylate	ND	0.10	0.057			ND	0.41	0.23	2	9/18/20 17:05	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.052			ND	0.41	0.21	2	9/18/20 17:05	BRF
Propene	ND	4.0	0.34			ND	6.9	0.58	2	9/18/20 17:05	BRF
Styrene	0.050	0.10	0.029	J		0.21	0.43	0.12	2	9/18/20 17:05	BRF
1,1,1,2-Tetrachloroethane	ND	0.18	0.066			ND	1.2	0.45	2	9/18/20 17:05	BRF
1,1,2,2-Tetrachloroethane	ND	0.10	0.027			ND	0.69	0.18	2	9/18/20 17:05	BRF
Tetrachloroethylene	0.12	0.10	0.033			0.79	0.68	0.22	2	9/18/20 17:05	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** EW-6-09092020

**Sample ID:** 2010614-10

Sample Matrix: Sub Slab

Sampled: 9/9/2020 07:59

Sample Description/Location:

Sub Description/Location:

Canister ID: 1509

Canister Size: 6 liter

Flow Controller ID: 4292

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -12

Receipt Vacuum(in Hg): -12.4

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	1.2	1.0	0.25			3.6	2.9	0.73	2	9/18/20 17:05	BRF
Toluene	0.36	0.10	0.029			1.4	0.38	0.11	2	9/18/20 17:05	BRF
1,2,4-Trichlorobenzene	ND	0.10	0.061	V-34		ND	0.74	0.45	2	9/18/20 17:05	BRF
1,1,1-Trichloroethane	ND	0.10	0.033			ND	0.55	0.18	2	9/18/20 17:05	BRF
1,1,2-Trichloroethane	ND	0.10	0.037			ND	0.55	0.20	2	9/18/20 17:05	BRF
Trichloroethylene	ND	0.10	0.037			ND	0.54	0.20	2	9/18/20 17:05	BRF
Trichlorofluoromethane (Freon 11)	0.19	0.40	0.076	J		1.1	2.2	0.43	2	9/18/20 17:05	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	0.075			ND	3.1	0.58	2	9/18/20 17:05	BRF
1,2,4-Trimethylbenzene	ND	0.10	0.023			ND	0.49	0.11	2	9/18/20 17:05	BRF
1,3,5-Trimethylbenzene	ND	0.10	0.026			ND	0.49	0.13	2	9/18/20 17:05	BRF
Vinyl Acetate	ND	2.0	0.28			ND	7.0	0.99	2	9/18/20 17:05	BRF
Vinyl Chloride	ND	0.10	0.056			ND	0.26	0.14	2	9/18/20 17:05	BRF
m&p-Xylene	0.12	0.20	0.035	J		0.54	0.87	0.15	2	9/18/20 17:05	BRF
o-Xylene	0.058	0.10	0.027	J		0.25	0.43	0.12	2	9/18/20 17:05	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	94.8	70-130	9/22/20 8:41
4-Bromofluorobenzene (1)	94.4	70-130	9/18/20 17:05
4-Bromofluorobenzene (2)	80.6	70-130	9/18/20 17:05

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** EW-7-09092020

**Sample ID:** 2010614-11

Sample Matrix: Sub Slab

Sampled: 9/9/2020 08:46

Sample Description/Location:

Sub Description/Location:

Canister ID: 2157

Canister Size: 6 liter

Flow Controller ID: 4294

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -8.5

Receipt Vacuum(in Hg): -8.7

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Results	ug/m3			Date/Time	
		RL	MDL	Flag/Qual		RL	MDL	Dilution	Analyzed	Analyst
Acetone	6.4	4.0	2.4		15	9.5	5.7	2	9/18/20 17:31	BRF
Benzene	ND	0.10	0.029		ND	0.32	0.093	2	9/18/20 17:31	BRF
Benzyl chloride	ND	0.10	0.045		ND	0.52	0.23	2	9/18/20 17:31	BRF
Bromodichloromethane	ND	0.10	0.028		ND	0.67	0.19	2	9/18/20 17:31	BRF
Bromoform	ND	0.10	0.034		ND	1.0	0.36	2	9/18/20 17:31	BRF
Bromomethane	ND	0.10	0.053		ND	0.39	0.21	2	9/18/20 17:31	BRF
1,3-Butadiene	ND	0.10	0.073		ND	0.22	0.16	2	9/18/20 17:31	BRF
2-Butanone (MEK)	6.3	4.0	0.33		18	12	0.98	2	9/18/20 17:31	BRF
Carbon Disulfide	ND	1.0	0.25		ND	3.1	0.79	2	9/18/20 17:31	BRF
Carbon Tetrachloride	ND	0.10	0.027		ND	0.63	0.17	2	9/18/20 17:31	BRF
Chlorobenzene	ND	0.10	0.024		ND	0.46	0.11	2	9/18/20 17:31	BRF
Chloroethane	ND	0.10	0.098		ND	0.26	0.26	2	9/18/20 17:31	BRF
Chloroform	0.26	0.10	0.024		1.3	0.49	0.12	2	9/18/20 17:31	BRF
Chloromethane	ND	0.20	0.076		ND	0.41	0.16	2	9/18/20 17:31	BRF
Cyclohexane	ND	0.10	0.049		ND	0.34	0.17	2	9/18/20 17:31	BRF
Dibromochloromethane	ND	0.10	0.034		ND	0.85	0.29	2	9/18/20 17:31	BRF
1,2-Dibromoethane (EDB)	ND	0.10	0.026		ND	0.77	0.20	2	9/18/20 17:31	BRF
1,2-Dichlorobenzene	ND	0.10	0.037		ND	0.60	0.22	2	9/18/20 17:31	BRF
1,3-Dichlorobenzene	ND	0.10	0.036		ND	0.60	0.22	2	9/18/20 17:31	BRF
1,4-Dichlorobenzene	ND	0.10	0.022		ND	0.60	0.13	2	9/18/20 17:31	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10	0.031		ND	0.49	0.16	2	9/18/20 17:31	BRF
1,1-Dichloroethane	ND	0.10	0.031		ND	0.40	0.13	2	9/18/20 17:31	BRF
1,2-Dichloroethane	ND	0.10	0.037		ND	0.40	0.15	2	9/18/20 17:31	BRF
1,1-Dichloroethylene	ND	0.10	0.054		ND	0.40	0.22	2	9/18/20 17:31	BRF
cis-1,2-Dichloroethylene	0.32	0.10	0.034		1.3	0.40	0.13	2	9/18/20 17:31	BRF
trans-1,2-Dichloroethylene	0.35	0.10	0.030		1.4	0.40	0.12	2	9/18/20 17:31	BRF
1,2-Dichloropropane	ND	0.10	0.036		ND	0.46	0.17	2	9/18/20 17:31	BRF
cis-1,3-Dichloropropene	ND	0.10	0.046		ND	0.45	0.21	2	9/18/20 17:31	BRF
trans-1,3-Dichloropropene	ND	0.10	0.034		ND	0.45	0.15	2	9/18/20 17:31	BRF
Ethanol	24	4.0	1.2		45	7.5	2.3	2	9/18/20 17:31	BRF
Ethyl Acetate	ND	1.0	0.59		ND	3.6	2.1	2	9/18/20 17:31	BRF
Ethylbenzene	0.038	0.10	0.021	J	0.16	0.43	0.090	2	9/18/20 17:31	BRF
4-Ethyltoluene	ND	0.10	0.031		ND	0.49	0.15	2	9/18/20 17:31	BRF
Heptane	ND	0.10	0.043		ND	0.41	0.18	2	9/18/20 17:31	BRF
Hexachlorobutadiene	ND	0.10	0.044		ND	1.1	0.47	2	9/18/20 17:31	BRF
Hexane	ND	4.0	0.18		ND	14	0.64	2	9/18/20 17:31	BRF
2-Hexanone (MBK)	ND	0.20	0.056		ND	0.82	0.23	2	9/18/20 17:31	BRF
Isopropanol	ND	4.0	0.92		ND	9.8	2.3	2	9/18/20 17:31	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.040		ND	0.36	0.14	2	9/18/20 17:31	BRF
Methylene Chloride	ND	1.0	0.23		ND	3.5	0.80	2	9/18/20 17:31	BRF
Methyl methacrylate	ND	0.10	0.057		ND	0.41	0.23	2	9/18/20 17:31	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.052		ND	0.41	0.21	2	9/18/20 17:31	BRF
Propene	ND	4.0	0.34		ND	6.9	0.58	2	9/18/20 17:31	BRF
Styrene	0.072	0.10	0.029	J	0.31	0.43	0.12	2	9/18/20 17:31	BRF
1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	0.45	2	9/18/20 17:31	BRF
1,1,2,2-Tetrachloroethane	ND	0.10	0.027		ND	0.69	0.18	2	9/18/20 17:31	BRF
Tetrachloroethylene	7.8	0.10	0.033		53	0.68	0.22	2	9/18/20 17:31	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** EW-7-09092020

**Sample ID:** 2010614-11

Sample Matrix: Sub Slab

Sampled: 9/9/2020 08:46

Sample Description/Location:

Sub Description/Location:

Canister ID: 2157

Canister Size: 6 liter

Flow Controller ID: 4294

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -8.5

Receipt Vacuum(in Hg): -8.7

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	440	10	2.5			1300	29	7.3	20	9/18/20 17:55	BRF
Toluene	0.21	0.10	0.029			0.81	0.38	0.11	2	9/18/20 17:31	BRF
1,2,4-Trichlorobenzene	ND	0.10	0.061	V-34		ND	0.74	0.45	2	9/18/20 17:31	BRF
1,1,1-Trichloroethane	1.6	0.10	0.033			8.7	0.55	0.18	2	9/18/20 17:31	BRF
1,1,2-Trichloroethane	ND	0.10	0.037			ND	0.55	0.20	2	9/18/20 17:31	BRF
Trichloroethylene	24	0.10	0.037			130	0.54	0.20	2	9/18/20 17:31	BRF
Trichlorofluoromethane (Freon 11)	22	0.40	0.076			120	2.2	0.43	2	9/18/20 17:31	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	0.075			ND	3.1	0.58	2	9/18/20 17:31	BRF
1,2,4-Trimethylbenzene	ND	0.10	0.023			ND	0.49	0.11	2	9/18/20 17:31	BRF
1,3,5-Trimethylbenzene	ND	0.10	0.026			ND	0.49	0.13	2	9/18/20 17:31	BRF
Vinyl Acetate	ND	2.0	0.28			ND	7.0	0.99	2	9/18/20 17:31	BRF
Vinyl Chloride	ND	0.10	0.056			ND	0.26	0.14	2	9/18/20 17:31	BRF
m&p-Xylene	0.092	0.20	0.035	J		0.40	0.87	0.15	2	9/18/20 17:31	BRF
o-Xylene	ND	0.10	0.027			ND	0.43	0.12	2	9/18/20 17:31	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.7	70-130	9/18/20 17:55
4-Bromofluorobenzene (1)	94.5	70-130	9/18/20 17:31
4-Bromofluorobenzene (2)	78.8	70-130	9/18/20 17:31

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** EW-Comb.-09092020

**Sample ID:** 2010614-12

Sample Matrix: Sub Slab

Sampled: 9/9/2020 11:50

Sample Description/Location:

Sub Description/Location:

Canister ID: 1166

Canister Size: 6 liter

Flow Controller ID: 4072

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -8

Receipt Vacuum(in Hg): -6.5

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	5.1	4.0	2.4			12	9.5	5.7	2	9/18/20 18:21	BRF
Benzene	ND	0.10	0.029			ND	0.32	0.093	2	9/18/20 18:21	BRF
Benzyl chloride	ND	0.10	0.045			ND	0.52	0.23	2	9/18/20 18:21	BRF
Bromodichloromethane	ND	0.10	0.028			ND	0.67	0.19	2	9/18/20 18:21	BRF
Bromoform	ND	0.10	0.034			ND	1.0	0.36	2	9/18/20 18:21	BRF
Bromomethane	ND	0.10	0.053			ND	0.39	0.21	2	9/18/20 18:21	BRF
1,3-Butadiene	ND	0.10	0.073			ND	0.22	0.16	2	9/18/20 18:21	BRF
2-Butanone (MEK)	2.7	4.0	0.33	J		8.0	12	0.98	2	9/18/20 18:21	BRF
Carbon Disulfide	ND	1.0	0.25			ND	3.1	0.79	2	9/18/20 18:21	BRF
Carbon Tetrachloride	0.17	0.10	0.027			1.1	0.63	0.17	2	9/18/20 18:21	BRF
Chlorobenzene	ND	0.10	0.024			ND	0.46	0.11	2	9/18/20 18:21	BRF
Chloroethane	ND	0.10	0.098			ND	0.26	0.26	2	9/18/20 18:21	BRF
Chloroform	0.95	0.10	0.024			4.7	0.49	0.12	2	9/18/20 18:21	BRF
Chloromethane	ND	0.20	0.076			ND	0.41	0.16	2	9/18/20 18:21	BRF
Cyclohexane	ND	0.10	0.049			ND	0.34	0.17	2	9/18/20 18:21	BRF
Dibromochloromethane	ND	0.10	0.034			ND	0.85	0.29	2	9/18/20 18:21	BRF
1,2-Dibromoethane (EDB)	ND	0.10	0.026			ND	0.77	0.20	2	9/18/20 18:21	BRF
1,2-Dichlorobenzene	ND	0.10	0.037			ND	0.60	0.22	2	9/18/20 18:21	BRF
1,3-Dichlorobenzene	ND	0.10	0.036			ND	0.60	0.22	2	9/18/20 18:21	BRF
1,4-Dichlorobenzene	ND	0.10	0.022			ND	0.60	0.13	2	9/18/20 18:21	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10	0.031			ND	0.49	0.16	2	9/18/20 18:21	BRF
1,1-Dichloroethane	7.1	0.10	0.031			29	0.40	0.13	2	9/18/20 18:21	BRF
1,2-Dichloroethane	ND	0.10	0.037			ND	0.40	0.15	2	9/18/20 18:21	BRF
1,1-Dichloroethylene	6.8	0.10	0.054			27	0.40	0.22	2	9/18/20 18:21	BRF
cis-1,2-Dichloroethylene	2.8	0.10	0.034			11	0.40	0.13	2	9/18/20 18:21	BRF
trans-1,2-Dichloroethylene	ND	0.10	0.030			ND	0.40	0.12	2	9/18/20 18:21	BRF
1,2-Dichloropropane	ND	0.10	0.036			ND	0.46	0.17	2	9/18/20 18:21	BRF
cis-1,3-Dichloropropene	ND	0.10	0.046			ND	0.45	0.21	2	9/18/20 18:21	BRF
trans-1,3-Dichloropropene	ND	0.10	0.034			ND	0.45	0.15	2	9/18/20 18:21	BRF
Ethanol	9.3	4.0	1.2			18	7.5	2.3	2	9/18/20 18:21	BRF
Ethyl Acetate	ND	1.0	0.59			ND	3.6	2.1	2	9/18/20 18:21	BRF
Ethylbenzene	0.042	0.10	0.021	J		0.18	0.43	0.090	2	9/18/20 18:21	BRF
4-Ethyltoluene	ND	0.10	0.031			ND	0.49	0.15	2	9/18/20 18:21	BRF
Heptane	ND	0.10	0.043			ND	0.41	0.18	2	9/18/20 18:21	BRF
Hexachlorobutadiene	ND	0.10	0.044			ND	1.1	0.47	2	9/18/20 18:21	BRF
Hexane	ND	4.0	0.18			ND	14	0.64	2	9/18/20 18:21	BRF
2-Hexanone (MBK)	ND	0.20	0.056			ND	0.82	0.23	2	9/18/20 18:21	BRF
Isopropanol	ND	4.0	0.92			ND	9.8	2.3	2	9/18/20 18:21	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.040			ND	0.36	0.14	2	9/18/20 18:21	BRF
Methylene Chloride	ND	1.0	0.23			ND	3.5	0.80	2	9/18/20 18:21	BRF
Methyl methacrylate	ND	0.10	0.057			ND	0.41	0.23	2	9/18/20 18:21	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.052			ND	0.41	0.21	2	9/18/20 18:21	BRF
Propene	ND	4.0	0.34			ND	6.9	0.58	2	9/18/20 18:21	BRF
Styrene	ND	0.10	0.029			ND	0.43	0.12	2	9/18/20 18:21	BRF
1,1,2-Tetrachloroethane	ND	0.18	0.066			ND	1.2	0.45	2	9/18/20 18:21	BRF
1,1,2,2-Tetrachloroethane	ND	0.10	0.027			ND	0.69	0.18	2	9/18/20 18:21	BRF
Tetrachloroethylene	9.4	0.10	0.033			64	0.68	0.22	2	9/18/20 18:21	BRF

#### ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** EW-Comb.-09092020

**Sample ID:** 2010614-12

Sample Matrix: Sub Slab

Sampled: 9/9/2020 11:50

Sample Description/Location:

Sub Description/Location:

Canister ID: 1166

Canister Size: 6 liter

Flow Controller ID: 4072

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -8

Receipt Vacuum(in Hg): -6.5

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

#### EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	2.7	1.0	0.25			8.0	2.9	0.73	2	9/18/20 18:21	BRF
Toluene	0.19	0.10	0.029			0.70	0.38	0.11	2	9/18/20 18:21	BRF
1,2,4-Trichlorobenzene	ND	0.10	0.061	V-34		ND	0.74	0.45	2	9/18/20 18:21	BRF
1,1,1-Trichloroethane	86	0.10	0.033			470	0.55	0.18	2	9/18/20 18:21	BRF
1,1,2-Trichloroethane	ND	0.10	0.037			ND	0.55	0.20	2	9/18/20 18:21	BRF
Trichloroethylene	200	1.0	0.37			1100	5.4	2.0	20	9/18/20 18:46	BRF
Trichlorofluoromethane (Freon 11)	54	0.40	0.076			310	2.2	0.43	2	9/18/20 18:21	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	0.075			ND	3.1	0.58	2	9/18/20 18:21	BRF
1,2,4-Trimethylbenzene	ND	0.10	0.023			ND	0.49	0.11	2	9/18/20 18:21	BRF
1,3,5-Trimethylbenzene	ND	0.10	0.026			ND	0.49	0.13	2	9/18/20 18:21	BRF
Vinyl Acetate	ND	2.0	0.28			ND	7.0	0.99	2	9/18/20 18:21	BRF
Vinyl Chloride	ND	0.10	0.056			ND	0.26	0.14	2	9/18/20 18:21	BRF
m&p-Xylene	0.13	0.20	0.035	J		0.57	0.87	0.15	2	9/18/20 18:21	BRF
o-Xylene	0.058	0.10	0.027	J		0.25	0.43	0.12	2	9/18/20 18:21	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	91.8	70-130	9/18/20 18:46
4-Bromofluorobenzene (1)	93.3	70-130	9/18/20 18:21
4-Bromofluorobenzene (2)	79.9	70-130	9/18/20 18:21

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** Post Carbon-09092020

**Sample ID:** 2010614-13

Sample Matrix: Sub Slab

Sampled: 9/9/2020 11:58

Sample Description/Location:

Sub Description/Location:

Canister ID: 1863

Canister Size: 6 liter

Flow Controller ID: 4183

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -7.0

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Results	ug/m3			Date/Time	
		RL	MDL	Flag/Qual		RL	MDL	Dilution	Analyzed	Analyst
Acetone	ND	4.0	2.4		ND	9.5	5.7	2	9/18/20 19:12	BRF
Benzene	ND	0.10	0.029		ND	0.32	0.093	2	9/18/20 19:12	BRF
Benzyl chloride	ND	0.10	0.045		ND	0.52	0.23	2	9/18/20 19:12	BRF
Bromodichloromethane	ND	0.10	0.028		ND	0.67	0.19	2	9/18/20 19:12	BRF
Bromoform	ND	0.10	0.034		ND	1.0	0.36	2	9/18/20 19:12	BRF
Bromomethane	ND	0.10	0.053		ND	0.39	0.21	2	9/18/20 19:12	BRF
1,3-Butadiene	ND	0.10	0.073		ND	0.22	0.16	2	9/18/20 19:12	BRF
2-Butanone (MEK)	ND	4.0	0.33		ND	12	0.98	2	9/18/20 19:12	BRF
Carbon Disulfide	ND	1.0	0.25		ND	3.1	0.79	2	9/18/20 19:12	BRF
Carbon Tetrachloride	ND	0.10	0.027		ND	0.63	0.17	2	9/18/20 19:12	BRF
Chlorobenzene	ND	0.10	0.024		ND	0.46	0.11	2	9/18/20 19:12	BRF
Chloroethane	ND	0.10	0.098		ND	0.26	0.26	2	9/18/20 19:12	BRF
Chloroform	0.76	0.10	0.024		3.7	0.49	0.12	2	9/18/20 19:12	BRF
Chloromethane	ND	0.20	0.076		ND	0.41	0.16	2	9/18/20 19:12	BRF
Cyclohexane	ND	0.10	0.049		ND	0.34	0.17	2	9/18/20 19:12	BRF
Dibromochloromethane	ND	0.10	0.034		ND	0.85	0.29	2	9/18/20 19:12	BRF
1,2-Dibromoethane (EDB)	ND	0.10	0.026		ND	0.77	0.20	2	9/18/20 19:12	BRF
1,2-Dichlorobenzene	ND	0.10	0.037		ND	0.60	0.22	2	9/18/20 19:12	BRF
1,3-Dichlorobenzene	ND	0.10	0.036		ND	0.60	0.22	2	9/18/20 19:12	BRF
1,4-Dichlorobenzene	ND	0.10	0.022		ND	0.60	0.13	2	9/18/20 19:12	BRF
Dichlorodifluoromethane (Freon 12)	ND	0.10	0.031		ND	0.49	0.16	2	9/18/20 19:12	BRF
1,1-Dichloroethane	15	0.10	0.031		62	0.40	0.13	2	9/18/20 19:12	BRF
1,2-Dichloroethane	ND	0.10	0.037		ND	0.40	0.15	2	9/18/20 19:12	BRF
1,1-Dichloroethylene	10	0.10	0.054		41	0.40	0.22	2	9/18/20 19:12	BRF
cis-1,2-Dichloroethylene	10	0.10	0.034		40	0.40	0.13	2	9/18/20 19:12	BRF
trans-1,2-Dichloroethylene	ND	0.10	0.030		ND	0.40	0.12	2	9/18/20 19:12	BRF
1,2-Dichloropropane	ND	0.10	0.036		ND	0.46	0.17	2	9/18/20 19:12	BRF
cis-1,3-Dichloropropene	ND	0.10	0.046		ND	0.45	0.21	2	9/18/20 19:12	BRF
trans-1,3-Dichloropropene	ND	0.10	0.034		ND	0.45	0.15	2	9/18/20 19:12	BRF
Ethanol	3.2	4.0	1.2	J	6.0	7.5	2.3	2	9/18/20 19:12	BRF
Ethyl Acetate	ND	1.0	0.59		ND	3.6	2.1	2	9/18/20 19:12	BRF
Ethylbenzene	ND	0.10	0.021		ND	0.43	0.090	2	9/18/20 19:12	BRF
4-Ethyltoluene	ND	0.10	0.031		ND	0.49	0.15	2	9/18/20 19:12	BRF
Heptane	ND	0.10	0.043		ND	0.41	0.18	2	9/18/20 19:12	BRF
Hexachlorobutadiene	ND	0.10	0.044		ND	1.1	0.47	2	9/18/20 19:12	BRF
Hexane	ND	4.0	0.18		ND	14	0.64	2	9/18/20 19:12	BRF
2-Hexanone (MBK)	ND	0.20	0.056		ND	0.82	0.23	2	9/18/20 19:12	BRF
Isopropanol	ND	4.0	0.92		ND	9.8	2.3	2	9/18/20 19:12	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.10	0.040		ND	0.36	0.14	2	9/18/20 19:12	BRF
Methylene Chloride	ND	1.0	0.23		ND	3.5	0.80	2	9/18/20 19:12	BRF
Methyl methacrylate	ND	0.10	0.057		ND	0.41	0.23	2	9/18/20 19:12	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.10	0.052		ND	0.41	0.21	2	9/18/20 19:12	BRF
Propene	ND	4.0	0.34		ND	6.9	0.58	2	9/18/20 19:12	BRF
Styrene	ND	0.10	0.029		ND	0.43	0.12	2	9/18/20 19:12	BRF
1,1,1,2-Tetrachloroethane	ND	0.18	0.066		ND	1.2	0.45	2	9/18/20 19:12	BRF
1,1,2,2-Tetrachloroethane	ND	0.10	0.027		ND	0.69	0.18	2	9/18/20 19:12	BRF
Tetrachloroethylene	0.45	0.10	0.033		3.1	0.68	0.22	2	9/18/20 19:12	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 9/10/2020

**Field Sample #:** Post Carbon-09092020

**Sample ID:** 2010614-13

Sample Matrix: Sub Slab

Sampled: 9/9/2020 11:58

Sample Description/Location:

Sub Description/Location:

Canister ID: 1863

Canister Size: 6 liter

Flow Controller ID: 4183

Sample Type: 30 min

**Work Order:** 2010614

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -7.0

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	1.0	0.25		J	0.19	2.9	0.73	2	9/18/20 19:12	BRF
Toluene	0.050	0.10	0.029		V-34	ND	0.38	0.11	2	9/18/20 19:12	BRF
1,2,4-Trichlorobenzene	ND	0.10	0.061			ND	0.74	0.45	2	9/18/20 19:12	BRF
1,1,1-Trichloroethane	150	1.0	0.33			840	5.5	1.8	20	9/18/20 19:36	BRF
1,1,2-Trichloroethane	ND	0.10	0.037			ND	0.55	0.20	2	9/18/20 19:12	BRF
Trichloroethylene	230	1.0	0.37			1200	5.4	2.0	20	9/18/20 19:36	BRF
Trichlorofluoromethane (Freon 11)	41	0.40	0.076			230	2.2	0.43	2	9/18/20 19:12	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40	0.075			ND	3.1	0.58	2	9/18/20 19:12	BRF
1,2,4-Trimethylbenzene	ND	0.10	0.023			ND	0.49	0.11	2	9/18/20 19:12	BRF
1,3,5-Trimethylbenzene	ND	0.10	0.026			ND	0.49	0.13	2	9/18/20 19:12	BRF
Vinyl Acetate	ND	2.0	0.28			ND	7.0	0.99	2	9/18/20 19:12	BRF
Vinyl Chloride	ND	0.10	0.056			ND	0.26	0.14	2	9/18/20 19:12	BRF
m&p-Xylene	ND	0.20	0.035			ND	0.87	0.15	2	9/18/20 19:12	BRF
o-Xylene	ND	0.10	0.027			ND	0.43	0.12	2	9/18/20 19:12	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	92.3	70-130	9/18/20 19:12
4-Bromofluorobenzene (1)	94.0	70-130	9/18/20 19:36
4-Bromofluorobenzene (2)	79.0	70-130	9/18/20 19:12

**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
20I0614-01 [IA-1-09092020]	B266919	1.5	1	N/A	1000	200	430	09/18/20
20I0614-02 [IA-2-09092020]	B266919	1.5	1	N/A	1000	200	430	09/18/20
20I0614-03 [IA-3-09092020]	B266919	1.5	1	N/A	1000	200	430	09/18/20
20I0614-04 [IA-4-09092020]	B266919	1.5	1	N/A	1000	200	430	09/18/20
20I0614-05 [IA-5-09092020]	B266919	1.5	1	N/A	1000	200	430	09/18/20
20I0614-06 [IA-6-09092020]	B266919	1.5	1	N/A	1000	200	430	09/18/20
20I0614-07 [IA-7-09092020]	B266919	1.5	1	N/A	1000	200	430	09/18/20
20I0614-08 [AA-1-09092020]	B266919	1.5	1	N/A	1000	200	430	09/18/20
20I0614-09 [EW-5-09092020]	B266919	1.5	1	N/A	1000	200	150	09/18/20
20I0614-10 [EW-6-09092020]	B266919	2	1	N/A	1000	200	200	09/18/20
20I0614-11 [EW-7-09092020]	B266919	1.5	1	N/A	1000	200	150	09/18/20
20I0614-11RE1 [EW-7-09092020]	B266919	1.5	1	N/A	1000	200	15	09/18/20
20I0614-12 [EW-Comb.-09092020]	B266919	1.5	1	N/A	1000	200	150	09/18/20
20I0614-12RE1 [EW-Comb.-09092020]	B266919	1.5	1	N/A	1000	200	15	09/18/20
20I0614-13 [Post Carbon-09092020]	B266919	1.5	1	N/A	1000	200	150	09/18/20
20I0614-13RE1 [Post Carbon-09092020]	B266919	1.5	1	N/A	1000	200	15	09/18/20

**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
20I0614-01RE1 [IA-1-09092020]	B267018	1.5	1	N/A	1000	200	150	09/21/20
20I0614-02RE1 [IA-2-09092020]	B267018	1.5	1	N/A	1000	200	75	09/21/20
20I0614-03RE1 [IA-3-09092020]	B267018	1.5	1	N/A	1000	200	150	09/21/20
20I0614-04RE1 [IA-4-09092020]	B267018	1.5	1	N/A	1000	200	150	09/21/20
20I0614-05RE1 [IA-5-09092020]	B267018	1.5	1	N/A	1000	200	150	09/21/20
20I0614-06RE1 [IA-6-09092020]	B267018	1.5	1	N/A	1000	200	10	09/21/20
20I0614-07RE1 [IA-7-09092020]	B267018	1.5	1	N/A	1000	200	15	09/21/20
20I0614-10RE1 [EW-6-09092020]	B267018	2	1	N/A	1000	200	40	09/21/20

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

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Flag/Qual
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**Batch B266919 - TO-15 Prep**

<b>Blank (B266919-BLK1)</b>	Prepared & Analyzed: 09/18/20									
Acetone	ND	0.80								
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								
Ethyl Acetate	ND	0.20								
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								
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 Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	Limits	RPD RPD	Limit	Flag/Qual
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**Batch B266919 - TO-15 Prep**

<b>Blank (B266919-BLK1)</b>	Prepared & Analyzed: 09/18/20					
Tetrachloroethylene	ND	0.020				
Tetrahydrofuran	ND	0.20				
Toluene	ND	0.020				
1,2,4-Trichlorobenzene	ND	0.020				V-34
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				

Surrogate: 4-Bromofluorobenzene (1)	7.69	8.00	96.1	70-130
Surrogate: 4-Bromofluorobenzene (2)	6.64	8.00	83.0	70-130

<b>LCS (B266919-BS1)</b>	Prepared & Analyzed: 09/18/20					
Acetone	4.92	5.00	98.4	70-130		
Benzene	4.51	5.00	90.2	70-130		
Benzyl chloride	5.31	5.00	106	70-130		
Bromodichloromethane	4.68	5.00	93.6	70-130		
Bromoform	4.70	5.00	94.0	70-130		
Bromomethane	4.24	5.00	84.9	70-130		
1,3-Butadiene	4.31	5.00	86.2	70-130		
2-Butanone (MEK)	4.77	5.00	95.5	70-130		
Carbon Disulfide	4.70	5.00	93.9	70-130		
Carbon Tetrachloride	4.38	5.00	87.6	70-130		
Chlorobenzene	4.42	5.00	88.3	70-130		
Chloroethane	4.40	5.00	88.1	70-130		
Chloroform	4.27	5.00	85.3	70-130		
Chloromethane	4.54	5.00	90.9	70-130		
Cyclohexane	4.58	5.00	91.6	70-130		
Dibromochloromethane	4.91	5.00	98.2	70-130		
1,2-Dibromoethane (EDB)	4.63	5.00	92.7	70-130		
1,2-Dichlorobenzene	5.10	5.00	102	70-130		
1,3-Dichlorobenzene	5.14	5.00	103	70-130		
1,4-Dichlorobenzene	5.04	5.00	101	70-130		
Dichlorodifluoromethane (Freon 12)	4.50	5.00	90.0	70-130		
1,1-Dichloroethane	4.20	5.00	84.0	70-130		
1,2-Dichloroethane	4.40	5.00	88.0	70-130		
1,1-Dichloroethylene	4.72	5.00	94.5	70-130		
cis-1,2-Dichloroethylene	4.32	5.00	86.4	70-130		
trans-1,2-Dichloroethylene	4.31	5.00	86.3	70-130		
1,2-Dichloropropane	4.46	5.00	89.1	70-130		

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

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	Limits	RPD RPD	Limit	Flag/Qual
<b>Batch B266919 - TO-15 Prep</b>											
<b>LCS (B266919-BS1)</b>											
Prepared & Analyzed: 09/18/20											
cis-1,3-Dichloropropene	4.50		5.00		90.0	70-130					
trans-1,3-Dichloropropene	4.77		5.00		95.4	70-130					
Ethanol	5.65		5.00		113	70-130					
Ethyl Acetate	4.30		5.00		86.1	70-130					
Ethylbenzene	4.64		5.00		92.7	70-130					
4-Ethyltoluene	4.90		5.00		98.0	70-130					
Heptane	4.69		5.00		93.8	70-130					
Hexachlorobutadiene	4.76		5.00		95.2	70-130					
Hexane	4.60		5.00		91.9	70-130					
2-Hexanone (MBK)	6.40		5.00		128	70-130					
Isopropanol	5.12		5.00		102	70-130					
Methyl tert-Butyl Ether (MTBE)	4.17		5.00		83.3	70-130					
Methylene Chloride	4.89		5.00		97.7	70-130					
Methyl methacrylate	5.20		5.00		104	70-130					
4-Methyl-2-pentanone (MIBK)	5.23		5.00		105	70-130					
Propene	4.44		5.00		88.8	70-130					
Styrene	4.58		5.00		91.7	70-130					
1,1,1,2-Tetrachloroethane	0.835		0.910		91.8	70-130					
1,1,2,2-Tetrachloroethane	4.92		5.00		98.5	70-130					
Tetrachloroethylene	4.22		5.00		84.5	70-130					
Tetrahydrofuran	4.73		5.00		94.6	70-130					
Toluene	4.50		5.00		89.9	70-130					
1,2,4-Trichlorobenzene	5.94		5.00		119	70-130					V-34
1,1,1-Trichloroethane	4.17		5.00		83.4	70-130					
1,1,2-Trichloroethane	4.47		5.00		89.3	70-130					
Trichloroethylene	4.54		5.00		90.7	70-130					
Trichlorofluoromethane (Freon 11)	4.53		5.00		90.6	70-130					
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.53		5.00		90.6	70-130					
1,2,4-Trimethylbenzene	4.91		5.00		98.2	70-130					
1,3,5-Trimethylbenzene	4.69		5.00		93.7	70-130					
Vinyl Acetate	4.32		5.00		86.4	70-130					
Vinyl Chloride	4.50		5.00		90.1	70-130					
m&p-Xylene	9.58		10.0		95.8	70-130					
o-Xylene	4.62		5.00		92.3	70-130					
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	7.87		8.00		98.4	70-130					
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	6.82		8.00		85.2	70-130					

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

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Flag/Qual
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**Batch B266919 - TO-15 Prep**

Duplicate (B266919-DUP1)	Source: 2010614-09				Prepared & Analyzed: 09/18/20						
Acetone	6.3	4.0	15	9.5		6.2			2.02	25	
Benzene	ND	0.10	ND	0.32		ND				25	
Benzyl chloride	ND	0.10	ND	0.52		ND				25	
Bromodichloromethane	ND	0.10	ND	0.67		ND				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)	ND	4.0	ND	12		ND				25	
Carbon Disulfide	ND	1.0	ND	3.1		ND				25	
Carbon Tetrachloride	0.072	0.10	0.45	0.63		0.074			2.74	25	J
Chlorobenzene	ND	0.10	ND	0.46		ND				25	
Chloroethane	ND	0.10	ND	0.26		ND				25	
Chloroform	0.18	0.10	0.90	0.49		0.19			3.21	25	
Chloromethane	ND	0.20	ND	0.41		ND				25	
Cyclohexane	ND	0.10	ND	0.34		ND				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)	ND	0.10	ND	0.49		ND				25	
1,1-Dichloroethane	ND	0.10	ND	0.40		ND				25	
1,2-Dichloroethane	ND	0.10	ND	0.40		ND				25	
1,1-Dichloroethylene	ND	0.10	ND	0.40		ND				25	
cis-1,2-Dichloroethylene	0.17	0.10	0.67	0.40		0.18			7.91	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	38	4.0	71	7.5		38			0.365	25	
Ethyl Acetate	ND	1.0	ND	3.6		ND				25	
Ethylbenzene	0.042	0.10	0.18	0.43		0.038			10.0	25	J
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		ND				25	
Methyl tert-Butyl Ether (MTBE)	ND	0.10	ND	0.36		ND				25	
Methylene Chloride	ND	1.0	ND	3.5		ND				25	
Methyl methacrylate	ND	0.10	ND	0.41		ND				25	
4-Methyl-2-pentanone (MIBK)	ND	0.10	ND	0.41		ND				25	
Propene	ND	4.0	ND	6.9		ND				25	
Styrene	ND	0.10	ND	0.43		ND				25	
1,1,1,2-Tetrachloroethane	ND	0.18	ND	1.2		ND				25	
1,1,2,2-Tetrachloroethane	ND	0.10	ND	0.69		ND				25	

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

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Flag/Qual
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**Batch B266919 - TO-15 Prep**

Duplicate (B266919-DUP1)	Source: 2010614-09				Prepared & Analyzed: 09/18/20						
Tetrachloroethylene	0.96	0.10	6.5	0.68		1.0			3.87	25	
Tetrahydrofuran	ND	1.0	ND	2.9		ND				25	
Toluene	0.20	0.10	0.75	0.38		0.20			1.02	25	
1,2,4-Trichlorobenzene	ND	0.10	ND	0.74		ND				25	V-34
1,1,1-Trichloroethane	14	0.10	74	0.55		13			0.992	25	
1,1,2-Trichloroethane	ND	0.10	ND	0.55		ND				25	
Trichloroethylene	10	0.10	55	0.54		10			1.23	25	
Trichlorofluoromethane (Freon 11)	ND	0.40	ND	2.2		ND				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		ND				25	
Vinyl Chloride	ND	0.10	ND	0.26		ND				25	
m&p-Xylene	0.12	0.20	0.54	0.87		0.12			4.96	25	J
o-Xylene	0.056	0.10	0.24	0.43		0.046			19.6	25	J
Surrogate: 4-Bromofluorobenzene (1)	7.55				8.00		94.4	70-130			
Surrogate: 4-Bromofluorobenzene (2)	6.47				8.00		80.9	70-130			

**Batch B267018 - TO-15 Prep**

Blank (B267018-BLK1)	Prepared & Analyzed: 09/21/20			
Acetone	ND	0.80		
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		

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

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	RPD Limits	RPD RPD	Flag/Qual Limit
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**Batch B267018 - TO-15 Prep**
**Blank (B267018-BLK1)** Prepared & Analyzed: 09/21/20

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
Ethyl Acetate	ND	0.20
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
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
Tetrachloroethylene	ND	0.020
Tetrahydrofuran	ND	0.20
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>	7.55	8.00
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	0.00	8.00

V-34

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

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	Limits	RPD RPD	Limit	Flag/Qual
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**Batch B267018 - TO-15 Prep**

<b>LCS (B267018-BS1)</b>	Prepared & Analyzed: 09/21/20										
Acetone	4.93			5.00		98.6		70-130			
Benzene	4.65			5.00		92.9		70-130			
Benzyl chloride	5.42			5.00		108		70-130			
Bromodichloromethane	4.95			5.00		98.9		70-130			
Bromoform	4.63			5.00		92.6		70-130			
Bromomethane	4.07			5.00		81.4		70-130			
1,3-Butadiene	4.29			5.00		85.7		70-130			
2-Butanone (MEK)	4.59			5.00		91.8		70-130			
Carbon Disulfide	4.58			5.00		91.7		70-130			
Carbon Tetrachloride	4.54			5.00		90.9		70-130			
Chlorobenzene	4.35			5.00		86.9		70-130			
Chloroethane	4.27			5.00		85.3		70-130			
Chloroform	4.06			5.00		81.1		70-130			
Chloromethane	4.48			5.00		89.7		70-130			
Cyclohexane	4.61			5.00		92.1		70-130			
Dibromochloromethane	4.43			5.00		88.7		70-130			
1,2-Dibromoethane (EDB)	4.69			5.00		93.9		70-130			
1,2-Dichlorobenzene	5.09			5.00		102		70-130			
1,3-Dichlorobenzene	5.02			5.00		100		70-130			
1,4-Dichlorobenzene	4.97			5.00		99.3		70-130			
Dichlorodifluoromethane (Freon 12)	4.33			5.00		86.6		70-130			
1,1-Dichloroethane	4.06			5.00		81.2		70-130			
1,2-Dichloroethane	4.18			5.00		83.5		70-130			
1,1-Dichloroethylene	4.74			5.00		94.9		70-130			
cis-1,2-Dichloroethylene	4.10			5.00		82.0		70-130			
trans-1,2-Dichloroethylene	4.04			5.00		80.7		70-130			
1,2-Dichloropropane	4.61			5.00		92.1		70-130			
cis-1,3-Dichloropropene	4.73			5.00		94.5		70-130			
trans-1,3-Dichloropropene	4.89			5.00		97.8		70-130			
Ethanol	6.07			5.00		121		70-130			
Ethyl Acetate	3.98			5.00		79.5		70-130			
Ethylbenzene	4.67			5.00		93.4		70-130			
4-Ethyltoluene	4.90			5.00		98.0		70-130			
Heptane	5.00			5.00		100		70-130			
Hexachlorobutadiene	4.74			5.00		94.7		70-130			
Hexane	4.52			5.00		90.4		70-130			
2-Hexanone (MBK)	6.18			5.00		124		70-130			
Isopropanol	4.68			5.00		93.5		70-130			
Methyl tert-Butyl Ether (MTBE)	3.91			5.00		78.2		70-130			
Methylene Chloride	5.01			5.00		100		70-130			
Methyl methacrylate	5.27			5.00		105		70-130			
4-Methyl-2-pentanone (MIBK)	5.58			5.00		112		70-130			
Propene	4.38			5.00		87.5		70-130			
Styrene	4.59			5.00		91.8		70-130			
1,1,1,2-Tetrachloroethane	ND	0.091		0.62				70-130			
1,1,2,2-Tetrachloroethane	4.99				5.00	99.8		70-130			

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

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	RPD Limits	RPD RPD	Limit	Flag/Qual
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**Batch B267018 - TO-15 Prep**

<b>LCS (B267018-BS1)</b>	Prepared & Analyzed: 09/21/20						
Tetrachloroethylene	4.26		5.00		85.2	70-130	
Tetrahydrofuran	4.64		5.00		92.9	70-130	
Toluene	4.50		5.00		90.1	70-130	
1,2,4-Trichlorobenzene	5.93		5.00		119	70-130	V-34
1,1,1-Trichloroethane	4.28		5.00		85.6	70-130	
1,1,2-Trichloroethane	4.49		5.00		89.9	70-130	
Trichloroethylene	4.60		5.00		91.9	70-130	
Trichlorofluoromethane (Freon 11)	4.45		5.00		89.0	70-130	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.37		5.00		87.5	70-130	
1,2,4-Trimethylbenzene	4.94		5.00		98.8	70-130	
1,3,5-Trimethylbenzene	4.68		5.00		93.5	70-130	
Vinyl Acetate	4.27		5.00		85.4	70-130	
Vinyl Chloride	4.53		5.00		90.7	70-130	
m&p-Xylene	9.59		10.0		95.9	70-130	
o-Xylene	4.67		5.00		93.4	70-130	
Surrogate: 4-Bromo fluoro benzene (1)	7.75		8.00		96.8	70-130	
Surrogate: 4-Bromo fluoro benzene (2)	0.00		8.00		*	70-130	

**Note: Blank Subtraction is not performed unless otherwise noted**

**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
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m³	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	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).
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.
Z-01	Sample had a final vacuum of zero. Flow controllers have been verified to be okay, RPD was <20%

**ANALYST**

TPH	Thomas P. Hnitecki
RLF	Rebecca Faust
RJM	Raymond J. McCarthy
RAP	Raisa A. Petraitis
STATION	PDF Management Station
KF2	Kaitlyn A. Feliciano
BRF	Brittany R. Fisk

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

**INTERNAL STANDARD AREA AND RT SUMMARY**

**EPA TO-15**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Initial Cal Check (S052381-ICV1)</b>		Lab File ID: J2025821.D				Analyzed: 09/14/20 23:22			
Bromochloromethane (1)	159501	2.873	155833	2.873	102	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	756714	3.475	745760	3.475	101	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	686740	5.06	671608	5.057	102	60 - 140	0.0030	+/-0.50	

**INTERNAL STANDARD AREA AND RT SUMMARY**

**EPA TO-15**

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Calibration Check (S052626-CCV1)</b>		Lab File ID: J2026504.D				Analyzed: 09/21/20 09:25			
Bromochloromethane (1)	130890	2.869	155833	2.873	84	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (1)	540524	3.474	745760	3.475	72	60 - 140	-0.0010	+/-0.50	
Chlorobenzene-d5 (1)	472971	5.057	671608	5.057	70	60 - 140	0.0000	+/-0.50	
<b>LCS (B267018-BS1)</b>		Lab File ID: J2026505.D				Analyzed: 09/21/20 09:49			
Bromochloromethane (1)	133746	2.87	130890	2.869	102	60 - 140	0.0010	+/-0.50	
1,4-Difluorobenzene (1)	542461	3.475	540524	3.474	100	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	489213	5.057	472971	5.057	103	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (2)						60 - 140	0.0000	+/-0.50	*
Chlorobenzene-d5 (2)						60 - 140	0.0000	+/-0.50	*
<b>Blank (B267018-BLK1)</b>		Lab File ID: J2026510.D				Analyzed: 09/21/20 12:07			
Bromochloromethane (1)	131140	2.857	130890	2.869	100	60 - 140	-0.0120	+/-0.50	
1,4-Difluorobenzene (1)	526543	3.465	540524	3.474	97	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	456072	5.053	472971	5.057	96	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)						60 - 140	0.0000	+/-0.50	*
Chlorobenzene-d5 (2)						60 - 140	0.0000	+/-0.50	*
<b>IA-1-09092020 (20I0614-01RE1)</b>		Lab File ID: J2026511.D				Analyzed: 09/21/20 13:05			
Bromochloromethane (1)	127140	2.86	130890	2.869	97	60 - 140	-0.0090	+/-0.50	
1,4-Difluorobenzene (1)	511319	3.469	540524	3.474	95	60 - 140	-0.0050	+/-0.50	
Chlorobenzene-d5 (1)	445634	5.054	472971	5.057	94	60 - 140	-0.0030	+/-0.50	
<b>IA-2-09092020 (20I0614-02RE1)</b>		Lab File ID: J2026512.D				Analyzed: 09/21/20 13:30			
Bromochloromethane (1)	129163	2.866	130890	2.869	99	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (1)	546582	3.475	540524	3.474	101	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	496758	5.057	472971	5.057	105	60 - 140	0.0000	+/-0.50	
<b>IA-3-09092020 (20I0614-03RE1)</b>		Lab File ID: J2026513.D				Analyzed: 09/21/20 14:03			
Bromochloromethane (1)	132728	2.86	130890	2.869	101	60 - 140	-0.0090	+/-0.50	
1,4-Difluorobenzene (1)	522894	3.468	540524	3.474	97	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	462020	5.056	472971	5.057	98	60 - 140	-0.0010	+/-0.50	

## INTERNAL STANDARD AREA AND RT SUMMARY

## EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>IA-4-09092020 (20I0614-04RE1)</b>		Lab File ID: J2026514.D				Analyzed: 09/21/20 14:29			
Bromochloromethane (1)	131438	2.86	130890	2.869	100	60 - 140	-0.0090	+/-0.50	
1,4-Difluorobenzene (1)	516311	3.468	540524	3.474	96	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	451500	5.057	472971	5.057	95	60 - 140	0.0000	+/-0.50	
<b>IA-5-09092020 (20I0614-05RE1)</b>		Lab File ID: J2026515.D				Analyzed: 09/21/20 14:55			
Bromochloromethane (1)	131084	2.86	130890	2.869	100	60 - 140	-0.0090	+/-0.50	
1,4-Difluorobenzene (1)	520937	3.468	540524	3.474	96	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	448685	5.057	472971	5.057	95	60 - 140	0.0000	+/-0.50	
<b>IA-6-09092020 (20I0614-06RE1)</b>		Lab File ID: J2026539.D				Analyzed: 09/22/20 07:52			
Bromochloromethane (1)	138096	2.86	130890	2.869	106	60 - 140	-0.0090	+/-0.50	
1,4-Difluorobenzene (1)	586153	3.468	540524	3.474	108	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	505243	5.053	472971	5.057	107	60 - 140	-0.0040	+/-0.50	
<b>IA-7-09092020 (20I0614-07RE1)</b>		Lab File ID: J2026540.D				Analyzed: 09/22/20 08:17			
Bromochloromethane (1)	137875	2.86	130890	2.869	105	60 - 140	-0.0090	+/-0.50	
1,4-Difluorobenzene (1)	566942	3.468	540524	3.474	105	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	486552	5.057	472971	5.057	103	60 - 140	0.0000	+/-0.50	
<b>EW-6-09092020 (20I0614-10RE1)</b>		Lab File ID: J2026541.D				Analyzed: 09/22/20 08:41			
Bromochloromethane (1)	138185	2.859	130890	2.869	106	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	551935	3.468	540524	3.474	102	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	479619	5.056	472971	5.057	101	60 - 140	-0.0010	+/-0.50	

## CONTINUING CALIBRATION CHECK

EPA TO-15

S052626-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	4.65	0.9103154	0.8468424		-7.0	30
Benzene	A	5.00	4.73	0.6606025	0.6243778		-5.5	30
Benzyl chloride	A	5.00	5.54	0.5965762	0.6613682		10.9	30
Bromodichloromethane	A	5.00	5.01	0.4537953	0.4545545		0.2	30
Bromoform	A	5.00	4.80	0.6600998	0.6336727		-4.0	30
Bromomethane	A	5.00	4.29	1.001177	0.8588586		-14.2	30
1,3-Butadiene	A	5.00	4.51	0.6246902	0.5636978		-9.8	30
2-Butanone (MEK)	A	5.00	4.60	1.30749	1.201644		-8.1	30
Carbon Disulfide	A	5.00	4.65	2.466469	2.293517		-7.0	30
Carbon Tetrachloride	A	5.00	4.78	0.5064752	0.484256		-4.4	30
Chlorobenzene	A	5.00	4.65	0.7751296	0.720944		-7.0	30
Chloroethane	A	5.00	4.50	0.5001442	0.4498556		-10.1	30
Chloroform	A	5.00	4.22	2.018779	1.703403		-15.6	30
Chloromethane	A	5.00	4.80	0.6141491	0.5901016		-3.9	30
Cyclohexane	A	5.00	4.77	0.2849344	0.2717008		-4.6	30
Dibromochloromethane	A	5.00	4.63	0.6429615	0.5957372		-7.3	30
1,2-Dibromoethane (EDB)	A	5.00	4.87	0.4841019	0.4713456		-2.6	30
1,2-Dichlorobenzene	A	5.00	4.94	0.6846313	0.6758672		-1.3	30
1,3-Dichlorobenzene	A	5.00	4.98	0.7215992	0.7191714		-0.3	30
1,4-Dichlorobenzene	A	5.00	4.88	0.7134896	0.6964216		-2.4	30
Dichlorodifluoromethane (Freon 12)	A	5.00	4.52	2.507091	2.264509		-9.7	30
1,1-Dichloroethane	A	5.00	4.10	1.545303	1.268387		-17.9	30
1,2-Dichloroethane	A	5.00	4.32	1.058805	0.9154557		-13.5	30
1,1-Dichloroethylene	A	5.00	4.86	1.160287	1.127774		-2.8	30
cis-1,2-Dichloroethylene	A	5.00	4.37	1.114268	0.9735442		-12.6	30
trans-1,2-Dichloroethylene	A	5.00	4.33	1.201908	1.040984		-13.4	30
1,2-Dichloropropane	A	5.00	4.75	0.2231134	0.2118626		-5.0	30
cis-1,3-Dichloropropene	A	5.00	5.09	0.3628898	0.3692535		1.8	30
trans-1,3-Dichloropropene	A	5.00	4.97	0.3055463	0.3035958		-0.6	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 1)	A	5.00	4.55	2.650055	2.413006		-8.9	30
1,4-Dioxane	A	5.00	4.32	0.139387	0.120526		-13.5	30
Ethanol	A	5.00	4.65	0.1702165	0.158362		-7.0	30
Ethyl Acetate	A	5.00	4.47	0.2280188	0.2037497		-10.6	30
Ethylbenzene	A	5.00	4.88	1.161395	1.134283		-2.3	30
4-Ethyltoluene	A	5.00	5.04	1.262817	1.272234		0.7	30
Heptane	A	5.00	5.11	0.1688454	0.1724697		2.1	30
Hexachlorobutadiene	A	5.00	4.44	0.6918294	0.6149823		-11.1	30
Hexane	L	5.00	4.84	0.6531603	0.6292795		-3.1	30

**CONTINUING CALIBRATION CHECK**
**EPA TO-15**
**S052626-CCV1**

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2-Hexanone (MBK)	A	5.00	5.84	0.280065	0.3269647		16.7	30
Isopropanol	A	5.00	4.68	1.001981	0.9373611		-6.4	30
Methyl tert-Butyl Ether (MTBE)	A	5.00	4.07	2.512535	2.043218		-18.7	30
Methylene Chloride	A	5.00	5.21	0.6621826	0.6903507		4.3	30
4-Methyl-2-pentanone (MIBK)	A	5.00	5.23	0.1531114	0.1601735		4.6	30
Naphthalene	A	5.00	4.07	1.086932	0.8850132		-18.6	30
Propene	A	5.00	4.78	0.4641749	0.4432913		-4.5	30
Styrene	A	5.00	4.95	0.7056488	0.6990974		-0.9	30
1,1,2,2-Tetrachloroethane	A	5.00	5.00	0.638583	0.6381042		-0.07	30
Tetrachloroethylene	A	5.00	4.50	0.5546794	0.4993727		-10.0	30
Tetrahydrofuran	A	5.00	4.57	0.7143044	0.6527496		-8.6	30
Toluene	A	5.00	4.74	0.9345011	0.8865389		-5.1	30
1,2,4-Trichlorobenzene	A	5.00	4.87	0.4260284	0.4146115		-2.7	30
1,1,1-Trichloroethane	A	5.00	4.77	0.4496133	0.4287514		-4.6	30
1,1,2-Trichloroethane	A	5.00	4.84	0.3281373	0.317814		-3.1	30
Trichloroethylene	A	5.00	4.72	0.2979469	0.2815845		-5.5	30
Trichlorofluoromethane (Freon 11)	A	5.00	4.51	2.536841	2.286512		-9.9	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	5.00	4.49	1.957735	1.759364		-10.1	30
1,2,4-Trimethylbenzene	A	5.00	5.10	1.026744	1.047154		2.0	30
1,3,5-Trimethylbenzene	A	5.00	4.78	1.080978	1.033643		-4.4	30
Vinyl Acetate	A	5.00	4.42	1.400965	1.239881		-11.5	30
Vinyl Chloride	A	5.00	4.62	0.8554634	0.7908809		-7.5	30
m&p-Xylene	A	10.0	10.1	0.9185043	0.9241548		0.6	30
o-Xylene	A	5.00	4.91	0.899786	0.8832474		-1.8	30

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CERTIFICATIONS**

**Certified Analyses included in this Report**

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

## CERTIFICATIONS

## Certified Analyses included in this Report

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

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	10/1/2020



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

http://www.contestlabs.com  
CHAIN OF CUSTODY RECORD (AIR)

Customer Name:	Mike Wilkinson
Address:	275 Promenade St., Providence, RI 02907
Phone:	978-727-4007
Project Location:	Providence, RI
Project Number:	See PM
Project Manager:	Greg Aversa
Con-Test Quote Name/Number:	2009039
Invoice Recipient:	
Sampled By:	Mike Wilkinson
Lab Use	Client Use
Con-Test Work Order#	Client Sample ID / Description
Beginning Date/Time	Ending Date/Time
7/19/20 12:20pm	7/19/20 12:30pm
1 IA-1-09092020	1 IA-1-09092020
9/19/20 09:00am	9/19/20 09:00am
2 IA-2-09092020	IA-2-09092020
9/19/20 12:27pm	9/19/20 12:57pm
3 IA-3-09092020	IA-3-09092020
9/19/20 12:28pm	9/19/20 12:57pm
4 IA-4-09092020	IA-4-09092020
9/19/20 12:30pm	9/19/20 12:30pm
5 IA-5-09092020	IA-5-09092020
9/19/20 09:00am	9/19/20 09:00am
6 IA-6-09092020	IA-6-09092020
9/19/20 09:00am	9/19/20 09:00am
7 IA-7-09092020	IA-7-09092020
9/19/20 09:00am	9/19/20 09:00am
8 AA-1-09092020	AA-1-09092020
9/19/20 09:00am	9/19/20 09:00am
9 EW-5-09092020	EW-5-09092020
9/19/20 09:00am	9/19/20 09:00am

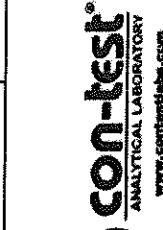
		ANALYSIS REQUESTED			
				" Hg	
		Lab Receipt Pressure			
		Final Pressure			
		Initial Pressure			
7-Day		10-Day			
Due Date:					
1-Day		3-Day			
2-Day		4-Day			
Data Format:		Data Delivery			
Format:		PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/>			
Other:		EOD			
CLP Like Data Pkg Required:		<input type="checkbox"/>			
Email To:					
Fax To #:					
Collection Data		Duration		Flow Rate	
Beginning Date/Time		Total Minutes Sampled		m³/min	
9/19/20 09:00am		30		14	
1 IA-1-09092020		200		6	
9/19/20 12:30pm		X			
2 IA-2-09092020		200		6	
9/19/20 12:57pm		X			
3 IA-3-09092020		200		6	
9/19/20 12:57pm		X			
4 IA-4-09092020		200		6	
9/19/20 12:30pm		X			
5 IA-5-09092020		200		6	
9/19/20 09:00am		X			
6 IA-6-09092020		200		6	
9/19/20 09:00am		X			
7 IA-7-09092020		200		6	
9/19/20 09:00am		X			
8 AA-1-09092020		200		6	
9/19/20 09:00am		X			
9 EW-5-09092020		200		6	
9/19/20 09:00am		X			

Comments:

Please use the following codes to indicate possible sample concentration within the Conc Code column above:  
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Matrix Codes:

SG = SOIL GAS  
IA = INDOOR AIR  
AMB = AMBIENT  
SS = SUB SLAB  
D = DUP  
BL = BLANK  
O = Other \_\_\_\_\_



Special Requirements

MA MCP Required

MCP Certification Form Required

CT RCP Required

RCP Certification Form Required

Other \_\_\_\_\_

NEA/C and AHA-LAP, LLC Accredited

Project Entity

Government \_\_\_\_\_

Municipality \_\_\_\_\_

21 J \_\_\_\_\_

School \_\_\_\_\_

Brownfield \_\_\_\_\_

MBTA \_\_\_\_\_

Other \_\_\_\_\_

PCB ONLY \_\_\_\_\_

Chromatogram \_\_\_\_\_

AHA-LAP, LLC \_\_\_\_\_

Non Soxhlet \_\_\_\_\_



I Have Not Confirmed Sample Container  
Numbers With Lab Staff Before  
Relinquishing Over  
Samples \_\_\_\_\_



Doc# 278 Rev 6 2017

**Air Media Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Wood

Received By <u>DAP</u>	Date <u>9/10</u>	Time <u>1945</u>
How were the samples received? In Cooler <u>T</u>	On Ice	No Ice _____
Were samples within Temperature Compliance? 2-6°C In Box <u>T</u>	Ambient	Melted Ice _____
Was Custody Seal Intact? <u>NA</u>	By Gun # _____	Actual Temp - _____
Was COC Relinquished ? <u>T</u>	By Blank # _____	Actual Temp - _____
Are there any loose caps/valves on any samples?	Were Samples Tampered with? <u>NA</u>	
Is COC in ink/ Legible? <u>T</u>	Does Chain Agree With Samples? <u>T</u>	
Did COC Include all Pertinent Information? Client <u>T</u> Project <u>T</u>	Analysis ID's <u>T</u>	Sampler Name <u>T</u>
Are Sample Labels filled out and legible? <u>T</u>	Collection Dates/Times <u>T</u>	
Are there Rushes? <u>F</u>	Who was notified? _____	
Samples are received within holding time? Proper Media Used? <u>T</u>	Individually Certified Cans? _____	
Are there Trip Blanks? <u>F</u>	Is there enough Volume? <u>T</u>	

Containers:	#	Size	Regulator	Duration	Accessories:	
Summa Cans	<u>13</u>	<u>6L</u>	<u>13</u>	<u>30 min</u>	Nut/Ferrule	<u>3</u>
Tedlar Bags					Tubing	<u>15 ft</u>
TO-17 Tubes					T-Connector	<u>Shipping Charges</u>
Radiello					Syringe	
Pufs/TO-11s					Tedlar	

Can #'s	1025			Reg #'s	4038		
1065	<u>1968</u>			<u>4091</u>	<u>4293</u>		
2146	<u>2214</u>			<u>4295</u>	<u>4375</u>		
2042	<u>1508</u>			<u>4106</u>	<u>4292</u>		
2203	<u>2157</u>			<u>4374</u>	<u>4291</u>		
2054	<u>1166</u>			<u>4366</u>	<u>4072</u>		
1049	<u>1863</u>			<u>4365</u>	<u>4183</u>		
<b>Unused Media</b>				<b>Pufs/TO-17's</b>			

Comments:

Can #1025 did not have a cap when received at lab.

Client wrote the serial # on the ~~COC~~ COC for samples 3, 5, 6, 8, 11 + 13 instead of the can ID.

November 17, 2020

Gregory Avenia  
WOOD PLC- MA  
271 Mill Road  
Chelmsford, MA 01824

Project Location: Providence, RI  
Client Job Number:  
Project Number: 365170068  
Laboratory Work Order Number: 20J1669

Enclosed are results of analyses for samples received by the laboratory on October 29, 2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kaitlyn A. Feliciano  
Project Manager



QA Officer  
Katherine Allen



Laboratory Manager  
Daren Damboragian



---

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

REPORT DATE: 11/17/2020

WOOD PLC- MA  
271 Mill Road  
Chelmsford, MA 01824  
ATTN: Gregory Avenia

PURCHASE ORDER NUMBER: C012206368

PROJECT NUMBER: 365170068

#### ANALYTICAL SUMMARY

---

WORK ORDER NUMBER: 20J1669

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

PROJECT LOCATION: Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
IA-2-10292020	20J1669-01	Indoor air		EPA TO-15	
IA-4-10292020	20J1669-02	Indoor air		EPA TO-15	
AA-1-10292020	20J1669-03	Ambient Air		EPA TO-15	
Unused Can #1880/Unused Reg #4295	20J1669-04	Air		-	

**CASE NARRATIVE SUMMARY**

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

For sample 20J1669-03, client's final pressure and the labs receipt pressure do not agree. Client requested sample still be analyzed.

**EPA TO-15**

**Qualifications:**

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

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

**1,2,4-Trichlorobenzene**

20J1669-01[IA-2-10292020], 20J1669-02[IA-4-10292020], 20J1669-03[AA-1-10292020], B270209-BLK1, B270209-BS1, S054068-CCV1

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  
Technical Representative

**ANALYTICAL RESULTS**

Project Location: Providence, RI  
 Date Received: 10/29/2020  
**Field Sample #:** IA-2-10292020  
**Sample ID:** 20J1669-01  
 Sample Matrix: Indoor air  
 Sampled: 10/29/2020 09:03

Sample Description/Location:  
 Sub Description/Location:  
 Canister ID: 1034  
 Canister Size: 6 liter  
 Flow Controller ID: 4079  
 Sample Type: 30 min

**Work Order:** 20J1669  
 Initial Vacuum(in Hg): -28.5  
 Final Vacuum(in Hg): -8  
 Receipt Vacuum(in Hg): -7  
 Flow Controller Type: Fixed-Orifice  
 Flow Controller Calibration  
 RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Results	ug/m3			Date/Time	
		RL	MDL	Flag/Qual		RL	MDL	Dilution	Analyzed	Analyst
Acetone	5.8	1.4	0.84		14	3.3	2.0	0.698	11/3/20 16:00	BRF
Benzene	0.33	0.035	0.010		1.1	0.11	0.033	0.698	11/3/20 16:00	BRF
Benzyl chloride	ND	0.035	0.016		ND	0.18	0.081	0.698	11/3/20 16:00	BRF
Bromodichloromethane	ND	0.035	0.0097		ND	0.23	0.065	0.698	11/3/20 16:00	BRF
Bromoform	ND	0.035	0.012		ND	0.36	0.12	0.698	11/3/20 16:00	BRF
Bromomethane	ND	0.035	0.018		ND	0.14	0.072	0.698	11/3/20 16:00	BRF
1,3-Butadiene	ND	0.035	0.026		ND	0.077	0.056	0.698	11/3/20 16:00	BRF
2-Butanone (MEK)	ND	1.4	0.12		ND	4.1	0.34	0.698	11/3/20 16:00	BRF
Carbon Disulfide	ND	0.35	0.089		ND	1.1	0.28	0.698	11/3/20 16:00	BRF
Carbon Tetrachloride	0.059	0.035	0.0093		0.37	0.22	0.058	0.698	11/3/20 16:00	BRF
Chlorobenzene	ND	0.035	0.0084		ND	0.16	0.039	0.698	11/3/20 16:00	BRF
Chloroethane	ND	0.035	0.034		ND	0.092	0.090	0.698	11/3/20 16:00	BRF
Chloroform	0.056	0.035	0.0084		0.27	0.17	0.041	0.698	11/3/20 16:00	BRF
Chloromethane	ND	0.070	0.027		ND	0.14	0.055	0.698	11/3/20 16:00	BRF
Cyclohexane	ND	0.035	0.017		ND	0.12	0.059	0.698	11/3/20 16:00	BRF
Dibromochloromethane	ND	0.035	0.012		ND	0.30	0.100	0.698	11/3/20 16:00	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091		ND	0.27	0.070	0.698	11/3/20 16:00	BRF
1,2-Dichlorobenzene	ND	0.035	0.013		ND	0.21	0.078	0.698	11/3/20 16:00	BRF
1,3-Dichlorobenzene	ND	0.035	0.013		ND	0.21	0.076	0.698	11/3/20 16:00	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078		ND	0.21	0.047	0.698	11/3/20 16:00	BRF
Dichlorodifluoromethane (Freon 12)	0.52	0.035	0.011		2.6	0.17	0.054	0.698	11/3/20 16:00	BRF
1,1-Dichloroethane	ND	0.035	0.011		ND	0.14	0.044	0.698	11/3/20 16:00	BRF
1,2-Dichloroethane	ND	0.035	0.013		ND	0.14	0.052	0.698	11/3/20 16:00	BRF
1,1-Dichloroethylene	ND	0.035	0.019		ND	0.14	0.075	0.698	11/3/20 16:00	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012		ND	0.14	0.047	0.698	11/3/20 16:00	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010		ND	0.14	0.041	0.698	11/3/20 16:00	BRF
1,2-Dichloropropane	ND	0.035	0.013		ND	0.16	0.058	0.698	11/3/20 16:00	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016		ND	0.16	0.073	0.698	11/3/20 16:00	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012		ND	0.16	0.053	0.698	11/3/20 16:00	BRF
Ethanol	8.3	1.4	0.42		16	2.6	0.80	0.698	11/3/20 16:00	BRF
Ethyl Acetate	ND	0.35	0.21		ND	1.3	0.75	0.698	11/3/20 16:00	BRF
Ethylbenzene	0.15	0.035	0.0073		0.66	0.15	0.032	0.698	11/3/20 16:00	BRF
4-Ethyltoluene	ND	0.035	0.011		ND	0.17	0.053	0.698	11/3/20 16:00	BRF
Heptane	0.13	0.035	0.015		0.51	0.14	0.062	0.698	11/3/20 16:00	BRF
Hexachlorobutadiene	ND	0.035	0.015		ND	0.37	0.16	0.698	11/3/20 16:00	BRF
Hexane	ND	1.4	0.063		ND	4.9	0.22	0.698	11/3/20 16:00	BRF
2-Hexanone (MBK)	ND	0.070	0.020		ND	0.29	0.081	0.698	11/3/20 16:00	BRF
Isopropanol	1.0	1.4	0.32	J	2.5	3.4	0.79	0.698	11/3/20 16:00	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014		ND	0.13	0.050	0.698	11/3/20 16:00	BRF
Methylene Chloride	ND	0.35	0.080		ND	1.2	0.28	0.698	11/3/20 16:00	BRF
Methyl methacrylate	ND	0.035	0.020		ND	0.14	0.081	0.698	11/3/20 16:00	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018		ND	0.14	0.075	0.698	11/3/20 16:00	BRF
Propene	ND	1.4	0.12		ND	2.4	0.20	0.698	11/3/20 16:00	BRF
Styrene	0.035	0.035	0.010		0.15	0.15	0.042	0.698	11/3/20 16:00	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023		ND	0.44	0.16	0.698	11/3/20 16:00	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093		ND	0.24	0.064	0.698	11/3/20 16:00	BRF
Tetrachloroethylene	0.11	0.035	0.011		0.72	0.24	0.077	0.698	11/3/20 16:00	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 10/29/2020

**Field Sample #:** IA-2-10292020

**Sample ID:** 20J1669-01

Sample Matrix: Indoor air

Sampled: 10/29/2020 09:03

Sample Description/Location:

Sub Description/Location:

Canister ID: 1034

Canister Size: 6 liter

Flow Controller ID: 4079

Sample Type: 30 min

**Work Order:** 20J1669

Initial Vacuum(in Hg): -28.5

Final Vacuum(in Hg): -8

Receipt Vacuum(in Hg): -7

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	11/3/20 16:00	BRF
Toluene	1.1	0.035	0.010			4.1	0.13	0.038	0.698	11/3/20 16:00	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	11/3/20 16:00	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	11/3/20 16:00	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	11/3/20 16:00	BRF
Trichloroethylene	0.043	0.035	0.013			0.23	0.19	0.069	0.698	11/3/20 16:00	BRF
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.027			1.3	0.78	0.15	0.698	11/3/20 16:00	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.073	0.14	0.026	J		0.56	1.1	0.20	0.698	11/3/20 16:00	BRF
1,2,4-Trimethylbenzene	0.13	0.035	0.0080			0.62	0.17	0.039	0.698	11/3/20 16:00	BRF
1,3,5-Trimethylbenzene	0.040	0.035	0.0091			0.20	0.17	0.045	0.698	11/3/20 16:00	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	11/3/20 16:00	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	11/3/20 16:00	BRF
m&p-Xylene	0.46	0.070	0.012			2.0	0.30	0.053	0.698	11/3/20 16:00	BRF
o-Xylene	0.18	0.035	0.0093			0.79	0.15	0.041	0.698	11/3/20 16:00	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	11/3/20 16:00
4-Bromofluorobenzene (2)	103	70-130	11/3/20 16:00

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 10/29/2020

**Field Sample #:** IA-4-10292020

**Sample ID:** 20J1669-02

Sample Matrix: Indoor air

Sampled: 10/29/2020 09:07

Sample Description/Location:

Sub Description/Location:

Canister ID: 1871

Canister Size: 6 liter

Flow Controller ID: 4070

Sample Type: 30 min

**Work Order:** 20J1669

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -7.5

Receipt Vacuum(in Hg): -6.3

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	5.8	1.4	0.84			14	3.3	2.0	0.698	11/3/20 16:32	BRF
Benzene	0.35	0.035	0.010			1.1	0.11	0.033	0.698	11/3/20 16:32	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	11/3/20 16:32	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	11/3/20 16:32	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	11/3/20 16:32	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	11/3/20 16:32	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	11/3/20 16:32	BRF
2-Butanone (MEK)	0.33	1.4	0.12	J		0.98	4.1	0.34	0.698	11/3/20 16:32	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	11/3/20 16:32	BRF
Carbon Tetrachloride	0.061	0.035	0.0093			0.38	0.22	0.058	0.698	11/3/20 16:32	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	11/3/20 16:32	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	11/3/20 16:32	BRF
Chloroform	0.050	0.035	0.0084			0.25	0.17	0.041	0.698	11/3/20 16:32	BRF
Chloromethane	0.51	0.070	0.027			1.0	0.14	0.055	0.698	11/3/20 16:32	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	11/3/20 16:32	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	11/3/20 16:32	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	11/3/20 16:32	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	11/3/20 16:32	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	11/3/20 16:32	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	11/3/20 16:32	BRF
Dichlorodifluoromethane (Freon 12)	0.53	0.035	0.011			2.6	0.17	0.054	0.698	11/3/20 16:32	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	11/3/20 16:32	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	11/3/20 16:32	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	11/3/20 16:32	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	11/3/20 16:32	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	11/3/20 16:32	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	11/3/20 16:32	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	11/3/20 16:32	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	11/3/20 16:32	BRF
Ethanol	7.3	1.4	0.42			14	2.6	0.80	0.698	11/3/20 16:32	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	11/3/20 16:32	BRF
Ethylbenzene	0.15	0.035	0.0073			0.63	0.15	0.032	0.698	11/3/20 16:32	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	11/3/20 16:32	BRF
Heptane	0.15	0.035	0.015			0.60	0.14	0.062	0.698	11/3/20 16:32	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	11/3/20 16:32	BRF
Hexane	0.24	1.4	0.063	J		0.85	4.9	0.22	0.698	11/3/20 16:32	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	11/3/20 16:32	BRF
Isopropanol	1.0	1.4	0.32	J		2.6	3.4	0.79	0.698	11/3/20 16:32	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	11/3/20 16:32	BRF
Methylene Chloride	0.35	0.35	0.080			1.2	1.2	0.28	0.698	11/3/20 16:32	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	11/3/20 16:32	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	11/3/20 16:32	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	11/3/20 16:32	BRF
Styrene	0.033	0.035	0.010	J		0.14	0.15	0.042	0.698	11/3/20 16:32	BRF
1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	11/3/20 16:32	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	11/3/20 16:32	BRF
Tetrachloroethylene	0.11	0.035	0.011			0.74	0.24	0.077	0.698	11/3/20 16:32	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 10/29/2020

**Field Sample #:** IA-4-10292020

**Sample ID:** 20J1669-02

Sample Matrix: Indoor air

Sampled: 10/29/2020 09:07

Sample Description/Location:

Sub Description/Location:

Canister ID: 1871

Canister Size: 6 liter

Flow Controller ID: 4070

Sample Type: 30 min

**Work Order:** 20J1669

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -7.5

Receipt Vacuum(in Hg): -6.3

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	11/3/20 16:32	BRF
Toluene	1.0	0.035	0.010			3.9	0.13	0.038	0.698	11/3/20 16:32	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	11/3/20 16:32	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	11/3/20 16:32	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	11/3/20 16:32	BRF
Trichloroethylene	0.052	0.035	0.013			0.28	0.19	0.069	0.698	11/3/20 16:32	BRF
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.027			1.4	0.78	0.15	0.698	11/3/20 16:32	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.062	0.14	0.026	J		0.48	1.1	0.20	0.698	11/3/20 16:32	BRF
1,2,4-Trimethylbenzene	0.12	0.035	0.0080			0.61	0.17	0.039	0.698	11/3/20 16:32	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.0091			ND	0.17	0.045	0.698	11/3/20 16:32	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	11/3/20 16:32	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	11/3/20 16:32	BRF
m&p-Xylene	0.43	0.070	0.012			1.9	0.30	0.053	0.698	11/3/20 16:32	BRF
o-Xylene	0.19	0.035	0.0093			0.82	0.15	0.041	0.698	11/3/20 16:32	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	11/3/20 16:32
4-Bromofluorobenzene (2)	102	70-130	11/3/20 16:32

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 10/29/2020

**Field Sample #:** AA-1-10292020

**Sample ID:** 20J1669-03

Sample Matrix: Ambient Air

Sampled: 10/29/2020 09:11

Sample Description/Location:

Sub Description/Location:

Canister ID: 1020

Canister Size: 6 liter

Flow Controller ID: 4375

Sample Type: 30 min

**Work Order:** 20J1669

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -10

Receipt Vacuum(in Hg): -4.3

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	6.3	1.4	0.84			15	3.3	2.0	0.698	11/3/20 17:03	BRF
Benzene	0.39	0.035	0.010			1.2	0.11	0.033	0.698	11/3/20 17:03	BRF
Benzyl chloride	ND	0.035	0.016			ND	0.18	0.081	0.698	11/3/20 17:03	BRF
Bromodichloromethane	ND	0.035	0.0097			ND	0.23	0.065	0.698	11/3/20 17:03	BRF
Bromoform	ND	0.035	0.012			ND	0.36	0.12	0.698	11/3/20 17:03	BRF
Bromomethane	ND	0.035	0.018			ND	0.14	0.072	0.698	11/3/20 17:03	BRF
1,3-Butadiene	ND	0.035	0.026			ND	0.077	0.056	0.698	11/3/20 17:03	BRF
2-Butanone (MEK)	0.25	1.4	0.12	J		0.73	4.1	0.34	0.698	11/3/20 17:03	BRF
Carbon Disulfide	ND	0.35	0.089			ND	1.1	0.28	0.698	11/3/20 17:03	BRF
Carbon Tetrachloride	0.062	0.035	0.0093			0.39	0.22	0.058	0.698	11/3/20 17:03	BRF
Chlorobenzene	ND	0.035	0.0084			ND	0.16	0.039	0.698	11/3/20 17:03	BRF
Chloroethane	ND	0.035	0.034			ND	0.092	0.090	0.698	11/3/20 17:03	BRF
Chloroform	0.063	0.035	0.0084			0.31	0.17	0.041	0.698	11/3/20 17:03	BRF
Chloromethane	ND	0.070	0.027			ND	0.14	0.055	0.698	11/3/20 17:03	BRF
Cyclohexane	ND	0.035	0.017			ND	0.12	0.059	0.698	11/3/20 17:03	BRF
Dibromochloromethane	ND	0.035	0.012			ND	0.30	0.100	0.698	11/3/20 17:03	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.0091			ND	0.27	0.070	0.698	11/3/20 17:03	BRF
1,2-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.078	0.698	11/3/20 17:03	BRF
1,3-Dichlorobenzene	ND	0.035	0.013			ND	0.21	0.076	0.698	11/3/20 17:03	BRF
1,4-Dichlorobenzene	ND	0.035	0.0078			ND	0.21	0.047	0.698	11/3/20 17:03	BRF
Dichlorodifluoromethane (Freon 12)	0.51	0.035	0.011			2.5	0.17	0.054	0.698	11/3/20 17:03	BRF
1,1-Dichloroethane	ND	0.035	0.011			ND	0.14	0.044	0.698	11/3/20 17:03	BRF
1,2-Dichloroethane	ND	0.035	0.013			ND	0.14	0.052	0.698	11/3/20 17:03	BRF
1,1-Dichloroethylene	ND	0.035	0.019			ND	0.14	0.075	0.698	11/3/20 17:03	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.012			ND	0.14	0.047	0.698	11/3/20 17:03	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.010			ND	0.14	0.041	0.698	11/3/20 17:03	BRF
1,2-Dichloropropane	ND	0.035	0.013			ND	0.16	0.058	0.698	11/3/20 17:03	BRF
cis-1,3-Dichloropropene	ND	0.035	0.016			ND	0.16	0.073	0.698	11/3/20 17:03	BRF
trans-1,3-Dichloropropene	ND	0.035	0.012			ND	0.16	0.053	0.698	11/3/20 17:03	BRF
Ethanol	7.3	1.4	0.42			14	2.6	0.80	0.698	11/3/20 17:03	BRF
Ethyl Acetate	ND	0.35	0.21			ND	1.3	0.75	0.698	11/3/20 17:03	BRF
Ethylbenzene	0.15	0.035	0.0073			0.67	0.15	0.032	0.698	11/3/20 17:03	BRF
4-Ethyltoluene	ND	0.035	0.011			ND	0.17	0.053	0.698	11/3/20 17:03	BRF
Heptane	0.16	0.035	0.015			0.65	0.14	0.062	0.698	11/3/20 17:03	BRF
Hexachlorobutadiene	ND	0.035	0.015			ND	0.37	0.16	0.698	11/3/20 17:03	BRF
Hexane	0.27	1.4	0.063	J		0.94	4.9	0.22	0.698	11/3/20 17:03	BRF
2-Hexanone (MBK)	ND	0.070	0.020			ND	0.29	0.081	0.698	11/3/20 17:03	BRF
Isopropanol	0.90	1.4	0.32	J		2.2	3.4	0.79	0.698	11/3/20 17:03	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.014			ND	0.13	0.050	0.698	11/3/20 17:03	BRF
Methylene Chloride	0.30	0.35	0.080	J		1.0	1.2	0.28	0.698	11/3/20 17:03	BRF
Methyl methacrylate	ND	0.035	0.020			ND	0.14	0.081	0.698	11/3/20 17:03	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.075	0.698	11/3/20 17:03	BRF
Propene	ND	1.4	0.12			ND	2.4	0.20	0.698	11/3/20 17:03	BRF
Styrene	0.036	0.035	0.010			0.15	0.15	0.042	0.698	11/3/20 17:03	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	11/3/20 17:03	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.0093			ND	0.24	0.064	0.698	11/3/20 17:03	BRF
Tetrachloroethylene	0.065	0.035	0.011			0.44	0.24	0.077	0.698	11/3/20 17:03	BRF

**ANALYTICAL RESULTS**

Project Location: Providence, RI

Date Received: 10/29/2020

**Field Sample #:** AA-1-10292020

**Sample ID:** 20J1669-03

Sample Matrix: Ambient Air

Sampled: 10/29/2020 09:11

Sample Description/Location:

Sub Description/Location:

Canister ID: 1020

Canister Size: 6 liter

Flow Controller ID: 4375

Sample Type: 30 min

**Work Order:** 20J1669

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -10

Receipt Vacuum(in Hg): -4.3

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

**EPA TO-15**

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrahydrofuran	ND	0.35	0.086			ND	1.0	0.25	0.698	11/3/20 17:03	BRF
Toluene	0.91	0.035	0.010			3.4	0.13	0.038	0.698	11/3/20 17:03	BRF
1,2,4-Trichlorobenzene	ND	0.035	0.021	V-34		ND	0.26	0.16	0.698	11/3/20 17:03	BRF
1,1,1-Trichloroethane	ND	0.035	0.011			ND	0.19	0.062	0.698	11/3/20 17:03	BRF
1,1,2-Trichloroethane	ND	0.035	0.013			ND	0.19	0.070	0.698	11/3/20 17:03	BRF
Trichloroethylene	0.036	0.035	0.013			0.19	0.19	0.069	0.698	11/3/20 17:03	BRF
Trichlorofluoromethane (Freon 11)	0.24	0.14	0.027			1.3	0.78	0.15	0.698	11/3/20 17:03	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14	0.026			ND	1.1	0.20	0.698	11/3/20 17:03	BRF
1,2,4-Trimethylbenzene	0.15	0.035	0.0080			0.73	0.17	0.039	0.698	11/3/20 17:03	BRF
1,3,5-Trimethylbenzene	0.038	0.035	0.0091			0.19	0.17	0.045	0.698	11/3/20 17:03	BRF
Vinyl Acetate	ND	0.70	0.098			ND	2.5	0.34	0.698	11/3/20 17:03	BRF
Vinyl Chloride	ND	0.035	0.019			ND	0.089	0.050	0.698	11/3/20 17:03	BRF
m&p-Xylene	0.41	0.070	0.012			1.8	0.30	0.053	0.698	11/3/20 17:03	BRF
o-Xylene	0.16	0.035	0.0093			0.71	0.15	0.041	0.698	11/3/20 17:03	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	102	70-130	11/3/20 17:03
4-Bromofluorobenzene (2)	103	70-130	11/3/20 17:03



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

#### 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
20J1669-01 [IA-2-10292020]	B270209	1.5	1	N/A	1000	200	430	11/03/20
20J1669-02 [IA-4-10292020]	B270209	1.5	1	N/A	1000	200	430	11/03/20
20J1669-03 [AA-1-10292020]	B270209	1.5	1	N/A	1000	200	430	11/03/20



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

QUALITY CONTROL

## Air Toxics by EPA Compendium Methods - Quality Control

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

Batch B270209 - TO-15 Prep

Blank (B270209-BLK1)		Prepared & Analyzed: 11/03/20
Acetone	ND	0.80
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
Ethyl Acetate	ND	0.20
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
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 Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	Limits	RPD RPD	RPD Limit	Flag/Qual
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**Batch B270209 - TO-15 Prep**

<b>Blank (B270209-BLK1)</b>	Prepared & Analyzed: 11/03/20							
Tetrachloroethylene	ND	0.020						
Tetrahydrofuran	ND	0.20						
Toluene	ND	0.020						
1,2,4-Trichlorobenzene	ND	0.020						V-34
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>	8.06		8.00		101	70-130		
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	8.21		8.00		103	70-130		

<b>LCS (B270209-BS1)</b>	Prepared & Analyzed: 11/03/20						
Acetone	4.84		5.00		96.7	70-130	
Benzene	4.49		5.00		89.8	70-130	
Benzyl chloride	4.09		5.00		81.8	70-130	
Bromodichloromethane	4.82		5.00		96.4	70-130	
Bromoform	5.11		5.00		102	70-130	
Bromomethane	5.89		5.00		118	70-130	
1,3-Butadiene	5.13		5.00		103	70-130	
2-Butanone (MEK)	4.77		5.00		95.3	70-130	
Carbon Disulfide	4.84		5.00		96.9	70-130	
Carbon Tetrachloride	4.52		5.00		90.3	70-130	
Chlorobenzene	4.53		5.00		90.6	70-130	
Chloroethane	5.49		5.00		110	70-130	
Chloroform	5.08		5.00		102	70-130	
Chloromethane	5.27		5.00		105	70-130	
Cyclohexane	4.51		5.00		90.2	70-130	
Dibromochloromethane	4.74		5.00		94.9	70-130	
1,2-Dibromoethane (EDB)	4.87		5.00		97.4	70-130	
1,2-Dichlorobenzene	5.11		5.00		102	70-130	
1,3-Dichlorobenzene	5.14		5.00		103	70-130	
1,4-Dichlorobenzene	5.04		5.00		101	70-130	
Dichlorodifluoromethane (Freon 12)	6.02		5.00		120	70-130	
1,1-Dichloroethane	4.77		5.00		95.3	70-130	
1,2-Dichloroethane	4.82		5.00		96.5	70-130	
1,1-Dichloroethylene	4.92		5.00		98.5	70-130	
cis-1,2-Dichloroethylene	4.82		5.00		96.4	70-130	
trans-1,2-Dichloroethylene	4.74		5.00		94.8	70-130	
1,2-Dichloropropane	4.24		5.00		84.9	70-130	

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

Analyte	ppbv Results	RL	ug/m3 Results	RL	Spike Level ppbv	Source Result	%REC %REC	Limits	RPD RPD	Limit	Flag/Qual
<b>Batch B270209 - TO-15 Prep</b>											
<b>LCS (B270209-BS1)</b>											
Prepared & Analyzed: 11/03/20											
cis-1,3-Dichloropropene	4.33		5.00		86.6	70-130					
trans-1,3-Dichloropropene	4.48		5.00		89.5	70-130					
Ethanol	4.01		5.00		80.1	70-130					
Ethyl Acetate	4.07		5.00		81.5	70-130					
Ethylbenzene	4.60		5.00		92.0	70-130					
4-Ethyltoluene	4.89		5.00		97.7	70-130					
Heptane	4.33		5.00		86.6	70-130					
Hexachlorobutadiene	4.83		5.00		96.6	70-130					
Hexane	4.53		5.00		90.6	70-130					
2-Hexanone (MBK)	4.95		5.00		98.9	70-130					
Isopropanol	4.07		5.00		81.5	70-130					
Methyl tert-Butyl Ether (MTBE)	4.76		5.00		95.2	70-130					
Methylene Chloride	4.44		5.00		88.8	70-130					
Methyl methacrylate	4.78		5.00		95.5	70-130					
4-Methyl-2-pentanone (MIBK)	4.83		5.00		96.5	70-130					
Propene	5.46		5.00		109	70-130					
Styrene	4.59		5.00		91.7	70-130					
1,1,1,2-Tetrachloroethane	1.01		0.910		111	70-130					
1,1,2,2-Tetrachloroethane	4.84		5.00		96.9	70-130					
Tetrachloroethylene	4.69		5.00		93.9	70-130					
Tetrahydrofuran	4.65		5.00		93.0	70-130					
Toluene	4.59		5.00		91.8	70-130					
1,2,4-Trichlorobenzene	5.05		5.00		101	70-130					V-34
1,1,1-Trichloroethane	4.27		5.00		85.4	70-130					
1,1,2-Trichloroethane	4.74		5.00		94.9	70-130					
Trichloroethylene	4.79		5.00		95.7	70-130					
Trichlorofluoromethane (Freon 11)	5.62		5.00		112	70-130					
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5.33		5.00		107	70-130					
1,2,4-Trimethylbenzene	4.83		5.00		96.6	70-130					
1,3,5-Trimethylbenzene	4.62		5.00		92.4	70-130					
Vinyl Acetate	4.32		5.00		86.4	70-130					
Vinyl Chloride	5.59		5.00		112	70-130					
m&p-Xylene	9.48		10.0		94.8	70-130					
o-Xylene	4.58		5.00		91.7	70-130					
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	8.22		8.00		103	70-130					
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	8.15		8.00		102	70-130					

**Note: Blank Subtraction is not performed unless otherwise noted**

#### 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
RL	Reporting Limit
MDL	Method Detection Limit
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
LCS Dup	Duplicate Laboratory Control Sample
MS	Matrix Spike Sample
MS Dup	Duplicate Matrix Spike Sample
REC	Recovery
QC	Quality Control
ppbv	Parts per billion volume
EPA	United States Environmental Protection Agency
% REC	Percent Recovery
ND	Not Detected
N/A	Not Applicable
DL	Detection Limit
NC	Not Calculated
LFB/LCS	Lab Fortified Blank/Lab Control Sample
ORP	Oxidation-Reduction Potential
wet	Not dry weight corrected
% wt	Percent weight
Kg	Kilogram
g	Gram
mg	Milligram
µg	Microgram
ng	Nanogram
L	Liter
mL	Milliliter
µL	Microliter
m³	Cubic Meter
EPH	Extractable Petroleum Hydrocarbons
VPH	Volatile Petroleum Hydrocarbons
APH	Air Petroleum Hydrocarbons
FID	Flame Ionization Detector
PID	Photo Ionization Detector
	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).
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

#### ANALYST

TPH	Thomas P. Hnitecki
RLF	Rebecca Faust
RJM	Raymond J. McCarthy
RAP	Raisa A. Petraitis
KF2	Kaitlyn A. Feliciano
BRF	Brittany R. Fisk

## INTERNAL STANDARD AREA AND RT SUMMARY

## EPA TO-15

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Calibration Check (S054068-CCV1 )</b>		Lab File ID: J2030804.D				Analyzed: 11/03/20 11:43			
Bromochloromethane (1)	127965	2.873	155833	2.873	82	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	683621	3.475	745760	3.475	92	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	602722	5.057	671608	5.057	90	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (2)	671149	3.475	805189	3.481	83	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	75829	5.06	106724	5.06	71	60 - 140	0.0000	+/-0.50	
<b>LCS (B270209-BS1 )</b>		Lab File ID: J2030805.D				Analyzed: 11/03/20 12:08			
Bromochloromethane (1)	127241	2.873	127965	2.873	99	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	666151	3.474	683621	3.475	97	60 - 140	-0.0010	+/-0.50	
Chlorobenzene-d5 (1)	594048	5.056	602722	5.057	99	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (2)	658589	3.475	671149	3.475	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (2)	76149	5.057	75829	5.06	100	60 - 140	-0.0030	+/-0.50	
<b>Blank (B270209-BLK1 )</b>		Lab File ID: J2030810.D				Analyzed: 11/03/20 14:26			
Bromochloromethane (1)	126637	2.857	127965	2.873	99	60 - 140	-0.0160	+/-0.50	
1,4-Difluorobenzene (1)	618405	3.465	683621	3.475	90	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5 (1)	530045	5.054	602722	5.057	88	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	620442	3.465	671149	3.475	92	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5 (2)	69260	5.054	75829	5.06	91	60 - 140	-0.0060	+/-0.50	
<b>IA-2-10292020 (20J1669-01 )</b>		Lab File ID: J2030813.D				Analyzed: 11/03/20 16:00			
Bromochloromethane (1)	126303	2.86	127965	2.873	99	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	653200	3.468	683621	3.475	96	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (1)	530240	5.054	602722	5.057	88	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	611226	3.468	671149	3.475	91	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (2)	69873	5.054	75829	5.06	92	60 - 140	-0.0060	+/-0.50	
<b>IA-4-10292020 (20J1669-02 )</b>		Lab File ID: J2030814.D				Analyzed: 11/03/20 16:32			
Bromochloromethane (1)	126023	2.86	127965	2.873	98	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	617549	3.468	683621	3.475	90	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (1)	533811	5.056	602722	5.057	89	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (2)	618780	3.468	671149	3.475	92	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (2)	70152	5.053	75829	5.06	93	60 - 140	-0.0070	+/-0.50	
<b>AA-1-10292020 (20J1669-03 )</b>		Lab File ID: J2030815.D				Analyzed: 11/03/20 17:03			
Bromochloromethane (1)	127949	2.863	127965	2.873	100	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	606316	3.468	683621	3.475	89	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (1)	520824	5.056	602722	5.057	86	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (2)	607463	3.468	671149	3.475	91	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (2)	68444	5.053	75829	5.06	90	60 - 140	-0.0070	+/-0.50	

## CONTINUING CALIBRATION CHECK

EPA TO-15

S054068-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	4.53	0.9103154	0.8251006		-9.4	30
Benzene	A	5.00	4.57	0.6606025	0.604267		-8.5	30
Benzyl chloride	A	5.00	4.86	0.5965762	0.5801919		-2.7	30
Bromodichloromethane	A	5.00	4.81	0.4537953	0.4365647		-3.8	30
Bromoform	A	5.00	5.52	0.6600998	0.7290393		10.4	30
Bromomethane	A	5.00	5.81	1.001177	1.163381		16.2	30
1,3-Butadiene	A	5.00	5.17	0.6246902	0.6457016		3.4	30
2-Butanone (MEK)	A	5.00	4.75	1.30749	1.24299		-4.9	30
Carbon Disulfide	A	5.00	4.87	2.466469	2.400906		-2.7	30
Carbon Tetrachloride	A	5.00	4.61	0.5064752	0.4672765		-7.7	30
Chlorobenzene	A	5.00	4.88	0.7751296	0.7557288		-2.5	30
Chloroethane	A	5.00	5.45	0.5001442	0.5451491		9.0	30
Chloroform	A	5.00	5.21	2.018779	2.10225		4.1	30
Chloromethane	A	5.00	5.48	0.6141491	0.673084		9.6	30
Cyclohexane	A	5.00	4.59	0.2849344	0.2613565		-8.3	30
Dibromochloromethane	A	5.00	4.89	0.6429615	0.6292918		-2.1	30
1,2-Dibromoethane (EDB)	A	5.00	5.02	0.4841019	0.4856501		0.3	30
1,2-Dichlorobenzene	A	5.00	5.43	0.6846313	0.7429867		8.5	30
1,3-Dichlorobenzene	A	5.00	5.37	0.7215992	0.7753704		7.5	30
1,4-Dichlorobenzene	A	5.00	5.23	0.7134896	0.746666		4.6	30
Dichlorodifluoromethane (Freon 12)	A	5.00	5.97	2.507091	2.991368		19.3	30
1,1-Dichloroethane	A	5.00	4.89	1.545303	1.512051		-2.2	30
1,2-Dichloroethane	A	5.00	4.84	1.058805	1.023917		-3.3	30
1,1-Dichloroethylene	A	5.00	4.93	1.160287	1.144863		-1.3	30
cis-1,2-Dichloroethylene	A	5.00	5.04	1.114268	1.123357		0.8	30
trans-1,2-Dichloroethylene	A	5.00	5.01	1.201908	1.203254		0.1	30
1,2-Dichloropropane	A	5.00	4.45	0.2231134	0.198414		-11.1	30
cis-1,3-Dichloropropene	A	5.00	4.69	0.3628898	0.3406636		-6.1	30
trans-1,3-Dichloropropene	A	5.00	4.48	0.3055463	0.2735738		-10.5	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 1)	A	5.00	6.02	2.650055	3.188297		20.3	30
1,4-Dioxane	A	5.00	4.64	0.139387	0.1292412		-7.3	30
Ethanol	A	5.00	4.70	0.1702165	0.1600063		-6.0	30
Ethyl Acetate	A	5.00	4.49	0.2280188	0.2048185		-10.2	30
Ethylbenzene	A	5.00	4.84	1.161395	1.124238		-3.2	30
4-Ethyltoluene	A	5.00	5.23	1.262817	1.321729		4.7	30
Heptane	A	5.00	4.60	0.1688454	0.1552369		-8.1	30
Hexachlorobutadiene	A	5.00	5.34	0.6918294	0.7382322		6.7	30
Hexane	L	5.00	4.74	0.6531603	0.6154058		-5.3	30

## CONTINUING CALIBRATION CHECK

EPA TO-15

S054068-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2-Hexanone (MBK)	A	5.00	4.92	0.280065	0.275603		-1.6	30
Isopropanol	A	5.00	4.76	1.001981	0.954386		-4.8	30
Methyl tert-Butyl Ether (MTBE)	A	5.00	4.81	2.512535	2.416386		-3.8	30
Methylene Chloride	A	5.00	4.51	0.6621826	0.5972883		-9.8	30
4-Methyl-2-pentanone (MIBK)	A	5.00	4.70	0.1531114	0.143909		-6.0	30
Naphthalene	A	5.00	5.00	1.086932	1.087732		0.07	30
Propene	A	5.00	5.56	0.4641749	0.5163162		11.2	30
Styrene	A	5.00	4.97	0.7056488	0.7017657		-0.6	30
1,1,1,2-Tetrachloroethane	A	0.910	0.924	4.635749	4.706831		1.5	30
1,1,2,2-Tetrachloroethane	A	5.00	5.10	0.638583	0.6515269		2.0	30
Tetrachloroethylene	A	5.00	4.90	0.5546794	0.5436032		-2.0	30
Tetrahydrofuran	A	5.00	4.68	0.7143044	0.6683578		-6.4	30
Toluene	A	5.00	4.66	0.9345011	0.8701537		-6.9	30
1,2,4-Trichlorobenzene	A	5.00	5.36	0.4260284	0.4570545		7.3	30
1,1,1-Trichloroethane	A	5.00	4.54	0.4496133	0.4085515		-9.1	30
1,1,2-Trichloroethane	A	5.00	4.79	0.3281373	0.314549		-4.1	30
Trichloroethylene	A	5.00	4.76	0.2979469	0.2838134		-4.7	30
Trichlorofluoromethane (Freon 11)	A	5.00	5.54	2.536841	2.810519		10.8	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	5.00	5.43	1.957735	2.124831		8.5	30
1,2,4-Trimethylbenzene	A	5.00	5.15	1.026744	1.056946		2.9	30
1,3,5-Trimethylbenzene	A	5.00	4.99	1.080978	1.078377		-0.2	30
Vinyl Acetate	A	5.00	4.42	1.400965	1.237163		-11.7	30
Vinyl Chloride	A	5.00	5.56	0.8554634	0.9518728		11.3	30
m&p-Xylene	A	10.0	9.95	0.9185043	0.9136922		-0.5	30
o-Xylene	A	5.00	4.79	0.899786	0.8615501		-4.2	30

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**CERTIFICATIONS**
**Certified Analyses included in this Report**

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

## CERTIFICATIONS

## Certified Analyses included in this Report

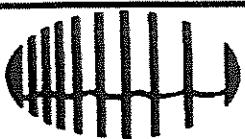
Analyte	Certifications
<b>EPA TO-15 in Air</b>	
Toluene	AIHA,FL,NJ,NY,ME,NH,VA
1,2,4-Trichlorobenzene	AIHA,NJ,NY,ME,NH,VA
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,ME,NH,VA
Trichloroethylene	AIHA,FL,NJ,NY,ME,NH,VA
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME,NH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

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

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2021
CT	Connecticut Department of Public Health	PH-0567	09/30/2021
NY	New York State Department of Health	10899 NELAP	04/1/2021
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2021
RI	Rhode Island Department of Health	LAO00112	12/30/2020
NC	North Carolina Div. of Water Quality	652	12/31/2020
NJ	New Jersey DEP	MA007 NELAP	06/30/2021
FL	Florida Department of Health	E871027 NELAP	06/30/2021
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2021
ME	State of Maine	2011028	06/9/2021
VA	Commonwealth of Virginia	460217	12/14/2020
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2021
NC-DW	North Carolina Department of Health	25703	07/31/2021
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2021
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021



I Have Not Confirmed Sample Container  
Numbers With Lab Staff Before  
Relinquishing Over  
Samples \_\_\_\_\_



**con-test®**  
ANALYTICAL LABORATORY

Doc# 278 Rev 6 2017

**Air Media Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False**

Client Wood

Received By <u>RLF</u>	Date <u>10/29/20</u>	Time <u>1835</u>
How were the samples received? In Cooler <u>T</u> In Box <u>T</u>	On Ice <u></u> Ambient <u></u>	No Ice <u></u> Melted Ice <u></u>
Were samples within Temperature Compliance? 2-6°C <u>NA</u>	By Gun # <u></u> By Blank # <u></u>	Actual Temp - <u></u> Actual Temp - <u></u>
Was Custody Seal Intact? <u>NA</u>	Were Samples Tampered with? <u>NA</u>	
Was COC Relinquished ? <u>T</u>	Does Chain Agree With Samples? <u>T</u>	
Are there any loose caps/valves on any samples? <u>E</u>		
Is COC in ink/ Legible? <u>T</u>		
Did COC Include all Pertinent Information? Client <u>T</u> Project <u>T</u>	Analysis <u>T</u> ID's <u>T</u>	Sampler Name <u>T</u> Collection Dates/Times <u>T</u>
Are Sample Labels filled out and legible? <u>F</u>		
Are there Rushes? <u>F</u>	Who was notified? _____	
Samples are received within holding time? <u>T</u>		
Proper Media Used? <u>T</u>	Individually Certified Cans? <u>F</u>	
Are there Trip Blanks? <u>F</u>	Is there enough Volume? <u>T</u>	

Containers:	#	Size	Regulator	Duration	Accessories:
Summa Cans	<u>4</u>	<u>16L</u>	<u>4</u>	<u>30 min</u>	Nut/Ferrule
Tedlar Bags					Tubing
TO-17 Tubes					T-Connector
Radiello					Syringe
Pufs/TO-11s					Tedlar

Can #'s				Reg #'s			
10354				4679			
1871				4676			
1020				4375			
Unused Media				Pufs/TO-17's			
1880	(297)	4295					

Comments:

**7 - FORM VII**  
**CONTINUING CALIBRATION VERIFICATION**  
**EPA TO-15**

Laboratory:	Con-Test Analytical Laboratory	Work Order:	20J1669
Client:	WOOD PLC- MA	Project:	Providence, RI_Gorham Site
Instrument ID:	SYSJ	Calibration:	2000384
Lab File ID:	J2030804.D	Calibration Date:	09/14/20 00:00
Sequence:	S054068	Injection Date:	11/03/20
Lab Sample ID:	S054068-CCV1	Injection Time:	11:43

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR		% DIFF / DRIFT		
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	4.53	0.9103154	0.8251006	-9.4	30	
Benzene	A	5.00	4.57	0.6606025	0.604267	-8.5	30	
Benzyl chloride	A	5.00	4.86	0.5965762	0.5801919	-2.7	30	
Bromodichloromethane	A	5.00	4.81	0.4537953	0.4365647	-3.8	30	
Bromoform	A	5.00	5.52	0.6600998	0.7290393	10.4	30	
Bromomethane	A	5.00	5.81	1.001177	1.163381	16.2	30	
1,3-Butadiene	A	5.00	5.17	0.6246902	0.6457016	3.4	30	
2-Butanone (MEK)	A	5.00	4.75	1.30749	1.24299	-4.9	30	
Carbon Disulfide	A	5.00	4.87	2.466469	2.400906	-2.7	30	
Carbon Tetrachloride	A	5.00	4.61	0.5064752	0.4672765	-7.7	30	
Chlorobenzene	A	5.00	4.88	0.7751296	0.7557288	-2.5	30	
Chloroethane	A	5.00	5.45	0.5001442	0.5451491	9.0	30	
Chloroform	A	5.00	5.21	2.018779	2.10225	4.1	30	
Chloromethane	A	5.00	5.48	0.6141491	0.673084	9.6	30	
Cyclohexane	A	5.00	4.59	0.2849344	0.2613565	-8.3	30	
Dibromochloromethane	A	5.00	4.89	0.6429615	0.6292918	-2.1	30	
1,2-Dibromoethane (EDB)	A	5.00	5.02	0.4841019	0.4856501	0.3	30	
1,2-Dichlorobenzene	A	5.00	5.43	0.6846313	0.7429867	8.5	30	
1,3-Dichlorobenzene	A	5.00	5.37	0.7215992	0.7753704	7.5	30	
1,4-Dichlorobenzene	A	5.00	5.23	0.7134896	0.746666	4.6	30	
Dichlorodifluoromethane (Freon 12)	A	5.00	5.97	2.507091	2.991368	19.3	30	
1,1-Dichloroethane	A	5.00	4.89	1.545303	1.512051	-2.2	30	
1,2-Dichloroethane	A	5.00	4.84	1.058805	1.023917	-3.3	30	
1,1-Dichloroethylene	A	5.00	4.93	1.160287	1.144863	-1.3	30	
cis-1,2-Dichloroethylene	A	5.00	5.04	1.114268	1.123357	0.8	30	
trans-1,2-Dichloroethylene	A	5.00	5.01	1.201908	1.203254	0.1	30	
1,2-Dichloropropane	A	5.00	4.45	0.2231134	0.198414	-11.1	30	
cis-1,3-Dichloropropene	A	5.00	4.69	0.3628898	0.3406636	-6.1	30	
trans-1,3-Dichloropropene	A	5.00	4.48	0.3055463	0.2735738	-10.5	30	

**7 - FORM VII**  
**CONTINUING CALIBRATION VERIFICATION**  
**EPA TO-15**

Laboratory: Con-Test Analytical Laboratory      Work Order: 20J1669  
Client: WOOD PLC- MA      Project: Providence, RI\_Gorham Site  
Instrument ID: SYSJ      Calibration: 2000384  
Lab File ID: J2030804.D      Calibration Date: 09/14/20 00:00  
Sequence: S054068      Injection Date: 11/03/20  
Lab Sample ID: S054068-CCV1      Injection Time: 11:43

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR		% DIFF / DRIFT		
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	A	5.00	6.02	2.650055	3.188297		20.3	30
1,4-Dioxane	A	5.00	4.64	0.139387	0.1292412	-7.3	30	
Ethanol	A	5.00	4.70	0.1702165	0.1600063	-6.0	30	
Ethyl Acetate	A	5.00	4.49	0.2280188	0.2048185	-10.2	30	
Ethylbenzene	A	5.00	4.84	1.161395	1.124238	-3.2	30	
4-Ethyltoluene	A	5.00	5.23	1.262817	1.321729	4.7	30	
Heptane	A	5.00	4.60	0.1688454	0.1552369	-8.1	30	
Hexachlorobutadiene	A	5.00	5.34	0.6918294	0.7382322	6.7	30	
Hexane	L	5.00	4.74	0.6531603	0.6154058	-5.3	30	
2-Hexanone (MBK)	A	5.00	4.92	0.280065	0.275603	-1.6	30	
Isopropanol	A	5.00	4.76	1.001981	0.954386	-4.8	30	
Methyl tert-Butyl Ether (MTBE)	A	5.00	4.81	2.512535	2.416386	-3.8	30	
Methylene Chloride	A	5.00	4.51	0.6621826	0.5972883	-9.8	30	
4-Methyl-2-pentanone (MIBK)	A	5.00	4.70	0.1531114	0.143909	-6.0	30	
Naphthalene	A	5.00	5.00	1.086932	1.087732	0.07	30	
Propene	A	5.00	5.56	0.4641749	0.5163162	11.2	30	
Styrene	A	5.00	4.97	0.7056488	0.7017657	-0.6	30	
1,1,1,2-Tetrachloroethane	A	0.910	0.924	4.635749	4.706831	1.5	30	
1,1,2,2-Tetrachloroethane	A	5.00	5.10	0.638583	0.6515269	2.0	30	
Tetrachloroethylene	A	5.00	4.90	0.5546794	0.5436032	-2.0	30	
Tetrahydrofuran	A	5.00	4.68	0.7143044	0.6683578	-6.4	30	
Toluene	A	5.00	4.66	0.9345011	0.8701537	-6.9	30	
1,2,4-Trichlorobenzene	A	5.00	5.36	0.4260284	0.4570545	7.3	30	
1,1,1-Trichloroethane	A	5.00	4.54	0.4496133	0.4085515	-9.1	30	
1,1,2-Trichloroethane	A	5.00	4.79	0.3281373	0.314549	-4.1	30	
Trichloroethylene	A	5.00	4.76	0.2979469	0.2838134	-4.7	30	
Trichlorofluoromethane (Freon 11)	A	5.00	5.54	2.536841	2.810519	10.8	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	5.00	5.43	1.957735	2.124831	8.5	30	

**7 - FORM VII**  
**CONTINUING CALIBRATION VERIFICATION**  
**EPA TO-15**

Laboratory:	Con-Test Analytical Laboratory	Work Order:	20J1669
Client:	WOOD PLC- MA	Project:	Providence, RI_Gorham Site
Instrument ID:	SYSJ	Calibration:	2000384
Lab File ID:	J2030804.D	Calibration Date:	09/14/20 00:00
Sequence:	S054068	Injection Date:	11/03/20
Lab Sample ID:	S054068-CCV1	Injection Time:	11:43

COMPOUND	TYPE	STD	CONC. (ppbv)		RESPONSE FACTOR		% DIFF / DRIFT	
			CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,2,4-Trimethylbenzene	A	5.00	5.15	1.026744	1.056946	2.9	30	
1,3,5-Trimethylbenzene	A	5.00	4.99	1.080978	1.078377	-0.2	30	
Vinyl Acetate	A	5.00	4.42	1.400965	1.237163	-11.7	30	
Vinyl Chloride	A	5.00	5.56	0.8554634	0.9518728	11.3	30	
m&p-Xylene	A	10.0	9.95	0.9185043	0.9136922	-0.5	30	
o-Xylene	A	5.00	4.79	0.899786	0.8615501	-4.2	30	

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

\* Values outside of QC limits

**8 - FORM VIII**  
**INTERNAL STANDARD AREA AND RT SUMMARY**

EPA TO-15

Laboratory:	Con-Test Analytical Laboratory	Work Order:	20J1669
Client:	WOOD PLC- MA	Project:	Providence, RI_Gorham Site
Sequence:	S054068	Instrument:	SYSJ
		Calibration:	2000384

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>Calibration Check (S054068-CCV1 )</b>			<i>Lab File ID: J2030804.D</i>			<i>Analyzed: 11/03/20 11:43</i>			
Bromochloromethane (1)	127965	2.873	155833	2.873	82	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	683621	3.475	745760	3.475	92	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (1)	602722	5.057	671608	5.057	90	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (2)	671149	3.475	805189	3.481	83	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	75829	5.06	106724	5.06	71	60 - 140	0.0000	+/-0.50	
<b>LCS (B270209-BS1 )</b>			<i>Lab File ID: J2030805.D</i>			<i>Analyzed: 11/03/20 12:08</i>			
Bromochloromethane (1)	127241	2.873	127965	2.873	99	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	666151	3.474	683621	3.475	97	60 - 140	-0.0010	+/-0.50	
Chlorobenzene-d5 (1)	594048	5.056	602722	5.057	99	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (2)	658589	3.475	671149	3.475	98	60 - 140	0.0000	+/-0.50	
Chlorobenzene-d5 (2)	76149	5.057	75829	5.06	100	60 - 140	-0.0030	+/-0.50	
<b>Blank (B270209-BLK1 )</b>			<i>Lab File ID: J2030810.D</i>			<i>Analyzed: 11/03/20 14:26</i>			
Bromochloromethane (1)	126637	2.857	127965	2.873	99	60 - 140	-0.0160	+/-0.50	
1,4-Difluorobenzene (1)	618405	3.465	683621	3.475	90	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5 (1)	530045	5.054	602722	5.057	88	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	620442	3.465	671149	3.475	92	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5 (2)	69260	5.054	75829	5.06	91	60 - 140	-0.0060	+/-0.50	
<b>IA-2-10292020 (20J1669-01 )</b>			<i>Lab File ID: J2030813.D</i>			<i>Analyzed: 11/03/20 16:00</i>			
Bromochloromethane (1)	126303	2.86	127965	2.873	99	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	653200	3.468	683621	3.475	96	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (1)	530240	5.054	602722	5.057	88	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	611226	3.468	671149	3.475	91	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (2)	69873	5.054	75829	5.06	92	60 - 140	-0.0060	+/-0.50	
<b>IA-4-10292020 (20J1669-02 )</b>			<i>Lab File ID: J2030814.D</i>			<i>Analyzed: 11/03/20 16:32</i>			
Bromochloromethane (1)	126023	2.86	127965	2.873	98	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	617549	3.468	683621	3.475	90	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (1)	533811	5.056	602722	5.057	89	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (2)	618780	3.468	671149	3.475	92	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (2)	70152	5.053	75829	5.06	93	60 - 140	-0.0070	+/-0.50	

**8 - FORM VIII**  
**INTERNAL STANDARD AREA AND RT SUMMARY**

EPA TO-15

Laboratory:	Con-Test Analytical Laboratory	Work Order:	20J1669
Client:	WOOD PLC- MA	Project:	Providence, RI_Gorham Site
Sequence:	S054068	Instrument:	SYSJ
		Calibration:	2000384

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
<b>AA-1-10292020 (20J1669-03 )</b>									
Bromochloromethane (1)	127949	2.863	127965	2.873	100	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	606316	3.468	683621	3.475	89	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (1)	520824	5.056	602722	5.057	86	60 - 140	-0.0010	+/-0.50	
1,4-Difluorobenzene (2)	607463	3.468	671149	3.475	91	60 - 140	-0.0070	+/-0.50	
Chlorobenzene-d5 (2)	68444	5.053	75829	5.06	90	60 - 140	-0.0070	+/-0.50	

## **Appendix B**

Analytical Laboratory Detection Limits

# Con-Test Analytical Laboratory

1/30/2015

## Analytical Method Information

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %R	Blank Spike / LCS 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 (Freon 114)	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	

**Con-Test Analytical Laboratory**

1/30/2015

**Analytical Method Information**

Analyte	MDL	Reporting Limit	Surrogate %R	Duplicate RPD	Matrix Spike %R	Blank Spike / LCS %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 (Freo	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)							

## **Appendix C**

Outdoor Reference Sample Results

**Appendix C.**  
**Summary of Analytical Results - Outdoor Air Reference Sampling**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Outdoor Air Reference Location																									
Location:		AA-1																									
Sample ID:		AA-1	AA-1-020309	AA-1-021109	AA-1-021809	AA-1-022609	AA-1-030609	AA-1-033109	AA-1-041409	AA-1-042409	AA-1-051509	AA-1-061109	AA-1-091709	AA-1-092409	AA-1-100109	AA-1-100809	AA-1-122909	AA-1-02810	AA-1-020510	AA-1-021210	AA-1-021910	AA-1-032610	AA-1-043010	AA-1-052810	AA-1-070110		
Sample Date:		1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	3/6/2009	3/31/2009	4/14/2009	4/24/2009	5/15/2009	6/11/2009	9/17/2009	9/24/2009	10/1/2009	10/8/2009	12/29/2009	1/28/2010	2/5/2010	2/12/2010	2/19/2010	3/26/2010	4/30/2010	5/28/2010	7/1/2010		
Analyte	Units																										
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>																										
1,1,1-Trichloroethane	ug/m <sup>3</sup>	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											
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	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											
1,1,2-Trichloroethane	ug/m <sup>3</sup>	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											
1,1-Dichloroethane	ug/m <sup>3</sup>	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,1-Dichloroethene	ug/m <sup>3</sup>	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	0.25 U	0.28	0.52	1.8	0.25	0.25	0.18 U	0.25	0.25	0.29	0.3	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	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											
1,2-Dichlorobenzene	ug/m <sup>3</sup>	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	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	
1,2-Dichloroethene	ug/m <sup>3</sup>	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,2-Dichloropropane	ug/m <sup>3</sup>	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											
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>	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											
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	0.25 U	0.25	0.25	0.5	0.25	0.25	0.25 U	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
1,3-Butadiene	ug/m <sup>3</sup>	0.11 U	0.11 U	0.17	1.3	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											
1,3-Dichlorobenzene	ug/m <sup>3</sup>	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	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	
1,4-Dichlorobenzene	ug/m <sup>3</sup>	0.3 U	0.3 U	0.3 U	0.3 U	0.53	0.3 U	0.3 U	0.21 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	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	
1,4-Dioxane	ug/m <sup>3</sup>																										
2-Butanone	ug/m <sup>3</sup>	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	0.81	1.6	1.6	0.88	1.5	1.4	2.4	2.3		
2-Hexanone	ug/m <sup>3</sup>	0.2 U	0.22	0.57	0.35	0.2 U	0.2 U	0.14 U	0.26	0.39	0.2 U	0.34	0.2 U	0.33	0.23	0.2 U	0.2 U	0.32	0.2 U	0.2 U	0.29	0.29	0.49	0.49			
4-Ethyltoluene	ug/m <sup>3</sup>	0.25 U	0.25	0.25	0.6	0.25	0.25	0.25	0.18 U	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
4-Methyl-2-pentanone	ug/m <sup>3</sup>	0.2 U	0.2 U	0.27	0.63	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Acetone	ug/m <sup>3</sup>	7.3	8	15	22	8.4	5.9	12	1.1	27	9.5	10	10	9.6	5.4	17	11	3.5	7.6	5	3.7	9.5	12	20	13		
Benzene	ug/m <sup>3</sup>	0.69	0.62	1.3	4.7	0.43	0.69	0.46	0.12 U	0.3	0.4	0.49	0.38	0.35	0.25	0.2	0.42	0.79	0.68	0.63	0.41	0.69	0.35	0.19	0.16 U		
Benzyl chloride																											

**Appendix C.**  
**Summary of Analytical Results - Outdoor Air Reference Sampling**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Outdoor Air Reference Location																									
Location:		AA-1																									
Sample ID:		AA-1-091610	AA-1-120710	AA-1-021711	AA-1-060211	AA-1-091511	AA-1-120811	AA-1-030812	AA-1-061412	AA-1-091312	AA-1-010313	AA-1-031513	AA-1-060713	AA-1-090613	AA-1-100313	AA-1-121313	AA-1-030714	AA-1-061314	AA-1-091214	AA-1-121914	AA-01-032715	AA-1-061115	AA-1-091615	AA-1-121815	AA-1-021816		
Sample Date:		9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	10/3/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016		
Analyte	Units																										
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>																										
1,1,1-Trichloroethane	ug/m <sup>3</sup>	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.29	0.082 U	0.1 J	0.19 U	0.055 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U									
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.1 U	0.21 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U									
1,1,2-Trichloroethane	ug/m <sup>3</sup>	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	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U								
1,1-Dichloroethane	ug/m <sup>3</sup>	0.2 U	0.2 U	0.2 U	0.2 U	0.063 J	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U													
1,1-Dichloroethene	ug/m <sup>3</sup>	0.2 U	0.2 U	0.2 U	0.2 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U								
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.62	0.45 U	0.12 J	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									
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	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 J	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)	ug/m <sup>3</sup>	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	0.26 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U									
1,2-Dichlorobenzene	ug/m <sup>3</sup>	0.3 U	0.3 U	0.3 U	0.3 U	0.3 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												
1,2-Dichloroethane	ug/m <sup>3</sup>	0.2 U	0.2 U	0.2 U	0.2 U	0.066 J	0.061 U	0.046 J	0.14 U	0.14 U	0.057 J	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	ug/m <sup>3</sup>	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.046 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	ug/m <sup>3</sup>																									0.25 U	
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	0.28	0.25 U	0.33	0.25 U	0.25 U	0.068 J	0.15 U	0.15 U	0.16 J	0.17 U	0.17 U	0.17 U	0.047 J	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	ug/m <sup>3</sup>	0.29	0.11 U	0.11 U	0.11 U	0.066 U	0.066 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	0.078 U	0.044 U	0.078 U	0.078 U	0.18	0.23	0.078 U					
1,3-Dichlorobenzene	ug/m <sup>3</sup>	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U													
1,4-Dichlorobenzene	ug/m <sup>3</sup>	0.3 U	0.3 U	0.3 U	0.3 U	0.18 U																				1.3 U	
1,4-Dioxane	ug/m <sup>3</sup>																										
2-Butanone	ug/m <sup>3</sup>	2.7	0.37	1.8 B	2.9 U	5.9 J	0.35 J	1.4 J	1.1 J	2 J	4.1 J	1.9 J	3.9 J	3.7 J	0.94 J	0.82 J	1.4 J	2.2 J	1.1 J	1.2 J	0.96 J	2.1 J	1 J	2 J	0.69 J		
2-Hexanone	ug/m <sup>3</sup>	0.41	0.2 U	0.2 U	4.1 U	0.67	0.12 U	0.34	0.14	0.27	0.14 U	0.13 J	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	ug/m <sup>3</sup>	0.3	0.25 U	0.34	0.25 U	0.053 J	0.15 U	0.15 U	0.093 J	0.17 U	0.17 U	0.17 U	0.063 J	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	0.17 U	
4-Methyl-2-pentanone	ug/m <sup>3</sup>	2.8	0.2 U	0.2 U	0.2 U	0.12 U	0.12 U	0.23	0.1 J	0.14 U	0.083 J	0.24	0.14 U	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	
Acetone	ug/m <sup>3</sup>	14	5.7 B	19 B	8.7 B	20	4.9	9.4	10	12 B	3.3																

**Appendix C.**  
**Summary of Analytical Results - Outdoor Air Reference Sampling**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Outdoor Air Reference Location										
Location:		AA-1										
Sample ID:		AA-1-080516	AA-1-021017	AA-1-090717	AA-1-022818	AA-1-091218	AA-1-020819	AA-1-041119	AA-1-090619	AA-1-021420	AA-1-09092020	AA-1-10292020
Sample Date:		8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	4/11/2019	9/6/2019	2/14/2020	9/9/2020	10/29/2020
Analyte	Units											
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>		0.44 U	0.44 U								
1,1,1-Trichloroethane	ug/m <sup>3</sup>	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2-Trichloroethane	ug/m <sup>3</sup>	0.19 U	0.19 U	0.19 U	0.19 U	0.42	0.19 U	0.19 U				
1,1-Dichloroethane	ug/m <sup>3</sup>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,1-Dichloroethene	ug/m <sup>3</sup>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	0.26 U	0.26 U	0.26 U	0.26 U	0.52 U	0.26 U	0.26 U				
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	0.17 U	0.17 U	0.17 U	0.12 J	0.18	0.17 U	0.73				
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.27 U	0.27 U	0.27 U	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	ug/m <sup>3</sup>	0.21 U	0.21 U	0.21 U	0.21 U	0.84 U	0.21 U	0.21 U				
1,2-Dichloroethane	ug/m <sup>3</sup>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
1,2-Dichloropropane	ug/m <sup>3</sup>	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>	0.25 U										
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	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	0.19
1,3-Butadiene	ug/m <sup>3</sup>	0.078 U	0.078 U	0.9	0.078 U	0.077 U	0.077 U					
1,3-Dichlorobenzene	ug/m <sup>3</sup>	0.21 U	0.21 U	0.21 U	0.21 U	0.49 J	0.21 U	0.21 U				
1,4-Dichlorobenzene	ug/m <sup>3</sup>	0.21 U	0.21 U	0.21 U	0.21 U	0.5 J	0.21 U	0.21 U				
1,4-Dioxane	ug/m <sup>3</sup>	1.3 U										
2-Butanone	ug/m <sup>3</sup>	1.2 J	0.91 J	2.4 J	1.8 J	1.2 J	0.71 J	0.63 J	1.6 J	1.4 J	0.73 J	
2-Hexanone	ug/m <sup>3</sup>	0.14 U	0.14 U	0.14 U	0.43	0.14 U	0.14 U	0.14 U	0.14 U	0.29 U	0.29 U	
4-Ethyltoluene	ug/m <sup>3</sup>	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	
4-Methyl-2-pentanone	ug/m <sup>3</sup>	0.14 U	0.14 U	0.3	0.072 J	0.14 U						
Acetone	ug/m <sup>3</sup>	11	3.1 J	16	24	6.2	10	6.9	5.1	9.8	8.2	15
Benzene	ug/m <sup>3</sup>	0.35	0.37	2.2	0.47	0.39	1.4	0.22	0.24	0.34	0.15	1.2
Benzyl chloride	ug/m <sup>3</sup>	0.18 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	
Bromodichloromethane	ug/m <sup>3</sup>	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.23 U	0.23 U	
Bromoform	ug/m <sup>3</sup>	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	
Bromomethane	ug/m <sup>3</sup>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	
Carbon disulfide	ug/m <sup>3</sup>	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	
Carbon tetrachloride	ug/m <sup>3</sup>	0.39	0.44	0.4	0.39	0.49	0.91	0.44	0.39	0.41	0.43	0.39
Chlorobenzene	ug/m <sup>3</sup>	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	
Chloroethane	ug/m <sup>3</sup>	0.093 U	0.093 U	0.19 U	0.093 U	0.093 U	0.19 U	0.093 U	0.093 U	0.093 U	0.092 U	0.092 U
Chloroform	ug/m <sup>3</sup>	0.17 U	0.17 U	0.17 U	0.086 J	0.11 J	0.53	0.17 U	0.17 U	0.17 U	0.13 J	0.31
Chlormethane	ug/m <sup>3</sup>	1.2	1.2	1.2	1.2	0.93	1.3	1	0.87	1.5	0.14 U	0.14 U
cis-1,2-Dichloroethene	ug/m <sup>3</sup>	0.14 U	0.14 U	0.14 U	0.14 U	0.33	0.14 U					
cis-1,3-Dichloropropene	ug/m <sup>3</sup>	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	
Cyclohexane	ug/m <sup>3</sup>	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	
Dibromochloromethane	ug/m <sup>3</sup>	0.3 U	0.3 U	0.3 U	0.3 U	0.64	0.3 U					
Dichlorodifluoromethane	ug/m <sup>3</sup>	0.64	1	1.5	1.7	2.1	2.2	1.3	1.7	1.6	2	2.5
Ethanol	ug/m <sup>3</sup>	5.5	2.5 J	2.2 J	6.7	2.1 J	12	4	5.9	3.9	6.3	14
Ethyl acetate	ug/m <sup>3</sup>	6.5	2.3	0.25 U	0.17	0.25 U	0.13 U	1.1	0.13 U	0.13 U	1.3 U	1.3 U
Ethylbenzene	ug/m <sup>3</sup>	0.16	0.15 U	0.67	0.17	0.18	0.68	0.15 U	0.17	0.15 U	0.079 J	0.67
Hexachlorobutadiene	ug/m <sup>3</sup>	0.37 U	0.37 U	0.37 U	0.37 U	0.75 U	0.37 U					
Hexane	ug/m <sup>3</sup>	7.7	0.69 J	0.4 J	0.31 J	0.47 J	2.2 J	4.9 U	4.9 U	4.9 U	4.9 U	0.94 J
Isopropyl alcohol	ug/m <sup>3</sup>	0.88 J	0.76 J	0.52 J	0.55 J	0.46 J	1.6 J	1.2 J	0.18 J	0.53 J	3.4 U	2.2 J
m,p-Xylene	ug/m <sup>3</sup>	0.46	0.35	2.4	0.56	0.48	1.7	0.3 U	0.57	0.3 U	0.18 J	1.8
Methyl methacrylate	ug/m <sup>3</sup>		0.14 U									
Methylene chloride	ug/m <sup>3</sup>	3.5	1 J	0.26 J	0.39 J	0.28 J	0.94 J	0.29 J	0.28 J	0.42 J	1.2 U	1 J
Methyl-t-butyl ether	ug/m <sup>3</sup>	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	
Naphthalene	ug/m <sup>3</sup>	0.18 U										
n-Heptane	ug/m <sup>3</sup>	0.24	0.14 U	0.47	0.18	0						

## **Appendix D1**

Summary of All Analytical Results –  
Indoor Air Samples for Small Retail Space

**Appendix D1.**  
**Summary of Analytical Results - Indoor Air Sampling for Small Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:			Eastern Small Retail Space																							
Location:			IA-5																							
Sample ID:			IA-5	IA-5-020309	IA-5-021109	IA-5-021809	IA-5-022609	IA-5-030609	IA-5-041409	IA-5-051509	IA-5-061109	IA-5-091709	IA-5-122909	IA-5-032610	IA-5-070110	IA-5-091610	IA-5-120810	IA-5-021711	IA-5-060211	IA-5-091511	IA-5-120811	IA-5-030812	IA-5-061412	IA-5-091312	IA-5-010313	
Sample Date:	1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	3/6/2009	4/14/2009	5/15/2009	6/11/2009	9/17/2009	12/29/2009	3/26/2010	7/1/2010	9/16/2010	12/8/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013			
Analyte	Units	CT IACTIND 2003																								
1,1,1,2-Tetrachloroethane	ug/m3	1.1																								
1,1,1-Trichloroethane	ug/m3	500	48	0.92	0.27 U	0.27 U	0.27 U	0.27 U	0.98	0.27 U	0.27 U	0.27 U	0.38	0.27 U	0.27 J	0.15 J	0.082 U	0.065 J	0.19 U	0.19 U						
1,1,2,2-Tetrachloroethane	ug/m3	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.16 J	0.1 U	0.21 U	0.24 U	0.24 U	0.19 U											
1,1,2-Trichloroethane	ug/m3	12	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.14 J	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U											
1,1-Dichloroethane	ug/m3	430	1.8	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.12 U	0.061 U	0.12 U	0.14 U	0.14 U					
1,1-Dichloroethene	ug/m3	20	0.58	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.12 U	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U					
1,2,4-Trichlorobenzene	ug/m3	NA	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.75 U	0.75 U	0.37 U	0.74 U	22	0.45 U	0.45 U	0.52 U	0.52 U	0.52 U	0.17 U					
1,2,4-Trimethylbenzene	ug/m3	52	0.25 U	0.32	0.33	0.36	0.25 U	0.25 U	0.2	0.25 U	0.35	0.25 U	0.25 J	1.3	0.15 U	0.16	0.29	0.17 U								
1,2-Dibromoethane (EDB)	ug/m3	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U											
1,2-Dichlorobenzene	ug/m3	410	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	0.3 U	0.3 U	0.23	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	
1,2-Dichloroethane	ug/m3	0.31	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.066 J	0.061 U	0.044 J	0.14 U	0.14 U	0.14 U		
1,2-Dichloropropane	ug/m3	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.14 U	0.069 U	0.067 J	0.16 U	0.16 U	0.16 U											
1,2-Dichlorotetrafluoroethane	ug/m3	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U																	
1,3,5-Trimethylbenzene	ug/m3	52	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 J	0.39	0.15 U	0.077 J	0.11 J	0.17 U												
1,3-Butadiene	ug/m3	NA	0.11 U	0.11 U	0.11 U	0.25	0.11 U	0.08 U	0.11 U	0.066 U	0.066 U	0.078 U	0.078 U													
1,3-Dichlorobenzene	ug/m3	410	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	0.3 U	0.076 J	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U		
1,4-Dichlorobenzene	ug/m3	24	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	0.3 U	0.37	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U		
1,4-Dioxane	ug/m3	NA																	0.18 U							
2-Butanone	ug/m3	500	7.2	2.4	2.7	2.6	0.75	0.45	3.8	1.9	5.3	2.1	0.79	1.5	2.1	1.4	0.78	0.78 B	3.6	5.9 J	0.98 J	2 J	0.94 J	2.3 J	4.1 J	
2-Hexanone	ug/m3	NA	0.2 U	0.48	0.38	0.27	0.2 U	0.2 U	0.47	0.45	1.1	0.48	0.2 U	0.23	0.44	0.2 U	0.2 U	0.2 U	4.1 U	0.2 J	0.13	0.32	0.081 J	0.17	0.14	
4-Ethyltoluene	ug/m3	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25	0.15 U	0.053 J	0.097 J	0.17 U													
4-Methyl-2-pentanone	ug/m3	200	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.18	0.2 U	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.2 U	0.13	0.13	0.13	0.13	0.13	
Acetone	ug/m3	500	32	11	21	20	9.5	6.5	14	14	46	16	15	11	18	17	6.4 B	9.5 B	24 B	15	6.6	11	13	13 B	3.3	
Benzene	ug/m3	3.3	0.79	0.6	0.99	1.6	0.41	0.55	0.62	0.49	0.53	0.35	0.45	0.65	0.16 U	1.1	0.26	1.1	0.33	0.29	0.38	0.34	0.2	0.53	0.11	
Benzyl chloride	ug/m3	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U	0																

**Appendix D1.**  
**Summary of Analytical Results - Indoor Air Sampling for Small Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Eastern Small Retail Space																				Small Center			
Location:		IA-5																				IA-6			
Sample ID:			IA-5-031513	IA-5-060713	IA-5-090613	IA-5-121313	IA-5-030714	IA-5-061314	IA-5-091214	IA-5-121914	IA-05-032715	IA-5-061115	IA-5-091615	IA-5-121815	IA-5-021816	IA-5-080516	IA-5-021017	IA-5-090717	IA-5-022818	IA-5-091218	IA-5-020819	IA-5-090619	IA-5-021420	IA-5-0902020	IA-6
Sample Date:			3/15/2013	6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020	1/16/2009
Analyte	Units	CT IACTIND 2003																							
1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1	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					
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.19 U	0.079	0.19 U	0.042 J	0.19 U	0.077 J	0.19 U	0.19 U	0.19 U														
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	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	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.34 U					
1,1,2-Trichloroethane	ug/m <sup>3</sup>	12	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	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.27 U					
1,1-Dichloroethane	ug/m <sup>3</sup>	430	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.39					
1,1-Dichloroethene	ug/m <sup>3</sup>	20	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	1.2					
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	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	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.37 U	
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	0.072 J	0.21	0.27	0.17 U	0.69	0.23	0.19	0.17 U	0.13 J	0.12 J	0.23	0.2	0.17 U	0.27	0.17 U	0.19	0.17 U	0.3	0.17 U	0.17 U	0.17 U	0.17 U	0.75
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	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	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.38 U					
1,2-Dichlorobenzene	ug/m <sup>3</sup>	410	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.3 U					
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.14 U	0.04	0.14 U	0.045 J	0.065 J	0.14 U	0.057 J	0.08 J	0.14 U	0.14 U	0.14 U	0.2 U											
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	0.16 U	0.046 U	0.16 U	0.16 U	0.1 J	0.16 U	0.13 J	0.16 U	0.16 U	0.16 U	0.16 U	0.23 U											
1,2-Dichlortetrafluoroethane	ug/m <sup>3</sup>	NA																							0.35 U
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	0.17 U	0.17 U	0.17 U	0.17 U	0.19	0.17 U	0.057 J	0.17 U	0.038 J	0.038 J	0.066 J	0.17 U	0.42	0.17 U	0.17 U	0.17 U	0.25 U						
1,3-Butadiene	ug/m <sup>3</sup>	NA	0.078 U	0.078 U	0.078 U	0.078 U	0.58	0.078 U	0.044 U	0.078 U	0.078 U	0.19	0.14	0.078 U	0.078 U	0.11 U									
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.3 U					
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	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	0.21 U	0.28	0.57 J	0.21 U	0.21 U	0.21 U	0.3 U					
1,4-Dioxane	ug/m <sup>3</sup>	NA																							
2-Butanone	ug/m <sup>3</sup>	500	1.3 J	3.2 J	2.4 J	2.2 J	1.8 J	3.7 J	2.1 J	0.8 J	2.1 J	1.4 J	1.6 J	1.8 J	0.86 J	1.3 J	0.67 J	2.9 J	1.2 J	1.9 J	2.1 J	0.37 J	1.6 J	4.1 U	120
2-Hexanone	ug/m <sup>3</sup>	NA	0.16	0.48	0.44	0.14 U	0.32	0.52	0.29	0.14 U	0.43	0.16	0.14 U	0.14 U	0.15	0.31	0.14 U	0.57	0.26	0.14 U	0.14 U	0.14 U	0.14 U	0.29 U	0.2 U
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.17 U	0.17 U	0.17 U	0.17 U	0.22	0.17 U	0.09 J	0.17 U	0.041 J	0.079 J	0.17 U	0.17 U	0.25 U										
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.14 U	0.19	0.14 U	0.14 U	0.24	0.35	0.17	0.14 U	0.19	0.14 U	0.078 J	0.14 U	0.14 U	0.14 U	0.14 U	0.2 U							
Acetone	ug/m <sup>3</sup>	500	9.7	24	19	40	12	25	14	10	14	12	18	23	7.1	18	5.4	24	10	18	12	6.1	12	7.2	44
Benzene	ug/m <sup>3</sup>	3.3	0.8	0.27	0.68																				

**Appendix D1.**  
**Summary of Analytical Results - Indoor Air Sampling for Small Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Small Center Retail Space																								
Location:		IA-6																								
Sample ID:			IA-6-020309	IA-6-021109	IA-6-021809	IA-6-022609	IA-6-030609	IA-6-041409	IA-6-051509	IA-6-061109	IA-6-091709	IA-6-122909	IA-6-032610	IA-6-070110	IA-6-091610	IA-6-120710	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	
Sample Date:		2/3/2009	2/11/2009	2/18/2009	2/26/2009	3/6/2009	4/14/2009	5/15/2009	6/11/2009	9/17/2009	12/29/2009	3/26/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013		
Analyte	Units	CT IACTIND 2003																								
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1																								
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	3.9	0.27 U	0.29	0.27 U	0.27 U	1.6	0.27 U	0.27 U	0.27 U	0.35	0.27 U	0.085 J	0.082 U	0.072 J	0.19 U	0.19 U	0.19 U	0.19 U						
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.21 U	0.1 U	0.21 U	0.24 U	0.24 U	0.24 U	0.24 U											
1,1,2-Trichloroethane	ug/m <sup>3</sup>	12	0.27 U	0.27 U	0.27 U	0.27 U	0.19 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	ug/m <sup>3</sup>	430	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 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	ug/m <sup>3</sup>	20	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 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	ug/m <sup>3</sup>	NA	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.75 U	0.75 U	0.37 U	0.37 U	0.37 U	0.37 U	0.74 U	0.45 U	0.28	0.52 U							
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	0.32	0.29	1.5	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.34	0.25 U	0.25 U	0.25 U	0.33	0.25 U	0.35	0.25 U	0.25	0.16	0.15 U	0.21	0.17 U	0.076 J		
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U												
1,2-Dichlorobenzene	ug/m <sup>3</sup>	410	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	0.3 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U		
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.056 J	0.061 U	0.056 J	0.14 U	0.14 U	0.14 U	0.14 U		
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.069 U	0.061 J	0.16 U															
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>	NA	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U																		
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	0.25 U	0.25 U	0.38	0.25 U	0.25 U	0.18 U	0.25 J	0.059 J	0.15 U	0.091 J	0.17 U	0.17 U	0.17 U											
1,3-Butadiene	ug/m <sup>3</sup>	NA	0.11 U	0.11 U	1.1	0.11 U	0.08 U	0.11 U	0.11 U	0.23 U	0.11 U	0.066 U	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U									
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	0.3 U	0.18 U	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U			
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	0.3 U	0.3 U	0.41	0.3 U	0.3 U	0.21 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	0.3 J	0.18 U	0.18 U	0.13 J	0.21 U	0.21 U	0.21 U		
1,4-Dioxane	ug/m <sup>3</sup>	NA																	0.18 U							
2-Butanone	ug/m <sup>3</sup>	500	10	3.2	2.9	2.4	2.3	1	2.5	4.1	2.4	1.8	1.4	1.1	0.89	0.87	1.9 B	2.9 U	5.9 J	1.3 J	0.63 J	1.4 J	2.8 J	4.1 J	1.4 J	
2-Hexanone	ug/m <sup>3</sup>	NA	0.42	0.37	0.34	0.2 U	0.37	0.14 U	0.62	0.72	0.7	0.2 U	0.26	0.2 U	0.2 U	0.2 U	0.2 U	0.22	4.1 U	0.6	0.15	0.12 U	0.2	0.27	0.14 U	0.2
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.25 U	0.25 U	0.47	0.25 U	0.25 U	0.18 U	0.25 J	0.15 U	0.15 U	0.08 J	0.17 U	0.17 U	0.17 U	0.17 U										
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.2 U	0.2 U	0.36	0.2 U	0.2 U	0.14 U	0.34	0.7	0.29	0.2 U	0.2 U	0.2 U	0.4	0.2 U	0.2 U	0.28	0.31	0.13	0.12 U	0.92	0.25	0.14 U	0.14 U	
Acetone	ug/m <sup>3</sup>	500	14	14	25	11	8.5	6.1	11	28	20	14	6.5	14	13	11 B	14 B	19 B	26	10	7.4	15	18 B	3.3	10	
Benzene	ug/m <sup>3</sup>	3.3	0.6	0.98	4.1	0.41	0.7	0.59	0.47	0.43	0.31	0.4	0.55	0.19	0.6	0.44	1.3	0.29	0.31	0.42	0.39	0.2	0.49	0.11	0.8	
Benzyl chloride	ug/m <sup>3</sup>	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26 U																		

**Appendix D1.**  
**Summary of Analytical Results - Indoor Air Sampling for Small Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Small Center Retail Space																				Western Small Retail Space				
Location:		IA-6																				IA-7				
Sample ID:			IA-6-060713	IA-6-090613	IA-6-121313	IA-6-030714	IA-6-061314	IA-6-091214	IA-6-121914	IA-06-032715	IA-6-061115	IA-6-091615	IA-6-121815	IA-6-021816	IA-6-080516	IA-6-021017	IA-6-090717	IA-6-022818	IA-6-091218	IA-6-020819	IA-6-090619	IA-6-021420	IA-6-09092020	IA-7	IA-7-020309	
Sample Date:			6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020	1/16/2009	2/3/2009	
Analyte	Units	CT IACTIND 2003																								
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1	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		
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.19 U	0.12	0.19 U	0.19 U	0.14 J	0.19 U	0.39	0.19 U	0.19 U	44	2.4													
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	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	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	
1,1,2-Trichloroethane	ug/m <sup>3</sup>	12	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	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	
1,1-Dichloroethane	ug/m <sup>3</sup>	430	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	1.3	0.2 U
1,1-Dichloroethene	ug/m <sup>3</sup>	20	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	0.52	0.2 U							
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	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	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
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	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	0.15 J	0.17 U	0.33	0.17 U	0.29	0.17 U	0.17 U	0.25 U	0.34	
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	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	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	
1,2-Dichlorobenzene	ug/m <sup>3</sup>	410	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.3 U	0.3 U	
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.14 U	0.14 U	0.14 U	0.14 U	0.039 J	0.14 U	0.054 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	0.06 J	0.14 U	0.14 U	0.097 J	0.14 U	0.14 U	0.2 U	0.2 U	
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	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	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	
1,2-Dichlortetrafluoroethane	ug/m <sup>3</sup>	NA																							0.35 U	0.35 U
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	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	0.25 U	0.25 U												
1,3-Butadiene	ug/m <sup>3</sup>	NA	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	0.064 J	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.077 U	0.11 U	0.11 U
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.3 U	0.3 U	
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	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	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.3 U	0.3 U	
1,4-Dioxane	ug/m <sup>3</sup>	NA																								
2-Butanone	ug/m <sup>3</sup>	500	0.91 J	2.8 J	2.2 J	1.6 J	3.1 J	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	3.7 J	0.91 J	2.5 J	2.9 J	0.85 J	0.59 J	0.63 J	70	6.5	
2-Hexanone	ug/m <sup>3</sup>	NA	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	0.22	0.16	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.29 U	0.29					
4-Ethyltoluene	ug/m <sup>3</sup>	NA	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	0.25 U	0.25 U										
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.14 U	0.3	0.14 U	0.22	0.24	0.092	0.14 U	0.12 J	0.14 U	0.37	0.14 U	0.14 U	0.2 U	0.2 U										
Acetone	ug/m <sup>3&lt;/</sup>																									

**Appendix D1.**  
**Summary of Analytical Results - Indoor Air Sampling for Small Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:			Western Small Retail Space																											
Location:			IA-7																											
Sample ID:			IA-7-021109	IA-7-021809	IA-7-022609	IA-7-030609	IA-7-041409	IA-7-051509	IA-7-061109	IA-7-091709	IA-7-122909	IA-7-032610	IA-7-070110	IA-7-091610	IA-7-120710	IA-7-021711	IA-7-060211	IA-7-091511	IA-7-120811	IA-7-030812	IA-7-061412	IA-7-091312	IA-7-010313	IA-7-031513	IA-7-060713					
Sample Date:			2/11/2009	2/18/2009	2/26/2009	3/6/2009	4/14/2009	5/15/2009	6/11/2009	9/17/2009	12/29/2009	3/26/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013					
Analyte	Units	CT IACTIND 2003																												
1,1,1,2-Tetrachloroethane	ug/m3	1.1																												
1,1,1-Trichloroethane	ug/m3	500	0.4	1.3	0.27	0.27	0.87	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.069 J	0.082 U	0.088 J	0.19 U	0.19 U	0.19 U	0.19 U					
1,1,2,2-Tetrachloroethane	ug/m3	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U	0.21 U	0.1 U	0.21 U	0.24 U	0.24 U	0.24 U	0.24 U															
1,1,2-Trichloroethane	ug/m3	12	0.27	0.27	0.27	0.27	0.19	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.16 U	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.19 U						
1,1-Dichloroethane	ug/m3	430	0.2 U	0.2 U	0.2 U	0.2 U	0.14	0.2 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	ug/m3	20	0.2 U	0.2 U	0.2 U	0.2 U	0.14	0.2 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	ug/m3	NA	0.37	0.37	0.37	0.37	0.26	0.37	0.75	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.74 U	0.45 U	0.17 J	0.52 U	0.52 U	0.52 U	0.26 U						
1,2,4-Trimethylbenzene	ug/m3	52	0.34	0.99	0.25	0.25	0.18	0.25	0.29	0.39	0.25	0.35	0.36	0.25	0.25	0.25	0.25	0.56	0.41	0.32	0.36	0.21	0.46	0.17 U	0.1 J	0.58				
1,2-Dibromoethane (EDB)	ug/m3	0.038	0.38 U	0.38 U	0.38 U	0.27	0.38	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	ug/m3	410	0.3 U	0.3 U	0.3 U	0.21	0.3 U	0.18 U	0.18 U	0.21 U																				
1,2-Dichloroethane	ug/m3	0.31	0.2 U	0.2 U	0.2 U	0.14	0.2 U	0.07 J	0.061 U	0.051 J	0.14 U	0.14 U	0.14 U	0.14 U																
1,2-Dichloropropane	ug/m3	0.42	0.23	0.23	0.23	0.17	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.63	0.23 J	0.14 U	0.069 U	0.14 U	0.094 J	0.16 U	0.16 U					
1,2-Dichlorotetrafluoroethane	ug/m3	NA	0.35	0.35	0.35	0.35	0.25	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35													
1,3,5-Trimethylbenzene	ug/m3	52	0.25	0.25	0.25	0.18	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25 J	0.1 J	0.15	0.083 J	0.26	0.17 U	0.17 U	0.17 U					
1,3-Butadiene	ug/m3	NA	0.14	0.97	0.11	0.11	0.08	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.066 U	0.066 U	0.078 U										
1,3-Dichlorobenzene	ug/m3	410	0.3 U	0.3 U	0.3 U	0.21	0.3 U	0.18 U	0.18 U	0.21 U																				
1,4-Dichlorobenzene	ug/m3	24	0.3 U	0.3 U	0.3 U	0.21	0.3 U	0.18 U	0.18 U	0.065 J	0.063 J	0.21 U	0.21 U	0.21 U	0.21 U															
1,4-Dioxane	ug/m3	NA																												
2-Butanone	ug/m3	500	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 J	2.1 J	0.97 J	1.1 J	2.8 J	4.1 J	1.9 J	1.7 J					
2-Hexanone	ug/m3	NA	0.2 U	0.91	0.2 U	0.2 U	0.14	0.53	1.5	0.53	0.2 U	0.2 U	0.82	0.55	0.2 U	0.2 U	0.4 J	0.73	0.12 U	0.081 J	0.23	0.41	0.14	0.35	0.14 U	0.14 U				
4-Ethyltoluene	ug/m3	NA	0.25	0.27	0.25	0.25	0.18	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25 J	0.074 J	0.097 J	0.065 J	0.16 J	0.17 U	0.17 U	0.17 U					
4-Methyl-2-pentanone	ug/m3	200	0.2 U	0.42	0.2 U	0.2 U	0.14	0.22	0.79	0.24	0.2 U	0.2 U	0.43	0.61	0.2 U	0.2 U	0.53	0.36	0.15	0.13	1.4	0.29	0.14	0.21	0.21	0.21				
Acetone	ug/m3	500	13	32	7.8	6.6	6.5	10	31	22	31	12	41	27	12 B	15 B	48 B	38	17	13	18	24 B	3.3	15	49					
Benzene	ug/m3	3.3	1.1	3.2	0.67	0.73	0.42	0.35	0.52	0.43	0.52	0.53	0.27	0.56	0.45	1.1	0.41	0.34	0.44	0.36	0.2	0.49	0.11	0.87	0.32					
Benzyl chloride	ug/m3	NA	0.26	U	0.26	U	0.26	U	0.19	U	0.26	U	0.16	U	0.18	U	0.18	U												
Bromodichloromethane	ug/m3	0.46	0.33	U	0.33	U	0.33	U	0.24	U	0.33	U	0.33	U	0.33	U	0.33	U	0.34	U	0.34	U	0.2 U	U	0.24	U	0.24	U		
Bromoform	ug/m3	7.3	0.51	U	0.51	U	0.51	U	0.36	U	0.51	U	0.51	U	0.51	U	0.51	U	0.52	U	0.52	U	0.31	U	0.36	U	0.36	U		
Bromomethane	ug/m3	NA	0.19	U	0.19	U	0.19	U	0.14	U	0.19	U	0.12	U	0.12	U	0.14	U	0.14	U										
Carbon disulfide	ug/m3	NA	0.16	U	0.16	U	0.16	U	0.26	U	0.16	U	0.16	U	0.16	U	0.16	U	0.27	U	1.6 J	0.93 U	0.93 U	0.09 J	1.1 U	0.16 J				
Carbon tetrachloride	ug/m3	0.54	0.52	0.56	0.48	0.6	0.43	0.65	0.43	0.42	0.44	0.43	0.5	0.47	0.45	0.56	0.69	0.5	0.45	0.46	0.43	0.38	0.22	0.39	0.55					
Chlorobenzene	ug/m3	200	0.23	U	0.23	U	0.23	U	0.17	U	0.23	U	0.14	U	0.16	U	0.16	U	0.16	U										
Chloroethane	ug/m3	500	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	U	0.079 U	U	0.093 U	U	0.093 U	U
Chloroform	ug/m3	0.5	0.24	U	0.24	U	0.24	U	0.17	U	0.24	U	0.24</td																	

## Notes:

NA - not available

B - Compounds detected in method blank as well

B - Compounds detected in method blank as well as field sample  
I - Indicates compound was detected at an estimated value

J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses

B - Result from diluted analyses  
ug/m<sup>3</sup> - micrograms per cubic m

**Bolded and shaded values are above the line.**

Prepared By: AKN, 9/25/2020

Checked By: MM 9/25/2020

**Appendix D1.**  
**Summary of Analytical Results - Indoor Air Sampling for Small Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Western Small Retail Space																							
Location:		IA-7																							
Sample ID:			IA-7-090613	IA-7-100313	IA-7-121313	IA-7-030714	IA-7-061314	IA-7-091214	IA-7-121914	IA-07-032715	IA-7-061115	IA-7-091615	IA-7-121815	IA-7-021816	IA-7-080516	IA-7-021017	IA-7-090717	IA-7-022818	IA-7-091218	IA-7-020819	IA-7-090619	IA-7-021420	IA-7-09092020		
Sample Date:			9/6/2013	10/3/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020		
Analyte	Units	CT IACTIND 2003																							
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1	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	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.055 U	0.19 U	0.19 U	0.054 J	0.19 U	0.19 U												
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	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	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	ug/m <sup>3</sup>	12	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	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	ug/m <sup>3</sup>	430	0.14 U	0.14 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	
1,1-Dichloroethene	ug/m <sup>3</sup>	20	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	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	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	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	ug/m <sup>3</sup>	52	0.4	0.7	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	0.21	0.17 U	0.29	0.54	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	0.27 U	0.26 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	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	ug/m <sup>3</sup>	410	0.21 U	0.2 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	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	ug/m <sup>3</sup>	0.31	0.14 U	0.11 J	0.14 U	0.14 U	0.15	0.14 U	0.065 J	0.19	0.18	0.14 U	0.062 J	0.34	0.14 U	0.46	0.14 U	0.14 U							
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	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 J	0.16 U	0.097 J	0.4	0.16 U	0.8	0.16 U	0.16 U							
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>	NA																							
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	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	0.39	0.17 U	0.17 U	0.17 U	0.17 U							
1,3-Butadiene	ug/m <sup>3</sup>	NA	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	0.14	0.078 U	0.078 U											
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	0.21 U	0.2 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	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	ug/m <sup>3</sup>	24	0.21 U	0.086 J	0.21 U	0.21 U	0.12 U	0.21 U	0.21 U	0.16 J	0.055 J	0.21 U													
1,4-Dioxane	ug/m <sup>3</sup>	NA																							
2-Butanone	ug/m <sup>3</sup>	500	1.6 J	3.8 J	0.69 J	1.5 J	3 J	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	2.4 J	1.9 J	1.3 J	2.1 J	1.1 J	0.91 J	1.5 J		
2-Hexanone	ug/m <sup>3</sup>	NA	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	0.43	0.37	0.14 U	0.29 U					
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.17 U	0.2	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	0.49	0.17 U	0.17 U	0.17 U	0.17 U							
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.2	0.44	0.14 U	0.14 U	0.34	0.18	0.14 U	0.15	0.15	0.14 U	0.18	0.14 U	0.14 U										
Acetone	ug/m <sup>3</sup>	500	46	46	20	15	30	41	12	16	24	39	15	9.1	33	7.5	37	14	23	13	18	26	16		
Benzene	ug/m <sup>3</sup>	3.3	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	0.53	0.5	0					

## **Appendix D2**

Summary of All Analytical Results –  
Extraction Well Samples for Small Retail Space

**Appendix D2.**  
**Summary of Analytical Results - Small Extraction Wells**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Center Small Retail Space																								
Location:		EW-6																								
Sample ID:		EW-6-020309	EW-6-021109	EW-6-021809	EW-6-022609	EW-6-030609	EW-6-041409	EW-6-051509	EW-6-061109	EW-6-091709	EW-6-122909	EW-6-070110	EW-6-091610	EW-6-120710	EW-6-021711	EW-6-060211	EW-6-091511	EW-6-120811	EW-6-030812	EW-6-061412	EW-6-091312	EW-6-010313	EW-6-031513	EW-6-060713		
Sample Date:		2/3/2009	2/11/2009	2/18/2009	2/26/2009	3/6/2009	4/14/2009	5/15/2009	6/11/2009	9/17/2009	12/29/2009	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013		
Analyte	Units																									
1,1,1,2-Tetrachloroethane	ug/m3																									
1,1,1-Trichloroethane	ug/m3	69000	32000	21000	16000	16000	5600	8200	5700	5400	1100	430	390	130	0.55 U	80	230	33	0.27 U	75	0.55 U	0.55 U	0.55 U	0.55 U	4.3	
1,1,2,2-Tetrachloroethane	ug/m3	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	68 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	6.8 U	0.69 U	6.9 U	14 U	3.4 U	0.34 U	0.69 U						
1,1,2-Trichloroethane	ug/m3	5.4 U	5.4 U	5.4 U	5.4 U	5.4 U	54 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	5.4 U	0.55 U	0.55 U	5.5 U	11 U	2.7 U	0.27 U	0.55 U	0.55 U	0.55 U	0.55 U		
1,1-Dichloroethane	ug/m3	5200	2500	2100	2200	1600	780	1200	1100	930	580	47	38	21	0.4 U	12	27	6.4	0.2 U	9.6	0.4 U	0.4 U	0.4 U	0.4 U	0.78	
1,1-Dichloroethene	ug/m3	850	210	100	110	55	74	87	83	80	6.4	3.5	4 U	0.4 U	4 U	7.9 U	2 U	0.2 U	0.84	0.4 U						
1,2,4-Trichlorobenzene	ug/m3	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	74 U	3.7 U	3.7 U	3.7 U	7.5 U	3.7 U	7.4 U	0.74 U	0.74 U	7.4 U	30 U	7.4 U	1.5 U	0.74 U						
1,2,4-Trimethylbenzene	ug/m3	5 U	5 U	5 U	16	6.2	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5 U	0.49 U	0.49 U	4.9 U	9.8 U	2.5 U	0.49 U	0.26 J	0.6	0.49 U	0.49 U		
1,2-Dibromoethane (EDB)	ug/m3	7.6 U	7.6 U	7.6 U	7.6 U	76 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	7.6 U	0.77 U	0.77 U	7.7 U	15 U	3.8 U	0.38 U	0.77 U						
1,2-Dichlorobenzene	ug/m3	6 U	6 U	6 U	6 U	6 U	60 U	3 U	3 U	3 U	3 U	3 U	3 U	6 U	0.6 U	0.6 U	6 U	12 U	3 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U		
1,2-Dichloroethane	ug/m3	4 U	4 U	4 U	4 U	4 U	40 U	2 U	2 U	2 U	2 U	2 U	2 U	4 U	0.4 U	4 U	8.1 U	2 U	0.2 U	0.4 U						
1,2-Dichloropropane	ug/m3	4.6 U	4.6 U	4.6 U	4.6 U	46 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6 U	0.46 U	4.6 U	9.2 U	2.3 U	0.23 U	0.46 U							
1,2-Dichlorotetrafluoroethane	ug/m3	7 U	7 U	7 U	7 U	70 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	3.5 U	7 U													
1,3,5-Trimethylbenzene	ug/m3	5 U	5 U	5 U	7.3	5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5 U	0.49 U	0.49 U	4.9 U	9.8 U	2.5 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U		
1,3-Butadiene	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U	22 U	1.1 U	1.1 U	2.3 U	1.1 U	1.1 U	2.2 U	0.22 U	0.22 U	2.2 U	4.4 U	1.1 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U			
1,3-Dichlorobenzene	ug/m3	6 U	6 U	6 U	6 U	6 U	60 U	3 U	3 U	3 U	3 U	3 U	3 U	6 U	0.6 U	0.6 U	6 U	12 U	3 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U		
1,4-Dichlorobenzene	ug/m3	6 U	6 U	6 U	6 U	6 U	60 U	3 U	3 U	3 U	3 U	3 U	3 U	6 U	0.6 U	0.6 U	6 U	12 U	3 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U		
1,4-Dioxane	ug/m3																									
2-Butanone	ug/m3	120	280	300	130	97	160	37	65	8.7	23	1800	110	20	1.9 B	59 U	240 J	13 J	2.1 J	200	3.7 J	12 J	1.9 J	120		
2-Hexanone	ug/m3	4 U	4 U	4 U	4 U	4 U	40 U	2 U	2 U	2 U	2 U	2 U	2 U	4 U	0.41 U	0.41 U	82 U	8.2 U	2 U	0.41 U	0.7	0.52	0.41 U	0.41 U		
4-Ethyltoluene	ug/m3	5 U	5 U	5 U	5 U	5 U	50 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	5 U	0.49 U	0.49 U	4.9 U	9.8 U	2.5 U	0.49 U	0.28 J	0.49 U	0.49 U	0.49 U		
4-Methyl-2-pentanone	ug/m3	4 U	4 U	4 U	4 U	4 U	40 U	2 U	2 U	2 U	2 U	2 U	2 U	4 U	0.41 U	0.41 U	4.1 U	8.2 U	2 U	0.41 U	0.35 J	0.41 U	0.41 U	0.41 U		
Acetone	ug/m3	580	64	81	33	22	410	16	20	4.8 U	27	490	70	15 B	15 B	48 U	190 J	21 J	9.9	36	25 B	9.5 J	6.3 J	42		
Benzene	ug/m3	5.2	5.2	4.1	3.2 U	3.2 U	32 U	1.7	1.6 U	3.2 U	0.92	1.1	3.2 U	6.4 J	1.6 U	0.31 J	1.2	0.77	0.32	0.4	0.32 U					
Benzyl chloride	ug/m3	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	52 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	5.2 U	0.52 U	5.2 U	10 U	2.6 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U		
Bromodichloromethane	ug/m3	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	66 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	3.3 U	6.6 U	0.67 U	6.7 U	13 U	3.4 U	0.34 U	0.67 U	0.67 U	0.67 U	0.67 U			
Bromoform	ug/m3	11 U	11 U	11 U	11 U	11 U	110 U	5.1 U	11 U	1 U	10 U	21 U	5.2 U	1 U	1 U	1 U	1 U</									

**Appendix D2.**  
**Summary of Analytical Results - Small Extraction Wells**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Center Small Retail Space																				Extraction Well - Eastern Small Retail Space					
Location:		EW-6																				EW-5					
Sample ID:		EW-6-090613	EW-6-121313	EW-6-030714	EW-6-061314	EW-6-091214	EW-6-121914	EW-06-032715	EW-6-061115	EW-6-091615	EW-6-121815	EW-6-021816	EW-6-080516	EW-6-021017	EW-6-090717	EW-6-022818	EW-6-091218	EW-6-020819	EW-6-090619	EW-6-021420	EW-6-0902020	EW-5-020309	EW-5-021109	EW-5-021809			
Sample Date:		9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020	2/3/2009	2/11/2009	2/18/2009			
Analyte	Units																										
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	0.44 U	1.2 U	1.2 U	1.2 U	2.5 U	1.2 U	1.2 U	2.5 U			2.5 U		1.2 U	2.5 U	2.5 U	2.5 U	1.2 U	1.2 U	1.2 U	1.2 U						
1,1,1-Trichloroethane	ug/m <sup>3</sup>	71	18	13	26	58	19	14	13	5.9	27	10	180	4	3.9	2.6	27	0.55 U	0.55 U	0.55 U	0.55 U	190000	41000	41000	17000		
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.24 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	1.4 U	6.9 U	0.69 U	1.4 U	1.4 U	0.69 U	0.69 U	0.69 U	0.69 U	6.8 U	6.8 U	6.8 U	6.8 U			
1,1,2-Trichloroethane	ug/m <sup>3</sup>	0.19 U	0.55 U	0.55 U	0.55 U	1.1 U	0.55 U	0.55 U	1.1 U	1.1 U	1.1 U	1.1 U	5.5 U	0.55 U	1.1 U	1.1 U	0.55 U	0.55 U	0.55 U	0.55 U	5.4 U	5.4 U	5.4 U	5.4 U			
1,1-Dichloroethane	ug/m <sup>3</sup>	13	2.7	2.2	4.7	8.2	3.5	2.8	2.5	1.1	3.1	1.7	24	0.88	0.58 J	0.45 J	4.1	0.4 U	0.4 U	0.4 U	0.4 U	11000	1900	1900	890		
1,1-Dichloroethene	ug/m <sup>3</sup>	1.1	0.4 U	0.4 U	0.4 U	0.52	0.4 U	0.4 U	0.79 U	0.79 U	0.79 U	0.79 U	4 U	0.4 U	0.79 U	0.79 U	1.1	0.4 U	0.4 U	0.4 U	0.4 U	2500	290	290	130		
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	0.26 U	0.74 U	0.74 U	0.74 U	1.5 U	0.74 U	0.74 U	1.5 U	1.5 U	1.5 U	1.5 U	7.4 U	0.74 U	1.5 U	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	7.4 U	7.4 U	7.4 U	7.4 U			
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	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	4.9 U	0.49 U	0.98 U	0.98 U	0.49 U	0.49 U	0.49 U	0.49 U	5 U	5 U	5 U	5 U				
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.27 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	1.5 U	7.7 U	0.77 U	1.5 U	1.5 U	0.77 U	0.77 U	0.77 U	0.77 U	7.6 U	7.6 U	7.6 U	7.6 U			
1,2-Dichlorobenzene	ug/m <sup>3</sup>	0.21 U	0.6 U	0.6 U	0.6 U	1.2 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	1.2 U	2.4 U	0.6 U	0.6 U	0.6 U	0.6 U	6 U	6 U	6 U	6 U		
1,2-Dichloroethane	ug/m <sup>3</sup>	0.14 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.81 U	0.81 U	0.81 U	0.81 U	4 U	0.4 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	4 U	4 U	4 U			
1,2-Dichloropropane	ug/m <sup>3</sup>	0.16 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	0.92 U	4.6 U	0.46 U	0.92 U	0.92 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	4.6 U	4.6 U	4.6 U			
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>									1.4 U		7 U										7 U	7 U	7 U	7 U		
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	0.3	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.98 U	0.98 U	0.98 U	4.9 U	0.49 U	0.98 U	0.98 U	0.49 U	0.49 U	0.49 U	0.49 U	5 U	5 U	5 U	5 U				
1,3-Butadiene	ug/m <sup>3</sup>	0.078 U	0.22 U	0.22 U	0.22 U	0.44 U	0.22 U	0.22 U	0.44 U	0.44 U	0.44 U	0.22 U	0.44 U	0.44 U	0.22 U	2.2 U	2.2 U	2.2 U	2.2 U								
1,3-Dichlorobenzene	ug/m <sup>3</sup>	0.21 U	0.6 U	0.6 U	0.6 U	1.2 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	1.2 U	1.5 J	0.6 U	0.6 U	0.6 U	0.6 U	6 U	6 U	6 U	6 U			
1,4-Dichlorobenzene	ug/m <sup>3</sup>	0.21 U	0.6 U	0.6 U	0.6 U	1.2 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	1.2 U	1.6 J	0.6 U	0.6 U	0.6 U	0.6 U	6 U	6 U	6 U	6 U			
1,4-Dioxane	ug/m <sup>3</sup>											7.2 U		36 U													
2-Butanone	ug/m <sup>3</sup>	95	4 J	4 J	6.8 J	11 J	5.2 J	11 J	13	7 J	2.2 J	6.1 J	79 J	3.1 J	120	57	160	6.4 J	17	6.1 J	10 J	6.3	89	75			
2-Hexanone	ug/m <sup>3</sup>	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	4.1 U	0.41 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	0.82 U	4 U	4 U	4 U	4 U			
4-Ethyltoluene	ug/m <sup>3</sup>	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	4.9 U	0.49 U	0.98 U	0.98 U	0.49 U	0.49 U	0.49 U	0.49 U	0.5 U	5 U						
4-Methyl-2-pentanone	ug/m <sup>3</sup>	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	4.1 U	0.41 U	0.82 U	0.82 U	0.41 U	4 U	4 U	4 U	4 U								
Acetone	ug/m <sup>3</sup>	35	17	16	27	36	35	39	35	44	17 J	33	210	25	26	17 J	42	33	38	26	63	530	32	52			
Benzene	ug/m <sup>3</sup>	1.2	0.42	0.96	0.73	1.1	0.7	0.65	0.56	0.56 J	0.64 U	0.64 U	9.6	1.3	0.46 J	0.58 J	0.91	2.5	1.2	0.69	1.9	13	12	6.2			
Benzyl chloride	ug/m <sup>3</sup>	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	1 U	1 U	0.52 U</td										

**Appendix D2.**  
**Summary of Analytical Results - Small Extraction Wells**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Eastern Small Retail Space																									
Location:		EW-5																									
Sample ID:		EW-5-022609	EW-5-030609	EW-5-041409	EW-5-051509	EW-5-061109	EW-5-091709	EW-5-122909	EW-5-032610	EW-5-070110	EW-5-091610	EW-5-120710	EW-5-021711	EW-5-060211	EW-5-091511	EW-5-120811	EW-5-030812	EW-5-061412	EW-5-091312	EW-5-010313	EW-5-031513	EW-5-060713	EW-5-090613	EW-5-121313			
Sample Date:		2/26/2009	3/6/2009	4/14/2009	5/15/2009	6/11/2009	9/17/2009	12/29/2009	3/26/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	12/13/2013			
Analyte	Units																										
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>																										
1,1,1-Trichloroethane	ug/m <sup>3</sup>	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	180	40			
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	6.8 U	1.7 U	68 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	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.32 U	0.69 U			
1,1,2-Trichloroethane	ug/m <sup>3</sup>	5.4 U	1.4 U	54 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	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.26 U	0.55 U			
1,1-Dichloroethane	ug/m <sup>3</sup>	770	190	360	450	430	230	100	50	53	42	29	34	33	44	16	11	12	21	0.4 U	0.4 U	6.4	20	4.8			
1,1-Dichloroethene	ug/m <sup>3</sup>	190	61	160	160	98	30	18	21	15	13	15	11	14	5	4.5	4.5	6.9	0.4 U	0.4 U	1.7	4.7	1.5				
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	7.4 U	1.9 U	74 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	0.74 U	0.35 U	0.74 U					
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	5 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U	5 U	0.98 U	0.98 U	4.9 U	9.8 U	2.5 U	4.9 U	0.2 J	0.63	0.49 U	0.49 U	0.49 U	0.37	0.49 U				
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	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	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.36 U	0.77 U			
1,2-Dichlorobenzene	ug/m <sup>3</sup>	6 U	1.5 U	60 U	3 U	3 U	3 U	6 U	3 U	6 U	1.2 U	1.2 U	6 U	12 U	3 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.28 U	0.6 U		
1,2-Dichloroethane	ug/m <sup>3</sup>	4 U	1 U	40 U	2 U	2 U	2 U	4 U	2 U	4 U	0.81 U	0.81 U	4 U	8.1 U	2 U	2 U	0.17 J	0.4 U	0.19 U	0.4 U							
1,2-Dichloropropane	ug/m <sup>3</sup>	4.6 U	1.2 U	46 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	0.46 U	0.46 U	0.22 U	0.46 U		
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>	7 U	1.8 U	70 U	3.5 U	3.5 U	3.5 U	7 U	3.5 U	7 U																	
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	5 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U	5 U	0.98 U	0.98 U	4.9 U	9.8 U	2.5 U	4.9 U	0.19 J	0.49 U	0.23 U	0.49 U							
1,3-Butadiene	ug/m <sup>3</sup>	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	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	0.22 U	0.22 U	0.1 U	0.22 U		
1,3-Dichlorobenzene	ug/m <sup>3</sup>	6 U	1.5 U	60 U	3 U	3 U	3 U	6 U	3 U	6 U	1.2 U	1.2 U	6 U	12 U	3 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.28 U	0.6 U		
1,4-Dichlorobenzene	ug/m <sup>3</sup>	6 U	1.5 U	60 U	3 U	3 U	3 U	6 U	3 U	6 U	1.2 U	1.2 U	6 U	12 U	3 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.28 U	0.6 U		
1,4-Dioxane	ug/m <sup>3</sup>															7.2 U											
2-Butanone	ug/m <sup>3</sup>	170	3700	64000	100000	230000	110000	7800	18000	28000	15000	4000	7200 B	17000	13000	2700	1800	870	840	12 J	1.7 J	1900	31000	680			
2-Hexanone	ug/m <sup>3</sup>	4 U	1 U	40 U	2.7	2 U	2 U	4 U	2 U	4 U	0.82 U	0.82 U	82 U	8.2 U	2 U	4.1 U	0.43	0.41 U	0.49	0.41 U							
4-Ethyltoluene	ug/m <sup>3</sup>	5 U	1.3 U	50 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U	5 U	0.98 U	0.98 U	4.9 U	9.8 U	2.5 U	4.9 U	0.18 J	0.49 U	0.23 U	0.49 U							
4-Methyl-2-pentanone	ug/m <sup>3</sup>	4 U	1 U	40 U	2 U	2 U	2 U	4 U	2 U	4 U	0.82 U	0.82 U	4.1 U	8.2 U	2 U	4.1 U	0.27 J	0.34 J	0.41 U	0.56	0.41 U						
Acetone	ug/m <sup>3</sup>	29	460	5600	14000	6900	9200	1700	3200	6000	4500	2000 B	1800 B	2200 B	3400	710	400	440	670 B	9.5	8.5 J	610	6800	210			
Benzene	ug/m <sup>3</sup>	4.8	5.6	32 U	11	7.1	11	6.3	5.5	8.2	5	4.2	4.5	4.2	6.4 J	2.8	2 J	1.1	3.7	0.32	0.47	1	7.1	2.4			
Benzyl chloride	ug/m <sup>3</sup>	5.2 U	1.3 U	52 U	2.6 U	2.6 U	2.6 U	5.2 U	2.6 U	5.2 U	1 U	1 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	0.52 U	0.52 U	0.24 U	0.52 U		
Bromodichloromethane	ug/m <sup>3</sup>																										

**Appendix D2.**  
**Summary of Analytical Results - Small Extraction Wells**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Eastern Small Retail Space																			Extraction Well - Western Small Retail Space									
Location:		EW-5																			EW-7									
Sample ID:		EW-5-030714	EW-5-061314	EW-5-091214	EW-5-121914	EW-05-032715	EW-5-061115	EW-5-091615	EW-5-121815	EW-5-021816	EW-5-080516	EW-5-021017	EW-5-090717	EW-5-022818	EW-5-091218	EW-5-020819	EW-5-090619	EW-5-021420	EW-5-0902020	EW-7-020309	EW-7-021109	EW-7-021809	EW-7-022609	EW-7-030609						
Sample Date:		3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020	2/3/2009	2/11/2009	2/18/2009	2/26/2009	3/6/2009						
<b>Analyte</b>	<b>Units</b>																													
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	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	2.5 U	12 U	2.5 U	1.2 U																
1,1,1-Trichloroethane	ug/m <sup>3</sup>	68	54	74	25	14	0.19 J	55	32	15	68	7.4	42	17	49	11	40	11	73	5600	8500	7800	8200	8100						
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	3.4 U	1.4 U	1.4 U	6.9 U	0.69 U	1.4 U	6.9 U	1.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	6.8 U	1.4 U	1.7 U	1.7 U	1.7 U						
1,1,2-Trichloroethane	ug/m <sup>3</sup>	0.55 U	0.55 U	1.1 U	0.55 U	0.55 U	0.55 U	2.7 U	1.1 U	1.1 U	5.5 U	0.55 U	1.1 U	5.5 U	1.1 U	0.55 U	0.55 U	0.55 U	0.55 U	5.4 U	1.1 U	1.4 U	1.4 U	1.4 U						
1,1-Dichloroethane	ug/m <sup>3</sup>	7	7.4	9.3	4.2	2.9	0.4 U	6.9	4.4	2.8	7.5	1.8	6.2	2.3 J	5.9	0.4 U	4.9	1.7	0.4 U	1700	1800	1600	2100	1700						
1,1-Dichloroethene	ug/m <sup>3</sup>	1.8	2	2.4	1	0.9	0.4 U	1.5 J	1.1	0.84	4 U	0.4	1.3	4 U	1.3	0.4 U	0.4 U	0.4 U	0.4 U	14	15	8.5	9.4	6.6						
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	0.74 U	0.74 U	1.5 U	0.74 U	0.74 U	3.7 U	1.5 U	1.5 U	7.4 U	0.74 U	1.5 U	7.4 U	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	7.4 U	1.5 U	1.9 U	1.9 U	1.9 U						
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	0.49 U	0.49 U	0.98 U	0.49 U	0.16 J	0.22 J	2.5 U	0.98 U	0.98 U	4.9 U	0.49 U	0.98 U	4.9 U	0.98 U	1.4	0.49 U	0.49 U	0.49 U	5 U	1 U	1.3 U	1.3 U	1.3 U						
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	3.8 U	1.5 U	1.5 U	7.7 U	0.77 U	1.5 U	7.7 U	1.5 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	7.6 U	1.6 U	1.9 U	1.9 U	1.9 U						
1,2-Dichlorobenzene	ug/m <sup>3</sup>	0.6 U	0.6 U	1.2 U	0.6 U	0.6 U	3 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	6 U	1.2 U	0.6 U	6 U	1.2 U	1.5 U	1.5 U	1.5 U										
1,2-Dichloroethane	ug/m <sup>3</sup>	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.81 U	0.81 U	4 U	0.4 U	0.81 U	4 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	0.8 U	1 U	1 U	1 U						
1,2-Dichloropropane	ug/m <sup>3</sup>	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	2.3 U	0.92 U	0.92 U	4.6 U	0.46 U	0.92 U	4.6 U	0.92 U	0.46 U	4.6 U	0.92 U	1.2 U	1.2 U	1.2 U										
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>							1.4 U		7 U											7 U	1.4 U	1.8 U	1.8 U	1.8 U					
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	0.49 U	0.49 U	0.98 U	0.49 U	0.11 J	2.5 U	0.98 U	0.98 U	4.9 U	0.49 U	0.98 U	4.9 U	0.98 U	0.49 U	5 U	1 U	1.3 U	1.3 U	1.3 U										
1,3-Butadiene	ug/m <sup>3</sup>	0.22 U	0.22 U	0.44 U	0.22 U	0.22 U	1.1 U	0.44 U	0.44 U	2.2 U	0.44 U	2.2 U	0.42 J	0.22 U	2.2 U	0.44 U	0.55 U	0.55 U	0.55 U											
1,3-Dichlorobenzene	ug/m <sup>3</sup>	0.6 U	0.6 U	1.2 U	0.6 U	0.6 U	3 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	6 U	1.2 U	0.6 U	6 U	1.2 U	1.5 U	1.5 U	1.5 U										
1,4-Dichlorobenzene	ug/m <sup>3</sup>	0.6 U	0.6 U	1.2 U	0.6 U	0.6 U	3 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	6 U	1.2 U	0.6 U	6 U	1.2 U	1.5 U	1.5 U	1.5 U										
1,4-Dioxane	ug/m <sup>3</sup>																													
2-Butanone	ug/m <sup>3</sup>	1200	2100	3800	260	91	9.1 J	1700 E	410	130	4800	29	4500	750	5500	110	7300	160	12 U	8.7	12	7.3	8.5	5.5						
2-Hexanone	ug/m <sup>3</sup>	0.53	0.41 U	0.82 U	0.41 U	0.16 J	0.34 J	2 U	0.82 U	0.82 U	4.1 U	0.41 U	0.82 U	4.1 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.82 U	4 U	0.8 U	1 U	1 U	1 U				
4-Ethyltoluene	ug/m <sup>3</sup>	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	2.5 U	0.98 U	0.98 U	4.9 U	0.49 U	0.98 U	4.9 U	0.98 U	0.49 U	5 U	1 U	1.3 U	1.3 U	1.3 U										
4-Methyl-2-pentanone	ug/m <sup>3</sup>	0.41 U	0.46	0.82 U	0.41 U	0.41 U	0.41 U	0.2 U	0.82 U	0.82 U	4.1 U	0.41 U	0.82 U	4.1 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	4 U	0.8 U	1 U	1 U	1 U					
Acetone	ug/m <sup>3</sup>	380	610	500	98	49	21	550	120	58	570	11	700	320	710	47	1700	66	15	580	38	58	30	24						
Benz																														

**Appendix D2.**  
**Summary of Analytical Results - Small Extraction Wells**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Western Small Retail Space																								
Location:		EW-7																								
Sample ID:		EW-7-041409	EW-7-051509	EW-7-061109	EW-7-091709	EW-7-122909	EW-7-032610	EW-7-070110	EW-7-091610	EW-7-120710	EW-7-021711	EW-7-060211	EW-7-091511	EW-7-120811	EW-7-030812	EW-7-061412	EW-7-091312	EW-7-010313	EW-7-031513	EW-7-060713	EW-7-090613	EW-7-100313	EW-7-121313	EW-7-030714		
Sample Date:		4/14/2009	5/15/2009	6/11/2009	9/17/2009	12/29/2009	3/26/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	10/3/2013	12/13/2013	3/7/2014		
Analyte	Units																									
1,1,2-Tetrachloroethane	ug/m <sup>3</sup>																									
1,1,1-Trichloroethane	ug/m <sup>3</sup>	1600	3600	2600	1400	340	51	250	290	160	110	5.5 U	110	66	11	47	95	0.55 U	3.1	15	76	52	41	30		
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	6.8 U	3.4 U	3.4 U	3.4 U	0.68 U	0.68 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	0.69 U	0.69 U	0.69 U	0.69 U		
1,1,2-Trichloroethane	ug/m <sup>3</sup>	5.4 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	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	0.55 U	0.55 U		
1,1-Dichloroethane	ug/m <sup>3</sup>	590	1000	1100	970	470	85	320	340	220	150	45	150	80	6.4	42	100	0.4 U	2	7	51	25	12	6.9		
1,1-Dichloroethene	ug/m <sup>3</sup>	4 U	4.2	4.2	4.5	2 U	0.4 U	0.81	0.94	0.63	0.4 U	4 U	0.79 J	0.13 J	2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.14 U	0.4 U	0.4 U	0.4 U	0.4 U	
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	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	7.4 U	3 U	1.5 U	15 U	1.5 U	1.5 U	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U		
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5	0.5 U	0.5 U	0.49 U	0.49 U	4.9 U	0.98 J	0.32 J	4.9 U	0.32 J	0.97	0.49	0.3 J	0.49 U	0.5	0.77	0.58	0.49 U		
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	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	0.77 U	0.77 U	0.77 U	0.77 U		
1,2-Dichlorobenzene	ug/m <sup>3</sup>	6 U	3 U	3 U	3 U	3 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	6 U	1.2 U	0.6 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U		
1,2-Dichloroethane	ug/m <sup>3</sup>	4 U	2 U	2 U	2 U	2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	4 U	0.81 U	0.4 U	2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.14 U	0.4 U	0.4 U	0.4 U	0.4 U	
1,2-Dichloropropane	ug/m <sup>3</sup>	4.6 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	0.16 U	0.46 U	0.46 U	0.46 U	0.46 U		
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>	7 U	3.5 U	3.5 U	3.5 U	0.7 U	0.7 U	0.7 U	0.7 U																	
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	5 U	2.5 U	2.5 U	2.5 U	1.1	0.5 U	0.5 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	0.24	0.32 J	0.49 U	0.49 U	0.49 U		
1,3-Butadiene	ug/m <sup>3</sup>	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	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	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U		
1,3-Dichlorobenzene	ug/m <sup>3</sup>	6 U	3 U	3 U	3 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	6 U	1.2 U	0.6 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U		
1,4-Dichlorobenzene	ug/m <sup>3</sup>	6 U	3 U	3 U	3 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	6 U	1.2 U	0.6 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U		
1,4-Dioxane	ug/m <sup>3</sup>												0.72 U													
2-Butanone	ug/m <sup>3</sup>	4.5	7.1	16	4.9	3.5	31	3.8	1.8	4.1	5.3 B	59 U	24 J	6.2 J	100 J	14	3.6 J	12	210	99	12	8.5 J	5.9 J	3.8 J		
2-Hexanone	ug/m <sup>3</sup>	4 U	2 U	2 U	2 U	2 U	0.4 U	1	0.4 U	0.41 U	0.41 U	82 U	0.82 J	0.14 J	4.1 U	0.28 J	0.64	0.41 U	0.39 J	0.41 U	0.51	0.41 U	0.41 U	0.41 U		
4-Ethyltoluene	ug/m <sup>3</sup>	5 U	2.5 U	2.5 U	2.5 U	2.5 U	0.5 U	0.5 U	0.49 U	0.49 U	4.9 U	0.98 U	0.49 U	4.9 U	0.49 U	0.21 J	0.49 U	0.49 U	0.17 U	0.27 J	0.49 U	0.49 U	0.49 U			
4-Methyl-2-pentanone	ug/m <sup>3</sup>	4 U	2 U	2 U	2 U	2 U	0.4 U	0.4 U	0.4 U	0.41 U	0.41 U	4.1 U	0.82 U	0.13 J	4.1 U	1.6	0.31 J	0.41	0.41 U	0.14 U	0.41 U	0.41 U	0.41 U	0.41 U		
Acetone	ug/m <sup>3</sup>	15	24	24	7.9	49	26	25	12	42 B	35 B	48 U	23	12	46 J	31	17 B	9.5	55	28	24	35	14	6.9 J		
Benzene	ug/m <sup>3</sup>	3.2 U	2.6	2.8	3	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	0.32	0.54	0.61	1.9	1.9	0.86	1.3		
Benzyl chloride	ug/m <sup>3</sup>	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	5.2 U	1 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	0.52 U	0.52 U		
Bromodichloromethane	ug/m <sup>3</sup> </																									

**Appendix D2.**  
**Summary of Analytical Results - Small Extraction Wells**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Western Small Retail Space																		
Location:		EW-7																		
Sample ID:		EW-7-061314	EW-7-091214	EW-7-121914	EW-07-032715	EW-7-061115	EW-7-091615	EW-7-121815	EW-7-021816	EW-7-080516	EW-7-021017	EW-7-090717	EW-7-022818	EW-7-091218	EW-7-020819	EW-7-090619	EW-7-021420	EW-7-09092020		
Sample Date:		6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020		
<b>Analyte</b>	<b>Units</b>																			
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	2.5 U	1.2 U	1.2 U	1.2 U	2.5 U		2.5 U		1.2 U	2.5 U	2.5 U	2.5 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	
1,1,1-Trichloroethane	ug/m3	15	52	6.1	25	14	63	40	1.1 U	160	30	1.2	20	7.9	8.7	8.3	9.4	8.7		
1,1,2,2-Tetrachloroethane	ug/m3	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	1.4 U	1.4 U	1.4 U	1.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	
1,1,2-Trichloroethane	ug/m3	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 U	1.1 U	1.1 U	1.1 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
1,1-Dichloroethane	ug/m3	5.4	20	1.8	4.9	3.7	16	6.5	0.81 U	30	6.3	0.81 U	2.2	1.3	0.4 U	1.3	0.81	0.4 U		
1,1-Dichloroethene	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.79 U	0.79 U	4 U	0.4 U	0.79 U	0.79 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
1,2,4-Trichlorobenzene	ug/m3	0.74 U	1.5 U	0.74 U	0.74 U	0.74 U	1.5 U	1.5 U	7.4 U	0.74 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	
1,2,4-Trimethylbenzene	ug/m3	0.49 U	0.98 U	0.49 U	1.4	0.44 J	0.98 U	0.98 U	4.9 U	0.49 U	0.98 U	0.98 U	0.49 U	0.49 U						
1,2-Dibromoethane (EDB)	ug/m3	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	1.5 U	1.5 U	1.5 U	1.5 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	
1,2-Dichlorobenzene	ug/m3	0.6 U	1.2 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	0.6 U	0.6 U	0.6 U	0.6 U					
1,2-Dichloroethane	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U	0.16 J	0.81 U	0.81 U	4 U	0.4 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
1,2-Dichloropropane	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.92 U	4.6 U	0.46 U	0.92 U	0.92 U	0.46 U	0.46 U						
1,2-Dichlorotetrafluoroethane	ug/m3						1.4 U		7 U											
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.98 U	0.49 U	0.69	0.23 J	0.98 U	0.98 U	4.9 U	0.49 U	0.98 U	0.98 U	0.49 U	0.49 U						
1,3-Butadiene	ug/m3	0.22 U	0.44 U	0.22 U	0.22 U	0.44 U	0.44 U	0.44 U	2.2 U	0.22 U	0.44 U	0.44 U	0.42 J	0.22 U	0.22 U					
1,3-Dichlorobenzene	ug/m3	0.6 U	1.2 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	
1,4-Dichlorobenzene	ug/m3	0.6 U	1.2 U	0.6 U	0.6 U	0.17 J	1.2 U	1.2 U	6 U	0.6 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	
1,4-Dioxane	ug/m3						7.2 U		36 U											
2-Butanone	ug/m3	9.3 J	7.2 J	35	9.7 J	8.3 J	5 J	4.6 J	67	35 J	6 J	180	17 J	21 J	12 U	22	32	18		
2-Hexanone	ug/m3	0.49	0.82 U	0.41 U	1	0.38 J	0.82 U	0.82 U	4.1 U	0.41 U	0.82 U	0.82 U	0.41 U	0.41 U						
4-Ethyltoluene	ug/m3	0.49 U	0.98 U	0.49 U	0.33 J	0.12 J	0.98 U	0.98 U	4.9 U	0.49 U	0.98 U	0.98 U	0.49 U	0.49 U						
4-Methyl-2-pentanone	ug/m3	0.41 U	0.82 U	0.41 U	0.46	0.41 U	0.82 U	0.82 U	4.1 U	0.41 U	0.82 U	0.82 U	0.41 U	0.41 U						
Acetone	ug/m3	19	18 J	9.4 J	13	7.4 J	8.2 J	19 U	29	81 J	25	51	10 J	23	21	17	26	15		
Benzene	ug/m3	1.1	0.59 J	0.49	2.1	2.3	2.3	1.3	1.2	3.2 U	0.44	0.42 J	0.74	1.6	2.1	1.4	1	0.32 U		
Benzyl chloride	ug/m3	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	1 U	1 U	1 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	
Bromodichloromethane	ug/m3	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	1.3 U	3.9	1.3 U	6.7 U	0.67 U	1.3 U	1.3 U	1 J	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	
Bromoform	ug/m3	1 U	2.1 U	1 U	1 U	1 U	2.1 U	2.1 U	10 U	1 U	2.1 U	2.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
Bromomethane	ug/m3	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	0.78 U	0.78 U	0.78 U	0.39 U	0.39 U	0.78 U	0.39 U	0.39 U	
Carbon disulfide	ug/m3	12	6.2 U	3.7	10	16	6.2 U	6.2 U	31 U	3.1 U	1.9 J	17	47	30 J	47	25	3.1 U			
Carbon tetrachloride	ug/m3	0.63 U	0.63 U	0.36 J	0.21 J	0.33 J	0.38 J	1.3 U	1.3 U	6.3 U	1.3 U	1.3 U	0.48 J	0.63 U	0.63 U					
Chlorobenzene	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.92 U	4.6 U	0.46 U	0.92 U	0.92 U	0.46 U	0.46 U						
Chloroethane	ug/m3	1.4	0.53 U	0.26 U	0.97	1.3	0.45 J	0.53 U	0.53 U	2.6 U	0.26 U	1.1 U	0.53 U	0.53 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	
Chloroform	ug/m3	2.4	3.8	0.91	2.1	2.6	4.1	2.8	0.98 U	9.3	2.2	0.								

## **Appendix E1**

Summary of All Analytical Results –  
Indoor Air Samples for Large Retail Space

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space																											
Location:		AIR-13	AIR-4	AIR-5	AIR-6	AIR-7	AIR-8	IA-1												IA-1									
Sample ID:		AIR-13	AIR-4	AIR-5 DUP	AIR-6	AIR-7	AIR-8	IA-1	IA-1-020309	IA-1-021109	IA-1-021809	IA-1-022609	IA-1-030609	IA-1-033109	IA-1-041409	IA-1-042409	IA-1-091709	IA-1-092409	IA-1-100109	IA-1-100809	IA-1-120209	IA-1-010810	IA-1-012810	IA-1-020510					
Sample Date:		9/12/2007	9/12/2007	9/12/2007	9/12/2007	9/12/2007	9/12/2007	1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	3/6/2009	3/31/2009	4/14/2009	4/24/2009	9/17/2009	9/24/2009	10/1/2009	10/8/2009	12/2/2009	1/8/2010	1/28/2010	2/5/2010					
Analyte	Units	CT IACTIND 2003																											
1,1,1,2-Tetrachloroethane	ug/m3	1.1	0.137 U	0.137 U	0.137 U	0.137 U	0.327 U	0.137 U																					
1,1,1-Trichloroethane	ug/m3	500	1.54	2.35	2.11	1.68	1.81	2.11	10	0.56	1.1	0.99	0.35	1.8	1.5	1.4	2	0.27 U	0.27 U	0.27 U	0.24	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.76		
1,1,2,2-Tetrachloroethane	ug/m3	0.14	0.137 U	0.137 U	0.137 U	0.137 U	0.327 U	0.137 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U			
1,1,2-Trichloroethane	ug/m3	12	0.109 U	0.109 U	0.109 U	0.109 U	0.26 U	0.109 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	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			
1,1-Dichloroethane	ug/m3	430	0.182	0.321	0.233	0.224	0.218	0.235	0.71	0.2 U	0.2 U	0.27	0.32	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U		
1,1-Dichloroethene	ug/m3	20	0.104	0.098	0.091	0.08	0.189 U	0.086	0.38	0.2 U	0.2 U	0.2 U																	
1,2,4-Trichlorobenzene	ug/m3	NA							0.37 U	0.52 U	0.37 U	0.37 U	0.37 U																
1,2,4-Trimethylbenzene	ug/m3	52	0.176	0.236	0.265	0.212	0.234 U	0.22	0.25 U	0.36	0.7	0.77	0.25 U	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					
1,2-Dibromoethane (EDB)	ug/m3	0.038	0.154 U	0.154 U	0.154 U	0.366 U	0.154 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U			
1,2-Dichlorobenzene	ug/m3	410	0.12 U	0.12 U	0.12 U	0.12 U	0.287 U	0.12 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	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			
1,2-Dichloroethane	ug/m3	0.31	0.0809 U	0.0809 U	0.0809 U	0.0809 U	0.193 U	0.0809 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U				
1,2-Dichloropropane	ug/m3	0.42	0.0924 U	0.0924 U	0.0924 U	0.0924 U	0.22 U	0.0924 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U				
1,2-Dichlorotetrafluoroethane	ug/m3	NA	0.349 U	0.349 U	0.349 U	0.349 U	0.834 U	0.349 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	ug/m3	52	0.0982 U	0.103	0.115	0.0982 U	0.234 U	0.0982 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U				
1,3-Butadiene	ug/m3	NA	0.0442 U	0.0442 U	0.0442 U	0.0442 U	0.106 U	0.0442 U	0.11 U	0.11 U	0.34	0.84	0.11 U	0.11 U															
1,3-Dichlorobenzene	ug/m3	410	0.12 U	0.12 U	0.12 U	0.12 U	0.287 U	0.12 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	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U				
1,4-Dichlorobenzene	ug/m3	24	0.12 U	0.12 U	0.12 U	0.12 U	0.287 U	0.12 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	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U				
1,4-Dioxane	ug/m3	NA																											
2-Butanone	ug/m3	500	2.12	1.47 U	2.42	2.47	3.52 U	2.86	20	3.1	5.8	3.4	2.6	2.2	1.3	1.2	4.4	2	2.6	2.7	1.3	2.7	1.6	0.3 U	2.4				
2-Hexanone	ug/m3	NA								0.2 U	0.2 U	0.6	0.42	0.2 U	0.23	0.2 U	0.14 U	0.48	0.43	0.52	0.73	0.31	0.71	0.36	0.2 U	0.47			
4-Ethyltoluene	ug/m3	NA							0.25 U	0.25 U																			
4-Isopropyltoluene	ug/m3	370	2.74 U	2.74 U	2.74 U	2.74 U	6.55 U	2.74 U																					
4-Methyl-2-pentanone	ug/m3	200	2.05 U	2.05 U	2.05 U	2.05 U	4.88 U	2.05 U	0.2 U	0.2 U	0.43	0.3	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.52	0.21	0.35	0.32	0.2 U	0.2 U	0.2 U	0.2 U				
Acetone	ug/m3	500	7.48	8.88	8.52	8.39	11.3 U	9.34	18</td																				

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space																							
Location:		IA-1																							
Sample ID:		IA-1-021210	IA-1-021910	IA-1-032610	IA-1-043010	IA-1-052810	IA-1-070110	IA-1-091610	IA-1-120710	IA-1-021711	IA-1-060211	IA-1-091511	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	
Sample Date:		2/12/2010	2/19/2010	3/26/2010	4/30/2010	5/28/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	
Analyte	Units	CT IACTIND 2003																							
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1																							
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.3	0.88	0.27 U	1.2	0.33	0.27 U	0.27 U	0.27 U	0.27 U	0.12 J	0.082 U	0.16 U	0.19 U	0.11 J	0.19 U	0.2							
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	0.34 U	0.21 U	0.1 U	0.21 U	0.24 U	0.1 U																	
1,1,2-Trichloroethane	ug/m <sup>3</sup>	12	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.16 U																	
1,1-Dichloroethane	ug/m <sup>3</sup>	430	0.2 U	0.12 U	0.061 U	0.12 U	0.14 U	0.061 U																	
1,1-Dichloroethene	ug/m <sup>3</sup>	20	0.2 U	0.12 U	0.059 U	0.12 U	0.14 U	0.059 U																	
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	0.37 U	0.37 U	0.75 U	0.37 U	0.74 U	0.45 U	0.45 U	0.52 U	0.52 U	0.26 U	0.22 U												
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	0.25 U	0.25 U	0.25 U	0.25 U	0.4	0.43	0.56	0.25 U	0.25 U	0.25 J	0.1 J	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	
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.12 U																	
1,2-Dichloroethene	ug/m <sup>3</sup>	410	0.3 U	0.18 U	0.18 U	0.18 U	0.21 U	0.18 U																	
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.2 U	0.056 J	0.061 U	0.12 U	0.14 U	0.061 U																	
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.069 U																	
1,2-Dichlortetrafluoroethane	ug/m <sup>3</sup>	NA	0.35 U																						
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	0.25 U	0.25 J	0.044 J	0.15 U	0.059 J	0.32	0.17 U	0.16 J	0.17 U	0.068 J													
1,3-Butadiene	ug/m <sup>3</sup>	NA	0.23 U	0.23 U	0.11 U	0.23 U	0.11 U	0.066 U	0.066 U	0.078 U	0.55	0.078 U	0.066 U												
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	0.3 U	0.18 U	0.18 U	0.18 U	0.21 U	0.18 U																	
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	0.3 U	0.18 U	0.18 U	0.18 U	0.21 U	0.18 U																	
1,4-Dioxane	ug/m <sup>3</sup>	NA																							
2-Butanone	ug/m <sup>3</sup>	500	1.1	1.2	1.3	0.78	2.6	3.3	0.85	0.68	1.7 B	2.9 U	5.9 J	1.8 J	1.2 J	1.4 J	3 J	4.1 J	0.64 J	2.9 J	2 J	0.92 J	1.6 J	3.1 J	2.8 J
2-Hexanone	ug/m <sup>3</sup>	NA	0.2 U	0.27	0.27	0.2 U	0.67	0.75	0.2 U	0.2 U	0.2 U	4.1 U	0.62	0.22	0.26	0.12 U	0.28	0.14 U	0.14 U	0.38	0.27	0.14 U	0.3	0.45	0.25
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.25 U	0.15 U	0.15 U	0.071 J	0.19	0.17 U	0.15 U																
4-Isopropyltoluene	ug/m <sup>3</sup>	370																							
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.22	0.2 U	0.2 U	0.2 U	0.28	0.35	0.35	0.2 U	0.2 U	0.2 U	0.23	0.39	0.13	0.093 J	0.26	0.14 U	0.14 U	0.24	0.52	0.14 U	0.23	0.49	0.33
Acetone	ug/m <sup>3</sup>	500	7.3	8.5	7	6.5	18	11	12 B	15 B	11 B	18	8	6	12	16 B	3.3	5	21	35	19	13	23	13	
Acrylonitrile	ug/m <sup>3</sup>	NA																							
Benzene	ug/m <sup>3</sup>	3.3	0.64	0.53	0.59	0.64	0.5	0.46	0.8	0.49	1.5	0.25	0.32	0.47	0.34	0.19	0.67	0.11	0.72	0.28	0.75	0.54</			

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space																							
Location:		IA-1														IA-2									
Sample ID:		IA-1-121914	IA-01-032715	IA-1-061115	IA-1-091615	IA-1-121815	IA-1-021816	IA-1-080516	IA-1-021017	IA-1-090717	IA-1-022818	IA-1-091218	IA-1-020819	IA-1-090619	IA-1-021420	IA-1-09092020	IA-2	IA-2-020309	IA-2-021109	IA-2-021809	IA-2-022609	IA-2-041409	IA-2-042409	IA-2-091709	
Sample Date:		12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020	1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	4/24/2009	9/17/2009	
Analyte	Units	CT IACTIND 2003																							
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1	0.44 U	0.44 U	0.44 U	0.44 U		0.44 U																	
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.16 J	0.05 J	0.19 U	0.28	0.19 U	0.43	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						
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	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	0.34 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	ug/m <sup>3</sup>	12	0.19 U	0.19 U	0.19 U	0.065 J	0.19 U	0.42	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						
1,1-Dichloroethane	ug/m <sup>3</sup>	430	0.14 U	0.14 U	0.082 J	0.14 U	0.72	0.2 U	0.2 U	0.2 U	0.32	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U							
1,1-Dichloroethene	ug/m <sup>3</sup>	20	0.14 U	0.14 U	0.078 J	0.14 U	0.41	0.2 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U							
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	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	0.52 U	0.26 U	0.26 U	0.26 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U		
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	0.17 U	0.12 J	0.14 J	0.14 J	0.32	0.74	0.24	0.17 U	0.22	0.17 U	0.31	0.57	0.29	0.17 U	0.2	0.25 U	0.37	0.7	0.65	0.3	0.18 U	0.25 U	0.29
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 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		
1,2-Dichlorobenzene	ug/m <sup>3</sup>	410	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	0.7 J	0.21 U	0.21 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.14 U	0.14 U	0.06 J	0.099 J	0.14 U	0.06 J	0.14 U	0.14 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U							
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U		
1,2-Dichlortetrafluoroethane	ug/m <sup>3</sup>	NA																0.35 U							
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	0.17 U	0.041 J	0.069 J	0.059 J	0.17 U	0.11 J	0.17 U	0.17 U	0.17 U	0.062 J	0.25 U	0.25	0.25	0.25 U	0.25 U	0.25 U							
1,3-Butadiene	ug/m <sup>3</sup>	NA	0.078 U	0.048 J	0.078 U	0.13	0.16	0.078 U	0.077 U	0.11 U	0.11 U	0.3	0.66	0.11 U	0.08 U	0.11 U	0.23 U								
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	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	0.54 J	0.21 U	0.21 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	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	0.59 J	0.21 U	0.21 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		
1,4-Dioxane	ug/m <sup>3</sup>	NA																							
2-Butanone	ug/m <sup>3</sup>	500	0.84 J	1.5 J	1.1 J	1.2 J	1.4 J	0.5 J	1.6 J	0.72 J	2.1 J	1.4 J	2 J	0.88 J	0.73 J	1.1 J	2 J	21	4.1	4.6	3	2.9	0.95	1.6	1.1
2-Hexanone	ug/m <sup>3</sup>	NA	0.14 U	0.3	0.14 U	0.14 U	0.16	0.14 U	0.14 U	0.32	0.44	0.14 U	0.14 U	0.14 U	0.14 U	0.29 U	0.2 U	0.2 U	0.35	0.26	0.2 U	0.14 U	0.2 U	0.25	
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.17 U	0.045 J	0.17 U	0.055 J	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U											
4-Isopropyltoluene	ug/m <sup>3</sup>	370																							
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.14 U	0.14 J	0.08 J	0.14 U	0.21	0.14 U	0.33	0.14 U	0.32	0.083 J	0.14 U	0.45	0.14 U	0.14 U	0.2 U	0.2 U	0.35	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	
Acetone	ug/m <sup>3</sup>	500	9.3	12	7.7	17	12	9.8	15	4.9	14	9.8	12	4.5	6.7	7.8	9.3	17	9.6	14	18	9.7	13	39	6.2
Acrylonitrile	ug/m <sup>3</sup>	NA																							
Benzene	ug/m <sup>3</sup>	3.3	0.38	0.53	0.23	0.46	0.98	1	0.27	0.44	0.5														

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m<sup>3</sup> - micrograms per cubic meter  
Bolded and shaded values are above the CT target indoor air conc.

Prepared By: AKN, 11/9/2020  
Checked By: MM, 11/9/2020

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m<sup>3</sup> - micrograms per cubic meter  
Bolded and shaded values are above the CT target indoor air conc.

Prepared By: AKN, 11/9/2020  
Checked By: MM, 11/9/2020

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space																						
Location:		IA-3																						
Sample ID:		IA-3-020309	IA-3-021109	IA-3-021809	IA-3-022609	IA-3-041409	IA-3-042409	IA-3-091709	IA-3-092409	IA-3-100109	IA-3-100809	IA-3-012810	IA-3-020510	IA-3-021210	IA-3-021910	IA-3-032610	IA-3-043010	IA-3-052810	IA-3-070110	IA-3-091610	IA-3-120710	IA-3-021711	IA-3-060211	IA-3-091511
Sample Date:		2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	4/24/2009	9/17/2009	9/24/2009	10/1/2009	10/8/2009	1/28/2010	2/5/2010	2/12/2010	2/19/2010	3/26/2010	4/30/2010	5/28/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011
Analyte	Units	CT IACTIND 2003																						
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1																						0.62 U
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.57	1.1	1.1	0.28	1.5	2.2	0.27 U	0.27 U	0.27 U	0.45	0.71	0.29	0.86	0.27 U	1.2	0.27 U						
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U																	
1,1,2-Trichloroethane	ug/m <sup>3</sup>	12	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U																	
1,1-Dichloroethane	ug/m <sup>3</sup>	430	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,1-Dichloroethene	ug/m <sup>3</sup>	20	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.74 U																
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	0.36	0.68	0.61	0.25 U	0.18 U	0.25 U	0.29	0.4	0.25 U	0.39	0.44	0.25 U	0.25 U	0.25 U	0.26	0.34	0.46	0.6	0.25 U	0.49	0.25 U	0.25 J
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U																	
1,2-Dichlorobenzene	ug/m <sup>3</sup>	410	0.3 U	0.3 U	0.3 U	0.21 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	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U																	
1,2-Dichlortetrafluoroethane	ug/m <sup>3</sup>	NA	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U																	
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.42	0.25 U															
1,3-Butadiene	ug/m <sup>3</sup>	NA	0.11 U	0.3	0.77	0.11 U	0.08 U	0.11 U	0.23 U	0.11 U														
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	0.3 U	0.3 U	0.3 U	0.21 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	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	
1,4-Dioxane	ug/m <sup>3</sup>	NA																					0.18 U	
2-Butanone	ug/m <sup>3</sup>	500	4.2	4.6	4	1.7	1.6	2.5	2	2.6	0.7	1.5	2	1.2	1.6	0.51	1	2.2	3.3	0.95	0.39	0.76 B	2.9 U	5.9 J
2-Hexanone	ug/m <sup>3</sup>	NA	0.26	0.33	0.3	0.2 U	0.14 U	0.38	0.51	0.58	0.2 U	0.37	0.52	0.39	0.22	0.39	0.2 U	0.29	0.52	0.67	0.2 U	0.2 U	0.2 U	4.1 U
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U																	
4-Isopropyltoluene	ug/m <sup>3</sup>	370																						
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.2 U	0.29	0.34	0.2 U	0.14 U	0.22	0.2 U	0.42	0.2 U													
Acetone	ug/m <sup>3</sup>	500	12	17	24	9.7	7.5	50	11	19	6.7	11	14	21	6.7	7.3	3.8	7.7	15	21	11	9.7 B	9.7 B	11 B
Acrylonitrile	ug/m <sup>3</sup>	NA																						
Benzene	ug/m <sup>3</sup>	3.3	0.71	1.9	3.1	0.69	0.6	0.46	0.41	0.5	0.39	0.46	1.3	0.86	0.67	0.53	0.6	0.67	0.47	0.51	0.72	0.47	1.4	0.29
Benzyl chloride	ug/m <sup>3</sup>	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.19 U	0.26																

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space																								
Location:		IA-3																								
Sample ID:		IA-3-120811	IA-3-030812	IA-3-061412	IA-3-091312	IA-3-010313	IA-3-031513	IA-3-060713	IA-3-090613	IA-3-121313	IA-3-030714	IA-3-061314	IA-3-091214	IA-3-121914	IA-3-032715	IA-3-061115	IA-3-091615	IA-3-121815	IA-3-021816	IA-3-080516	IA-3-021017	IA-3-090717	IA-3-022818	IA-3-091218		
Sample Date:		12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018		
Analyte	Units	CT IACTIND 2003																								
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1		0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.46	0.44 U	0.44 U	0.25 U	0.44 U													
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.11 J	0.082 U	0.16 U	0.19 U	0.092 J	0.19 U																		
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	0.21 U	0.1 U	0.21 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	0.24 U	0.24 U								
1,1,2-Trichloroethane	ug/m <sup>3</sup>	12	0.16 U	0.082 U	0.16 U	0.19 U	0.11 U	0.19 U																		
1,1-Dichloroethane	ug/m <sup>3</sup>	430	0.12 U	0.061 U	0.12 U	0.14 U	0.04 U	0.14 U																		
1,1-Dichloroethene	ug/m <sup>3</sup>	20	0.12 U	0.059 U	0.12 U	0.14 U	0.04 U	0.14 U																		
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	0.45 U	0.45 U	0.45 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													
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	0.071 J	0.1 J	0.19	0.47	0.17 U	0.076 J	0.26	0.33	0.17 U	0.53	0.23	0.32	0.12 J	0.13 J	0.13 J	0.17 U	0.26	0.17 U	0.21	0.17 U	0.17 U	0.17 U		
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	0.23 U	0.12 U	0.23 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	0.27 U	0.27 U								
1,2-Dichlorobenzene	ug/m <sup>3</sup>	410	0.18 U	0.18 U	0.18 U	0.21 U	0.12 U	0.21 U																		
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.056 J	0.061 U	0.051 J	0.14 U	0.032 J	0.14 U	0.14 U	0.057 J	0.14 U	0.057 J														
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	0.14 U	0.069 U	0.14 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	0.16 U	0.16 U								
1,2-Dichlortetrafluoroethane	ug/m <sup>3</sup>	NA																								
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	0.15 U	0.15 U	0.074 J	0.22	0.17 U	0.069 J	0.17 U	0.038 J	0.079 J	0.041 J	0.17 U	0.32												
1,3-Butadiene	ug/m <sup>3</sup>	NA	0.066 U	0.066 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												
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	0.18 U	0.18 U	0.18 U	0.21 U	0.12 U	0.21 U																		
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	0.18 U	0.18 U	0.18 U	0.059 J	0.21 U	0.12 U	0.068 J	0.21 U																
1,4-Dioxane	ug/m <sup>3</sup>	NA																								
2-Butanone	ug/m <sup>3</sup>	500	1.2 J	0.45 J	2.4 J	2.7 J	4.1 J	2.2 J	2 J	2.9 J	0.66 J	1.1 J	1.5 J	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	2.5 J	1.2 J	2 J	
2-Hexanone	ug/m <sup>3</sup>	NA	0.093 J	0.12 U	0.33	0.22	0.14 U	0.32	0.28	0.31	0.14 U	0.14 U	0.21	0.14 U	0.27	0.14	0.14 U	0.14 U	0.47	0.14 U	0.31	0.28	0.14 U			
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.15 U	0.15 U	0.074 J	0.15 J	0.17 U	0.18	0.051 J	0.059 J	0.086 J	0.045 J	0.066 J	0.17 U	0.11 J											
4-Isopropyltoluene	ug/m <sup>3</sup>	370																								
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.084 J	0.12 U	0.19	0.21	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	0.39	0.086 J	0.47		
Acetone	ug/m <sup>3</sup>	500	7.2	3.9	13	12 B	3.3	12	28	16	14	11	15	42	29	11	10	15	9.9	8.5	19	4.9	14	7.9	12	
Acrylonitrile	ug/m <sup>3</sup>	NA																								
Benzene	ug/m <sup>3</sup>	3.3	0.39	0.3																						

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space																							
Location:		IA-3				IA-4																			
Sample ID:		IA-3-020819	IA-3-090619	IA-3-021420	IA-3-09092020	IA-4	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	
Sample Date:		2/8/2019	9/6/2019	2/14/2020	9/9/2020	1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	4/24/2009	9/17/2009	9/24/2009	10/1/2009	10/8/2009	1/28/2010	2/5/2010	2/12/2010	2/19/2010	3/26/2010	4/30/2010	5/28/2010	7/1/2010	
Analyte	Units	CT IACTIND 2003																							
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1	0.44 U	0.44 U	0.44 U																				
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.49	0.19 U	0.19 U	0.19 U	10	0.62	1.1	1.1	0.45	1.5	2.2	0.27 U	0.27 U	0.27 U	0.27 U	0.76	0.29	0.89	0.27 U	1.1	0.28	0.27 U	
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	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	0.24 U	0.34 U											
1,1,2-Trichloroethane	ug/m <sup>3</sup>	12	0.55	0.19 U	0.19 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U													
1,1-Dichloroethane	ug/m <sup>3</sup>	430	0.14 U	0.14 U	0.14 U	0.14 U	0.73	0.2 U	0.2 U	0.2 U	0.31	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
1,1-Dichloroethene	ug/m <sup>3</sup>	20	0.14 U	0.14 U	0.14 U	0.14 U	0.42	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	0.52 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													
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	0.17 U	0.39	0.17 U	0.17 U	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	0.34	0.41					
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	0.72	0.27 U	0.27 U	0.27 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U														
1,2-Dichlorobenzene	ug/m <sup>3</sup>	410	0.84 U	0.21 U	0.21 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.21 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	0.3 U	0.3 U	0.3 U		
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.14 U	0.14 U	0.14 U	0.2 U	0.2 U	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	0.16 U	1.3	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U														
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>	NA					0.35 U	0.35 U	0.35 U	0.25 U	0.35 U														
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	0.17 U	0.17 U	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U														
1,3-Butadiene	ug/m <sup>3</sup>	NA	0.078 U	0.078 U	0.078 U	0.077 U	0.11 U	0.11 U	0.33	0.77	0.11 U	0.08 U	0.11 U	0.23 U	0.11 U	0.23 U	0.11 U								
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	0.58 J	0.21 U	0.21 U	0.3 U	0.3 U	0.3 U	0.21 U	0.3 U	0.21 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	0.3 U	0.3 U	0.3 U		
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	0.62 J	0.21 U	0.21 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	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		
1,4-Dioxane	ug/m <sup>3</sup>	NA																							
2-Butanone	ug/m <sup>3</sup>	500	2.7 J	1.2 J	0.71 J	4.1 U	21	4.4	6	3.2	2.5	1.1	1.6	1.5	2	1.3	1.2	0.3 U	0.69	1.2	0.5	1.6	1.5	2.2	4.8
2-Hexanone	ug/m <sup>3</sup>	NA	0.14 U	0.14 U	0.14 U	0.29 U	0.2 U	0.33	0.73	0.39	0.2 U	0.14 U	0.2 U	0.29	0.45	0.32	0.27	0.2 U	0.39	0.54					
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.17 U	0.4	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U														
4-Isopropyltoluene	ug/m <sup>3</sup>	370																							
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.14 U	0.87	0.14 U	0.14 U	0.2 U	0.2 U	0.43	0.28	0.2 U	0.14 U	0.2 U	0.2 U	0.32	0.2 U	0.43								
Acetone	ug/m <sup>3</sup>	500	13	8.5	6.7	13	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
Acrylonitrile	ug/m <sup>3</sup>	NA																							
Benzene	ug/m <sup>3</sup>	3.3	0.94	0.48	0.35	0.25	1.1	0.68	1.8	3	0.76	0.59	0.44	0.4	0.43	0.37	0.48	0.16 U	0.88	0.66	0.54	0.57	0.64	0.48	0.47
Benzyl chloride	ug/m <sup>3</sup> </td																								

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space																							
Location:		IA-4																							
Sample ID:			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	IA-4-060713	IA-4-090613	IA-4-121313	IA-4-030714	IA-4-061314	IA-4-091214	IA-4-121914	IA-4-032715	IA-4-061115	IA-4-091615	IA-4-121815	IA-4-021816
Sample Date:	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016		
Analyte	Units	CT IACTIND 2003																							
1,1,1,2-Tetrachloroethane	ug/m <sup>3</sup>	1.1																							
1,1,1-Trichloroethane	ug/m <sup>3</sup>	500	0.27 U	0.27 U	0.27 U	0.27 U	0.14 J	0.082 U	0.16 U	0.19 U	0.055 U	0.28	0.19 U	0.19 U	0.054 J	0.19 U	0.19 U								
1,1,2,2-Tetrachloroethane	ug/m <sup>3</sup>	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.1 U	0.21 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								
1,1,2-Trichloroethane	ug/m <sup>3</sup>	12	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.11 U	0.19 U													
1,1-Dichloroethane	ug/m <sup>3</sup>	430	0.2 U	0.2 U	0.2 U	0.2 U	0.061 U	0.12 U	0.14 U	0.04 U	0.14 U														
1,1-Dichloroethene	ug/m <sup>3</sup>	20	0.2 U	0.2 U	0.2 U	0.2 U	0.059 U	0.12 U	0.14 U	0.04 U	0.14 U														
1,2,4-Trichlorobenzene	ug/m <sup>3</sup>	NA	0.37 U	0.37 U	0.37 U	0.74 U	0.45 U	0.45 U	0.52 U	0.52 U	0.26 U	0.15 U	0.26 U												
1,2,4-Trimethylbenzene	ug/m <sup>3</sup>	52	0.44	0.25 U	0.49	0.25 U	0.25 J	0.094 U	0.15 U	0.19	0.38	0.17	0.13 J	0.47	0.2	0.17 U	0.56	0.26	0.17	0.14 J	0.25	0.2	0.22	0.45	0.24
1,2-Dibromoethane (EDB)	ug/m <sup>3</sup>	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.23 U	0.12 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									
1,2-Dichlorobenzene	ug/m <sup>3</sup>	410	0.3 U	0.3 U	0.3 U	0.3 U	0.18 U	0.18 U	0.21 U																
1,2-Dichloroethane	ug/m <sup>3</sup>	0.31	0.2 U	0.2 U	0.2 U	0.2 U	0.063 J	0.061 U	0.12 U	0.14 U	0.04 U	0.14 U	0.051 J	0.14 U	0.14 U	0.14 U	0.14 U								
1,2-Dichloropropane	ug/m <sup>3</sup>	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U								
1,2-Dichlorotetrafluoroethane	ug/m <sup>3</sup>	NA	0.35 U																					0.25 U	
1,3,5-Trimethylbenzene	ug/m <sup>3</sup>	52	0.25 U	0.25 U	0.25 U	0.25 U	0.25 J	0.15 U	0.08 J	0.12 J	0.17	0.17 U	0.098 U	0.17 U	0.066 J	0.066 J	0.066 J	0.17 U	0.17 U						
1,3-Butadiene	ug/m <sup>3</sup>	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.066 U	0.066 U	0.078 U	0.47	0.11	0.044 U	0.078 U	0.078 U	0.16	0.1	0.078 U								
1,3-Dichlorobenzene	ug/m <sup>3</sup>	410	0.3 U	0.3 U	0.3 U	0.3 U	0.18 U	0.18 U	0.21 U																
1,4-Dichlorobenzene	ug/m <sup>3</sup>	24	0.3 U	0.3 U	0.3 U	0.3 U	0.18 U	0.18 U	0.21 U	0.12 U	0.063 J	0.12 J	0.084 J	0.21 U	0.21 U										
1,4-Dioxane	ug/m <sup>3</sup>	NA																						1.3 U	
2-Butanone	ug/m <sup>3</sup>	500	2.4	0.96	1 B	2.9 U	5.9 J	1 J	1.5 J	0.97 J	2.3 J	4.1	2.3 J	3.9 J	0.95 J	1.2 J	1.1 J	2.9 J	4.6	1.1 J	1.9 J	1.9 J	1.8 J	2.5 J	1.1 J
2-Hexanone	ug/m <sup>3</sup>	NA	0.59	0.2 U	0.2 U	0.21 J	0.35	0.086 J	0.32	0.098 J	0.18	0.14	0.25	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
4-Ethyltoluene	ug/m <sup>3</sup>	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.068 J	0.12 J	0.17	0.17 U	0.098 U	0.055 J	0.069 J	0.041 J	0.076 J	0.17 U	0.17 U							
4-Isopropyltoluene	ug/m <sup>3</sup>	370																							
4-Methyl-2-pentanone	ug/m <sup>3</sup>	200	0.45	0.2 U	0.2 U	0.2 U	0.2 J	0.098 J	0.15	0.13	0.14 U	0.14	0.28	0.56	0.47	0.16	0.48	1.3	1	0.34	0.89	0.97	1.6	1.5	0.52
Acetone	ug/m <sup>3</sup>	500	19	13 B	12 B	12 B	15	7.4	6.8	9.1	12 B	3.3	44	36	18	29	29	37	38	27	42	28	170 E	28	31
Acrylonitrile	ug/m <sup>3</sup>	NA																							
Benzene	ug/m <sup>3</sup>	3.3	0.66	0.49	1.4	0.31	0.3	0.38</td																	

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m<sup>3</sup> - micrograms per cubic meter  
Bolted and shaded values are above the CT target indoor air conc.

Prepared By: AKN, 11/9/2020  
Checked By: MM, 11/9/2020

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Large Retail Space																						
Location:		AIR-13	AIR-4	AIR-5	AIR-6	AIR-7	AIR-8	IA-1																
Sample ID:		AIR-13	AIR-4	AIR-5 DUP	AIR-6	AIR-7	AIR-8	IA-1	IA-1-020309	IA-1-021109	IA-1-021809	IA-1-022609	IA-1-030609	IA-1-033109	IA-1-041409	IA-1-042409	IA-1-091709	IA-1-092409	IA-1-100109	IA-1-100809	IA-1-120209	IA-1-010810	IA-1-012810	IA-1-020510
Sample Date:		9/12/2007	9/12/2007	9/12/2007	9/12/2007	9/12/2007	9/12/2007	1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	3/6/2009	3/31/2009	4/14/2009	4/24/2009	9/17/2009	9/24/2009	10/1/2009	10/8/2009	12/2/2009	1/8/2010	1/28/2010	2/5/2010
Analyte	Units	CT IACTIND 2003																						
Vinyl chloride	ug/m3	1.9	0.352	0.174	0.202	0.146	0.133	0.191	0.26	0.13 U	0.22	0.21	0.13 U	0.19	0.13 U	0.1 U	0.16	0.13 U	0.13 U	0.17	0.13 U	0.1 U	0.13 U	0.13 U

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
Bolted and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

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Checked By: MM, 11/9/2020

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**Former Gorham Manufacturing Site**  
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Area:			Large Retail Space																						
Location:			IA-1																						
Sample ID:			IA-1-021210	IA-1-021910	IA-1-032610	IA-1-043010	IA-1-052810	IA-1-070110	IA-1-091610	IA-1-120710	IA-1-021711	IA-1-060211	IA-1-091511	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
Sample Date:			2/12/2010	2/19/2010	3/26/2010	4/30/2010	5/28/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014
Analyte	Units	CT IACTIND 2003																							
Vinyl chloride	ug/m3	1.9	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.14	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.038 U	

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
Bolted and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

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**Appendix E1.**  
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**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:			Large Retail Space																							
Location:			IA-1												IA-2											
Sample ID:			IA-1-121914	IA-01-032715	IA-1-061115	IA-1-091615	IA-1-121815	IA-1-021816	IA-1-080516	IA-1-021017	IA-1-090717	IA-1-022818	IA-1-091218	IA-1-020819	IA-1-090619	IA-1-021420	IA-1-09092020	IA-2	IA-2-020309	IA-2-021109	IA-2-021809	IA-2-022609	IA-2-041409	IA-2-042409	IA-2-091709	
Sample Date:			12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020	1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	4/24/2009	9/17/2009	
Analyte	Units	CT IACTIND 2003																								
Vinyl chloride	ug/m3	1.9	0.09 U	0.09 U	0.09 U	0.075 J	0.09 U	0.21	0.09 U	0.09 U	0.089 U	0.27	0.13 U	0.18	0.2	0.13 U	0.1 U	0.18	0.13 U							

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
Bolted and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

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**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:			Large Retail Space																						
Location:			IA-2																						
Sample ID:			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-2-052810	IA-2-070110	IA-2-091610	IA-2-120710	IA-2-021711	IA-2-060211	IA-2-091511	IA-2-120811	IA-2-030812	IA-2-061412	IA-2-091312	IA-2-010313	IA-2-031513	IA-2-060713
Sample Date:			9/24/2009	10/1/2009	10/8/2009	1/28/2010	2/5/2010	2/12/2010	2/19/2010	3/26/2010	4/30/2010	5/28/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013
Analyte	Units	CT IACTIND 2003																							
Vinyl chloride	ug/m3	1.9	0.13 U	0.16	0.13 U	0.14	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 U	0.09 U	0.09 U	0.09 U										

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
Bolted and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

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

Area:		Large Retail Space																						
Location:		IA-2																						
Sample ID:		IA-2-090613	IA-2-121313	IA-2-030714	IA-2-061314	IA-2-091214	IA-2-121914	IA-02-032715	IA-2-061115	IA-2-091615	IA-2-121815	IA-2-021816	IA-2-080516	IA-2-021017	IA-2-090717	IA-2-022818	IA-2-091218	IA-2-020819	IA-2-041119	IA-2-090619	IA-2-021420	IA-2-09092020	IA-2-10292020	IA-3
Sample Date:		9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	4/11/2019	9/6/2019	2/14/2020	9/9/2020	10/29/2020	1/16/2009
Analyte	Units	CT IACTIND 2003																						
Vinyl chloride	ug/m3	1.9	0.09 U	0.09 U	0.09 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	0.09 U	0.09 U	0.09 U	1	0.09 U	0.09 U	0.09 U	0.089 U	0.23

Notes:  
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U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
Bolted and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

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**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:			Large Retail Space																						
Location:			IA-3																						
Sample ID:			IA-3-020309	IA-3-021109	IA-3-021809	IA-3-022609	IA-3-041409	IA-3-042409	IA-3-091709	IA-3-092409	IA-3-100109	IA-3-100809	IA-3-012810	IA-3-020510	IA-3-021210	IA-3-021910	IA-3-032610	IA-3-043010	IA-3-052810	IA-3-070110	IA-3-091610	IA-3-120710	IA-3-021711	IA-3-060211	IA-3-091511
Sample Date:			2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	4/24/2009	9/17/2009	9/24/2009	10/1/2009	10/8/2009	1/28/2010	2/5/2010	2/12/2010	2/19/2010	3/26/2010	4/30/2010	5/28/2010	7/1/2010	9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011
Analyte	Units	CT IACTIND 2003																							
Vinyl chloride	ug/m3	1.9	0.13 U	0.19	0.21	0.13 U	0.1 U	0.17	0.13 U	0.13 U	0.18	0.13 U	0.14	0.13 U	0.13 U	0.13 U	0.13	0.13 U	0.13 U						

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
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Area:			Large Retail Space																						
Location:			IA-3																						
Sample ID:			IA-3-120811	IA-3-030812	IA-3-061412	IA-3-091312	IA-3-010313	IA-3-031513	IA-3-060713	IA-3-090613	IA-3-121313	IA-3-030714	IA-3-061314	IA-3-091214	IA-3-121914	IA-03-032715	IA-3-061115	IA-3-091615	IA-3-121815	IA-3-021816	IA-3-080516	IA-3-021017	IA-3-090717	IA-3-022818	IA-3-091218
Sample Date:			12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018
Analyte	Units	CT IACTIND 2003																							
Vinyl chloride	ug/m3	1.9	0.077 U	0.038 U	0.077 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	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	0.09 U	0.09 U	

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
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**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
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Area:			Large Retail Space																						
Location:			IA-3					IA-4																	
Sample ID:			IA-3-020819	IA-3-090619	IA-3-021420	IA-3-09092020	IA-4	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
Sample Date:			2/8/2019	9/6/2019	2/14/2020	9/9/2020	1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	4/24/2009	9/17/2009	9/24/2009	10/1/2009	10/8/2009	1/28/2010	2/5/2010	2/12/2010	2/19/2010	3/26/2010	4/30/2010	5/28/2010	7/1/2010
Analyte	Units	CT IACTIND 2003																							
Vinyl chloride	ug/m3	1.9	0.09 U	0.09 U	0.09 U	0.089 U	0.29	0.13 U	0.2	0.22	0.13 U	0.1 U	0.2	0.13 U	0.13 U	0.16	0.13 U								

Notes:  
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B - Compounds detected in method blank as well as field sample  
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Area:			Large Retail Space																						
Location:			IA-4																						
Sample ID:			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	IA-4-060713	IA-4-090613	IA-4-121313	IA-4-030714	IA-4-061314	IA-4-091214	IA-4-121914	IA-04-032715	IA-4-061115	IA-4-091615	IA-4-121815	IA-4-021816
Sample Date:			9/16/2010	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016
Analyte	Units	CT IACTIND 2003																							
Vinyl chloride	ug/m3	1.9	0.13 U	0.16	0.13 U	0.13 U	0.13 U	0.077 U	0.038 U	0.077 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	0.026 U	0.072 J	0.09 U	0.09 U	0.09 U	0.09 U	

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
Bolted and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

Prepared By: AKN, 11/9/2020  
Checked By: MM, 11/9/2020

**Appendix E1.**  
**Summary of Analytical Results - Indoor Air Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:			Large Retail Space																					
Location:			IA-4												LRAIR01 LRAIR02 LRAIR03 LRAIR04 LRAIR05 LRAIR06 LRAIR07 LRAIR08 LRAIR09 LRAIR10									
Sample ID:			IA-4080516	IA-4-021017	IA-4-090717	IA-4-022818	IA-4-091218	IA-4-020819	IA-4-041119	IA-4-090619	IA-4-021420	IA-4-09092020	IA-4-10292020	LRAIR01	LRAIR02	LRAIR03	LRAIR04	LRAIR05	LRAIR06	LRAIR07	LRAIR08	LRAIR09	LRAIR10	
Sample Date:			8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	4/11/2019	9/6/2019	2/14/2020	9/9/2020	10/29/2020	5/15/2009	5/15/2009	5/15/2009	5/15/2009	5/15/2009	5/15/2009	5/15/2009	5/15/2009	5/15/2009	5/15/2009	
Analyte	Units	CT IACTIND 2003																						
Vinyl chloride	ug/m3	1.9	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	1	0.12	0.1 U	0.09 U	0.089 U	0.089 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U		

Notes:  
NA - not available  
U - Not detected, value is the detection limit  
B - Compounds detected in method blank as well as field sample  
J - Indicates compound was detected at an estimated value.  
D - Result from diluted analyses  
ug/m3 - micrograms per cubic meter  
Boldest and shaded values are above the CT target indoor air concentration for industrial/commercial scenarios

Prepared By: AKN, 11/9/2020  
Checked By: MM, 11/9/2020

## **Appendix E2**

Summary of All Analytical Results –  
Extraction Well and Post-Treatment Samples for Large Retail Space

**Appendix E2.**  
**Summary of Analytical Results - Extraction Well and Post-Treatment Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Large Retail Space																									
Location:		EW-1		EW-2		EW-3		EW-4		EW-Combined																	
Sample ID:		EW-1-030609	EW-1-033109	EW-2-030609	EW-2-033109	EW-3-030609	EW-3-033109	EW-4-030609	EW-4-033109	EW-Combined-020309	EW-COMBINED-021109	EW-COMBINED-021809	EW-COMBINED-022609	EW-COMBINED-041409	EW-COMBINED-042409	EW-COMBINED-091709	EW-COMBINED-092409	EW-COMBINED-100109	EW-COMBINED-100809	EW-COMBINED-012810	EW-COMBINED-020510	EW-COMBINED-021210	EW-COMBINED-021910	EW-COMBINED-043010	EW-COMBINED-052810		
Sample Date:		3/6/2009	3/31/2009	3/6/2009	3/31/2009	3/6/2009	3/31/2009	3/6/2009	3/31/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	4/24/2009	9/17/2009	9/24/2009	10/1/2009	10/8/2009	1/28/2010	2/5/2010	2/12/2010	2/19/2010	4/30/2010	5/28/2010		
Analyte	Units																										
1,1,1,2-Tetrachloroethane	ug/m3	59000	66000	26000	30000	54000	72000	11000	14000	190000	91000	73000	32000	3500	19000	11000	8100	7900	6800	1500	2500	150	1200	1400	1700		
1,1,1-Trichloroethane	ug/m3	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U	1.7 U	6.8 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	6.8 U		
1,1,2,2-Tetrachloroethane	ug/m3	6.4	10	5.4 U	5.4 U	5.4 U	5.4 U	1.4 U	5.4 U	5.4 U	5.4 U	11 U	11 U	5.4 U	0.65	2.7 U	5.4 U	11 U	11 U	0.54 U	5.4 U	0.27 U	0.54 U	0.54 U	5.4 U		
1,1-Dichloroethane	ug/m3	4100	4400	5700	7000	1600	2300	690	1400	19000	7800	5300	4800	390	2200	1600	1900	1700	280	370	31	310	200	270			
1,1-Dichloroethene	ug/m3	570	1200	330	640	340	560	97	210	7800	1800	1000	630	73	420	310	250	260	52	66	7.3	62	30	40			
1,2,4-Trichlorobenzene	ug/m3	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	7.4 U	1.9 U	7.4 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	7.4 U		
1,2,4-Trimethylbenzene	ug/m3	5 U	5 U	5 U	5 U	5 U	5 U	1.3 U	5 U	5 U	5 U	10 U	10 U	5 U	0.25 U	2.5 U	5 U	10 U	10 U	0.5 U	5 U	0.25 U	0.5 U	0.5 U	5 U		
1,2-Dibromoethane (EDB)	ug/m3	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	7.6 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	7.6 U		
1,2-Dichlorobenzene	ug/m3	6 U	6 U	6 U	6 U	6 U	6 U	1.5 U	6 U	6 U	6 U	12 U	12 U	6 U	0.3 U	3 U	6 U	12 U	12 U	0.6 U	6 U	0.3 U	0.6 U	0.6 U	6 U		
1,2-Dichloroethane	ug/m3	4 U	4 U	4 U	4 U	4 U	4 U	1 U	4 U	4 U	4 U	8 U	8 U	4 U	0.2 U	2 U	4 U	8 U	8 U	0.4 U	4 U	0.2 U	0.4 U	0.4 U	4 U		
1,2-Dichloropropane	ug/m3	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	4.6 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	4.6 U		
1,2-Dichlorotetrafluoroethane	ug/m3	7 U	7 U	7 U	7 U	7 U	7 U	1.8 U	7 U	7 U	7 U	14 U	14 U	7 U	0.35 U	3.5 U	7 U	14 U	14 U	0.7 U	7 U	0.35 U	0.7 U	0.7 U	7 U		
1,3,5-Trimethylbenzene	ug/m3	5 U	5 U	5 U	5 U	5 U	5 U	1.3 U	5 U	5 U	5 U	10 U	10 U	5 U	0.25 U	2.5 U	5 U	10 U	10 U	0.5 U	5 U	0.25 U	0.5 U	0.5 U	5 U		
1,3-Butadiene	ug/m3	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.55 U	2.2 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	2.2 U		
1,3-Dichlorobenzene	ug/m3	6 U	6 U	6 U	6 U	6 U	6 U	1.5 U	6 U	6 U	6 U	12 U	12 U	6 U	0.3 U	3 U	6 U	12 U	12 U	0.6 U	6 U	0.3 U	0.6 U	0.6 U	6 U		
1,4-Dichlorobenzene	ug/m3	6 U	6 U	6 U	6 U	6 U	6 U	1.5 U	6 U	6 U	6 U	12 U	12 U	6 U	0.3 U	3 U	6 U	12 U	12 U	0.6 U	6 U	0.3 U	0.6 U	0.6 U	6 U		
1,4-Dioxane	ug/m3																										
2-Butanone	ug/m3	3.5	8.9	12	11	36	10	36	6.4	37	32	48	60	21	40	7.8	31	30	21	4	11	10	9	12	22		
2-Hexanone	ug/m3	4 U	4 U	4 U	4 U	4 U	4 U	1 U	4 U	4 U	4 U	8 U	8 U	4 U	0.5	2 U	4 U	8 U	8 U	0.4 U	4 U	0.2 U	0.4 U	0.4 U	4 U		
4-Ethyltoluene	ug/m3	5 U	5 U	5 U	5 U	5 U	5 U	1.3 U	5 U	5 U	5 U	10 U	10 U	5 U	0.25 U	2.5 U	5 U	10 U	10 U	0.5 U	5 U	0.25 U	0.5 U	0.5 U	5 U		
4-Methyl-2-pentanone	ug/m3	4 U	4 U	4 U	4 U	4 U	4 U	1 U	4 U	4 U	4 U	8 U	8 U	4 U	0.59	2 U	4 U	8 U	8 U	0.4 U	4 U	0.28	0.4 U	0.4 U	4 U		
Acetone	ug/m3	35	16	9.6 U	9.6 U	53	24	26	12	1600	31	75	63	4.8 U	0.24 U	20	9.6 U	20 U	20 U	31	9.6 U	13	0.96 U	16	24		
Benzene	ug/m3	5.3	11	5.6	7.8	3.2 U	6.8	1.4	3.2 U	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		
Benzyl chloride	ug/m3	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	5.2 U	1.3 U	5.2 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	5.2 U		
Bromodichloromethane	ug/m3	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	1.7 U	6.6 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	6.6 U		
Bromoform	ug/m3	11 U	11 U	11 U	11 U	11																					

**Appendix E2.**  
**Summary of Analytical Results - Extraction Well and Post-Treatment Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Large Retail Space																										
Location:		EW-Combined																										
Sample ID:		EW-COMBINED-070110	EW-COMBINED-091610	EW-COMBINED-120710	EW-COMBINED-021711	EW-COMBINED-091511	EW-Combined-120811	EW-Combined-030812	EW-Combined-061412	EW-Combined-091312	EW-Combined-010313	EW-Combined-031513	EW-Combined-060713	EW-Combined-090613	EW-Combined-121313	EW-Combined-030714	EW-Combined-030714	EW-Combined-061314	EW-Combined-091214	EW-Combined-121914	EW-Combined-032715	EW-Combined-061115	EW-Combined-091615	EW-Combined-121815	EW-Combined-021816	EW-Combined-080516		
Sample Date:		7/1/2010	9/16/2010	12/7/2010	2/17/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012	9/13/2012	1/3/2013	3/15/2013	6/7/2013	9/6/2013	12/13/2013	3/7/2014	6/13/2014	9/12/2014	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015	2/18/2016	8/5/2016			
Analyte	Units																											
1,1,1,2-Tetrachloroethane	ug/m3																											
1,1,1-Trichloroethane	ug/m3	2000	4700	280	2500	2400	340	1100	1800	2800	5.5	610	850	1900	1500	780	770	1300	420	500	1200	3400 E	1600	320	4000			
1,1,2,2-Tetrachloroethane	ug/m3	0.68 U	0.68 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	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		
1,1,2-Trichloroethane	ug/m3	0.54 U	0.55	0.55 U	0.55 U	1.1 U	0.55 U	2.7 U	0.55 U	0.26 J	0.55 U	0.55 U	0.19 U	0.55 U	0.28 J	1.1 U	1.1 U	1.1 U	5.5 U									
1,1-Dichloroethane	ug/m3	290	330	36	170	200	70	78	130	200	0.4	59	68	150	62	53	68	130	55	49	100	190	69	25	360			
1,1-Dichloroethene	ug/m3	52	81	7.3	58	44	21	34	42	15	0.4	24	38	56	24	27	40	52	14	22	46	160	21	9	160			
1,2,4-Trichlorobenzene	ug/m3	0.74 U	0.74 U	0.74 U	0.74 U	3 U	1.5 U	3800	1.5 U	1.5 U	1.5 U	0.74 U	0.26 U	0.74 U	1.5 U	1.5 U	1.5 U	7.4 U										
1,2,4-Trimethylbenzene	ug/m3	0.5 U	0.5 U	0.49 U	0.49 U	0.98 U	1.2	4.9 U	0.57	0.24 J	0.49 U	14	0.49 U	0.21	0.49 U	0.98 U	0.98 U	0.98 U	4.9 U									
1,2-Dibromoethane (EDB)	ug/m3	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	0.27 U	0.77 U	1.5 U	1.5 U	1.5 U	7.7 U										
1,2-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U	1.2 U	0.6 U	7.3	0.6 U	0.6 U	0.6 U	0.6 U	0.21 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	
1,2-Dichloroethane	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U	0.81 U	0.4 U	2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.14 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.81 U	0.81 U	0.81 U	4 U	
1,2-Dichloropropane	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U	0.92 U	0.46 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	0.46 U	0.92 U	0.92 U	0.92 U	4.6 U										
1,2-Dichlortetrafluoroethane	ug/m3	0.7 U	0.7 U																							1.4 U	7 U	
1,3,5-Trimethylbenzene	ug/m3	0.5 U	0.5 U	0.49 U	0.49 U	0.98 U	0.29 J	4.9 U	0.15 J	0.49 U	0.49 U	3.9	0.49 U	0.17 U	0.49 U	0.98 U	0.98 U	0.98 U	4.9 U									
1,3-Butadiene	ug/m3	0.22 U	0.22 U	0.22 U	0.22 U	0.44 U	0.22 U	2.2 U	0.22 U	0.22 U	0.22 U	0.22 U	0.078 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.44 U	0.44 U	0.44 U	2.2 U	
1,3-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U	1.2 U	0.6 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.21 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	
1,4-Dichlorobenzene	ug/m3	0.6 U	0.6 U	0.6 U	0.6 U	1.2 U	0.6 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.21 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	6 U	
1,4-Dioxane	ug/m3							0.72 U																		7.2 U	36 U	
2-Butanone	ug/m3	22	10	4.5	4.5 B	24 J	1.3 J	120 U	110	16	12 J	22	5.3 J	7.6	0.97 J	2.5 J	5.1 J	3.3 J	1.4 J	1.2 J	1.2 J	1.3 J	1.5 J	24 U	14 J			
2-Hexanone	ug/m3	0.4 U	0.4 U	0.41 U	0.41 U	0.82 J	0.16 J	4.1 U	0.31 J	0.41 U	0.41 U	1.4	0.41 U	0.26	0.41 U	0.41 U												
4-Ethyltoluene	ug/m3	0.5 U	0.5 U	0.49 U	0.49 U	0.98 U	0.27 J	4.9 U	0.49 U	0.49 U	3.4	0.49 U	0.17 U	0.49 U														
4-Methyl-2-pentanone	ug/m3	0.4 U	0.4 U	0.41 U	0.41 U	0.82 U	0.16 J	4.1 U	0.38 J	0.41 U	0.41 U	8.7	0.41 U	0.14 U	0.41 U													
Acetone	ug/m3	16	6.6	11 B	6.3 B	19 J	6.6 J	22 J	19	14 B	9.5	75	12	11	6.6 J	15	9.8	19 U	6.2 J	6.1 J	9.5 U	12 J	6.7 J	19 U	39 J			
Benzene	ug/m3	0.84	1.7																									

**Appendix E2.**  
**Summary of Analytical Results - Extraction Well and Post-Treatment Sampling for Large Retail Space**  
**Former Gorham Manufacturing Site**  
**Providence, Rhode Island**

Area:		Extraction Well - Large Retail Space								Post Treatment - Large Retail Space													
Location:		EW-Combined								PostCarbon													
Sample ID:		EW-Combined-021017	EW-Combined-090717	EW-Combined-022818	EW-Combined-091218	EW-Combined-020819	EW-Combined-090619	EW-Combined-021420	EW-Comb.-09092020	Post carbon-020309	POST CARBON-021109	POST CARBON-021809	POST CARBON-022609	POST CARBON-041409	POST CARBON-100809	Post-Carbon-010810	Post-Carbon-121914	Post Carbon-091218	Post Carbon-020819	Post Carbon-090619	Post Carbon-021420	Post Carbon-09092020	
Sample Date:	2/10/2017	9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020	2/3/2009	2/11/2009	2/18/2009	2/26/2009	4/14/2009	10/8/2009	1/8/2010	12/19/2014	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020		
Analyte	Units																						
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	2.5 U	2.5 U	2.5 U	1.2 U	1.2 U	1.2 U										1.2 U	2.5 U	1.2 U	1.2 U	1.2 U	1.2 U
1,1,1-Trichloroethane	ug/m3	260	530	150	690	62	670	200	470	1	15	45	1.9	13000	0.56	450	380	740	0.55 U	2.3	2.4	840	
1,1,2,2-Tetrachloroethane	ug/m3	0.69 U	1.4 U	1.4 U	1.4 U	0.69 U	0.69 U	0.69 U	0.34 U	1.7 U	0.68 U	0.68 U	68 U	0.34 U	0.34 U	0.69 U	1.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	
1,1,2-Trichloroethane	ug/m3	0.55 U	1.1 U	1.1 U	1.1 U	0.55 U	0.55 U	0.55 U	0.27 U	1.4 U	0.54 U	0.54 U	54 U	0.27 U	0.27 U	0.55 U	1.1 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	
1,1-Dichloroethane	ug/m3	25	67	19	73	13	45	19	29	0.2 U	1 U	5.4	11000	490	370	610	21	80	0.4 U	2.8	17	62	
1,1-Dichloroethene	ug/m3	11	24	10	27	10	24	10	27	0.2 U	1 U	0.4 U	6400	96	78	87	3.8	30	0.4 U	9.8	9.1	41	
1,2,4-Trichlorobenzene	ug/m3	0.74 U	1.5 U	1.5 U	1.5 U	0.74 U	0.74 U	0.74 U	0.37 U	1.9 U	0.74 U	0.74 U	74 U	0.37 U	0.37 U	0.74 U	1.5 U	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	
1,2,4-Trimethylbenzene	ug/m3	0.49 U	0.98 U	0.98 U	1.2	0.49 U	0.49 U	0.49 U	0.25 U	1.3 U	0.5 U	0.5 U	50 U	0.25 U	0.25 U	0.49 U	0.98 U	0.49 U	8.1	0.49 U	0.49 U	0.49 U	
1,2-Dibromoethane (EDB)	ug/m3	0.77 U	1.5 U	1.5 U	1.5 U	0.77 U	0.77 U	0.77 U	0.38 U	1.9 U	0.76 U	0.76 U	76 U	0.38 U	0.38 U	0.77 U	1.5 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	
1,2-Dichlorobenzene	ug/m3	0.6 U	1.2 U	1.2 U	1.2 U	2 J	0.6 U	0.6 U	0.6 U	0.3 U	1.5 U	0.6 U	0.6 U	60 U	0.3 U	0.3 U	0.6 U	1.2 U	2.4 U	0.6 U	0.6 U	0.6 U	
1,2-Dichloroethane	ug/m3	0.4 U	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.2 U	1 U	0.4 U	0.4 U	40 U	0.2 U	0.2 U	0.4 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
1,2-Dichloropropane	ug/m3	0.46 U	0.92 U	0.92 U	0.92 U	0.46 U	0.46 U	0.46 U	0.23 U	1.2 U	0.46 U	0.46 U	46 U	0.23 U	0.23 U	0.46 U	0.92 U	0.46 U	110	0.46 U	0.46 U	0.46 U	
1,2-Dichlorotetrafluoroethane	ug/m3									0.35 U	1.8 U	0.7 U	0.7 U	70 U	0.35 U	0.35 U							
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.98 U	0.98 U	1.2	0.49 U	0.49 U	0.49 U	0.49 U	2.1	1.3 U	0.5 U	0.5 U	50 U	0.25 U	0.25 U	0.49 U	0.98 U	0.49 U	2.9	0.49 U	0.49 U	0.49 U
1,3-Butadiene	ug/m3	0.22 U	0.44 U	0.44 U	0.44 U	0.22 U	0.22 U	0.22 U	0.11 U	0.55 U	0.22 U	0.22 U	22 U	0.23 U	0.23 U	0.22 U	0.44 U	0.22 U					
1,3-Dichlorobenzene	ug/m3	0.6 U	1.2 U	1.2 U	1.2 U	0.6 U	0.6 U	0.6 U	0.6 U	2.9	1.5 U	0.6 U	0.6 U	60 U	0.3 U	0.3 U	0.6 U	1.2 U	1.4 J	0.6 U	0.6 U	0.6 U	
1,4-Dichlorobenzene	ug/m3	0.6 U	1.2 U	1.2 U	1.2 U	0.6 U	0.6 U	0.6 U	0.3 U	1.5 U	0.6 U	0.6 U	60 U	0.3 U	0.3 U	0.6 U	1.2 U	1.5 J	0.6 U	0.6 U	0.6 U	0.6 U	
1,4-Dioxane	ug/m3																						
2-Butanone	ug/m3	0.59 J	2.5 J	1.3 J	1.9 J	3.1 J	1.6 J	2 J	8 J	10	6.3	9.4	5.5	330	1.9	2	2.5 J	0.52 J	12 U	27	1.9 J	12 U	
2-Hexanone	ug/m3	0.41 U	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.82 U	0.2 U	1 U	0.4 U	0.4 U	13000	0.27	0.34	0.41 U	0.82 U	0.41 U	0.41 U	0.41 U	0.82 U	
4-Ethyltoluene	ug/m3	0.49 U	0.98 U	0.98 U	0.98 U	0.49 U	0.49 U	0.49 U	0.49 U	2.1	1.3 U	0.5 U	0.5 U	50 U	0.25 U	0.25 U	0.49 U	0.98 U	0.49 U	9.5	0.49 U	0.49 U	
4-Methyl-2-pentanone	ug/m3	0.41 U	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	5	1 U	0.4 U	0.4 U	40 U	0.2 U	0.2 U	0.41 U	0.82 U	0.41 U	28	0.41 U	0.41 U	
Acetone	ug/m3	3.7 J	8.7 J	19 U	19 U	9.4 J	4.9 J	12	12	1200	11	19	12	430	3.6	5.7	21	19 U	3.5 J	71	10	9.5 U	
Benzene	ug/m3	0.33	0.51 J	0.4 J	0.49 J	1.4	0.4	0.33	0.32 U	1.3	0.8 U	0.32 U	0.32 U	32 U	0.16 U	0.16 U	0.33	0.55 J	1.2	1.6	0.32 U	0.32 U	
Benzyl chloride	ug/m3	0.52 U	1 U	1 U	1 U	0.52 U	0.52 U	0.52 U	0.26 U	1.3 U	0.52 U	0.52 U	52 U	0.26 U	0.26 U	0.52 U	1 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	
Bromodichloromethane	ug/m3	1.6	1.3 U	1.3 U	1.3 U	0.67 U	0.67 U	0.67 U	0.33 U	1.7 U	0.66 U	0.66 U	66 U	0.33 U	0.33 U	0.67 U	1.3 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	
Bromoform	ug/m3	1 U	2.1 U	2.1 U	2.1 U	1 U	1 U	1 U	0.51 U	2.6 U	1.1 U	1.1 U	110 U	0.51 U	0.51 U	1 U	2.1 U	1 U	1 U	1 U	1 U	1 U	
Bromomethane	ug/m3	0.39 U	0.78 U	0.78 U	0.78 U	0.39 U	0.39 U	0.39 U	0.19 U	0.95 U	0.38 U	0.38 U	38 U	0.19 U	0.19 U	0.78 U	0.78 U	0.39 U	3.9 U	0.78 U	0.39 U</		