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May 16, 2022

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

RE: Air Monitoring Report
March 2022 Semi-Annual Monitoring
Retail Complex, Active Sub-Slab Depressurization System
Former Gorham Manufacturing Facility
333 Adelaide Avenue, Providence, Rhode Island
Wood Project No. 3652220351

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 November 2021 through March 2022 which includes one semi-annual compliance indoor air sampling event conducted on March 29, 2022.

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 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.

Current Monitoring Results

The following provides a discussion of results from sampling conducted on March 29, 2022. The sampling was performed consistent with the requirements of the Orders of Approval. This is the twelfth 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 report (Con-Test W. O. 22C2029) for March 29, 2022, analyses is 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 collected southwest of the property, upwind of the retail building. The results for the recent outdoor reference sample and the previous outdoor reference sample are provided in **Table 1**. All historic outdoor reference sample results are provided in **Appendix C**.

Small Retail Spaces

The March 2022 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 two vapor extraction wells within those spaces (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 March 29, 2022 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, small retail, 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 March 29, 2022 analytical results:

- The indoor air sample results for the March 29, 2022 sampling event in the small retail spaces (sample locations IA-5 through IA-7) were in compliance with TAC action levels.
- The mitigation systems in the small retail areas were functioning correctly during the sampling event.

Large Retail Space

The March 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), from one vapor extraction well (EW-5), and from the manifold where air from the four other 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 March 29, 2022 at locations VMW-1 through VMW-4 in conjunction with the air sampling program. The sampling locations are shown in **Figure 1**.

Analytical results for the large retail spaces are summarized in **Table 4a** (indoor air, two most recent samples for IA-1, IA-2, IA-3, and IA-4) and **Table 4b** (extraction well EW-5 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 March 29, 2022 sampling event in the large retail spaces (sample locations IA-1 through IA-4) were in compliance with TAC action levels.
- The mitigation system in the large retail area was functioning correctly during the sampling event.
- A sample (Post Carbon) was collected from the exhaust air of the treatment system. The concentration of total VOCs was lower than the total VOC concentration in the previous sampling rounds in March and September 2021. Wood will continue to monitor the total VOCs 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 reported to Wood during the reporting period.

Next Reporting Period

The next Semi-Annual Report will cover the monitoring period from April 2022 through September 2022. The report will be prepared and submitted to the Rhode Island Department of Environmental Management in November 2022.

Please contact Calissa Spooner, Textron, (401-457-6009) or Greg Avenia, Wood, (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.



Brian Thornton
Technical Professional II - Geology



Gregory Avenia, PE, CFM
Project Manager



Jane Parkin Kullmann, PhD, CPH
Senior Risk Assessor

Attachments: Table 1. Summary of Analytical Results - Outdoor Air Reference Sampling
Table 2a. Summary of Analytical Results – Indoor Air Sampling for Small Retail Space
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
Appendix D1. Summary of All Analytical Results – Indoor Air Sampling for Small Retail Space
Appendix D2. Summary of Analytical Results – Small Extraction Wells
Appendix E1. Summary of All Analytical Results – Indoor Air Sampling 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 (Electronic)
G. Simpson, Textron, Inc. (Electronic)
C. Spooner, Textron, Inc. (Electronic)
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wood.

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	AA-1
Sample Date:		9/8/2021	3/29/2022
Analyte	Units		
1,1,1,2-Tetrachloroethane	ug/m3	0.44 U	0.44 U
1,1,1-Trichloroethane	ug/m3	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	ug/m3	0.24 U	0.24 U
1,1,2-Trichloroethane	ug/m3	0.19 U	0.19 U
1,1-Dichloroethane	ug/m3	0.14 U	0.14 U
1,1-Dichloroethene	ug/m3	0.14 U	0.14 U
1,2,4-Trichlorobenzene	ug/m3	0.52 U	0.52 U
1,2,4-Trimethylbenzene	ug/m3	0.17	0.15 J
1,2-Dibromoethane (EDB)	ug/m3	0.27 U	0.27 U
1,2-Dichlorobenzene	ug/m3	0.21 U	0.21 U
1,2-Dichloroethane	ug/m3	0.14 U	0.14 U
1,2-Dichloropropane	ug/m3	0.16 U	0.16 U
1,3,5-Trimethylbenzene	ug/m3	0.058 J	0.17 U
1,3-Butadiene	ug/m3	0.077 U	0.077 U
1,3-Dichlorobenzene	ug/m3	0.21 U	0.21 U
1,4-Dichlorobenzene	ug/m3	0.21 U	0.21 U
2-Butanone	ug/m3	1.7 J	4.1 U
2-Hexanone	ug/m3	0.29 U	0.29 U
4-Ethyltoluene	ug/m3	0.17 U	0.17 U
4-Methyl-2-pentanone	ug/m3	0.14 U	0.14 U
Acetone	ug/m3	11	5.2
Benzene	ug/m3	0.51	0.39
Benzyl chloride	ug/m3	0.18 U	0.18 U
Bromodichloromethane	ug/m3	0.23 U	0.23 U
Bromoform	ug/m3	0.36 U	0.36 U
Bromomethane	ug/m3	0.14 U	0.14 U
Carbon Disulfide	ug/m3	1.1 U	1.1 U
Carbon Tetrachloride	ug/m3	0.43	0.22 U
Chlorobenzene	ug/m3	0.16 U	0.16 U
Chloroethane	ug/m3	0.092 U	0.092 U
Chloroform	ug/m3	0.089 J	0.17 U
Chloromethane	ug/m3	1.2	1.3
cis-1,2-Dichloroethene	ug/m3	0.14 U	0.14 U
cis-1,3-Dichloropropene	ug/m3	0.16 U	0.16 U
Cyclohexane	ug/m3	0.12 U	0.12 U
Dibromochloromethane	ug/m3	0.3 U	0.3 U
Dichlorodifluoromethane	ug/m3	2.4	2.1
Ethanol	ug/m3	7.4	3.3
Ethyl Acetate	ug/m3	1.3 U	1.3 U
Ethylbenzene	ug/m3	0.18	0.15 U
Hexachlorobutadiene	ug/m3	0.37 U	0.37 U
Hexane	ug/m3	4.9 U	4.9 U
Isopropyl alcohol	ug/m3	3.4 U	0.74 J
m,p-Xylene	ug/m3	0.4	0.19 J
Methyl methacrylate	ug/m3	0.14 U	0.14 U
Methylene Chloride	ug/m3	0.38 J	1.2 U
Methyl-t-butyl ether	ug/m3	0.13 U	0.13 U
n-Heptane	ug/m3	0.18	0.14 U
o-Xylene	ug/m3	0.15	0.082 J
Propylene (Propene)	ug/m3	2.4 U	2.4 U
Styrene	ug/m3	0.15 U	0.15 U
Tetrachloroethene	ug/m3	0.24 U	0.24 U
Tetrahydrofuran	ug/m3	1 U	1 U
Toluene	ug/m3	0.86	0.21
Total VOCs	ug/m3	28.897	15.382
trans-1,2-Dichloroethene	ug/m3	0.14 U	0.14 U
trans-1,3-Dichloropropene	ug/m3	0.16 U	0.16 U
Trichloroethene	ug/m3	0.19 U	0.19 U
Trichlorofluoromethane	ug/m3	1.2	1.1
Trichlorotrifluoroethane	ug/m3	0.59 J	0.62 J
Vinyl Acetate	ug/m3	2.5 U	2.5 U
Vinyl Chloride	ug/m3	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

-- Compound not analyzed.

Prepared By: AKN, 5/11/2022

Checked By: BT, 5/11/2022

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	IA-5	IA-6	IA-6	IA-7	IA-7
Sample Date:			9/8/2021	3/29/2022	9/8/2021	3/29/2022	9/8/2021	3/29/2022
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
1,1,1-Trichloroethane	ug/m3	500	0.19 U	0.28	0.19 U	0.16 J	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
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
1,1-Dichloroethane	ug/m3	430	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	0.14 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	ug/m3	NA	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
1,2,4-Trimethylbenzene	ug/m3	52	0.17	0.17 U	0.25	0.17 U	0.17	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
1,2-Dichlorobenzene	ug/m3	410	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
1,2-Dichloropropane	ug/m3	0.42	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.09 J
1,3,5-Trimethylbenzene	ug/m3	52	0.17 U	0.17 U	0.089 J	0.17 U	0.058 J	0.17 U
1,3-Butadiene	ug/m3	NA	0.077 U	0.077 U	0.077 U	0.077 U	0.077 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	0.21 U
1,4-Dichlorobenzene	ug/m3	24	0.21 U	0.21 U	0.2 J	0.21 U	0.21 U	0.21 U
2-Butanone	ug/m3	500	1.7 J	4.1 U	1.6 J	4.1 U	1.5 J	4.1 U
2-Hexanone	ug/m3	NA	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
4-Ethyltoluene	ug/m3	NA	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
Acetone	ug/m3	500	12	8.4	15	7.7	13	10
Benzene	ug/m3	3.3	0.43	0.84	0.78	0.8	0.43	0.63
Benzyl chloride	ug/m3	NA	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	ug/m3	0.46	0.23 U	0.23 U	0.23 U	0.23 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	0.36 U
Bromomethane	ug/m3	NA	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Carbon Disulfide	ug/m3	NA	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	0.49	0.4	0.48	0.4	0.22 U
Chlorobenzene	ug/m3	200	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Chloroethane	ug/m3	500	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U
Chloroform	ug/m3	0.5	0.12 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Chloromethane	ug/m3	80	1.2	1.3	1.3	1.4	1.2	1.4
cis-1,2-Dichloroethene	ug/m3	100	0.14 U	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	0.16 U
Cyclohexane	ug/m3	NA	0.12 U	2	0.12 U	0.27	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
Dichlorodifluoromethane	ug/m3	500	2.4	2.1	2.4	2	2.3	2
Ethanol	ug/m3	NA	18	220	140	4500	150	220
Ethyl Acetate	ug/m3	NA	1.3 U	22	27	1.3 U	1.3 U	1.3 U
Ethylbenzene	ug/m3	290	0.18	0.45	0.24	0.15 U	0.18	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
Hexane	ug/m3	NA	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Isopropyl alcohol	ug/m3	NA	1.5 J	2.9 J	3.2 J	1.9 J	6.1	3.4 J
m,p-Xylene	ug/m3	NA	0.51	2	0.65	0.32	0.47	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
Methylene Chloride	ug/m3	17	0.41 J	0.95 J	2.4	0.61 J	0.57 J	0.61 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
n-Heptane	ug/m3	NA	0.21	1.1	0.51	0.52	0.23	0.21
o-Xylene	ug/m3	NA	0.18	0.98	0.28	0.15	0.2	0.085 J
Propylene (Propene)	ug/m3	NA	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
Styrene	ug/m3	290	0.056 J	0.15 U	0.22	0.15 U	0.08 J	0.15 U
Tetrachloroethene	ug/m3	5	0.21 J	0.28	0.34	0.2 J	0.74	0.35
Tetrahydrofuran	ug/m3	NA	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/m3	500	1.1	1.3	2.4	0.37	1.1	0.24
Total VOCs	ug/m3	NA	42.906	269.49	201.389	4518.9	180.688	241.605
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
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
Trichloroethene	ug/m3	1	0.2	0.21	0.16 J	0.19 U	0.13 J	0.33
Trichlorofluoromethane	ug/m3	500	1.3	1.4	1.3	1.5	1.2	1.7
Trichlorotrifluoroethane	ug/m3	NA	0.59 J	0.51 J	0.67 J	0.52 J	0.63 J	0.56 J
Vinyl Acetate	ug/m3	NA	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Vinyl Chloride	ug/m3	1.9	0.089 U	0.089 U	0.089 U	0.089 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

-- Compound not analyzed.

Prepared By: AKN, 5/11/2022

Checked By: BT, 5/11/2022

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

Area:		Extraction Well - Center Small		Extraction Well - Western Small	
Location:		EW-6		EW-7	
Sample ID:		EW-6	EW-6	EW-7	EW-7
Sample Date:		9/8/2021	3/29/2022	9/8/2021	3/29/2022
Analyte	Units				
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	0.44 U	1.2 U	0.44 U
1,1,1-Trichloroethane	ug/m3	0.55 U	0.21	12	0.26
1,1,2,2-Tetrachloroethane	ug/m3	0.69 U	0.24 U	0.69 U	0.24 U
1,1,2-Trichloroethane	ug/m3	0.55 U	0.19 U	0.55 U	0.19 U
1,1-Dichloroethane	ug/m3	0.4 U	0.14 U	1.5	0.14 U
1,1-Dichloroethene	ug/m3	0.4 U	0.14 U	0.4 U	0.14 U
1,2,4-Trichlorobenzene	ug/m3	1.5 U	0.52 U	1.5 U	0.52 U
1,2,4-Trimethylbenzene	ug/m3	0.49 U	0.17 U	0.49 U	0.17 U
1,2-Dibromoethane (EDB)	ug/m3	0.77 U	0.27 U	0.77 U	0.27 U
1,2-Dichlorobenzene	ug/m3	0.6 U	0.21 U	0.6 U	0.21 U
1,2-Dichloroethane	ug/m3	0.4 U	0.14 U	0.4 U	0.14 U
1,2-Dichloropropane	ug/m3	0.46 U	0.16 U	0.46 U	0.16 U
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.17 U	0.49 U	0.17 U
1,3-Butadiene	ug/m3	0.22 U	0.077 U	0.22 U	0.077 U
1,3-Dichlorobenzene	ug/m3	0.6 U	0.21 U	0.6 U	0.21 U
1,4-Dichlorobenzene	ug/m3	0.6 U	0.21 U	0.6 U	0.21 U
2-Butanone	ug/m3	4.2 J	4.1 U	25	4.1 U
2-Hexanone	ug/m3	0.82 U	0.29 U	0.82 U	0.29 U
4-Ethyltoluene	ug/m3	0.49 U	0.17 U	0.49 U	0.17 U
4-Methyl-2-pentanone	ug/m3	0.41 U	0.14 U	0.41 U	0.14 U
Acetone	ug/m3	35	6.4	7.8 J	9.6
Benzene	ug/m3	1.4	0.7	0.66	0.6
Benzyl chloride	ug/m3	0.52 U	0.18 U	0.52 U	0.18 U
Bromodichloromethane	ug/m3	0.67 U	0.23 U	0.67 U	0.23 U
Bromoform	ug/m3	1 U	0.36 U	1 U	0.36 U
Bromomethane	ug/m3	0.39 U	0.14 U	0.39 U	0.14 U
Carbon Disulfide	ug/m3	3.1 U	1.1 U	66	1.1 U
Carbon Tetrachloride	ug/m3	0.43 J	0.49	0.44 J	0.24
Chlorobenzene	ug/m3	0.46 U	0.16 U	0.46 U	0.16 U
Chloroethane	ug/m3	0.26 U	0.092 U	0.26 U	0.092 U
Chloroform	ug/m3	0.49 U	0.17 U	2.6	0.17 U
Chloromethane	ug/m3	1.4	1.3	0.41 U	1.6
cis-1,2-Dichloroethene	ug/m3	0.4 U	0.14 U	1.4	0.14 U
cis-1,3-Dichloropropene	ug/m3	0.45 U	0.16 U	0.45 U	0.16 U
Cyclohexane	ug/m3	0.34 U	0.33	0.34 U	0.12 U
Dibromochloromethane	ug/m3	0.85 U	0.3 U	0.85 U	0.3 U
Dichlorodifluoromethane	ug/m3	2.4	1.9	0.49 U	2
Ethanol	ug/m3	170	750	12	210
Ethyl Acetate	ug/m3	3.6 U	0.69 J	3.6 U	1.3 U
Ethylbenzene	ug/m3	0.22 J	0.094 J	0.18 J	0.15 U
Hexachlorobutadiene	ug/m3	1.1 U	0.37 U	1.1 U	0.37 U
Hexane	ug/m3	14 U	4.9 U	14 U	4.9 U
Isopropyl alcohol	ug/m3	3 J	1.6 J	4 J	4.8
m,p-Xylene	ug/m3	0.56 J	0.35	0.52 J	0.3 U
Methyl methacrylate	ug/m3	0.41 U	0.14 U	0.41 U	0.14 U
Methylene Chloride	ug/m3	1 J	0.66 J	3.5 U	1.2 U
Methyl-t-butyl ether	ug/m3	0.36 U	0.13 U	0.36 U	0.13 U
n-Heptane	ug/m3	0.41 U	0.43	0.41 U	0.17
o-Xylene	ug/m3	0.24 J	0.18	0.17 J	0.15 U
Propylene (Propene)	ug/m3	6.9 U	2.4 U	6.9 U	2.4 U
Styrene	ug/m3	0.15 J	0.15 U	0.21 J	0.15 U
Tetrachloroethene	ug/m3	0.27 J	0.25	110	1.8
Tetrahydrofuran	ug/m3	1.5 J	1 U	1700	1 U
Toluene	ug/m3	1.9	0.4	1.4	0.29
Total VOCs	ug/m3	225.61	768.074	2337.68	237.33
trans-1,2-Dichloroethene	ug/m3	0.4 U	0.14 U	1.8	0.14 U
trans-1,3-Dichloropropene	ug/m3	0.45 U	0.16 U	0.45 U	0.16 U
Trichloroethene	ug/m3	0.54 U	0.19 U	210	1.3
Trichlorofluoromethane	ug/m3	1.3 J	1.6	180	4.1
Trichlorotrifluoroethane	ug/m3	0.64 J	0.49 J	3.1 U	0.57 J
Vinyl Acetate	ug/m3	7 U	2.5 U	7 U	2.5 U
Vinyl Chloride	ug/m3	0.26 U	0.089 U	0.26 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

-- Compound not analyzed.

Prepared By: AKN, 5/11/2022

Checked By: BT, 5/11/2022

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

Date	Pressure Differential (inches of water)		
	VMW-5	VMW-6	VMW-7
2/3/2009	-0.25	-0.17	0.00
2/18/2009	-0.212	-0.155	-0.011
2/26/2009	-0.230	-0.120	-0.025
3/6/2009	-0.200	-0.086	-0.012
4/14/2009	-0.108	-0.054	-0.014
5/15/2009	-0.081	-0.073	-0.016
6/11/2009	-0.090	-0.076	-0.098
9/17/2009	-0.110	-0.102	+0.074
12/29/2009**	-0.011	-0.010	-0.061
3/26/2010	-0.245	-0.142	-0.018
7/1/2010	-0.542	-0.114	-0.176
9/16/2010	-0.247	-0.874	-0.013
12/7/2010	-0.044	-0.028	+0.022
2/17/2011	-0.212	-0.599	-0.337
6/2/2011	-0.277	-0.236	-0.138**
9/15/2011	-0.234	-0.212	-0.010
12/8/2011	-0.609	-0.115	-0.009
3/8/2012	-0.003	-0.246	-0.114
6/14/2012	-0.237	-0.103	-0.132
9/13/2012	-0.243	-0.119	-0.210
1/3/2013	-0.150	-0.060	-0.052
3/15/2013	-0.228	-0.354	-0.002
6/7/2013	-0.226	-0.123	-0.011
9/6/2013	-0.232	-0.829	-0.007
10/3/2013	NM	NM	-0.006
12/13/2013	-0.215	-0.002	-0.002
3/7/2014	-0.177	-0.002	-0.002
6/13/2014	-0.185	-0.010	-0.011
9/12/2014	-0.258	-0.256	-0.014
12/19/2014	-0.222	-0.100	-0.001
3/27/2015	-0.301	-0.097	-0.036
6/11/2015	-0.23***	-0.1***	NM***
9/16/2015	-0.246	-0.050	-0.013
12/18/2015	-0.378	-0.177	-0.005
2/18/2016	-0.228	-0.987	-0.009
8/5/2016	-0.243	-0.095	-0.088
2/13/2017	-0.0195	-0.08	-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
3/8/2021	-0.209	-0.172	-0.002
9/8/2021	-0.227	-0.392	-0.027
3/29/2022	-0.016	-0.041	-0.021

** 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: BPT 4/18/2022

Checked by/Date: JPK 4/26/2022

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	IA-1	IA-2	IA-2	IA-3	IA-3	IA-4	IA-4
Sample Date:			9/8/2021	3/29/2022	9/8/2021	3/29/2022	9/8/2021	3/29/2022	9/8/2021	3/29/2022
Analyte	Units	CT IACTIND 2003								
1,1,1,2-Tetrachloroethane	ug/m ³	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/m ³	500	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.16 J
1,1,2,2-Tetrachloroethane	ug/m ³	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/m ³	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/m ³	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/m ³	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
1,2,4-Trichlorobenzene	ug/m ³	NA	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U
1,2,4-Trimethylbenzene	ug/m ³	52	0.23	0.17 U	0.23	0.17 U	0.24	0.14 J	0.21	0.17 U
1,2-Dibromoethane (EDB)	ug/m ³	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/m ³	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/m ³	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/m ³	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/m ³	52	0.089 J	0.17 U	0.093 J	0.17 U	0.099 J	0.17 U	0.086 J	0.17 U
1,3-Butadiene	ug/m ³	NA	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U	0.077 U
1,3-Dichlorobenzene	ug/m ³	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/m ³	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/m ³	500	4.2	4.1 U	2.5 J	4.1 U	2.9 J	1.2 J	2.6 J	4.1 U
2-Hexanone	ug/m ³	NA	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
4-Ethyltoluene	ug/m ³	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/m ³	200	0.14 U	0.091 J	2.2	0.14 U	0.14 U	0.14 U	0.14 U	0.17
Acetone	ug/m ³	500	19	7.1	16	5.5	16	7.4	15	5.5
Benzene	ug/m ³	3.3	0.55	0.44	0.45	0.41	0.46	0.4	0.41	0.4
Benzyl chloride	ug/m ³	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/m ³	0.46	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Bromoform	ug/m ³	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/m ³	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
Carbon Disulfide	ug/m ³	NA	1.1 U	1.1 U	0.37 J	1.1 U	1.1 U	1.1 U	0.31 J	1.1 U
Carbon Tetrachloride	ug/m ³	0.54	0.44	0.43	0.43	0.22 U	0.43	0.22 U	0.42	0.22 U
Chlorobenzene	ug/m ³	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/m ³	500	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U	0.092 U
Chloroform	ug/m ³	0.5	0.13 J	0.17 U	0.21	0.17 U	0.16 J	0.17 U	0.18	0.18
Chloromethane	ug/m ³	80	1.3	1.4	1.5	1.3	1.2	1.4	1.5	1.3
cis-1,2-Dichloroethene	ug/m ³	100	0.14 U	0.14 U	0.13 J	0.16	0.14 U	0.14 U	0.11 J	0.22
cis-1,3-Dichloropropene	ug/m ³	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/m ³	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/m ³	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/m ³	500	2.4	2.1	2.3	2	2.4	2	2.5	2
Ethanol	ug/m ³	NA	110	38	53	6	110	17	45	5.6
Ethyl Acetate	ug/m ³	NA	1.3 U	1.7	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
Ethylbenzene	ug/m ³	290	0.22	0.15 U	0.17	0.15 U	0.21	0.15 U	0.16	0.15 U
Hexachlorobutadiene	ug/m ³	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/m ³	NA	4.9 U	1.2 J	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U	4.9 U
Isopropyl alcohol	ug/m ³	NA	3.2 J	1.3 J	2 J	0.74 J	3 J	1 J	1.9 J	1.7 J
m,p-Xylene	ug/m ³	NA	0.71	0.3 U	0.55	0.3 U	0.61	0.22 J	0.5	0.3 U
Methyl methacrylate	ug/m ³	NA	0.14 U	0.14 U	0.61	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Methylene Chloride	ug/m ³	17	0.93 J	7.9	0.79 J	1.2 U	1.1 J	0.76 J	0.74 J	1.2 U
Methyl-t-butyl ether	ug/m ³	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/m ³	NA	0.14 U	0.12 J	0.14 U	0.14 U	0.32	0.14 U	0.21	0.091 J
o-Xylene	ug/m ³	NA	0.26	0.15 U	0.23	0.15 U	0.25	0.11 J	0.22	0.15 U
Propylene (Propene)	ug/m ³	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/m ³	290	0.1 J	0.15 U	0.51	0.15 U	0.095 J	0.15 U	0.56	0.15 U
Tetrachloroethene	ug/m ³	5	0.39	0.28	0.58	0.68	0.43	0.28	0.52	1
Tetrahydrofuran	ug/m ³	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/m ³	500	1.2	0.3	1.3	0.22	1.3	0.32	1.1	0.22
Total VOCs	ug/m ³	NA	147,409	64,201	88,373	18,91	143,354	34,2	76,346	20,631
trans-1,2-Dichloroethene	ug/m ³	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/m ³	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/m ³	1	0.13 J	0.13 J	0.22	0.22	0.14 J	0.14 J	0.21	0.34
Trichlorofluoromethane	ug/m ³	500	1.3	1.2	1.3	1.2	1.4	1.2	1.3	1.2
Trichlorotrifluoroethane	ug/m ³	NA	0.63 J	0.51 J	0.7 J	0.48 J	0.61 J	0.63 J	0.6 J	0.55 J
Vinyl Acetate	ug/m ³	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/m ³	1.9	0.089 U	0.089 U	0.089 U	0.089 U	0.089 U	0.089 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
-- Compound not analyzed.

Prepared By: AKN, 5/11/2022

Checked By: BT, 5/11/2022

Table 4b.
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	
Location:		EW-5		EW-Combined		PostCarbon	
Sample ID:		EW-5	EW-5	EW-Combined	EW-Combined	Post Carbon	Post Carbon
Sample Date:		9/8/2021	3/29/2022	9/8/2021	3/29/2022	9/8/2021	3/29/2022
Analyte	Units						
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	0.44 U	1.2 U	0.44 U	1.2 U	0.44 U
1,1,1-Trichloroethane	ug/m3	0.55 U	15	300	0.19 U	0.55 U	0.19 U
1,1,2,2-Tetrachloroethane	ug/m3	0.69 U	0.24 U	0.69 U	0.24 U	0.69 U	0.24 U
1,1,2-Trichloroethane	ug/m3	0.55 U	0.19 U	0.55 U	0.19 U	0.55 U	0.19 U
1,1-Dichloroethane	ug/m3	0.4 U	0.32	34	0.14 U	52	0.62
1,1-Dichloroethene	ug/m3	0.4 U	0.14 U	16	0.14 U	37	0.42
1,2,4-Trichlorobenzene	ug/m3	1.5 U	0.52 U	1.5 U	0.52 U	1.5 U	0.52 U
1,2,4-Trimethylbenzene	ug/m3	0.49 U	0.17 U	0.49 U	0.17 U	0.49 U	0.17 U
1,2-Dibromoethane (EDB)	ug/m3	0.77 U	0.27 U	0.77 U	0.27 U	0.77 U	0.27 U
1,2-Dichlorobenzene	ug/m3	0.6 U	0.21 U	0.6 U	0.21 U	0.6 U	0.21 U
1,2-Dichloroethane	ug/m3	0.4 U	0.14 U	0.4 U	0.14 U	0.4 U	0.14 U
1,2-Dichloropropane	ug/m3	0.46 U	0.16 U	0.46 U	0.16 U	0.46 U	0.16 U
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.17 U	0.49 U	0.17 U	0.49 U	0.17 U
1,3-Butadiene	ug/m3	0.22 U	0.077 U	0.22 U	0.077 U	0.22 U	0.077 U
1,3-Dichlorobenzene	ug/m3	0.6 U	0.21 U	0.6 U	0.21 U	0.6 U	0.21 U
1,4-Dichlorobenzene	ug/m3	0.6 U	0.21 U	0.6 U	0.21 U	0.6 U	0.21 U
2-Butanone	ug/m3	3.5 J	1.2 J	1.2 J	4.1 U	12 U	4.1 U
2-Hexanone	ug/m3	0.82 U	0.29 U	0.82 U	0.29 U	0.82 U	0.29 U
4-Ethyltoluene	ug/m3	0.49 U	0.17 U	0.49 U	0.17 U	0.49 U	0.17 U
4-Methyl-2-pentanone	ug/m3	0.41 U	0.14 U	0.41 U	0.14 U	0.41 U	0.14 U
Acetone	ug/m3	16	4	9.5 U	7.8	9.5 U	6.8
Benzene	ug/m3	0.46	0.41	0.95	0.5	0.32 U	0.2
Benzyl chloride	ug/m3	0.52 U	0.18 U	0.52 U	0.18 U	0.52 U	0.18 U
Bromodichloromethane	ug/m3	0.67 U	0.23 U	0.67 U	0.23 U	0.67 U	0.23 U
Bromoform	ug/m3	1 U	0.36 U	1 U	0.36 U	1 U	0.36 U
Bromomethane	ug/m3	0.39 U	0.14 U	0.39 U	0.14 U	0.39 U	0.14 U
Carbon Disulfide	ug/m3	3.1 U	0.1 J	3.1 U	1.1 U	3.1 U	1.1 U
Carbon Tetrachloride	ug/m3	0.43 J	0.44	0.44 J	0.44	0.63 U	0.22 U
Chlorobenzene	ug/m3	0.46 U	0.16 U	0.46 U	0.16 U	0.46 U	0.16 U
Chloroethane	ug/m3	0.26 U	0.092 U	0.26 U	0.092 U	0.26 U	0.092 U
Chloroform	ug/m3	0.17 J	0.17 U	5	0.17 U	0.58	0.17 U
Chloromethane	ug/m3	1.4	0.14 U	0.41 U	1.3	0.41 U	0.14 U
cis-1,2-Dichloroethene	ug/m3	0.4 U	0.14 U	22	0.14 U	40	0.4
cis-1,3-Dichloropropene	ug/m3	0.45 U	0.16 U	0.45 U	0.16 U	0.45 U	0.16 U
Cyclohexane	ug/m3	0.34 U	0.12 U	0.34 U	0.12 U	0.34 U	0.12 U
Dibromochloromethane	ug/m3	0.85 U	0.3 U	0.85 U	0.3 U	0.85 U	0.3 U
Dichlorodifluoromethane	ug/m3	2.5	2	0.49 U	2	0.49 U	0.72
Ethanol	ug/m3	94	8.1	53	16	2.3 J	83
Ethyl Acetate	ug/m3	3.6 U	1.3 U	3.6 U	4.9	3.6 U	1.4
Ethylbenzene	ug/m3	0.17 J	0.15 U	0.43 U	0.15 U	0.43 U	0.15 U
Hexachlorobutadiene	ug/m3	1.1 U	0.37 U	1.1 U	0.37 U	1.1 U	0.37 U
Hexane	ug/m3	14 U	4.9 U	14 U	4.9 U	14 U	2.1 J
Isopropyl alcohol	ug/m3	2.7 J	3.4 U	9.8 U	1 J	5.7 J	2.2 J
m,p-Xylene	ug/m3	0.59 J	0.19 J	0.25 J	0.3 U	0.87 U	0.3 U
Methyl methacrylate	ug/m3	0.41 U	0.14 U	0.41 U	0.14 U	0.41 U	0.14 U
Methylene Chloride	ug/m3	0.9 J	1.2 U	3.5 U	1.5	3.5 U	14
Methyl-t-butyl ether	ug/m3	0.36 U	0.13 U	0.36 U	0.13 U	0.36 U	0.13 U
n-Heptane	ug/m3	0.41 U	0.097 J	0.41 U	0.16	0.41 U	0.14 U
o-Xylene	ug/m3	0.24 J	0.082 J	0.43 U	0.15 U	0.43 U	0.15 U
Propylene (Propene)	ug/m3	6.9 U	2.4 U	6.9 U	2.4 U	6.9 U	2.4 U
Styrene	ug/m3	0.14 J	0.15 U	0.38 J	0.15 U	0.43 U	0.15 U
Tetrachloroethene	ug/m3	0.56 J	2.3	150	0.24 U	1.2	0.24 U
Tetrahydrofuran	ug/m3	2.9 U	6.4	0.94 J	1 U	2.9 U	1 U
Toluene	ug/m3	1.4	0.28	1.1	0.48	0.45	0.27
Total VOCs	ug/m3	127.15	55.109	1215.84	37.68	420.72	115.73
trans-1,2-Dichloroethene	ug/m3	0.4 U	0.14 U	0.58	0.14 U	0.86	0.14 U
trans-1,3-Dichloropropene	ug/m3	0.45 U	0.16 U	0.45 U	0.16 U	0.45 U	0.16 U
Trichloroethene	ug/m3	0.54 U	12	440	0.19 U	0.63	0.19 U
Trichlorofluoromethane	ug/m3	1.3 J	1.7	190	1.1	280	3.6
Trichlorotrifluoroethane	ug/m3	0.69 J	0.49 J	3.1 U	0.5 J	3.1 U	1.1 U
Vinyl Acetate	ug/m3	7 U	2.5 U	7 U	2.5 U	7 U	2.5 U
Vinyl Chloride	ug/m3	0.26 U	0.089 U	0.26 U	0.089 U	0.26 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

-- Compound not analyzed.

Prepared By: AKN, 5/11/2022

Checked By: BT, 5/11/2022

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
3/8/2021	-0.461	-0.646	-0.742	-0.227
9/8/2021	-0.459	-0.572	-0.418	-0.080
3/29/2022	-0.050	-1.032	-0.183	-0.047

* 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.

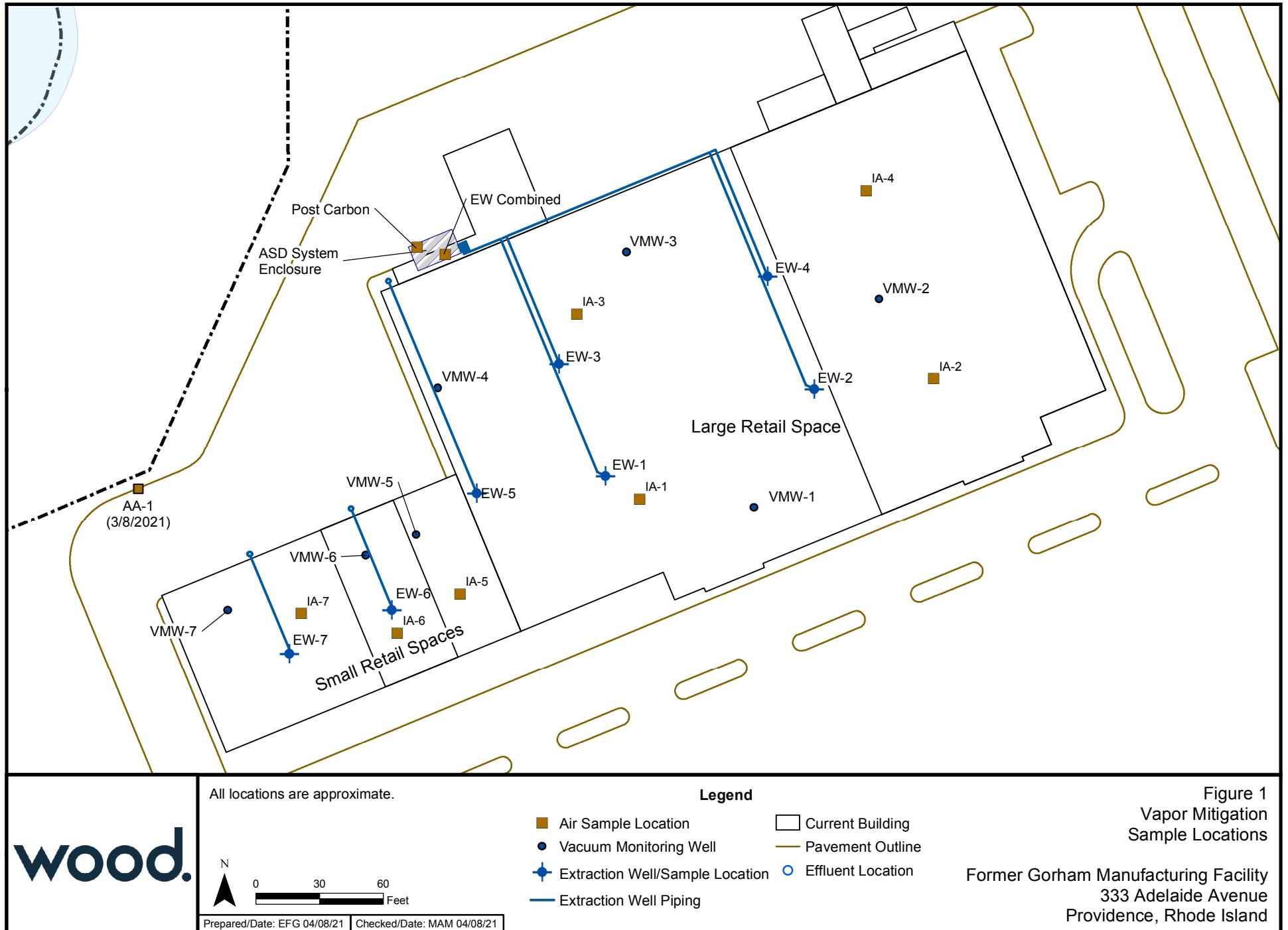
NM - not measured

Prepared by/Date: BPT 4/18/2022

Checked by/Date: JPK 4/26/2022

wood.

Figures



wood.

wood.

Appendix A

Laboratory Report

April 8, 2022

Gregory Avenia
WOOD PLC - Chelmsford
271 Mill Road, 3rd Floor
Chelmsford, MA 01824

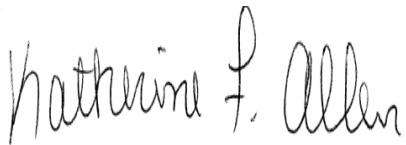
Project Location: Providence, RI
Client Job Number:
Project Number: 3652220351.0001 GL Code 573000 ORG Code 3652
Laboratory Work Order Number: 22C2029

Enclosed are results of analyses for samples as received by the laboratory on March 30, 2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Kerry K. McGee
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: 4/8/2022

WOOD PLC - Chelmsford
 271 Mill Road, 3rd Floor
 Chelmsford, MA 01824
 ATTN: Gregory Avenia

PURCHASE ORDER NUMBER: C012206368

PROJECT NUMBER: 3652220351.0001 GL Code 573000 ORG Code 1

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22C2029

The results of analyses performed on the following samples submitted to Con-Test, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
IA-1	22C2029-01	Air		EPA TO-15	
IA-2	22C2029-02	Air		EPA TO-15	
IA-3	22C2029-03	Air		EPA TO-15	
IA-4	22C2029-04	Air		EPA TO-15	
IA-5	22C2029-05	Air		EPA TO-15	
IA-6	22C2029-06	Air		EPA TO-15	
IA-7	22C2029-07	Air		EPA TO-15	
EW-5	22C2029-08	Air		-	
				EPA TO-15	
EW-6	22C2029-09	Air		-	
				EPA TO-15	
EW-7	22C2029-10	Air		-	
				EPA TO-15	
AA-1	22C2029-11	Air		EPA TO-15	
EW- Combined	22C2029-12	Air		-	
				EPA TO-15	
Post Carbon	22C2029-13	Air		-	
				EPA TO-15	

CASE NARRATIVE SUMMARY

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

For sample 22C2029-13, client's final pressure and the labs receipt pressure do not agree. Client requested sample still be analyzed.

EPA TO-15**Qualifications:**

L-03 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:**1,2,4-Trichlorobenzene, Ethyl Acetate, Hexachlorobutadiene, Methyl tert-Butyl Ether (MTBE)**

22C2029-01[IA-1], 22C2029-02[IA-2], 22C2029-03[IA-3], 22C2029-04[IA-4], 22C2029-05[IA-5], 22C2029-06[IA-6], 22C2029-07[IA-7], 22C2029-08[EW-5],
22C2029-09[EW-6], 22C2029-10[EW-7], 22C2029-11[AA-1], 22C2029-12[EW- Combined], 22C2029-13[Post Carbon], B305189-BLK1, B305189-BS1, B305189-DUP1

L-05 Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.

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

22C2029-01[IA-1], 22C2029-02[IA-2], 22C2029-03[IA-3], 22C2029-04[IA-4], 22C2029-05RE1[IA-5], 22C2029-07RE1[IA-7], 22C2029-08[EW-5], 22C2029-09RE1[EW-6],
22C2029-10[EW-7], 22C2029-11[AA-1], 22C2029-12[EW- Combined], 22C2029-13RE1[Post Carbon], B305189-BS1, B305189-DUP1

V-04 Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.

Analyte & Samples(s) Qualified:**1,2,4-Trichlorobenzene**

22C2029-01[IA-1], 22C2029-02[IA-2], 22C2029-03[IA-3], 22C2029-04[IA-4], 22C2029-05[IA-5], 22C2029-06[IA-6], 22C2029-07[IA-7], 22C2029-08[EW-5],
22C2029-09[EW-6], 22C2029-10[EW-7], 22C2029-11[AA-1], 22C2029-12[EW- Combined], 22C2029-13[Post Carbon], B305189-BLK1, B305189-BS1, B305189-DUP1,
S070061-CCV1

V-05 Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

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

22C2029-01[IA-1], 22C2029-02[IA-2], 22C2029-03[IA-3], 22C2029-04[IA-4], 22C2029-05[IA-5], 22C2029-06[IA-6], 22C2029-07[IA-7], 22C2029-08[EW-5],
22C2029-09[EW-6], 22C2029-10[EW-7], 22C2029-11[AA-1], 22C2029-12[EW- Combined], 22C2029-13[Post Carbon], B305189-BLK1, B305189-BS1, B305189-DUP1,
S070061-CCV1

V-06 Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.

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

22C2029-01[IA-1], 22C2029-02[IA-2], 22C2029-03[IA-3], 22C2029-04[IA-4], 22C2029-05RE1[IA-5], 22C2029-06RE1[IA-6], 22C2029-07RE1[IA-7], 22C2029-08[EW-5],
22C2029-09RE1[EW-6], 22C2029-10RE1[EW-7], 22C2029-11[AA-1], 22C2029-12[EW- Combined], 22C2029-13RE1[Post Carbon], B305189-BS1, B305189-DUP1,
B305313-BLK1, B305313-BS1, S070061-CCV1, S070120-CCV1

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.

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

22C2029-01[IA-1], 22C2029-02[IA-2], 22C2029-03[IA-3], 22C2029-04[IA-4], 22C2029-05[IA-5], 22C2029-06[IA-6], 22C2029-07[IA-7], 22C2029-08[EW-5],
22C2029-09[EW-6], 22C2029-10[EW-7], 22C2029-11[AA-1], 22C2029-12[EW- Combined], 22C2029-13[Post Carbon], B305189-BLK1, B305189-BS1, B305189-DUP1,
S070061-CCV1

V-36 Initial calibration verification (ICV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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

B305189-BS1, S070061-CCV1

Z-01 Compound fails the method requirement of 70-130% recovery for the LCS. Is classified by the lab as a difficult compound and passes the in house limits of 50-150%.

Analyte & Samples(s) Qualified:

Ethanol

22C2029-06RE1[IA-6], B305313-BLK1, B305313-BS1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace 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: 3/30/2022

Field Sample #: IA-1

Sample ID: 22C2029-01

Sample Matrix: Air

Sampled: 3/29/2022 13:55

Sample Description/Location:

Sub Description/Location:

Canister ID: 1100

Canister Size: 6 liter

Flow Controller ID: 4180

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -6

Receipt Vacuum(in Hg): -5.8

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL	Dilution			MDL	Analyzed	Analyst		
Acetone	3.0	1.4	0.84			7.1	3.3	2.0	0.698	4/6/22 12:15	BRF
Benzene	0.14	0.035	0.026			0.44	0.11	0.084	0.698	4/6/22 12:15	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 12:15	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 12:15	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 12:15	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 12:15	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 12:15	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 12:15	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 12:15	BRF
Carbon Tetrachloride	0.069	0.035	0.028			0.43	0.22	0.17	0.698	4/6/22 12:15	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 12:15	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 12:15	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 12:15	BRF
Chloromethane	0.66	0.070	0.028			1.4	0.14	0.057	0.698	4/6/22 12:15	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 12:15	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 12:15	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 12:15	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 12:15	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 12:15	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 12:15	BRF
Dichlorodifluoromethane (Freon 12)	0.42	0.035	0.034			2.1	0.17	0.17	0.698	4/6/22 12:15	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 12:15	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 12:15	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 12:15	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025			ND	0.14	0.10	0.698	4/6/22 12:15	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 12:15	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 12:15	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 12:15	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 12:15	BRF
Ethanol	20	1.4	0.62	V-06, L-05		38	2.6	1.2	0.698	4/6/22 12:15	BRF
Ethyl Acetate	0.47	0.35	0.18	V-05, L-03, V-34		1.7	1.3	0.64	0.698	4/6/22 12:15	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 12:15	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 12:15	BRF
Heptane	0.029	0.035	0.022	J		0.12	0.14	0.091	0.698	4/6/22 12:15	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 12:15	BRF
Hexane	0.34	1.4	0.18	J		1.2	4.9	0.64	0.698	4/6/22 12:15	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 12:15	BRF
Isopropanol	0.55	1.4	0.24	J		1.3	3.4	0.59	0.698	4/6/22 12:15	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 12:15	BRF
Methylene Chloride	2.3	0.35	0.16			7.9	1.2	0.56	0.698	4/6/22 12:15	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 12:15	BRF
4-Methyl-2-pentanone (MIBK)	0.022	0.035	0.018	J		0.091	0.14	0.073	0.698	4/6/22 12:15	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 12:15	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 12:15	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 12:15	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 12:15	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-1

Sample ID: 22C2029-01

Sample Matrix: Air

Sampled: 3/29/2022 13:55

Sample Description/Location:

Sub Description/Location:

Canister ID: 1100

Canister Size: 6 liter

Flow Controller ID: 4180

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -6

Receipt Vacuum(in Hg): -5.8

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrachloroethylene	0.042	0.035	0.027		V-04, L-03	0.28	0.24	0.18	0.698	4/6/22 12:15	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 12:15	BRF
Toluene	0.079	0.035	0.020			0.30	0.13	0.075	0.698	4/6/22 12:15	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024			ND	0.52	0.18	0.698	4/6/22 12:15	BRF
1,1,1-Trichloroethane	ND	0.035	0.027			ND	0.19	0.15	0.698	4/6/22 12:15	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 12:15	BRF
Trichloroethylene	0.024	0.035	0.024	J		0.13	0.19	0.13	0.698	4/6/22 12:15	BRF
Trichlorofluoromethane (Freon 11)	0.21	0.14	0.041			1.2	0.78	0.23	0.698	4/6/22 12:15	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.066	0.14	0.039	J		0.51	1.1	0.30	0.698	4/6/22 12:15	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 12:15	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 12:15	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 12:15	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 12:15	BRF
m&p-Xylene	ND	0.070	0.039			ND	0.30	0.17	0.698	4/6/22 12:15	BRF
o-Xylene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 12:15	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	87.7	70-130	4/6/22 12:15
4-Bromofluorobenzene (2)	85.4	70-130	4/6/22 12:15

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-2
Sample ID: 22C2029-02

Sample Matrix: Air

Sampled: 3/29/2022 14:35

Sample Description/Location:

Sub Description/Location:

Canister ID: 1046

Canister Size: 6 liter

Flow Controller ID: 4293

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -2

Receipt Vacuum(in Hg): -2.9

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	2.3	1.4	0.84			5.5	3.3	2.0	0.698	4/6/22 13:11	BRF
Benzene	0.13	0.035	0.026			0.41	0.11	0.084	0.698	4/6/22 13:11	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 13:11	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 13:11	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 13:11	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 13:11	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 13:11	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 13:11	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 13:11	BRF
Carbon Tetrachloride	ND	0.035	0.028			ND	0.22	0.17	0.698	4/6/22 13:11	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 13:11	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 13:11	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 13:11	BRF
Chloromethane	0.61	0.070	0.028			1.3	0.14	0.057	0.698	4/6/22 13:11	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 13:11	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 13:11	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 13:11	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 13:11	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 13:11	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 13:11	BRF
Dichlorodifluoromethane (Freon 12)	0.40	0.035	0.034			2.0	0.17	0.17	0.698	4/6/22 13:11	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 13:11	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 13:11	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 13:11	BRF
cis-1,2-Dichloroethylene	0.040	0.035	0.025			0.16	0.14	0.10	0.698	4/6/22 13:11	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 13:11	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 13:11	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 13:11	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 13:11	BRF
Ethanol	3.2	1.4	0.62	L-05, V-06		6.0	2.6	1.2	0.698	4/6/22 13:11	BRF
Ethyl Acetate	ND	0.35	0.18	L-03, V-05, V-34		ND	1.3	0.64	0.698	4/6/22 13:11	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 13:11	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 13:11	BRF
Heptane	ND	0.035	0.022			ND	0.14	0.091	0.698	4/6/22 13:11	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 13:11	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 13:11	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 13:11	BRF
Isopropanol	0.30	1.4	0.24	J		0.74	3.4	0.59	0.698	4/6/22 13:11	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 13:11	BRF
Methylene Chloride	ND	0.35	0.16			ND	1.2	0.56	0.698	4/6/22 13:11	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 13:11	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 13:11	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 13:11	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 13:11	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 13:11	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 13:11	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-2

Sample ID: 22C2029-02

Sample Matrix: Air

Sampled: 3/29/2022 14:35

Sample Description/Location:

Sub Description/Location:

Canister ID: 1046

Canister Size: 6 liter

Flow Controller ID: 4293

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -2

Receipt Vacuum(in Hg): -2.9

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
Tetrachloroethylene	0.10	0.035	0.027			0.68	0.24	0.18	0.698	4/6/22 13:11	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 13:11	BRF
Toluene	0.057	0.035	0.020			0.22	0.13	0.075	0.698	4/6/22 13:11	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 13:11	BRF
1,1,1-Trichloroethane	ND	0.035	0.027			ND	0.19	0.15	0.698	4/6/22 13:11	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 13:11	BRF
Trichloroethylene	0.040	0.035	0.024			0.22	0.19	0.13	0.698	4/6/22 13:11	BRF
Trichlorofluoromethane (Freon 11)	0.21	0.14	0.041			1.2	0.78	0.23	0.698	4/6/22 13:11	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.062	0.14	0.039	J		0.48	1.1	0.30	0.698	4/6/22 13:11	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 13:11	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 13:11	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 13:11	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 13:11	BRF
m&p-Xylene	ND	0.070	0.039			ND	0.30	0.17	0.698	4/6/22 13:11	BRF
o-Xylene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 13:11	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	86.9	70-130	4/6/22 13:11
4-Bromofluorobenzene (2)	84.8	70-130	4/6/22 13:11

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-3

Sample ID: 22C2029-03

Sample Matrix: Air

Sampled: 3/29/2022 13:56

Sample Description/Location:

Sub Description/Location:

Canister ID: 0581

Canister Size: 6 liter

Flow Controller ID: 4304

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -6.4

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	3.1	1.4	0.84			7.4	3.3	2.0	0.698	4/6/22 14:38	BRF
Benzene	0.12	0.035	0.026			0.40	0.11	0.084	0.698	4/6/22 14:38	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 14:38	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 14:38	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 14:38	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 14:38	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 14:38	BRF
2-Butanone (MEK)	0.40	1.4	0.37	J		1.2	4.1	1.1	0.698	4/6/22 14:38	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 14:38	BRF
Carbon Tetrachloride	ND	0.035	0.028			ND	0.22	0.17	0.698	4/6/22 14:38	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 14:38	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 14:38	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 14:38	BRF
Chloromethane	0.67	0.070	0.028			1.4	0.14	0.057	0.698	4/6/22 14:38	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 14:38	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 14:38	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 14:38	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 14:38	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 14:38	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 14:38	BRF
Dichlorodifluoromethane (Freon 12)	0.40	0.035	0.034			2.0	0.17	0.17	0.698	4/6/22 14:38	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 14:38	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 14:38	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 14:38	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025			ND	0.14	0.10	0.698	4/6/22 14:38	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 14:38	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 14:38	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 14:38	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 14:38	BRF
Ethanol	8.8	1.4	0.62	L-05, V-06		17	2.6	1.2	0.698	4/6/22 14:38	BRF
Ethyl Acetate	ND	0.35	0.18	L-03, V-05, V-34		ND	1.3	0.64	0.698	4/6/22 14:38	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 14:38	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 14:38	BRF
Heptane	ND	0.035	0.022			ND	0.14	0.091	0.698	4/6/22 14:38	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 14:38	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 14:38	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 14:38	BRF
Isopropanol	0.42	1.4	0.24	J		1.0	3.4	0.59	0.698	4/6/22 14:38	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 14:38	BRF
Methylene Chloride	0.22	0.35	0.16	J		0.76	1.2	0.56	0.698	4/6/22 14:38	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 14:38	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 14:38	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 14:38	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 14:38	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 14:38	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 14:38	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-3

Sample ID: 22C2029-03

Sample Matrix: Air

Sampled: 3/29/2022 13:56

Sample Description/Location:

Sub Description/Location:

Canister ID: 0581

Canister Size: 6 liter

Flow Controller ID: 4304

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -7

Receipt Vacuum(in Hg): -6.4

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
Tetrachloroethylene	0.042	0.035	0.027			0.28	0.24	0.18	0.698	4/6/22 14:38	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 14:38	BRF
Toluene	0.086	0.035	0.020			0.32	0.13	0.075	0.698	4/6/22 14:38	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 14:38	BRF
1,1,1-Trichloroethane	ND	0.035	0.027			ND	0.19	0.15	0.698	4/6/22 14:38	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 14:38	BRF
Trichloroethylene	0.027	0.035	0.024	J		0.14	0.19	0.13	0.698	4/6/22 14:38	BRF
Trichlorofluoromethane (Freon 11)	0.22	0.14	0.041			1.2	0.78	0.23	0.698	4/6/22 14:38	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.082	0.14	0.039	J		0.63	1.1	0.30	0.698	4/6/22 14:38	BRF
1,2,4-Trimethylbenzene	0.029	0.035	0.015	J		0.14	0.17	0.076	0.698	4/6/22 14:38	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 14:38	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 14:38	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 14:38	BRF
m&p-Xylene	0.052	0.070	0.039	J		0.22	0.30	0.17	0.698	4/6/22 14:38	BRF
o-Xylene	0.024	0.035	0.018	J		0.11	0.15	0.078	0.698	4/6/22 14:38	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	88.0	70-130	4/6/22 14:38
4-Bromofluorobenzene (2)	86.2	70-130	4/6/22 14:38

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-4

Sample ID: 22C2029-04

Sample Matrix: Air

Sampled: 3/29/2022 14:40

Sample Description/Location:

Sub Description/Location:

Canister ID: 1033

Canister Size: 6 liter

Flow Controller ID: 4195

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -4

Receipt Vacuum(in Hg): -2.9

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	2.3	1.4	0.84			5.5	3.3	2.0	0.698	4/6/22 15:34	BRF
Benzene	0.12	0.035	0.026			0.40	0.11	0.084	0.698	4/6/22 15:34	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 15:34	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 15:34	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 15:34	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 15:34	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 15:34	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 15:34	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 15:34	BRF
Carbon Tetrachloride	ND	0.035	0.028			ND	0.22	0.17	0.698	4/6/22 15:34	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 15:34	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 15:34	BRF
Chloroform	0.037	0.035	0.033			0.18	0.17	0.16	0.698	4/6/22 15:34	BRF
Chloromethane	0.62	0.070	0.028			1.3	0.14	0.057	0.698	4/6/22 15:34	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 15:34	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 15:34	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 15:34	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 15:34	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 15:34	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 15:34	BRF
Dichlorodifluoromethane (Freon 12)	0.41	0.035	0.034			2.0	0.17	0.17	0.698	4/6/22 15:34	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 15:34	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 15:34	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 15:34	BRF
cis-1,2-Dichloroethylene	0.057	0.035	0.025			0.22	0.14	0.10	0.698	4/6/22 15:34	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 15:34	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 15:34	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 15:34	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 15:34	BRF
Ethanol	3.0	1.4	0.62	L-05, V-06		5.6	2.6	1.2	0.698	4/6/22 15:34	BRF
Ethyl Acetate	ND	0.35	0.18	L-03, V-05, V-34		ND	1.3	0.64	0.698	4/6/22 15:34	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 15:34	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 15:34	BRF
Heptane	0.022	0.035	0.022	J		0.091	0.14	0.091	0.698	4/6/22 15:34	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 15:34	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 15:34	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 15:34	BRF
Isopropanol	0.71	1.4	0.24	J		1.7	3.4	0.59	0.698	4/6/22 15:34	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 15:34	BRF
Methylene Chloride	ND	0.35	0.16			ND	1.2	0.56	0.698	4/6/22 15:34	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 15:34	BRF
4-Methyl-2-pentanone (MIBK)	0.041	0.035	0.018			0.17	0.14	0.073	0.698	4/6/22 15:34	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 15:34	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 15:34	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 15:34	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 15:34	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-4

Sample ID: 22C2029-04

Sample Matrix: Air

Sampled: 3/29/2022 14:40

Sample Description/Location:

Sub Description/Location:

Canister ID: 1033

Canister Size: 6 liter

Flow Controller ID: 4195

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -4

Receipt Vacuum(in Hg): -2.9

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
Tetrachloroethylene	0.15	0.035	0.027			1.0	0.24	0.18	0.698	4/6/22 15:34	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 15:34	BRF
Toluene	0.057	0.035	0.020			0.22	0.13	0.075	0.698	4/6/22 15:34	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 15:34	BRF
1,1,1-Trichloroethane	0.029	0.035	0.027	J		0.16	0.19	0.15	0.698	4/6/22 15:34	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 15:34	BRF
Trichloroethylene	0.063	0.035	0.024			0.34	0.19	0.13	0.698	4/6/22 15:34	BRF
Trichlorofluoromethane (Freon 11)	0.22	0.14	0.041			1.2	0.78	0.23	0.698	4/6/22 15:34	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.071	0.14	0.039	J		0.55	1.1	0.30	0.698	4/6/22 15:34	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 15:34	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 15:34	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 15:34	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 15:34	BRF
m&p-Xylene	ND	0.070	0.039			ND	0.30	0.17	0.698	4/6/22 15:34	BRF
o-Xylene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 15:34	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	86.3	70-130	4/6/22 15:34
4-Bromofluorobenzene (2)	83.9	70-130	4/6/22 15:34

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-5

Sample ID: 22C2029-05

Sample Matrix: Air

Sampled: 3/29/2022 12:56

Sample Description/Location:

Sub Description/Location:

Canister ID: 1859

Canister Size: 6 liter

Flow Controller ID: 4202

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -26

Final Vacuum(in Hg): -1

Receipt Vacuum(in Hg): -0.9

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3			Date/Time			
	Results	RL	MDL	Flag/Qual	Results	RL	MDL	Dilution	Analyzed	Analyst
Acetone	3.5	1.4	0.84		8.4	3.3	2.0	0.698	4/6/22 16:29	BRF
Benzene	0.26	0.035	0.026		0.84	0.11	0.084	0.698	4/6/22 16:29	BRF
Benzyl chloride	ND	0.035	0.031		ND	0.18	0.16	0.698	4/6/22 16:29	BRF
Bromodichloromethane	ND	0.035	0.024		ND	0.23	0.16	0.698	4/6/22 16:29	BRF
Bromoform	ND	0.035	0.024		ND	0.36	0.25	0.698	4/6/22 16:29	BRF
Bromomethane	ND	0.035	0.028		ND	0.14	0.11	0.698	4/6/22 16:29	BRF
1,3-Butadiene	ND	0.035	0.029		ND	0.077	0.065	0.698	4/6/22 16:29	BRF
2-Butanone (MEK)	ND	1.4	0.37		ND	4.1	1.1	0.698	4/6/22 16:29	BRF
Carbon Disulfide	ND	0.35	0.032		ND	1.1	0.10	0.698	4/6/22 16:29	BRF
Carbon Tetrachloride	0.077	0.035	0.028		0.49	0.22	0.17	0.698	4/6/22 16:29	BRF
Chlorobenzene	ND	0.035	0.023		ND	0.16	0.11	0.698	4/6/22 16:29	BRF
Chloroethane	ND	0.035	0.025		ND	0.092	0.067	0.698	4/6/22 16:29	BRF
Chloroform	ND	0.035	0.033		ND	0.17	0.16	0.698	4/6/22 16:29	BRF
Chloromethane	0.61	0.070	0.028		1.3	0.14	0.057	0.698	4/6/22 16:29	BRF
Cyclohexane	0.57	0.035	0.023		2.0	0.12	0.079	0.698	4/6/22 16:29	BRF
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.20	0.698	4/6/22 16:29	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021		ND	0.27	0.16	0.698	4/6/22 16:29	BRF
1,2-Dichlorobenzene	ND	0.035	0.020		ND	0.21	0.12	0.698	4/6/22 16:29	BRF
1,3-Dichlorobenzene	ND	0.035	0.019		ND	0.21	0.12	0.698	4/6/22 16:29	BRF
1,4-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.14	0.698	4/6/22 16:29	BRF
Dichlorodifluoromethane (Freon 12)	0.42	0.035	0.034		2.1	0.17	0.17	0.698	4/6/22 16:29	BRF
1,1-Dichloroethane	ND	0.035	0.030		ND	0.14	0.12	0.698	4/6/22 16:29	BRF
1,2-Dichloroethane	ND	0.035	0.032		ND	0.14	0.13	0.698	4/6/22 16:29	BRF
1,1-Dichloroethylene	ND	0.035	0.027		ND	0.14	0.11	0.698	4/6/22 16:29	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025		ND	0.14	0.10	0.698	4/6/22 16:29	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027		ND	0.14	0.11	0.698	4/6/22 16:29	BRF
1,2-Dichloropropane	ND	0.035	0.019		ND	0.16	0.087	0.698	4/6/22 16:29	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018		ND	0.16	0.082	0.698	4/6/22 16:29	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018		ND	0.16	0.081	0.698	4/6/22 16:29	BRF
Ethanol	120	20	8.8	L-05, V-06	220	38	17	10	4/6/22 16:54	BRF
Ethyl Acetate	6.0	0.35	0.18	L-03, V-05, V-34	22	1.3	0.64	0.698	4/6/22 16:29	BRF
Ethylbenzene	0.10	0.035	0.020		0.45	0.15	0.088	0.698	4/6/22 16:29	BRF
4-Ethyltoluene	ND	0.035	0.021		ND	0.17	0.11	0.698	4/6/22 16:29	BRF
Heptane	0.28	0.035	0.022		1.1	0.14	0.091	0.698	4/6/22 16:29	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03	ND	0.37	0.31	0.698	4/6/22 16:29	BRF
Hexane	ND	1.4	0.18		ND	4.9	0.64	0.698	4/6/22 16:29	BRF
2-Hexanone (MBK)	ND	0.070	0.018		ND	0.29	0.072	0.698	4/6/22 16:29	BRF
Isopropanol	1.2	1.4	0.24	J	2.9	3.4	0.59	0.698	4/6/22 16:29	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03	ND	0.13	0.097	0.698	4/6/22 16:29	BRF
Methylene Chloride	0.27	0.35	0.16	J	0.95	1.2	0.56	0.698	4/6/22 16:29	BRF
Methyl methacrylate	ND	0.035	0.018		ND	0.14	0.073	0.698	4/6/22 16:29	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018		ND	0.14	0.073	0.698	4/6/22 16:29	BRF
Propene	ND	1.4	0.31		ND	2.4	0.53	0.698	4/6/22 16:29	BRF
Styrene	ND	0.035	0.018		ND	0.15	0.078	0.698	4/6/22 16:29	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023		ND	0.44	0.16	0.698	4/6/22 16:29	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019		ND	0.24	0.13	0.698	4/6/22 16:29	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-5

Sample ID: 22C2029-05

Sample Matrix: Air

Sampled: 3/29/2022 12:56

Sample Description/Location:

Sub Description/Location:

Canister ID: 1859

Canister Size: 6 liter

Flow Controller ID: 4202

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -26

Final Vacuum(in Hg): -1

Receipt Vacuum(in Hg): -0.9

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
Tetrachloroethylene	0.042	0.035	0.027			0.28	0.24	0.18	0.698	4/6/22 16:29	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 16:29	BRF
Toluene	0.36	0.035	0.020			1.3	0.13	0.075	0.698	4/6/22 16:29	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 16:29	BRF
1,1,1-Trichloroethane	0.051	0.035	0.027			0.28	0.19	0.15	0.698	4/6/22 16:29	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 16:29	BRF
Trichloroethylene	0.040	0.035	0.024			0.21	0.19	0.13	0.698	4/6/22 16:29	BRF
Trichlorofluoromethane (Freon 11)	0.26	0.14	0.041			1.4	0.78	0.23	0.698	4/6/22 16:29	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.067	0.14	0.039	J		0.51	1.1	0.30	0.698	4/6/22 16:29	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 16:29	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 16:29	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 16:29	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 16:29	BRF
m&p-Xylene	0.45	0.070	0.039			2.0	0.30	0.17	0.698	4/6/22 16:29	BRF
o-Xylene	0.23	0.035	0.018			0.98	0.15	0.078	0.698	4/6/22 16:29	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	79.9	70-130	4/6/22 16:54
4-Bromofluorobenzene (1)	87.4	70-130	4/6/22 16:29
4-Bromofluorobenzene (2)	79.2	70-130	4/6/22 16:54
4-Bromofluorobenzene (2)	84.8	70-130	4/6/22 16:29

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-6

Sample ID: 22C2029-06

Sample Matrix: Air

Sampled: 3/29/2022 12:59

Sample Description/Location:

Sub Description/Location:

Canister ID: 1274

Canister Size: 6 liter

Flow Controller ID: 4301

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -4

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	3.2	1.4	0.84			7.7	3.3	2.0	0.698	4/6/22 17:25	BRF
Benzene	0.25	0.035	0.026			0.80	0.11	0.084	0.698	4/6/22 17:25	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 17:25	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 17:25	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 17:25	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 17:25	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 17:25	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 17:25	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 17:25	BRF
Carbon Tetrachloride	0.076	0.035	0.028			0.48	0.22	0.17	0.698	4/6/22 17:25	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 17:25	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 17:25	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 17:25	BRF
Chloromethane	0.66	0.070	0.028			1.4	0.14	0.057	0.698	4/6/22 17:25	BRF
Cyclohexane	0.077	0.035	0.023			0.27	0.12	0.079	0.698	4/6/22 17:25	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 17:25	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 17:25	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 17:25	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 17:25	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 17:25	BRF
Dichlorodifluoromethane (Freon 12)	0.40	0.035	0.034			2.0	0.17	0.17	0.698	4/6/22 17:25	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 17:25	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 17:25	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 17:25	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025			ND	0.14	0.10	0.698	4/6/22 17:25	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 17:25	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 17:25	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 17:25	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 17:25	BRF
Ethanol	2400	600	260	V-06, Z-01		4500	1100	500	300	4/7/22 19:52	BRF
Ethyl Acetate	ND	0.35	0.18	L-03, V-05, V-34		ND	1.3	0.64	0.698	4/6/22 17:25	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 17:25	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 17:25	BRF
Heptane	0.13	0.035	0.022			0.52	0.14	0.091	0.698	4/6/22 17:25	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 17:25	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 17:25	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 17:25	BRF
Isopropanol	0.77	1.4	0.24	J		1.9	3.4	0.59	0.698	4/6/22 17:25	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 17:25	BRF
Methylene Chloride	0.18	0.35	0.16	J		0.61	1.2	0.56	0.698	4/6/22 17:25	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 17:25	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 17:25	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 17:25	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 17:25	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 17:25	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 17:25	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-6

Sample ID: 22C2029-06

Sample Matrix: Air

Sampled: 3/29/2022 12:59

Sample Description/Location:

Sub Description/Location:

Canister ID: 1274

Canister Size: 6 liter

Flow Controller ID: 4301

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -4

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
Tetrachloroethylene	0.030	0.035	0.027	J		0.20	0.24	0.18	0.698	4/6/22 17:25	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 17:25	BRF
Toluene	0.098	0.035	0.020			0.37	0.13	0.075	0.698	4/6/22 17:25	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 17:25	BRF
1,1,1-Trichloroethane	0.029	0.035	0.027	J		0.16	0.19	0.15	0.698	4/6/22 17:25	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 17:25	BRF
Trichloroethylene	ND	0.035	0.024			ND	0.19	0.13	0.698	4/6/22 17:25	BRF
Trichlorofluoromethane (Freon 11)	0.27	0.14	0.041			1.5	0.78	0.23	0.698	4/6/22 17:25	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.068	0.14	0.039	J		0.52	1.1	0.30	0.698	4/6/22 17:25	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 17:25	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 17:25	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 17:25	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 17:25	BRF
m&p-Xylene	0.075	0.070	0.039			0.32	0.30	0.17	0.698	4/6/22 17:25	BRF
o-Xylene	0.035	0.035	0.018			0.15	0.15	0.078	0.698	4/6/22 17:25	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	86.5	70-130	4/7/22 19:52
4-Bromofluorobenzene (1)	87.2	70-130	4/6/22 17:25
4-Bromofluorobenzene (2)	87.2	70-130	4/6/22 17:25

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-7

Sample ID: 22C2029-07

Sample Matrix: Air

Sampled: 3/29/2022 12:19

Sample Description/Location:

Sub Description/Location:

Canister ID: 3447

Canister Size: 6 liter

Flow Controller ID: 4365

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -4.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	4.2	1.4	0.84			10	3.3	2.0	0.698	4/6/22 18:22	BRF
Benzene	0.20	0.035	0.026			0.63	0.11	0.084	0.698	4/6/22 18:22	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 18:22	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 18:22	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 18:22	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 18:22	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 18:22	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 18:22	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 18:22	BRF
Carbon Tetrachloride	ND	0.035	0.028			ND	0.22	0.17	0.698	4/6/22 18:22	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 18:22	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 18:22	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 18:22	BRF
Chloromethane	0.67	0.070	0.028			1.4	0.14	0.057	0.698	4/6/22 18:22	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 18:22	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 18:22	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 18:22	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 18:22	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 18:22	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 18:22	BRF
Dichlorodifluoromethane (Freon 12)	0.40	0.035	0.034			2.0	0.17	0.17	0.698	4/6/22 18:22	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 18:22	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 18:22	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 18:22	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025			ND	0.14	0.10	0.698	4/6/22 18:22	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 18:22	BRF
1,2-Dichloropropane	0.020	0.035	0.019	J		0.090	0.16	0.087	0.698	4/6/22 18:22	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 18:22	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 18:22	BRF
Ethanol	110	20	8.8	L-05, V-06		220	38	17	10	4/6/22 18:47	BRF
Ethyl Acetate	ND	0.35	0.18	L-03, V-05, V-34		ND	1.3	0.64	0.698	4/6/22 18:22	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 18:22	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 18:22	BRF
Heptane	0.051	0.035	0.022			0.21	0.14	0.091	0.698	4/6/22 18:22	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 18:22	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 18:22	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 18:22	BRF
Isopropanol	1.4	1.4	0.24	J		3.4	3.4	0.59	0.698	4/6/22 18:22	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 18:22	BRF
Methylene Chloride	0.18	0.35	0.16	J		0.61	1.2	0.56	0.698	4/6/22 18:22	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 18:22	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 18:22	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 18:22	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 18:22	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 18:22	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 18:22	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: IA-7

Sample ID: 22C2029-07

Sample Matrix: Air

Sampled: 3/29/2022 12:19

Sample Description/Location:

Sub Description/Location:

Canister ID: 3447

Canister Size: 6 liter

Flow Controller ID: 4365

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -4.6

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrachloroethylene	0.051	0.035	0.027			0.35	0.24	0.18	0.698	4/6/22 18:22	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 18:22	BRF
Toluene	0.063	0.035	0.020			0.24	0.13	0.075	0.698	4/6/22 18:22	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 18:22	BRF
1,1,1-Trichloroethane	ND	0.035	0.027			ND	0.19	0.15	0.698	4/6/22 18:22	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 18:22	BRF
Trichloroethylene	0.062	0.035	0.024			0.33	0.19	0.13	0.698	4/6/22 18:22	BRF
Trichlorofluoromethane (Freon 11)	0.30	0.14	0.041			1.7	0.78	0.23	0.698	4/6/22 18:22	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.073	0.14	0.039	J		0.56	1.1	0.30	0.698	4/6/22 18:22	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 18:22	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 18:22	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 18:22	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 18:22	BRF
m&p-Xylene	ND	0.070	0.039			ND	0.30	0.17	0.698	4/6/22 18:22	BRF
o-Xylene	0.020	0.035	0.018	J		0.085	0.15	0.078	0.698	4/6/22 18:22	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	86.5	70-130	4/6/22 18:22
4-Bromofluorobenzene (1)	79.6	70-130	4/6/22 18:47
4-Bromofluorobenzene (2)	84.6	70-130	4/6/22 18:22
4-Bromofluorobenzene (2)	78.8	70-130	4/6/22 18:47

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: EW-5

Sample ID: 22C2029-08

Sample Matrix: Air

Sampled: 3/29/2022 13:50

Sample Description/Location:

Sub Description/Location:

Canister ID: 1844

Canister Size: 6 liter

Flow Controller ID: 4079

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -5.2

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	1.7	1.4	0.84			4.0	3.3	2.0	0.698	4/6/22 19:18	BRF
Benzene	0.13	0.035	0.026			0.41	0.11	0.084	0.698	4/6/22 19:18	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 19:18	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 19:18	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 19:18	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 19:18	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 19:18	BRF
2-Butanone (MEK)	0.40	1.4	0.37	J		1.2	4.1	1.1	0.698	4/6/22 19:18	BRF
Carbon Disulfide	0.033	0.35	0.032	J		0.10	1.1	0.10	0.698	4/6/22 19:18	BRF
Carbon Tetrachloride	0.070	0.035	0.028			0.44	0.22	0.17	0.698	4/6/22 19:18	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 19:18	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 19:18	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 19:18	BRF
Chloromethane	ND	0.070	0.028			ND	0.14	0.057	0.698	4/6/22 19:18	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 19:18	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 19:18	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 19:18	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 19:18	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 19:18	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 19:18	BRF
Dichlorodifluoromethane (Freon 12)	0.40	0.035	0.034			2.0	0.17	0.17	0.698	4/6/22 19:18	BRF
1,1-Dichloroethane	0.078	0.035	0.030			0.32	0.14	0.12	0.698	4/6/22 19:18	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 19:18	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 19:18	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025			ND	0.14	0.10	0.698	4/6/22 19:18	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 19:18	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 19:18	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 19:18	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 19:18	BRF
Ethanol	4.3	1.4	0.62	L-05, V-06		8.1	2.6	1.2	0.698	4/6/22 19:18	BRF
Ethyl Acetate	ND	0.35	0.18	L-03, V-05, V-34		ND	1.3	0.64	0.698	4/6/22 19:18	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 19:18	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 19:18	BRF
Heptane	0.024	0.035	0.022	J		0.097	0.14	0.091	0.698	4/6/22 19:18	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 19:18	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 19:18	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 19:18	BRF
Isopropanol	ND	1.4	0.24			ND	3.4	0.59	0.698	4/6/22 19:18	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 19:18	BRF
Methylene Chloride	ND	0.35	0.16			ND	1.2	0.56	0.698	4/6/22 19:18	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 19:18	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 19:18	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 19:18	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 19:18	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 19:18	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 19:18	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: EW-5

Sample ID: 22C2029-08

Sample Matrix: Air

Sampled: 3/29/2022 13:50

Sample Description/Location:

Sub Description/Location:

Canister ID: 1844

Canister Size: 6 liter

Flow Controller ID: 4079

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -29

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -5.2

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrachloroethylene	0.33	0.035	0.027			2.3	0.24	0.18	0.698	4/6/22 19:18	BRF
Tetrahydrofuran	2.2	0.35	0.057			6.4	1.0	0.17	0.698	4/6/22 19:18	BRF
Toluene	0.075	0.035	0.020			0.28	0.13	0.075	0.698	4/6/22 19:18	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 19:18	BRF
1,1,1-Trichloroethane	2.7	0.035	0.027			15	0.19	0.15	0.698	4/6/22 19:18	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 19:18	BRF
Trichloroethylene	2.3	0.035	0.024			12	0.19	0.13	0.698	4/6/22 19:18	BRF
Trichlorofluoromethane (Freon 11)	0.31	0.14	0.041			1.7	0.78	0.23	0.698	4/6/22 19:18	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.064	0.14	0.039	J		0.49	1.1	0.30	0.698	4/6/22 19:18	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 19:18	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 19:18	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 19:18	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 19:18	BRF
m&p-Xylene	0.044	0.070	0.039	J		0.19	0.30	0.17	0.698	4/6/22 19:18	BRF
o-Xylene	0.019	0.035	0.018	J		0.082	0.15	0.078	0.698	4/6/22 19:18	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	86.0	70-130	4/6/22 19:18
4-Bromofluorobenzene (2)	84.9	70-130	4/6/22 19:18

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: EW-6

Sample ID: 22C2029-09

Sample Matrix: Air

Sampled: 3/29/2022 13:04

Sample Description/Location:

Sub Description/Location:

Canister ID: 1612

Canister Size: 6 liter

Flow Controller ID: 4067

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -29

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	2.7	1.4	0.84			6.4	3.3	2.0	0.698	4/6/22 21:10	BRF
Benzene	0.22	0.035	0.026			0.70	0.11	0.084	0.698	4/6/22 21:10	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 21:10	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 21:10	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 21:10	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 21:10	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 21:10	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 21:10	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 21:10	BRF
Carbon Tetrachloride	0.077	0.035	0.028			0.49	0.22	0.17	0.698	4/6/22 21:10	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 21:10	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 21:10	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 21:10	BRF
Chloromethane	0.65	0.070	0.028			1.3	0.14	0.057	0.698	4/6/22 21:10	BRF
Cyclohexane	0.096	0.035	0.023			0.33	0.12	0.079	0.698	4/6/22 21:10	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 21:10	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 21:10	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 21:10	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 21:10	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 21:10	BRF
Dichlorodifluoromethane (Freon 12)	0.39	0.035	0.034			1.9	0.17	0.17	0.698	4/6/22 21:10	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 21:10	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 21:10	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 21:10	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025			ND	0.14	0.10	0.698	4/6/22 21:10	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 21:10	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 21:10	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 21:10	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 21:10	BRF
Ethanol	400	20	8.8	L-05, V-06		750	38	17	10	4/6/22 21:34	BRF
Ethyl Acetate	0.19	0.35	0.18	L-03, V-05, V-34, J		0.69	1.3	0.64	0.698	4/6/22 21:10	BRF
Ethylbenzene	0.022	0.035	0.020	J		0.094	0.15	0.088	0.698	4/6/22 21:10	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 21:10	BRF
Heptane	0.11	0.035	0.022			0.43	0.14	0.091	0.698	4/6/22 21:10	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 21:10	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 21:10	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 21:10	BRF
Isopropanol	0.64	1.4	0.24	J		1.6	3.4	0.59	0.698	4/6/22 21:10	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 21:10	BRF
Methylene Chloride	0.19	0.35	0.16	J		0.66	1.2	0.56	0.698	4/6/22 21:10	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 21:10	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 21:10	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 21:10	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 21:10	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 21:10	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 21:10	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: EW-6

Sample ID: 22C2029-09

Sample Matrix: Air

Sampled: 3/29/2022 13:04

Sample Description/Location:

Sub Description/Location:

Canister ID: 1612

Canister Size: 6 liter

Flow Controller ID: 4067

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -29

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
Tetrachloroethylene	0.037	0.035	0.027			0.25	0.24	0.18	0.698	4/6/22 21:10	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 21:10	BRF
Toluene	0.11	0.035	0.020			0.40	0.13	0.075	0.698	4/6/22 21:10	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 21:10	BRF
1,1,1-Trichloroethane	0.038	0.035	0.027			0.21	0.19	0.15	0.698	4/6/22 21:10	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 21:10	BRF
Trichloroethylene	ND	0.035	0.024			ND	0.19	0.13	0.698	4/6/22 21:10	BRF
Trichlorofluoromethane (Freon 11)	0.29	0.14	0.041			1.6	0.78	0.23	0.698	4/6/22 21:10	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.063	0.14	0.039	J		0.49	1.1	0.30	0.698	4/6/22 21:10	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 21:10	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 21:10	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 21:10	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 21:10	BRF
m&p-Xylene	0.082	0.070	0.039			0.35	0.30	0.17	0.698	4/6/22 21:10	BRF
o-Xylene	0.042	0.035	0.018			0.18	0.15	0.078	0.698	4/6/22 21:10	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	88.1	70-130	4/6/22 21:10
4-Bromofluorobenzene (1)	80.0	70-130	4/6/22 21:34
4-Bromofluorobenzene (2)	85.6	70-130	4/6/22 21:10
4-Bromofluorobenzene (2)	78.4	70-130	4/6/22 21:34

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: EW-7

Sample ID: 22C2029-10

Sample Matrix: Air

Sampled: 3/29/2022 12:01

Sample Description/Location:

Sub Description/Location:

Canister ID: 3358

Canister Size: 6 liter

Flow Controller ID: 4366

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -2.3

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv			ug/m3			Date/Time			
	Results	RL	MDL	Flag/Qual	Results	RL	MDL	Dilution	Analyzed	Analyst
Acetone	4.0	1.4	0.84		9.6	3.3	2.0	0.698	4/6/22 22:05	BRF
Benzene	0.19	0.035	0.026		0.60	0.11	0.084	0.698	4/6/22 22:05	BRF
Benzyl chloride	ND	0.035	0.031		ND	0.18	0.16	0.698	4/6/22 22:05	BRF
Bromodichloromethane	ND	0.035	0.024		ND	0.23	0.16	0.698	4/6/22 22:05	BRF
Bromoform	ND	0.035	0.024		ND	0.36	0.25	0.698	4/6/22 22:05	BRF
Bromomethane	ND	0.035	0.028		ND	0.14	0.11	0.698	4/6/22 22:05	BRF
1,3-Butadiene	ND	0.035	0.029		ND	0.077	0.065	0.698	4/6/22 22:05	BRF
2-Butanone (MEK)	ND	1.4	0.37		ND	4.1	1.1	0.698	4/6/22 22:05	BRF
Carbon Disulfide	ND	0.35	0.032		ND	1.1	0.10	0.698	4/6/22 22:05	BRF
Carbon Tetrachloride	0.038	0.035	0.028		0.24	0.22	0.17	0.698	4/6/22 22:05	BRF
Chlorobenzene	ND	0.035	0.023		ND	0.16	0.11	0.698	4/6/22 22:05	BRF
Chloroethane	ND	0.035	0.025		ND	0.092	0.067	0.698	4/6/22 22:05	BRF
Chloroform	ND	0.035	0.033		ND	0.17	0.16	0.698	4/6/22 22:05	BRF
Chloromethane	0.79	0.070	0.028		1.6	0.14	0.057	0.698	4/6/22 22:05	BRF
Cyclohexane	ND	0.035	0.023		ND	0.12	0.079	0.698	4/6/22 22:05	BRF
Dibromochloromethane	ND	0.035	0.023		ND	0.30	0.20	0.698	4/6/22 22:05	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021		ND	0.27	0.16	0.698	4/6/22 22:05	BRF
1,2-Dichlorobenzene	ND	0.035	0.020		ND	0.21	0.12	0.698	4/6/22 22:05	BRF
1,3-Dichlorobenzene	ND	0.035	0.019		ND	0.21	0.12	0.698	4/6/22 22:05	BRF
1,4-Dichlorobenzene	ND	0.035	0.023		ND	0.21	0.14	0.698	4/6/22 22:05	BRF
Dichlorodifluoromethane (Freon 12)	0.40	0.035	0.034		2.0	0.17	0.17	0.698	4/6/22 22:05	BRF
1,1-Dichloroethane	ND	0.035	0.030		ND	0.14	0.12	0.698	4/6/22 22:05	BRF
1,2-Dichloroethane	ND	0.035	0.032		ND	0.14	0.13	0.698	4/6/22 22:05	BRF
1,1-Dichloroethylene	ND	0.035	0.027		ND	0.14	0.11	0.698	4/6/22 22:05	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025		ND	0.14	0.10	0.698	4/6/22 22:05	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027		ND	0.14	0.11	0.698	4/6/22 22:05	BRF
1,2-Dichloropropane	ND	0.035	0.019		ND	0.16	0.087	0.698	4/6/22 22:05	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018		ND	0.16	0.082	0.698	4/6/22 22:05	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018		ND	0.16	0.081	0.698	4/6/22 22:05	BRF
Ethanol	110	20	8.8	L-05, V-06	210	38	17	10	4/6/22 22:30	BRF
Ethyl Acetate	ND	0.35	0.18	L-03, V-05, V-34	ND	1.3	0.64	0.698	4/6/22 22:05	BRF
Ethylbenzene	ND	0.035	0.020		ND	0.15	0.088	0.698	4/6/22 22:05	BRF
4-Ethyltoluene	ND	0.035	0.021		ND	0.17	0.11	0.698	4/6/22 22:05	BRF
Heptane	0.042	0.035	0.022		0.17	0.14	0.091	0.698	4/6/22 22:05	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03	ND	0.37	0.31	0.698	4/6/22 22:05	BRF
Hexane	ND	1.4	0.18		ND	4.9	0.64	0.698	4/6/22 22:05	BRF
2-Hexanone (MBK)	ND	0.070	0.018		ND	0.29	0.072	0.698	4/6/22 22:05	BRF
Isopropanol	1.9	1.4	0.24		4.8	3.4	0.59	0.698	4/6/22 22:05	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03	ND	0.13	0.097	0.698	4/6/22 22:05	BRF
Methylene Chloride	ND	0.35	0.16		ND	1.2	0.56	0.698	4/6/22 22:05	BRF
Methyl methacrylate	ND	0.035	0.018		ND	0.14	0.073	0.698	4/6/22 22:05	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018		ND	0.14	0.073	0.698	4/6/22 22:05	BRF
Propene	ND	1.4	0.31		ND	2.4	0.53	0.698	4/6/22 22:05	BRF
Styrene	ND	0.035	0.018		ND	0.15	0.078	0.698	4/6/22 22:05	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023		ND	0.44	0.16	0.698	4/6/22 22:05	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019		ND	0.24	0.13	0.698	4/6/22 22:05	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: EW-7

Sample ID: 22C2029-10

Sample Matrix: Air

Sampled: 3/29/2022 12:01

Sample Description/Location:

Sub Description/Location:

Canister ID: 3358

Canister Size: 6 liter

Flow Controller ID: 4366

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -5

Receipt Vacuum(in Hg): -2.3

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
Tetrachloroethylene	0.26	0.035	0.027			1.8	0.24	0.18	0.698	4/6/22 22:05	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 22:05	BRF
Toluene	0.077	0.035	0.020			0.29	0.13	0.075	0.698	4/6/22 22:05	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 22:05	BRF
1,1,1-Trichloroethane	0.047	0.035	0.027			0.26	0.19	0.15	0.698	4/6/22 22:05	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 22:05	BRF
Trichloroethylene	0.25	0.035	0.024			1.3	0.19	0.13	0.698	4/6/22 22:05	BRF
Trichlorofluoromethane (Freon 11)	0.74	0.14	0.041			4.1	0.78	0.23	0.698	4/6/22 22:05	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.075	0.14	0.039	J		0.57	1.1	0.30	0.698	4/6/22 22:05	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 22:05	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 22:05	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 22:05	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 22:05	BRF
m&p-Xylene	ND	0.070	0.039			ND	0.30	0.17	0.698	4/6/22 22:05	BRF
o-Xylene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 22:05	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	88.2	70-130	4/6/22 22:05
4-Bromofluorobenzene (1)	77.8	70-130	4/6/22 22:30
4-Bromofluorobenzene (2)	86.7	70-130	4/6/22 22:05
4-Bromofluorobenzene (2)	77.5	70-130	4/6/22 22:30

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: AA-1

Sample ID: 22C2029-11

Sample Matrix: Air

Sampled: 3/29/2022 15:25

Sample Description/Location:

Sub Description/Location:

Canister ID: 1481

Canister Size: 6 liter

Flow Controller ID: 4090

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -6

Receipt Vacuum(in Hg): -3.9

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	2.2	1.4	0.84			5.2	3.3	2.0	0.698	4/6/22 20:14	BRF
Benzene	0.12	0.035	0.026			0.39	0.11	0.084	0.698	4/6/22 20:14	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 20:14	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 20:14	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 20:14	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 20:14	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 20:14	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 20:14	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 20:14	BRF
Carbon Tetrachloride	ND	0.035	0.028			ND	0.22	0.17	0.698	4/6/22 20:14	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 20:14	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 20:14	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 20:14	BRF
Chloromethane	0.62	0.070	0.028			1.3	0.14	0.057	0.698	4/6/22 20:14	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 20:14	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 20:14	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 20:14	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 20:14	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 20:14	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 20:14	BRF
Dichlorodifluoromethane (Freon 12)	0.42	0.035	0.034			2.1	0.17	0.17	0.698	4/6/22 20:14	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 20:14	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 20:14	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 20:14	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025			ND	0.14	0.10	0.698	4/6/22 20:14	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 20:14	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 20:14	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 20:14	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 20:14	BRF
Ethanol	1.7	1.4	0.62	L-05, V-06		3.3	2.6	1.2	0.698	4/6/22 20:14	BRF
Ethyl Acetate	ND	0.35	0.18	L-03, V-05, V-34		ND	1.3	0.64	0.698	4/6/22 20:14	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 20:14	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 20:14	BRF
Heptane	ND	0.035	0.022			ND	0.14	0.091	0.698	4/6/22 20:14	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 20:14	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 20:14	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 20:14	BRF
Isopropanol	0.30	1.4	0.24	J		0.74	3.4	0.59	0.698	4/6/22 20:14	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 20:14	BRF
Methylene Chloride	ND	0.35	0.16			ND	1.2	0.56	0.698	4/6/22 20:14	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 20:14	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 20:14	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 20:14	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 20:14	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 20:14	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 20:14	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: AA-1

Sample ID: 22C2029-11

Sample Matrix: Air

Sampled: 3/29/2022 15:25

Sample Description/Location:

Sub Description/Location:

Canister ID: 1481

Canister Size: 6 liter

Flow Controller ID: 4090

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -30

Final Vacuum(in Hg): -6

Receipt Vacuum(in Hg): -3.9

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
Tetrachloroethylene	ND	0.035	0.027			ND	0.24	0.18	0.698	4/6/22 20:14	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 20:14	BRF
Toluene	0.057	0.035	0.020			0.21	0.13	0.075	0.698	4/6/22 20:14	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 20:14	BRF
1,1,1-Trichloroethane	ND	0.035	0.027			ND	0.19	0.15	0.698	4/6/22 20:14	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 20:14	BRF
Trichloroethylene	ND	0.035	0.024			ND	0.19	0.13	0.698	4/6/22 20:14	BRF
Trichlorofluoromethane (Freon 11)	0.20	0.14	0.041			1.1	0.78	0.23	0.698	4/6/22 20:14	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.081	0.14	0.039	J		0.62	1.1	0.30	0.698	4/6/22 20:14	BRF
1,2,4-Trimethylbenzene	0.031	0.035	0.015	J		0.15	0.17	0.076	0.698	4/6/22 20:14	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 20:14	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 20:14	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 20:14	BRF
m&p-Xylene	0.044	0.070	0.039	J		0.19	0.30	0.17	0.698	4/6/22 20:14	BRF
o-Xylene	0.019	0.035	0.018	J		0.082	0.15	0.078	0.698	4/6/22 20:14	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	87.3	70-130	4/6/22 20:14
4-Bromofluorobenzene (2)	85.5	70-130	4/6/22 20:14

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: EW- Combined
Sample ID: 22C2029-12

Sample Matrix: Air

Sampled: 3/29/2022 15:36

Sample Description/Location:

Sub Description/Location:

Canister ID: 1713

Canister Size: 6 liter

Flow Controller ID: 4200

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -8

Receipt Vacuum(in Hg): -7.3

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	3.3	1.4	0.84			7.8	3.3	2.0	0.698	4/6/22 23:01	BRF
Benzene	0.16	0.035	0.026			0.50	0.11	0.084	0.698	4/6/22 23:01	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 23:01	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 23:01	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 23:01	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 23:01	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 23:01	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 23:01	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 23:01	BRF
Carbon Tetrachloride	0.070	0.035	0.028			0.44	0.22	0.17	0.698	4/6/22 23:01	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 23:01	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 23:01	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 23:01	BRF
Chloromethane	0.62	0.070	0.028			1.3	0.14	0.057	0.698	4/6/22 23:01	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 23:01	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 23:01	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 23:01	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 23:01	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 23:01	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 23:01	BRF
Dichlorodifluoromethane (Freon 12)	0.40	0.035	0.034			2.0	0.17	0.17	0.698	4/6/22 23:01	BRF
1,1-Dichloroethane	ND	0.035	0.030			ND	0.14	0.12	0.698	4/6/22 23:01	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 23:01	BRF
1,1-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 23:01	BRF
cis-1,2-Dichloroethylene	ND	0.035	0.025			ND	0.14	0.10	0.698	4/6/22 23:01	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 23:01	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 23:01	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 23:01	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 23:01	BRF
Ethanol	8.5	1.4	0.62	L-05, V-06		16	2.6	1.2	0.698	4/6/22 23:01	BRF
Ethyl Acetate	1.4	0.35	0.18	L-03, V-05, V-34		4.9	1.3	0.64	0.698	4/6/22 23:01	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 23:01	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 23:01	BRF
Heptane	0.039	0.035	0.022			0.16	0.14	0.091	0.698	4/6/22 23:01	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 23:01	BRF
Hexane	ND	1.4	0.18			ND	4.9	0.64	0.698	4/6/22 23:01	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 23:01	BRF
Isopropanol	0.42	1.4	0.24	J		1.0	3.4	0.59	0.698	4/6/22 23:01	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 23:01	BRF
Methylene Chloride	0.44	0.35	0.16			1.5	1.2	0.56	0.698	4/6/22 23:01	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 23:01	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 23:01	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 23:01	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 23:01	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 23:01	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 23:01	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: EW- Combined

Sample ID: 22C2029-12

Sample Matrix: Air

Sampled: 3/29/2022 15:36

Sample Description/Location:

Sub Description/Location:

Canister ID: 1713

Canister Size: 6 liter

Flow Controller ID: 4200

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -28

Final Vacuum(in Hg): -8

Receipt Vacuum(in Hg): -7.3

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
Tetrachloroethylene	ND	0.035	0.027			ND	0.24	0.18	0.698	4/6/22 23:01	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 23:01	BRF
Toluene	0.13	0.035	0.020			0.48	0.13	0.075	0.698	4/6/22 23:01	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 23:01	BRF
1,1,1-Trichloroethane	ND	0.035	0.027			ND	0.19	0.15	0.698	4/6/22 23:01	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 23:01	BRF
Trichloroethylene	ND	0.035	0.024			ND	0.19	0.13	0.698	4/6/22 23:01	BRF
Trichlorofluoromethane (Freon 11)	0.19	0.14	0.041			1.1	0.78	0.23	0.698	4/6/22 23:01	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.065	0.14	0.039	J		0.50	1.1	0.30	0.698	4/6/22 23:01	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 23:01	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 23:01	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 23:01	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 23:01	BRF
m&p-Xylene	ND	0.070	0.039			ND	0.30	0.17	0.698	4/6/22 23:01	BRF
o-Xylene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 23:01	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	86.8	70-130	4/6/22 23:01
4-Bromofluorobenzene (2)	84.3	70-130	4/6/22 23:01

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: Post Carbon

Sample ID: 22C2029-13

Sample Matrix: Air

Sampled: 3/29/2022 15:33

Sample Description/Location:

Sub Description/Location:

Canister ID: 1465

Canister Size: 6 liter

Flow Controller ID: 4093

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -27

Final Vacuum(in Hg): -8

Receipt Vacuum(in Hg): -2.7

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Acetone	2.8	1.4	0.84			6.8	3.3	2.0	0.698	4/6/22 23:56	BRF
Benzene	0.062	0.035	0.026			0.20	0.11	0.084	0.698	4/6/22 23:56	BRF
Benzyl chloride	ND	0.035	0.031			ND	0.18	0.16	0.698	4/6/22 23:56	BRF
Bromodichloromethane	ND	0.035	0.024			ND	0.23	0.16	0.698	4/6/22 23:56	BRF
Bromoform	ND	0.035	0.024			ND	0.36	0.25	0.698	4/6/22 23:56	BRF
Bromomethane	ND	0.035	0.028			ND	0.14	0.11	0.698	4/6/22 23:56	BRF
1,3-Butadiene	ND	0.035	0.029			ND	0.077	0.065	0.698	4/6/22 23:56	BRF
2-Butanone (MEK)	ND	1.4	0.37			ND	4.1	1.1	0.698	4/6/22 23:56	BRF
Carbon Disulfide	ND	0.35	0.032			ND	1.1	0.10	0.698	4/6/22 23:56	BRF
Carbon Tetrachloride	ND	0.035	0.028			ND	0.22	0.17	0.698	4/6/22 23:56	BRF
Chlorobenzene	ND	0.035	0.023			ND	0.16	0.11	0.698	4/6/22 23:56	BRF
Chloroethane	ND	0.035	0.025			ND	0.092	0.067	0.698	4/6/22 23:56	BRF
Chloroform	ND	0.035	0.033			ND	0.17	0.16	0.698	4/6/22 23:56	BRF
Chloromethane	ND	0.070	0.028			ND	0.14	0.057	0.698	4/6/22 23:56	BRF
Cyclohexane	ND	0.035	0.023			ND	0.12	0.079	0.698	4/6/22 23:56	BRF
Dibromochloromethane	ND	0.035	0.023			ND	0.30	0.20	0.698	4/6/22 23:56	BRF
1,2-Dibromoethane (EDB)	ND	0.035	0.021			ND	0.27	0.16	0.698	4/6/22 23:56	BRF
1,2-Dichlorobenzene	ND	0.035	0.020			ND	0.21	0.12	0.698	4/6/22 23:56	BRF
1,3-Dichlorobenzene	ND	0.035	0.019			ND	0.21	0.12	0.698	4/6/22 23:56	BRF
1,4-Dichlorobenzene	ND	0.035	0.023			ND	0.21	0.14	0.698	4/6/22 23:56	BRF
Dichlorodifluoromethane (Freon 12)	0.15	0.035	0.034			0.72	0.17	0.17	0.698	4/6/22 23:56	BRF
1,1-Dichloroethane	0.15	0.035	0.030			0.62	0.14	0.12	0.698	4/6/22 23:56	BRF
1,2-Dichloroethane	ND	0.035	0.032			ND	0.14	0.13	0.698	4/6/22 23:56	BRF
1,1-Dichloroethylene	0.11	0.035	0.027			0.42	0.14	0.11	0.698	4/6/22 23:56	BRF
cis-1,2-Dichloroethylene	0.10	0.035	0.025			0.40	0.14	0.10	0.698	4/6/22 23:56	BRF
trans-1,2-Dichloroethylene	ND	0.035	0.027			ND	0.14	0.11	0.698	4/6/22 23:56	BRF
1,2-Dichloropropane	ND	0.035	0.019			ND	0.16	0.087	0.698	4/6/22 23:56	BRF
cis-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.082	0.698	4/6/22 23:56	BRF
trans-1,3-Dichloropropene	ND	0.035	0.018			ND	0.16	0.081	0.698	4/6/22 23:56	BRF
Ethanol	44	20	8.8	L-05, V-06		83	38	17	10	4/7/22 0:21	BRF
Ethyl Acetate	0.40	0.35	0.18	L-03, V-05, V-34		1.4	1.3	0.64	0.698	4/6/22 23:56	BRF
Ethylbenzene	ND	0.035	0.020			ND	0.15	0.088	0.698	4/6/22 23:56	BRF
4-Ethyltoluene	ND	0.035	0.021			ND	0.17	0.11	0.698	4/6/22 23:56	BRF
Heptane	ND	0.035	0.022			ND	0.14	0.091	0.698	4/6/22 23:56	BRF
Hexachlorobutadiene	ND	0.035	0.029	L-03		ND	0.37	0.31	0.698	4/6/22 23:56	BRF
Hexane	0.58	1.4	0.18	J		2.1	4.9	0.64	0.698	4/6/22 23:56	BRF
2-Hexanone (MBK)	ND	0.070	0.018			ND	0.29	0.072	0.698	4/6/22 23:56	BRF
Isopropanol	0.91	1.4	0.24	J		2.2	3.4	0.59	0.698	4/6/22 23:56	BRF
Methyl tert-Butyl Ether (MTBE)	ND	0.035	0.027	L-03		ND	0.13	0.097	0.698	4/6/22 23:56	BRF
Methylene Chloride	3.9	0.35	0.16			14	1.2	0.56	0.698	4/6/22 23:56	BRF
Methyl methacrylate	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 23:56	BRF
4-Methyl-2-pentanone (MIBK)	ND	0.035	0.018			ND	0.14	0.073	0.698	4/6/22 23:56	BRF
Propene	ND	1.4	0.31			ND	2.4	0.53	0.698	4/6/22 23:56	BRF
Styrene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 23:56	BRF
1,1,1,2-Tetrachloroethane	ND	0.063	0.023			ND	0.44	0.16	0.698	4/6/22 23:56	BRF
1,1,2,2-Tetrachloroethane	ND	0.035	0.019			ND	0.24	0.13	0.698	4/6/22 23:56	BRF

ANALYTICAL RESULTS

Project Location: Providence, RI

Date Received: 3/30/2022

Field Sample #: Post Carbon

Sample ID: 22C2029-13

Sample Matrix: Air

Sampled: 3/29/2022 15:33

Sample Description/Location:

Sub Description/Location:

Canister ID: 1465

Canister Size: 6 liter

Flow Controller ID: 4093

Sample Type: 30 min

Work Order: 22C2029

Initial Vacuum(in Hg): -27

Final Vacuum(in Hg): -8

Receipt Vacuum(in Hg): -2.7

Flow Controller Type: Fixed-Orifice

Flow Controller Calibration

RPD Pre and Post-Sampling:

EPA TO-15

Analyte	Results	ppbv			Flag/Qual	Results	ug/m3			Date/Time	
		RL	MDL				RL	MDL	Dilution	Analyzed	Analyst
Tetrachloroethylene	ND	0.035	0.027			ND	0.24	0.18	0.698	4/6/22 23:56	BRF
Tetrahydrofuran	ND	0.35	0.057			ND	1.0	0.17	0.698	4/6/22 23:56	BRF
Toluene	0.070	0.035	0.020			0.27	0.13	0.075	0.698	4/6/22 23:56	BRF
1,2,4-Trichlorobenzene	ND	0.070	0.024	L-03, V-04		ND	0.52	0.18	0.698	4/6/22 23:56	BRF
1,1,1-Trichloroethane	ND	0.035	0.027			ND	0.19	0.15	0.698	4/6/22 23:56	BRF
1,1,2-Trichloroethane	ND	0.035	0.025			ND	0.19	0.13	0.698	4/6/22 23:56	BRF
Trichloroethylene	ND	0.035	0.024			ND	0.19	0.13	0.698	4/6/22 23:56	BRF
Trichlorofluoromethane (Freon 11)	0.63	0.14	0.041			3.6	0.78	0.23	0.698	4/6/22 23:56	BRF
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14	0.039			ND	1.1	0.30	0.698	4/6/22 23:56	BRF
1,2,4-Trimethylbenzene	ND	0.035	0.015			ND	0.17	0.076	0.698	4/6/22 23:56	BRF
1,3,5-Trimethylbenzene	ND	0.035	0.018			ND	0.17	0.091	0.698	4/6/22 23:56	BRF
Vinyl Acetate	ND	0.70	0.19			ND	2.5	0.66	0.698	4/6/22 23:56	BRF
Vinyl Chloride	ND	0.035	0.031			ND	0.089	0.080	0.698	4/6/22 23:56	BRF
m&p-Xylene	ND	0.070	0.039			ND	0.30	0.17	0.698	4/6/22 23:56	BRF
o-Xylene	ND	0.035	0.018			ND	0.15	0.078	0.698	4/6/22 23:56	BRF

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	79.7	70-130	4/7/22 0:21
4-Bromofluorobenzene (1)	86.2	70-130	4/6/22 23:56
4-Bromofluorobenzene (2)	79.8	70-130	4/7/22 0:21
4-Bromofluorobenzene (2)	85.8	70-130	4/6/22 23:56

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
22C2029-01 [IA-1]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-02 [IA-2]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-03 [IA-3]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-04 [IA-4]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-05 [IA-5]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-05RE1 [IA-5]	B305189	1.5	1	N/A	1000	200	30	04/06/22
22C2029-06 [IA-6]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-07 [IA-7]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-07RE1 [IA-7]	B305189	1.5	1	N/A	1000	200	30	04/06/22
22C2029-08 [EW-5]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-09 [EW-6]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-09RE1 [EW-6]	B305189	1.5	1	N/A	1000	200	30	04/06/22
22C2029-10 [EW-7]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-10RE1 [EW-7]	B305189	1.5	1	N/A	1000	200	30	04/06/22
22C2029-11 [AA-1]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-12 [EW- Combined]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-13 [Post Carbon]	B305189	1.5	1	N/A	1000	200	430	04/06/22
22C2029-13RE1 [Post Carbon]	B305189	1.5	1	N/A	1000	200	30	04/06/22

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
22C2029-06RE1 [IA-6]	B305313	1.5	200	5	1000	200	200	04/07/22

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 B305189 - TO-15 Prep

Blank (B305189-BLK1)	Prepared & Analyzed: 04/06/22									
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								L-03, V-05,
Ethylbenzene	ND	0.020								
4-Ethyltoluene	ND	0.020								
Heptane	ND	0.020								
Hexachlorobutadiene	ND	0.020								L-03
Hexane	ND	0.80								
2-Hexanone (MBK)	ND	0.020								
Isopropanol	ND	0.80								
Methyl tert-Butyl Ether (MTBE)	ND	0.020								L-03
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 B305189 - TO-15 Prep

Blank (B305189-BLK1)	Prepared & Analyzed: 04/06/22					
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				

Surrogate: 4-Bromofluorobenzene (1)	6.77	8.00	84.6	70-130
Surrogate: 4-Bromofluorobenzene (2)	6.60	8.00	82.5	70-130

LCS (B305189-BS1)	Prepared & Analyzed: 04/06/22					
Acetone	4.30	5.00	86.0	70-130		
Benzene	6.02	5.00	120	70-130		
Benzyl chloride	5.06	5.00	101	70-130		
Bromodichloromethane	5.27	5.00	105	70-130		
Bromoform	4.99	5.00	99.8	70-130		
Bromomethane	4.58	5.00	91.6	70-130		
1,3-Butadiene	4.79	5.00	95.7	70-130		
2-Butanone (MEK)	4.17	5.00	83.4	70-130		
Carbon Disulfide	5.09	5.00	102	70-130		
Carbon Tetrachloride	4.73	5.00	94.5	70-130		
Chlorobenzene	5.00	5.00	99.9	70-130		
Chloroethane	5.18	5.00	104	70-130		
Chloroform	4.16	5.00	83.2	70-130		
Chloromethane	4.93	5.00	98.7	70-130		
Cyclohexane	4.88	5.00	97.5	70-130		
Dibromochloromethane	5.04	5.00	101	70-130		
1,2-Dibromoethane (EDB)	5.24	5.00	105	70-130		
1,2-Dichlorobenzene	4.75	5.00	95.0	70-130		
1,3-Dichlorobenzene	5.18	5.00	104	70-130		
1,4-Dichlorobenzene	4.74	5.00	94.8	70-130		
Dichlorodifluoromethane (Freon 12)	4.16	5.00	83.2	70-130		
1,1-Dichloroethane	4.39	5.00	87.7	70-130		
1,2-Dichloroethane	3.90	5.00	78.0	70-130		
1,1-Dichloroethylene	5.19	5.00	104	70-130		
cis-1,2-Dichloroethylene	4.16	5.00	83.1	70-130		
trans-1,2-Dichloroethylene	4.14	5.00	82.7	70-130		
1,2-Dichloropropane	5.63	5.00	113	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	RPD Limit	Flag/Qual
Batch B305189 - TO-15 Prep											
LCS (B305189-BS1)											
Prepared & Analyzed: 04/06/22											
cis-1,3-Dichloropropene	5.35		5.00		107	70-130					
trans-1,3-Dichloropropene	5.32		5.00		106	70-130					
Ethanol	6.57		5.00		131 *	70-130				L-05, V-06	
Ethyl Acetate	2.82		5.00		56.4 *	70-130				L-03, V-05,	
Ethylbenzene	4.94		5.00		98.8	70-130					
4-Ethyltoluene	4.84		5.00		96.7	70-130					
Heptane	5.52		5.00		110	70-130					
Hexachlorobutadiene	3.24		5.00		64.9 *	70-130				L-03	
Hexane	4.24		5.00		84.8	70-130					
2-Hexanone (MBK)	5.49		5.00		110	70-130					
Isopropanol	4.04		5.00		80.7	70-130					
Methyl tert-Butyl Ether (MTBE)	3.43		5.00		68.7 *	70-130				L-03	
Methylene Chloride	5.34		5.00		107	70-130					
Methyl methacrylate	5.20		5.00		104	70-130					
4-Methyl-2-pentanone (MIBK)	5.75		5.00		115	70-130					
Propene	4.19		5.00		83.8	70-130					
Styrene	4.97		5.00		99.3	70-130					
1,1,1,2-Tetrachloroethane	0.814		0.910		89.5	70-130					
1,1,2,2-Tetrachloroethane	6.02		5.00		120	70-130					
Tetrachloroethylene	4.48		5.00		89.5	70-130					
Tetrahydrofuran	3.72		5.00		74.4	70-130					
Toluene	5.07		5.00		101	70-130					
1,2,4-Trichlorobenzene	2.84		5.00		56.9 *	70-130				L-03, V-04	
1,1,1-Trichloroethane	4.62		5.00		92.5	70-130					
1,1,2-Trichloroethane	5.32		5.00		106	70-130					
Trichloroethylene	4.96		5.00		99.1	70-130					
Trichlorofluoromethane (Freon 11)	4.38		5.00		87.6	70-130					
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.75		5.00		95.1	70-130					
1,2,4-Trimethylbenzene	4.53		5.00		90.6	70-130					
1,3,5-Trimethylbenzene	4.84		5.00		96.7	70-130					
Vinyl Acetate	5.66		5.00		113	70-130					V-36
Vinyl Chloride	5.33		5.00		107	70-130					
m&p-Xylene	10.6		10.0		106	70-130					
o-Xylene	5.15		5.00		103	70-130					
<i>Surrogate: 4-Bromofluorobenzene (1)</i>	7.48		8.00		93.6	70-130					
<i>Surrogate: 4-Bromofluorobenzene (2)</i>	6.68		8.00		83.5	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 B305189 - TO-15 Prep

Duplicate (B305189-DUP1)	Source: 22C2029-02				Prepared & Analyzed: 04/06/22						
Acetone	2.3	1.4	5.5	3.3		2.3			0.269	25	
Benzene	0.12	0.035	0.39	0.11		0.13			4.99	25	
Benzyl chloride	ND	0.035	ND	0.18		ND				25	
Bromodichloromethane	ND	0.035	ND	0.23		ND				25	
Bromoform	ND	0.035	ND	0.36		ND				25	
Bromomethane	ND	0.035	ND	0.14		ND				25	
1,3-Butadiene	ND	0.035	ND	0.077		ND				25	
2-Butanone (MEK)	ND	1.4	ND	4.1		ND				25	
Carbon Disulfide	ND	0.35	ND	1.1		ND				25	
Carbon Tetrachloride	ND	0.035	ND	0.22		ND				25	
Chlorobenzene	ND	0.035	ND	0.16		ND				25	
Chloroethane	ND	0.035	ND	0.092		ND				25	
Chloroform	ND	0.035	ND	0.17		ND				25	
Chloromethane	0.62	0.070	1.3	0.14		0.61			2.72	25	
Cyclohexane	ND	0.035	ND	0.12		ND				25	
Dibromochloromethane	ND	0.035	ND	0.30		ND				25	
1,2-Dibromoethane (EDB)	ND	0.035	ND	0.27		ND				25	
1,2-Dichlorobenzene	ND	0.035	ND	0.21		ND				25	
1,3-Dichlorobenzene	ND	0.035	ND	0.21		ND				25	
1,4-Dichlorobenzene	ND	0.035	ND	0.21		ND				25	
Dichlorodifluoromethane (Freon 12)	0.43	0.035	2.1	0.17		0.40			6.55	25	
1,1-Dichloroethane	ND	0.035	ND	0.14		ND				25	
1,2-Dichloroethane	ND	0.035	ND	0.14		ND				25	
1,1-Dichloroethylene	ND	0.035	ND	0.14		ND				25	
cis-1,2-Dichloroethylene	0.043	0.035	0.17	0.14		0.040			6.67	25	
trans-1,2-Dichloroethylene	ND	0.035	ND	0.14		ND				25	
1,2-Dichloropropane	ND	0.035	ND	0.16		ND				25	
cis-1,3-Dichloropropene	ND	0.035	ND	0.16		ND				25	
trans-1,3-Dichloropropene	ND	0.035	ND	0.16		ND				25	
Ethanol	3.1	1.4	5.8	2.6		3.2			3.30	25	L-05, V-06
Ethyl Acetate	ND	0.35	ND	1.3		ND				25	L-03, V-05,
Ethylbenzene	ND	0.035	ND	0.15		ND				25	
4-Ethyltoluene	ND	0.035	ND	0.17		ND				25	
Heptane	ND	0.035	ND	0.14		ND				25	
Hexachlorobutadiene	ND	0.035	ND	0.37		ND				25	L-03
Hexane	ND	1.4	ND	4.9		ND				25	
2-Hexanone (MBK)	ND	0.035	ND	0.14		ND				25	
Isopropanol	ND	1.4	ND	3.4		0.30				25	
Methyl tert-Butyl Ether (MTBE)	ND	0.035	ND	0.13		ND				25	L-03
Methylene Chloride	ND	0.35	ND	1.2		ND				25	
Methyl methacrylate	ND	0.035	ND	0.14		ND				25	
4-Methyl-2-pentanone (MIBK)	ND	0.035	ND	0.14		ND				25	
Propene	ND	1.4	ND	2.4		ND				25	
Styrene	ND	0.035	ND	0.15		ND				25	
1,1,1,2-Tetrachloroethane	ND	0.063	ND	0.44		ND				25	
1,1,2,2-Tetrachloroethane	ND	0.035	ND	0.24		ND				25	

QUALITY CONTROL
Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv 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 B305189 - TO-15 Prep

Duplicate (B305189-DUP1)	Source: 22C2029-02				Prepared & Analyzed: 04/06/22			
Tetrachloroethylene	0.087	0.035	0.59	0.24	0.10		14.9	25
Tetrahydrofuran	ND	0.35	ND	1.0	ND			25
Toluene	0.052	0.035	0.20	0.13	0.057		8.92	25
1,2,4-Trichlorobenzene	ND	0.035	ND	0.26	ND			25
1,1,1-Trichloroethane	ND	0.035	ND	0.19	ND			25
1,1,2-Trichloroethane	ND	0.035	ND	0.19	ND			25
Trichloroethylene	0.051	0.035	0.27	0.19	0.040		22.9	25
Trichlorofluoromethane (Freon 11)	0.21	0.14	1.2	0.78	0.21		1.32	25
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.077	0.14	0.59	1.1	0.062		22.0	25
1,2,4-Trimethylbenzene	0.016	0.035	0.079	0.17	ND			25
1,3,5-Trimethylbenzene	ND	0.035	ND	0.17	ND			25
Vinyl Acetate	ND	0.70	ND	2.5	ND			25
Vinyl Chloride	ND	0.035	ND	0.089	ND			25
m&p-Xylene	ND	0.070	ND	0.30	ND			25
o-Xylene	ND	0.035	ND	0.15	ND			25
Surrogate: 4-Bromofluorobenzene (1)	6.95			8.00	86.9	70-130		
Surrogate: 4-Bromofluorobenzene (2)	6.92			8.00	86.4	70-130		

Batch B305313 - TO-15 Prep

Blank (B305313-BLK1)	Prepared & Analyzed: 04/07/22			
Ethanol	ND	0.80		V-06, Z-01
Surrogate: 4-Bromofluorobenzene (1)	6.95		86.9	70-130
Surrogate: 4-Bromofluorobenzene (2)	6.97		87.1	70-130

LCS (B305313-BS1)	Prepared & Analyzed: 04/07/22			
Ethanol	7.04	5.00	141	* 70-130
Surrogate: 4-Bromofluorobenzene (1)	7.44	8.00	93.0	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).
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-05	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the high side.
V-04	Initial calibration did not meet method specifications. Compound was calibrated using a response factor where %RSD is outside of method specified criteria. Reported result is estimated.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-06	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side for this compound.
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.
V-36	Initial calibration verification (ICV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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Note: Blank Subtraction is not performed unless otherwise noted

Z-01

Compound fails the method requirement of 70-130% recovery for the LCS. Is classified by the lab as a difficult compound and passes the in house limits of 50-150%.

ANALYST

TPH Thomas P. Hnitecki
STATION PDF Management Station
LR Lionel Rios
KKM Kerry K. McGee
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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
Calibration Check (S070061-CCV1)		Lab File ID: J22A096004.D				Analyzed: 04/06/22 09:02			
Bromochloromethane (1)	183255	2.857	150879	2.863	121	60 - 140	-0.0060	+/-0.50	
1,4-Difluorobenzene (1)	661560	3.465	694423	3.468	95	60 - 140	-0.0030	+/-0.50	
Chlorobenzene-d5 (1)	589375	5.054	641566	5.057	92	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	618611	3.465	705166	3.462	88	60 - 140	0.0030	+/-0.50	
Chlorobenzene-d5 (2)	94990	5.054	98571	5.054	96	60 - 140	0.0000	+/-0.50	
LCS (B305189-BS1)		Lab File ID: J22A096005.D				Analyzed: 04/06/22 09:27			
Bromochloromethane (1)	185133	2.857	183255	2.857	101	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	662800	3.466	661560	3.465	100	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (1)	589633	5.054	589375	5.054	100	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (2)	625093	3.466	618611	3.465	101	60 - 140	0.0010	+/-0.50	
Chlorobenzene-d5 (2)	95309	5.054	94990	5.054	100	60 - 140	0.0000	+/-0.50	
Blank (B305189-BLK1)		Lab File ID: J22A096009.D				Analyzed: 04/06/22 11:12			
Bromochloromethane (1)	175093	2.844	183255	2.857	96	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	589038	3.456	661560	3.465	89	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	537082	5.05	589375	5.054	91	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	590236	3.456	618611	3.465	95	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (2)	87146	5.05	94990	5.054	92	60 - 140	-0.0040	+/-0.50	
IA-1 (22C2029-01)		Lab File ID: J22A096011.D				Analyzed: 04/06/22 12:15			
Bromochloromethane (1)	178441	2.847	183255	2.857	97	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	608787	3.459	661560	3.465	92	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	543901	5.05	589375	5.054	92	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	609341	3.459	618611	3.465	99	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	88346	5.05	94990	5.054	93	60 - 140	-0.0040	+/-0.50	
IA-2 (22C2029-02)		Lab File ID: J22A096013.D				Analyzed: 04/06/22 13:11			
Bromochloromethane (1)	174959	2.847	183255	2.857	95	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	587070	3.459	661560	3.465	89	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	529390	5.05	589375	5.054	90	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	587433	3.459	618611	3.465	95	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	85874	5.05	94990	5.054	90	60 - 140	-0.0040	+/-0.50	
Duplicate (B305189-DUP1)		Lab File ID: J22A096014.D				Analyzed: 04/06/22 13:42			
Bromochloromethane (1)	176212	2.847	183255	2.857	96	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	582068	3.459	661560	3.465	88	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	533300	5.05	589375	5.054	90	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	582340	3.459	618611	3.465	94	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	84839	5.05	94990	5.054	89	60 - 140	-0.0040	+/-0.50	

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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
IA-3 (22C2029-03)		Lab File ID: J22A096016.D				Analyzed: 04/06/22 14:38			
Bromochloromethane (1)	178285	2.847	183255	2.857	97	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	590203	3.459	661560	3.465	89	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	531177	5.051	589375	5.054	90	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	590820	3.459	618611	3.465	96	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	85791	5.051	94990	5.054	90	60 - 140	-0.0030	+/-0.50	
IA-4 (22C2029-04)		Lab File ID: J22A096018.D				Analyzed: 04/06/22 15:34			
Bromochloromethane (1)	172125	2.847	183255	2.857	94	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	575006	3.456	661560	3.465	87	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	517102	5.051	589375	5.054	88	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	575424	3.456	618611	3.465	93	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (2)	84138	5.051	94990	5.054	89	60 - 140	-0.0030	+/-0.50	
IA-5 (22C2029-05)		Lab File ID: J22A096020.D				Analyzed: 04/06/22 16:29			
Bromochloromethane (1)	174618	2.844	183255	2.857	95	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	601098	3.456	661560	3.465	91	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	528508	5.051	589375	5.054	90	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	601970	3.456	618611	3.465	97	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (2)	86208	5.051	94990	5.054	91	60 - 140	-0.0030	+/-0.50	
IA-5 (22C2029-05RE1)		Lab File ID: J22A096021.D				Analyzed: 04/06/22 16:54			
Bromochloromethane (1)	176097	2.847	183255	2.857	96	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	577094	3.456	661560	3.465	87	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	513588	5.05	589375	5.054	87	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	577819	3.456	618611	3.465	93	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (2)	81928	5.05	94990	5.054	86	60 - 140	-0.0040	+/-0.50	
IA-6 (22C2029-06)		Lab File ID: J22A096022.D				Analyzed: 04/06/22 17:25			
Bromochloromethane (1)	172460	2.847	183255	2.857	94	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	569214	3.456	661560	3.465	86	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	509397	5.05	589375	5.054	86	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	569563	3.456	618611	3.465	92	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (2)	80608	5.05	94990	5.054	85	60 - 140	-0.0040	+/-0.50	
IA-7 (22C2029-07)		Lab File ID: J22A096024.D				Analyzed: 04/06/22 18:22			
Bromochloromethane (1)	173170	2.847	183255	2.857	94	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	577462	3.459	661560	3.465	87	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	524556	5.05	589375	5.054	89	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	577951	3.459	618611	3.465	93	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	84817	5.05	94990	5.054	89	60 - 140	-0.0040	+/-0.50	

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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
IA-7 (22C2029-07RE1)		Lab File ID: J22A096025.D				Analyzed: 04/06/22 18:47			
Bromochloromethane (1)	174993	2.844	183255	2.857	95	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	569713	3.456	661560	3.465	86	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	510490	5.051	589375	5.054	87	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	570488	3.456	618611	3.465	92	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (2)	81566	5.051	94990	5.054	86	60 - 140	-0.0030	+/-0.50	
EW-5 (22C2029-08)		Lab File ID: J22A096026.D				Analyzed: 04/06/22 19:18			
Bromochloromethane (1)	173678	2.847	183255	2.857	95	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	584433	3.459	661560	3.465	88	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	530788	5.051	589375	5.054	90	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	585010	3.459	618611	3.465	95	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	84985	5.051	94990	5.054	89	60 - 140	-0.0030	+/-0.50	
AA-1 (22C2029-11)		Lab File ID: J22A096028.D				Analyzed: 04/06/22 20:14			
Bromochloromethane (1)	173898	2.847	183255	2.857	95	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	570788	3.459	661560	3.465	86	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	516456	5.05	589375	5.054	88	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	571560	3.459	618611	3.465	92	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	83378	5.05	94990	5.054	88	60 - 140	-0.0040	+/-0.50	
EW-6 (22C2029-09)		Lab File ID: J22A096030.D				Analyzed: 04/06/22 21:10			
Bromochloromethane (1)	173419	2.847	183255	2.857	95	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	577482	3.456	661560	3.465	87	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	512824	5.05	589375	5.054	87	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	578088	3.456	618611	3.465	93	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (2)	83481	5.05	94990	5.054	88	60 - 140	-0.0040	+/-0.50	
EW-6 (22C2029-09RE1)		Lab File ID: J22A096031.D				Analyzed: 04/06/22 21:34			
Bromochloromethane (1)	170337	2.847	183255	2.857	93	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	563379	3.459	661560	3.465	85	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	502920	5.05	589375	5.054	85	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	563929	3.459	618611	3.465	91	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	81228	5.05	94990	5.054	86	60 - 140	-0.0040	+/-0.50	
EW-7 (22C2029-10)		Lab File ID: J22A096032.D				Analyzed: 04/06/22 22:05			
Bromochloromethane (1)	172116	2.85	183255	2.857	94	60 - 140	-0.0070	+/-0.50	
1,4-Difluorobenzene (1)	578165	3.459	661560	3.465	87	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	523438	5.051	589375	5.054	89	60 - 140	-0.0030	+/-0.50	
1,4-Difluorobenzene (2)	578616	3.459	618611	3.465	94	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	84270	5.051	94990	5.054	89	60 - 140	-0.0030	+/-0.50	

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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
EW-7 (22C2029-10RE1)		Lab File ID: J22A096033.D				Analyzed: 04/06/22 22:30			
Bromochloromethane (1)	173022	2.847	183255	2.857	94	60 - 140	-0.0100	+/-0.50	
1,4-Difluorobenzene (1)	562033	3.459	661560	3.465	85	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	507854	5.05	589375	5.054	86	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	562721	3.459	618611	3.465	91	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	80727	5.05	94990	5.054	85	60 - 140	-0.0040	+/-0.50	
EW- Combined (22C2029-12)		Lab File ID: J22A096034.D				Analyzed: 04/06/22 23:01			
Bromochloromethane (1)	174190	2.844	183255	2.857	95	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	573320	3.456	661560	3.465	87	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (1)	519350	5.05	589375	5.054	88	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	573725	3.456	618611	3.465	93	60 - 140	-0.0090	+/-0.50	
Chlorobenzene-d5 (2)	84500	5.05	94990	5.054	89	60 - 140	-0.0040	+/-0.50	
Post Carbon (22C2029-13)		Lab File ID: J22A096036.D				Analyzed: 04/06/22 23:56			
Bromochloromethane (1)	171451	2.85	183255	2.857	94	60 - 140	-0.0070	+/-0.50	
1,4-Difluorobenzene (1)	568994	3.459	661560	3.465	86	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	530752	5.05	589375	5.054	90	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	569323	3.459	618611	3.465	92	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	84346	5.05	94990	5.054	89	60 - 140	-0.0040	+/-0.50	
Post Carbon (22C2029-13RE1)		Lab File ID: J22A096037.D				Analyzed: 04/07/22 00:21			
Bromochloromethane (1)	174754	2.85	183255	2.857	95	60 - 140	-0.0070	+/-0.50	
1,4-Difluorobenzene (1)	575444	3.459	661560	3.465	87	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (1)	514657	5.05	589375	5.054	87	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	575935	3.459	618611	3.465	93	60 - 140	-0.0060	+/-0.50	
Chlorobenzene-d5 (2)	81273	5.05	94990	5.054	86	60 - 140	-0.0040	+/-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
Calibration Check (S070120-CCV1)		Lab File ID: J22A097004.D				Analyzed: 04/07/22 09:19			
Bromochloromethane (1)	174273	2.857	150879	2.863	116	60 - 140	-0.0060	+/-0.50	
1,4-Difluorobenzene (1)	636814	3.466	694423	3.468	92	60 - 140	-0.0020	+/-0.50	
Chlorobenzene-d5 (1)	558604	5.054	641566	5.057	87	60 - 140	-0.0030	+/-0.50	
LCS (B305313-BS1)		Lab File ID: J22A097005.D				Analyzed: 04/07/22 09:43			
Bromochloromethane (1)	173148	2.857	174273	2.857	99	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (1)	637124	3.465	636814	3.466	100	60 - 140	-0.0010	+/-0.50	
Chlorobenzene-d5 (1)	571115	5.054	558604	5.054	102	60 - 140	0.0000	+/-0.50	
1,4-Difluorobenzene (2)			636614	3.466		60 - 140	-3.4660	+/-0.50	*
Chlorobenzene-d5 (2)			89768	5.054		60 - 140	-5.0540	+/-0.50	*

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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
Blank (B305313-BLK1)		Lab File ID: J22A097009.D				Analyzed: 04/07/22 11:28			
Bromochloromethane (1)	170975	2.844	174273	2.857	98	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	571150	3.456	636814	3.466	90	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5 (1)	519316	5.05	558604	5.054	93	60 - 140	-0.0040	+/-0.50	
1,4-Difluorobenzene (2)	571969	3.456	636614	3.466	90	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5 (2)	81981	5.05	89768	5.054	91	60 - 140	-0.0040	+/-0.50	
IA-6 (22C2029-06RE1)		Lab File ID: J22A097025.D				Analyzed: 04/07/22 19:52			
Bromochloromethane (1)	159923	2.844	174273	2.857	92	60 - 140	-0.0130	+/-0.50	
1,4-Difluorobenzene (1)	546458	3.456	636814	3.466	86	60 - 140	-0.0100	+/-0.50	
Chlorobenzene-d5 (1)	499354	5.05	558604	5.054	89	60 - 140	-0.0040	+/-0.50	

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

CONTINUING CALIBRATION CHECK

EPA TO-15

S070061-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Acetone	A	5.00	4.47	1.013483	0.9056495		-10.6	30
Benzene	A	5.00	5.31	0.5773346	0.6132922		6.2	30
Benzyl chloride	A	5.00	5.52	0.5662092	0.6247052		10.3	30
Bromodichloromethane	A	5.00	5.42	0.4493554	0.4868831		8.4	30
Bromoform	A	5.00	5.14	0.6972692	0.7170117		2.8	30
Bromomethane	A	5.00	4.58	0.795872	0.7283228		-8.5	30
1,3-Butadiene	A	5.00	4.98	0.4907101	0.4882115		-0.5	30
2-Butanone (MEK)	A	5.00	4.18	1.40087	1.171753		-16.4	30
Carbon Disulfide	A	5.00	4.98	1.998984	1.990285		-0.4	30
Carbon Tetrachloride	A	5.00	4.73	0.5188025	0.4905496		-5.4	30
Chlorobenzene	A	5.00	5.17	0.7193	0.743532		3.4	30
Chloroethane	A	5.00	5.20	0.3795632	0.3950517		4.1	30
Chloroform	A	5.00	4.24	1.888134	1.599563		-15.3	30
Chloromethane	A	5.00	5.08	0.5417118	0.5502104		1.6	30
Cyclohexane	A	5.00	4.82	0.265344	0.2558559		-3.6	30
Dibromochloromethane	A	5.00	5.22	0.6098379	0.636308		4.3	30
1,2-Dibromoethane (EDB)	A	5.00	5.44	0.4553549	0.4949677		8.7	30
1,2-Dichlorobenzene	A	5.00	5.07	0.757862	0.7683502		1.4	30
1,3-Dichlorobenzene	A	5.00	5.36	0.7367625	0.7899107		7.2	30
1,4-Dichlorobenzene	A	5.00	5.04	0.7493582	0.7554117		0.8	30
Dichlorodifluoromethane (Freon 12)	A	5.00	4.25	2.185662	1.85863		-15.0	30
1,1-Dichloroethane	A	5.00	4.41	1.41636	1.248106		-11.9	30
1,2-Dichloroethane	A	5.00	4.03	1.131436	0.9127565		-19.3	30
1,1-Dichloroethylene	A	5.00	5.21	1.038306	1.082618		4.3	30
cis-1,2-Dichloroethylene	A	5.00	4.20	1.058854	0.890475		-15.9	30
trans-1,2-Dichloroethylene	A	5.00	4.13	1.144971	0.945393		-17.4	30
1,2-Dichloropropane	A	5.00	5.60	0.2035658	0.2281734		12.1	30
cis-1,3-Dichloropropene	A	5.00	5.58	0.3153762	0.3522922		11.7	30
trans-1,3-Dichloropropene	A	5.00	5.34	0.2855395	0.3048068		6.7	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 1)	A	5.00	4.68	2.0897	1.958102		-6.3	30
1,4-Dioxane	A	5.00	5.15	0.1348394	0.1387992		2.9	30
Ethanol	A	5.00	7.36	0.1363511	0.2007432		47.2	30 *
Ethyl Acetate	A	5.00	2.88	0.2996362	0.1724635		-42.4	30 *
Ethylbenzene	A	5.00	5.03	1.068394	1.074728		0.6	30
4-Ethyltoluene	A	5.00	4.92	1.191921	1.17232		-1.6	30
Heptane	A	5.00	5.74	0.1598388	0.1835758		14.9	30
Hexachlorobutadiene	A	5.00	3.83	1.05506	0.808789		-23.3	30
Hexane	L	5.00	4.30	0.7820404	0.6190456		-14.0	30

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CONTINUING CALIBRATION CHECK

EPA TO-15

S070061-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
2-Hexanone (MBK)	A	5.00	6.15	0.3105363	0.3820888		23.0	30
Isopropanol	A	5.00	4.99	1.087458	1.085709		-0.2	30
Methyl tert-Butyl Ether (MTBE)	A	5.00	3.57	2.400388	1.715136		-28.5	30
Methylene Chloride	A	5.00	5.44	0.6720844	0.7315882		8.9	30
Methyl methacrylate	A	5.00	5.62	0.1927052	0.2166951		12.4	30
4-Methyl-2-pentanone (MIBK)	A	5.00	5.97	0.141787	0.1691807		19.3	30
Naphthalene	A	5.00	4.69	1.049522	0.9845195		-6.2	30
Propene	A	5.00	4.43	0.4575591	0.4056075		-11.4	30
Styrene	A	5.00	5.21	0.6387272	0.6656706		4.2	30
1,1,1,2-Tetrachloroethane	A	0.910	0.773	4.925276	4.183668		-15.1	30
1,1,2,2-Tetrachloroethane	A	5.00	6.29	0.5691929	0.7164715		25.9	30
Tetrachloroethylene	A	5.00	4.52	0.5934671	0.5364625		-9.6	30
Tetrahydrofuran	A	5.00	3.80	0.811293	0.6160159		-24.1	30
Toluene	A	5.00	5.09	0.8381161	0.8537369		1.9	30
1,2,4-Trichlorobenzene	A	5.00	3.57	0.5285083	0.3778213		-28.5	30
1,1,1-Trichloroethane	A	5.00	4.86	0.4533588	0.44052		-2.8	30
1,1,2-Trichloroethane	A	5.00	5.56	0.2953724	0.3282637		11.1	30
Trichloroethylene	A	5.00	5.10	0.2950588	0.3007945		1.9	30
Trichlorofluoromethane (Freon 11)	A	5.00	4.45	2.216429	1.973198		-11.0	30
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	A	5.00	4.88	1.637043	1.597905		-2.4	30
1,2,4-Trimethylbenzene	A	5.00	4.74	1.051818	0.9974634		-5.2	30
1,3,5-Trimethylbenzene	A	5.00	5.05	1.056033	1.066255		1.0	30
Vinyl Acetate	A	5.00	6.16	1.072956	1.322083		23.2	30
Vinyl Chloride	A	5.00	5.35	0.6636142	0.710302		7.0	30
m&p-Xylene	A	10.0	10.9	0.8662275	0.9406738		8.6	30
o-Xylene	A	5.00	5.30	0.8477905	0.8985464		6.0	30

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

* Values outside of QC limits

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CONTINUING CALIBRATION CHECK

EPA TO-15

S070120-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Ethanol	A	5.00	7.47	0.1363511	0.2039834		49.6	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

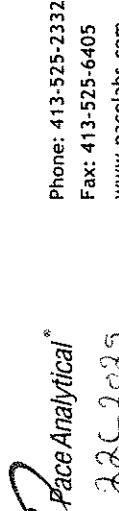
Analyte	Certifications
EPA TO-15 in Air	
Acetone	AIHA,NY,ME,NH
Benzene	AIHA,FL,NJ,NY,ME,NH,VA
Benzyl chloride	AIHA,FL,NJ,NY,ME,NH,VA
Bromodichloromethane	AIHA,NJ,NY,ME,NH,VA
Bromoform	AIHA,NJ,NY,ME,NH,VA
Bromomethane	AIHA,FL,NJ,NY,ME,NH
1,3-Butadiene	AIHA,NJ,NY,ME,NH,VA
2-Butanone (MEK)	AIHA,FL,NJ,NY,ME,NH,VA
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
EPA TO-15 in Air	
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

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2024
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Public Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2023
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2023
RI	Rhode Island Department of Health	LAO00373	12/30/2022
NC	North Carolina Div. of Water Quality	652	12/31/2022
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2022
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env. Great Lakes, and Energy	9100	09/6/2022

Phone: 413-525-2332
Fax: 413-525-6405www.pacelabs.com
Woolf PLC

CHAIN OF CUSTODY RECORD (AIR)

ANALYSIS REQUESTED													
Please fill out completely, sign, date and retain the yellow copy for your records													
Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply													
For summa canister and flow controller information please refer to Con-Test's Air Media Agreement													
Lab Receipt Pressure													
Final Pressure													
Initial Pressure													
Sampled By:	Peter England	Client Use	Collection Data	Duration	Flow Rate	Matrix	Volume	Summa Can ID	Flow Controller ID				
Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Total Minutes Sampled	<input type="checkbox"/> m ³ /min <input type="checkbox"/> L/min	Code	<input type="checkbox"/> Liters <input type="checkbox"/> m ³						
1	IA-1	13:27	13:55	28		X		28	-6	54			
2	IA-2	14:13	14:35	22		X		-28	-2	144	4293		
3	IA-3	13:30	13:56	26		X		-30	-7	64	0581		
4	IA-4	14:17	14:40	23		X		-30	-4	29	1033		
5	IA-5	12:41	12:56	15		X		-26	-1	09	1859		
6	IA-6	12:30	12:59	29		X		-28	-4	1774	4301		
7	IA-7	11:49	12:19	30		X		-30	-5	44	3447		
8	EW-5	13:25	13:50	25		X		-29	-5	52	4365		
a	EW-6	12:34	13:04	30		X		-29	-6	44	1612		
Comments: EW-5 Summa Can ID: 18444												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	
Relinquished by: (signature)	Date/Time:	3/20/22	12:46	<input type="checkbox"/> H	<input type="checkbox"/> M	<input type="checkbox"/> L	<input type="checkbox"/> C	<input type="checkbox"/> U	<input type="checkbox"/> A	Conc. Code Requirements: AA MCP Required ACP Certification Form Required			
Received by: (signature)	Date/Time:	3/20/22	17:30	<input type="checkbox"/> H	<input type="checkbox"/> M	<input type="checkbox"/> L	<input type="checkbox"/> C	<input type="checkbox"/> U	<input type="checkbox"/> CT RCP Required RCP Certification Form Required	Conc. Code Requirements: CT RCP Required RCP Certification Form Required			
Relinquished by: (signature)	Date/Time:	3/20/22	17:30	<input type="checkbox"/> H	<input type="checkbox"/> M	<input type="checkbox"/> L	<input type="checkbox"/> C	<input type="checkbox"/> U	<input type="checkbox"/> Other	Conc. Code Requirements: Other			
Received by: (signature)	Date/Time:	3/20/22	17:30	<input type="checkbox"/> H	<input type="checkbox"/> M	<input type="checkbox"/> L	<input type="checkbox"/> C	<input type="checkbox"/> U	<input type="checkbox"/> Other	Conc. Code Requirements: Other			
Relinquished by: (signature)	Date/Time:	3/20/22	17:30	<input type="checkbox"/> H	<input type="checkbox"/> M	<input type="checkbox"/> L	<input type="checkbox"/> C	<input type="checkbox"/> U	<input type="checkbox"/> Other	Conc. Code Requirements: Other			
Received by: (signature)	Date/Time:	3/20/22	17:30	<input type="checkbox"/> H	<input type="checkbox"/> M	<input type="checkbox"/> L	<input type="checkbox"/> C	<input type="checkbox"/> U	<input type="checkbox"/> Other	Conc. Code Requirements: Other			
Project Entity												Matrix Codes: SG = SOIL GAS IA = INDOOR AIR AMB = AMBIENT SS = SUB SLAB D = DUP BL = BLANK O = Other	
Government		Municipality		MWRA		WRTA		School		Soxhlet			
Federal		21 J		Brownfield		MBTA		Non Soxhlet		PCB ONLY			
City													



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CHAIN OF CUSTODY RECORD (AIR)

ANALYSIS REQUESTED									
Lab Receipt Pressure									
Final Pressure									
Initial Pressure									
" Hg <small>Please fill out completely, sign, date and retain the yellow copy for your records</small>									
<small>Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply</small>									
<small>For summa canister and flow controller information please refer to Con-Test's Air Media Agreement</small>									
Address:									
Phone:									
Project Location:									
Project Number:									
Project Manager:									
Pace Quote Name/Number:									
Invoice Recipient:									
Sampled By:									
Lab Use	Client Use	Collection Data	Duration	Flow Rate	Matrix	Volume			
Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	Total Minutes Sampled	<input type="checkbox"/> m³/min <input type="checkbox"/> L/min	Code	<input type="checkbox"/> Liters <input type="checkbox"/> m³		
10	EW-7	13:00	13:01	1		X		-30	-5
11	A4-1	14:57	15:25	28		X		-30	-6
12	EW - Combined	15:08	15:36	28		X		-38	-8
13	Post Carbon	15:10	15:33	23		X		-27	-8
								1465	4093
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									
Retinquished by: (signature)	Date/Time:	Project Entity	Project Requirements	Project Requirements	Project Requirements	Project Requirements	Project Requirements	Project Requirements	Project Requirements
<i>John J. Pihl</i>	3/30/22 12:16								
Received by: (signature)	Date/Time:	Government	MWRA	WRTA	Other	Chromatogram	Soxhlet	PCB ONLY	
<i>Dan Bellant</i>	3/30/22								
Retinquished by: (signature)	Date/Time:	Federal	21 J	School	Other	AIHA-LAP, LLC	Non Soxhlet		
<i>John J. Pihl</i>	3/30/22								
Received by: (signature)	Date/Time:	City	Brownfield	MBTA					
<i>John J. Pihl</i>	3/30/22 17:30								
Retinquished by: (signature)	Date/Time:	NELAC and AIHA-LAP, LLC accredited							
Received by: (signature)	Date/Time:								

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 PLC

Received By <u>JR</u>	Date <u>3/30/22</u>	Time <u>1730</u>
How were the samples received? In Cooler <u>T</u> In Box <u>T</u>	On Ice <u></u>	No Ice <u></u>
Were samples within Temperature Compliance? 2-6°C By Gun # <u>N/A</u> By Blank # <u></u>	Ambient <u>N/A</u>	Actual Temp - <u>N/A</u> Actual Temp - <u></u>
Was Custody Seal Intact? <u>N/A</u>	Were Samples Tampered with? <u>N/A</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>F</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>	Sampler Name <u>T</u>
Are Sample Labels filled out and legible? <u>F</u>	ID's <u>T</u>	Collection Dates/Times <u>T</u>
Are there Rushes? <u>F</u>	Who was notified? <u></u>	
Samples are received within holding time? 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	13	6L	13	30 min	Nut/Ferrule	5
Tedlar Bags					Tubing	15
TO-17 Tubes					T-Connector	
Radiello					Syringe	
Pufs/TO-11s					Tedlar	

Can #'s	3447				Reg #'s	4365		
1100	1844				4180	4079		
1046	1612				4293	4067		
0581	3358				4304	4366		
1033	1481				4195	4090		
1859	1713				4202	4200		
1274	1465				4301	4093		
Unused Media				Pufs/TO-17's				

Comments:

* No collection date on COC or containers



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
TO-15 ppbv low level in Air (EPA TO-15)							
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 ³	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,1,1-Trichloroethane	ug/m ³	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 ³	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 ³	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 ³	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 ³	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 ³	0.25 U	0.28	0.52	1.8	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.29	0.3	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U					
1,2-Dibromoethane (EDB)	ug/m ³	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 ³	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-Dichloroethane	ug/m ³	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 ³	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 ³	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 ³	0.25 U	0.25 U	0.25 U	0.5	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U											
1,3-Butadiene	ug/m ³	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	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U									
1,3-Dichlorobenzene	ug/m ³	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 ³	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 ³	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	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 ³	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	0.2 U	0.29	0.49	0.49	0.49		
4-Ethyltoluene	ug/m ³	0.25 U	0.25 U	0.6	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U											
4-Methyl-2-pentanone	ug/m ³	0.2 U	0.2 U	0.27	0.63	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	
Acetone	ug/m ³	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 ³	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										

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	--	--	--	--	0.62 U	--	0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.42 U	0.44 U	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
1,1,1,2-Tetrachloroethane	ug/m ³	--	--	--	--	0.62 U	--	0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.42 U	0.44 U	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
1,1,1-Trichloroethane	ug/m ³	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	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.19 U	0.055 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	ug/m ³	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	0.24 U	0.23 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U								
1,1,2-Trichloroethane	ug/m ³	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	0.11 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 ³	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													
1,1-Dichloroethene	ug/m ³	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	0.16	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	
1,2,4-Trichlorobenzene	ug/m ³	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	0.52 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	
1,2,4-Trimethylbenzene	ug/m ³	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	0.19	0.17 U	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	
1,2-Dibromoethane (EDB)	ug/m ³	0.38 U	0.38 U	0.38 U	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.27 U	0.27 U	0.27 U									
1,2-Dichlorobenzene	ug/m ³	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													
1,2-Dichloroethane	ug/m ³	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							
1,2-Dichloropropane	ug/m ³	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									
1,2-Dichlorotetrafluoroethane	ug/m ³	0.35 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.25 U	
1,3,5-Trimethylbenzene	ug/m ³	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		
1,3-Butadiene	ug/m ³	0.29	0.11 U	0.11 U	0.11 U	0.066 U	0.066 U	0.078 U	0.075 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 ³	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															
1,4-Dichlorobenzene	ug/m ³	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																
1,4-Dioxane	ug/m ³	--	--	--	--	0.18 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 U	
2-Butanone	ug/m ³	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 ³	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	0.17	0.14 U	0.14 U	0.14 U	
4-Ethyltoluene	ug/m ³	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		
4-Methyl-2-pentanone	ug/m ³	2.8	0.2 U	0.2 U	0.2 U	0.12 U	0.23	0.1 J	0.14 U	0.083 J	0.24	0.14 U	0.2	0.036 J	0.14 U	0.092 J	0.14 U	0.14 U	0.14 U	0						

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-1-0902020	AA-1-10292020	AA-1-030821	AA-1	AA-1
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	3/8/2021	9/8/2021	3/29/2022
Analyte	Units														
1,1,1,2-Tetrachloroethane	ug/m ³	--	0.44 U	0.37 U	0.44 U	0.44 U									
1,1,1-Trichloroethane	ug/m ³	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	0.16 U	0.19 U	0.19 U	
1,1,2,2-Tetrachloroethane	ug/m ³	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	0.21 U	0.24 U	0.24 U	
1,1,2-Trichloroethane	ug/m ³	0.19 U	0.19 U	0.19 U	0.19 U	0.42	0.19 U	0.16 U	0.19 U	0.19 U					
1,1-Dichloroethane	ug/m ³	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	0.12 U	0.14 U	0.14 U	
1,1-Dichloroethene	ug/m ³	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	0.12 U	0.14 U	0.14 U	
1,2,4-Trichlorobenzene	ug/m ³	0.26 U	0.26 U	0.26 U	0.26 U	0.52 U	0.26 U	0.22 U	0.52 U	0.52 U					
1,2,4-Trimethylbenzene	ug/m ³	0.17 U	0.17 U	0.17 U	0.12 J	0.18	0.17 U	0.17 U	0.17 U	0.17 U	0.73	0.15 U	0.17	0.15 J	
1,2-Dibromoethane (EDB)	ug/m ³	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.23 U	0.27 U	0.27 U	
1,2-Dichlorobenzene	ug/m ³	0.21 U	0.21 U	0.21 U	0.21 U	0.84 U	0.21 U	0.18 U	0.21 U	0.21 U					
1,2-Dichloroethane	ug/m ³	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	0.12 U	0.14 U	0.14 U	
1,2-Dichloropropane	ug/m ³	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	0.14 U	0.16 U	0.16 U	
1,2-Dichlorotetrafluoroethane	ug/m ³	0.25 U	--	--	--	--	--	--	--	--	--	--	--	--	
1,3,5-Trimethylbenzene	ug/m ³	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	0.15 U	0.058 J	0.17 U	
1,3-Butadiene	ug/m ³	0.078 U	0.078 U	0.9	0.078 U	0.077 U	0.077 U	0.066 U	0.077 U	0.077 U					
1,3-Dichlorobenzene	ug/m ³	0.21 U	0.21 U	0.21 U	0.21 U	0.49 J	0.21 U	0.18 U	0.21 U	0.21 U					
1,4-Dichlorobenzene	ug/m ³	0.21 U	0.21 U	0.21 U	0.21 U	0.5 J	0.21 U	0.18 U	0.21 U	0.21 U					
1,4-Dioxane	ug/m ³	1.3 U	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	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	0.71 J	1.7 J	4.1 U	
2-Hexanone	ug/m ³	0.14 U	0.14 U	0.43	0.14 U	0.29 U	0.29 U	0.25 U	0.29 U	0.29 U					
4-Ethyltoluene	ug/m ³	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	0.15 U	0.17 U	0.17 U	
4-Methyl-2-pentanone	ug/m ³	0.14 U	0.14 U	0.3	0.072 J	0.14 U	0.12 U	0.14 U	0.14 U						
Acetone	ug/m ³	11	3.1 J	16	24	6.2	10	6.9	5.1	9.8	8.2	15	7.8	11	5.2
Benzene	ug/m ³	0.35	0.37	2.2	0.47	0.39	1.4	0.22	0.24	0.34	0.15	1.2	0.68	0.51	0.39
Benzyl chloride	ug/m ³	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.16 U	0.18 U	0.18 U	
Bromodichloromethane	ug/m ³	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	0.23 U	0.2 U	0.23 U	0.23 U	
Bromoform	ug/m 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	0.36 U	0.36 U	0.31 U	0.36 U	0.36 U	
Bromomethane	ug/m ³	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	0.12 U	0.14 U	0.14 U	
Carbon disulfide	ug/m ³	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	0.93 U	1.1 U	1.1 U	
Carbon tetrachloride	ug/m ³	0.39	0.44	0.4	0.39	0.49	0.91	0.44	0.39	0.41	0.43	0.39	0.71	0.43	0.22 U
Chlorobenzene	ug/m ³	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	0.14 U	0.16 U	0.16 U	
Chloroethane	ug/m ³	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	0.079 U	0.092 U	0.092 U
Chloroform	ug/m ³	0.17 U	0.17 U	0.17 U	0.086 J	0.11 J	0.53	0.17 U	0.17 U	0.13 J	0.31	0.11 J	0.089 J	0.17 U	
Chlormethane	ug/m ³	1.2	1.2	1.2	0.93	1.3	1	0.87	1.5	0.14 U	0.14 U	1.8	1.2	1.3	
cis-1,2-Dichloroethene	ug/m ³	0.14 U	0.14 U	0.14 U	0.14 U	0.33	0.14 U	0.12 U	0.14 U	0.14 U					
cis-1,3-Dichloropropene	ug/m ³	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	0.14 U	0.16 U	0.16 U	
Cyclohexane	ug/m ³	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.1 U	0.12 U	0.12 U	
Dibromochloromethane	ug/m ³	0.3 U	0.3 U	0.3 U	0.3 U	0.64	0.3 U	0.26 U	0.3 U	0.3 U					
Dichlorodifluoromethane	ug/m ³	0.64	1	1.5	1.7	2.1	2.2	1.3	1.7	1.6	2	2.5	2.9	2.4	2.1
Ethanol	ug/m ³	5.5	2.5 J	2.2 J	6.7	2.1 J	12	4	5.9	3.9	6.3	14	11	7.4	3.3
Ethyl acetate	ug/m ³	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	2.4	1.3 U	1.3 U
Ethylbenzene	ug/m ³	0.16	0.15 U	0.67	0.1										



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/m ³	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.62 U	--	0.37 U	0.37 U	0.44 U	0.44 U		
1,1,1-Trichloroethane	ug/m ³	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/m ³	0.14	0.34 U	0.24 U	0.34 U	0.16 J	0.1 U	0.21 U	0.24 U	0.24 U	0.24 U														
1,1,2-Trichloroethane	ug/m ³	12	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/m ³	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/m ³	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/m ³	NA	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									
1,2,4-Trimethylbenzene	ug/m ³	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	0.17 U						
1,2-Dibromoethane (EDB)	ug/m ³	0.038	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 ³	410	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/m ³	0.31	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/m ³	0.42	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/m ³	NA	0.35 U	0.25 U	0.35 U	--	--	--	--	--	--	--													
1,3,5-Trimethylbenzene	ug/m ³	52	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/m ³	NA	0.11 U	0.11 U	0.11 U	0.25	0.11 U	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/m ³	410	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/m ³	24	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/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18 U	--	--	--	--	--	--	
2-Butanone	ug/m ³	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/m ³	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	0.2 U	0.2 J	0.13	0.32	0.081 J	0.17	0.14
4-Ethyltoluene	ug/m ³	NA	0.25 U	0.18 U	0.25	0.15 U	0.053 J	0.097 J	0.17 U	0.17 U															
4-Methyl-2-pentanone	ug/m ³	200	0.2 U	0.18	0.2 U	0.23	0.2 U	0.31	0.2 U	0.13	0.18	0.22	0.14												
Acetone	ug/m ³	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/m ³	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/m ³	NA																							

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-5-031513	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-5-09020	IA-5-030821	
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	3/8/2021	
Analyte	Units	CT IACTIND 2003																								
1,1,2-Tetrachloroethane	ug/m ³	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	0.37 U														
1,1,1-Trichloroethane	ug/m ³	500	0.19 U	0.079	0.19 U	0.042 J	0.19 U	0.077 J	0.19 U	0.16 U																
1,1,2,2-Tetrachloroethane	ug/m ³	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	0.21 U						
1,1,2-Trichloroethane	ug/m ³	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	0.16 U						
1,1-Dichloroethane	ug/m ³	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	0.12 U						
1,1-Dichloroethene	ug/m ³	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	0.12 U						
1,2,4-Trichlorobenzene	ug/m ³	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	0.22 U		
1,2,4-Trimethylbenzene	ug/m ³	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	0.035 J	
1,2-Dibromoethane (EDB)	ug/m ³	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	0.23 U						
1,2-Dichlorobenzene	ug/m ³	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	0.18 U						
1,2-Dichloroethane	ug/m ³	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	0.12 U												
1,2-Dichloropropane	ug/m ³	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	0.14 U												
1,2-Dichlortetrafluoroethane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
1,3,5-Trimethylbenzene	ug/m ³	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	0.17 U	0.15 U						
1,3-Butadiene	ug/m ³	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	0.066 U										
1,3-Dichlorobenzene	ug/m ³	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	0.18 U						
1,4-Dichlorobenzene	ug/m ³	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	0.21 U	0.18 U					
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	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	1.3 J	
2-Hexanone	ug/m ³	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	0.14 U	0.25 U	
4-Ethyltoluene	ug/m ³	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	0.15 U												
4-Methyl-2-pentanone	ug/m ³	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	0.14 U	0.14 U	0.37	0.078 J	0.14 U	0.12 U								
Acetone	ug/m ³	500	9.7	24	19	40	12	25	14	10	14	12	18	23	7.1	18	5.4	24	10	18	12</					

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 Retail Space																								
Location:		IA-5		IA-6																								
Sample ID:		IA-5	IA-5	IA-6	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				
Sample Date:		9/8/2021	3/29/2022	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	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011	3/8/2012	6/14/2012				
Analyte	Units	CT IACTIND 2003																										
1,1,2-Tetrachloroethane	ug/m ³	1.1	0.44 U	0.44 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.62 U	--	0.37 U	0.37 U			
1,1,1-Trichloroethane	ug/m ³	500	0.19 U	0.28	110	3.9	0.27 U	0.29	0.27 U	0.27 U	1.6	0.27 U	0.27 U	0.27 U	0.35	0.27 U	0.085 J	0.082 U	0.072 J									
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.24 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.21 U				
1,1,2-Trichloroethane	ug/m ³	12	0.19 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.19 U	0.27 U	0.16 U	0.082 U	0.16 U													
1,1-Dichloroethane	ug/m ³	430	0.14 U	0.14 U	3.9	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	0.12 U	0.061 U	0.12 U						
1,1-Dichloroethene	ug/m ³	20	0.14 U	0.14 U	1.2	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	0.12 U	0.059 U	0.12 U						
1,2,4-Trichlorobenzene	ug/m ³	NA	0.52 U	0.52 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.37 U	0.75 U	0.37 U	0.45 U	0.45 U	2.8									
1,2,4-Trimethylbenzene	ug/m ³	52	0.17	0.17 U	0.75	0.32	0.29	1.5	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.34	0.25 U	0.25 U	0.33	0.25 U	0.35	0.25 U	0.25	0.16	0.15 U	0.21				
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.27 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.23 U	0.12 U	0.23 U													
1,2-Dichlorobenzene	ug/m ³	410	0.21 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	0.18 U	0.18 U	1.7			
1,2-Dichloroethane	ug/m ³	0.31	0.14 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.14 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	0.056 J	0.061 U	0.056 J		
1,2-Dichloropropane	ug/m ³	0.42	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.061 J			
1,2-Dichlorotetrafluoroethane	ug/m ³	NA	--	--	0.35 U	0.25 U	0.35 U	--	--	--	--	--	--	--														
1,3,5-Trimethylbenzene	ug/m ³	52	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.38	0.25 U	0.25 U	0.18 U	0.25 J	0.059 J	0.15 U	0.091 J													
1,3-Butadiene	ug/m ³	NA	0.077 U	0.077 U	0.11 U	0.11 U	0.11 U	1.1	0.11 U	0.11 U	0.08 U	0.11 U	0.066 U	0.066 U	0.2													
1,3-Dichlorobenzene	ug/m ³	410	0.21 U	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.21 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	0.18 U	0.18 U	0.18 U			
1,4-Dichlorobenzene	ug/m ³	24	0.21 U	0.21 U	0.3 U	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 U	0.3 U	0.18 U	0.18 U	0.18 U	0.13 J		
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2-Butanone	ug/m ³	500	1.7 J	4.1 U	120	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-Hexanone	ug/m ³	NA	0.29 U	0.29 U	0.2 U	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	0.22	4.1 U	0.6	0.15	0.12 U	0.2					
4-Ethyltoluene	ug/m ³	NA	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.47	0.25 U	0.25 U	0.18 U	0.25 U	0.15 U	0.08 J	0.15 U													
4-Methyl-2-pentanone	ug/m ³	200	0.14 U	0.14 U	0.2 U	0.2 U	0.2 U	0.36	0.2 U	0.14 U	0.34	0.7	0.29	0.2 U	0.28	0.31	0.13	0.12 U	0.92									
Acetone	ug/m ³	500	12	8.4	44	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			

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-6-091312	IA-6-010313	IA-6-031513	IA-6-060713	IA-6-090613	IA-6-121313	IA-6-030714	IA-6-061314	IA-6-091214	IA-6-121914	IA-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
Sample Date:	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	12/9/2014	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		
Analyte	Units	CT IACTIND 2003																							
1,1,2-Tetrachloroethane	ug/m ³	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	0.5 U	0.44 U	0.44 U							
1,1,1-Trichloroethane	ug/m ³	500	0.19 U	0.12	0.19 U	0.19 U	0.19 U	0.19 U	0.14 J	0.19 U	0.39	0.19 U													
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.24 U	0.069	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 ³	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							
1,1-Dichloroethane	ug/m ³	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								
1,1-Dichloroethene	ug/m ³	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								
1,2,4-Trichlorobenzene	ug/m ³	NA	0.52 U	0.52 U	0.52 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	0.52 U	0.26 U	0.26 U		
1,2,4-Trimethylbenzene	ug/m ³	52	0.17 U	0.17 U	0.076 J	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
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.27 U	0.077	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	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 ³	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							
1,2-Dichloroethane	ug/m ³	0.31	0.14 U	0.039 J	0.14 U	0.14 U	0.054 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.06 J	0.14 U	0.14 U	0.14 U	0.14 U						
1,2-Dichloropropane	ug/m ³	0.42	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							
1,2-Dichlortetrafluoroethane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,3,5-Trimethylbenzene	ug/m ³	52	0.17 U	0.071 J	0.17 U	0.038 J	0.052 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U						
1,3-Butadiene	ug/m ³	NA	0.078 U	0.059	0.078 U	0.044 U	0.078 U	0.061 J	0.078 U	0.14	0.12	0.078 U													
1,3-Dichlorobenzene	ug/m ³	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	0.21 U												
1,4-Dichlorobenzene	ug/m ³	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	0.21 U												
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Butanone	ug/m ³	500	2.8 J	4.1 J	1.4 J	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
2-Hexanone	ug/m ³	NA	0.27	0.14 U	0.2	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				
4-Ethyltoluene	ug/m ³	NA	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														
4-Methyl-2-pentanone	ug/m ³	200	0.25	0.14 U	0.22	0.24	0.092 J	0.14 U	0.12 J	0.14 U	0.37	0.14 U	0.14 U	0.14 U	0.14 U										
Acetone	ug/m ³	500	18 B	3.3	10	20	29	27	12	26	9.2	8.2	9.2	11	17	9.3	5	21	7	38	7.8	29	14	11	7.7
Benzene	ug/m ³	3.3	0.49	0.11	0.8	0.23	0.7	0.53	2.4	0.67	0.26	0.37	0.53	0.23	0.56	1.1	0.39	0.41	0.61	0.5	0.64	0.49	0.94	0.48	0.4
Benzyl																									

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-6-09092020	IA-6-030821	IA-6	IA-6	IA-7	IA-7-020309	IA-7-021109	IA-7-021809	IA-7-022609	IA-7-030609	IA-7-041409	IA-7-051509	IA-7-061109	IA-7-091709	IA-7-122909	IA-7-032610	IA-7-070110	IA-7-091610	IA-7-120710	IA-7-021711	IA-7-060211	IA-7-091511	IA-7-120811		
Sample Date:			9/9/2020	3/8/2021	9/8/2021	3/29/2022	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	12/7/2010	2/17/2011	6/2/2011	9/15/2011	12/8/2011		
Analyte	Units	CT IACTIND 2003																									
1,1,1,2-Tetrachloroethane	ug/m ³	1.1	0.44 U	0.37 U	0.44 U	0.44 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.62 U	--	
1,1,1-Trichloroethane	ug/m ³	500	0.19 U	0.16 U	0.19 U	0.16 J	44	2.4	0.4	1.3	0.27 U	0.27 U	0.87	0.27 U	0.069 J												
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.24 U	0.21 U	0.24 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U		
1,1,2-Trichloroethane	ug/m ³	12	0.19 U	0.16 U	0.19 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U		
1,1-Dichloroethane	ug/m ³	430	0.14 U	0.12 U	0.14 U	0.14 U	1.3	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	0.12 U					
1,1-Dichloroethene	ug/m ³	20	0.14 U	0.12 U	0.14 U	0.14 U	0.52	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	0.12 U					
1,2,4-Trichlorobenzene	ug/m ³	NA	0.26 U	0.22 U	0.52 U	0.52 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.26 U	0.37 U	0.45 U												
1,2,4-Trimethylbenzene	ug/m ³	52	0.17 U	0.15 U	0.25	0.17 U	0.25 U	0.34	0.99	0.25 U	0.25 U	0.18 U	0.25 U	0.29	0.39	0.25 U	0.35	0.36	0.36	0.25 U	0.25 U	0.56	0.41	0.32			
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.27 U	0.23 U	0.27 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U	0.23 U												
1,2-Dichlorobenzene	ug/m ³	410	0.21 U	0.18 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	0.21 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	0.18 U		
1,2-Dichloroethane	ug/m ³	0.31	0.14 U	0.12 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	0.14 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	0.07 J		
1,2-Dichloropropane	ug/m ³	0.42	0.16 U	0.14 U	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 J	0.14 U		
1,2-Dichlorotetrafluoroethane	ug/m ³	NA	--	--	--	--	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/m ³	52	0.17 U	0.15 U	0.089 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	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	0.1 J		
1,3-Butadiene	ug/m ³	NA	0.077 U	0.066 U	0.077 U	0.11 U	0.11 U	0.14	0.97	0.11 U	0.11 U	0.08 U	0.11 U	0.23 U	0.11 U	0.066 U											
1,3-Dichlorobenzene	ug/m ³	410	0.21 U	0.18 U	0.21 U	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	0.18 U		
1,4-Dichlorobenzene	ug/m ³	24	0.21 U	0.18 U	0.2 J	0.21 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	0.18 U		
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18 U		
2-Butanone	ug/m ³	500	0.63 J	0.53 J	1.6 J	4.1 U	70	6.5	3.9	5.2	2.2	1.3	1.3	2.3	7.3	2.2	0.49	2.1	4.3	1.8	0.42	1.7 B	4.7	5.9 J	2.1 J		
2-Hexanone	ug/m ³	NA	0.29 U	0.25 U	0.29 U	0.2 U	0.29	0.2 U	0.91	0.2 U	0.2 U	0.14 U	0.53	1.5	0.53	0.2 U	0.2 U	0.82	0.55	0.2 U	1.4 J	0.73	0.12 U				
4-Ethyltoluene	ug/m ³	NA	0.17 U	0.15 U	0.17 U	0.17 U	0.25 U	0.25 U	0.27	0.25 U	0.25 U	0.18 U	0.25 U	0.074 J													
4-Methyl-2-pentanone	ug/m ³	200	0.14 U	0.12 U	0.14 U	0.14 U	0.2 U	0.2 U	0.42	0.2 U	0.14 U	0.22	0.79	0.24	0.2 U	0.43	0.61	0.2 U	0.2 U	0.43	0.61	0.2 U	0.2 U	0.53	0.36	0.15	
Acetone	ug/m ³	500	11	6	15	7.7	29	12	13	32	7.8	6.6	6.5	10	31	22	31	12	41	27	12 B	15 B</					

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-7-030812	IA-7-061412	IA-7-091312	IA-7-010313	IA-7-031513	IA-7-060713	IA-7-090613	IA-7-100313	IA-7-121313	IA-7-030714	IA-7-061314	IA-7-091214	IA-7-121914	IA-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
Sample Date:	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	8/5/2016	2/10/2017	9/7/2017	2/28/2018	9/12/2018		
Analyte	Units	CT IACTIND 2003																							
1,1,2-Tetrachloroethane	ug/m ³	1.1	0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.42 U	0.44 U	0.44 U	0.44 U	0.44 U	0.25 U	0.44 U	0.44 U	0.44 U	--	0.44 U	--	0.44 U	0.44 U	0.44 U	0.44 U		
1,1,1-Trichloroethane	ug/m ³	500	0.082 U	0.088 J	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.055 U	0.19 U	0.19 U	0.054 J	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U		
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.1 U	0.21 U	0.24 U	0.24 U	0.24 U	0.23 U	0.24 U	0.24 U	0.069 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		
1,1,2-Trichloroethane	ug/m ³	12	0.082 U	0.16 U	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U		
1,1-Dichloroethane	ug/m ³	430	0.061 U	0.12 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.04 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		
1,1-Dichloroethene	ug/m ³	20	0.059 U	0.12 U	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U		
1,2,4-Trichlorobenzene	ug/m ³	NA	0.45 U	0.17 J	0.52 U	0.52 U	0.26 U	0.25 U	0.26 U	0.26 U	0.15 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U		
1,2,4-Trimethylbenzene	ug/m ³	52	0.36	0.21	0.46	0.17 U	0.1 J	0.58	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
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.12 U	0.23 U	0.27 U	0.27 U	0.27 U	0.26 U	0.27 U	0.27 U	0.077 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		
1,2-Dichlorobenzene	ug/m ³	410	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U		
1,2-Dichloroethane	ug/m ³	0.31	0.061 U	0.051 J	0.14 U	0.14 U	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	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.34		
1,2-Dichloropropane	ug/m ³	0.42	0.069 U	0.14 U	0.094 J	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.085	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.097 J		
1,2-Dichlortetrafluoroethane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.25 U	--	--	--	--		
1,3,5-Trimethylbenzene	ug/m ³	52	0.15	0.083 J	0.26	0.17 U	0.17 U	0.23	0.17 U	0.17 U	0.057 J	0.17 U	0.083 J	0.083 J	0.048 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U		
1,3-Butadiene	ug/m ³	NA	0.066 U	0.066 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.48	0.078 U	0.044 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U		
1,3-Dichlorobenzene	ug/m ³	410	0.18 U	0.18 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.06 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		
1,4-Dichlorobenzene	ug/m ³	24	0.18 U	0.065 J	0.063 J	0.21 U	0.21 U	0.21 U	0.086 J	0.21 U	0.21 U	0.12 U	0.21 U	0.16 J	0.15 J	0.055 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U		
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 U	--	--	--	--		
2-Butanone	ug/m ³	500	0.97 J	1.1 J	2.8 J	4.1 J	1.9 J	1.7 J	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-Hexanone	ug/m ³	NA	0.081 J	0.23	0.41	0.14	0.35	0.14 U	0.15	1.1	0.14 U	0.37	0.35	0.41	0.14 U	0.43	0.17	0.14 U	0.28	0.14 U	0.36	0.14 U	0.43	0.37	0.14 U
4-Ethyltoluene	ug/m ³	NA	0.097 J	0.065 J	0.16 J	0.17 U	0.17 U	0.17 U	0.2	0.17 U	0.17 U	0.065 J	0.17 U	0.09 J	0.069 J	0.055 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	
4-Methyl-2-pentanone	ug/m ³	200	0.13	1.4	0.29	0.14	0.14 U	0.21	0.21	0.21	0.086 J	0.21 U	0.21 U	0.12 U	0.21 U	0.16 J	0.15 J	0.055 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U		
Acetone	ug/m ³	500	13	18	24 B	3.3	15	49	46	46	20	15	30	41	12	16	24	39	15	9.1	33	7.5	37	14	23
Benzene	ug/m ³	3.3	0.36	0.2	0.49	0.11	0.87	0.32	0.43	1.8	0.54	1.9													

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-7-020819	IA-7-090619	IA-7-021420	IA-7-090920	IA-7-030821	IA-7	IA-7
Sample Date:			2/8/2019	9/6/2019	2/14/2020	9/9/2020	3/8/2021	9/8/2021	3/29/2022
Analyte	Units	CT IACTIND 2003							
1,1,1,2-Tetrachloroethane	ug/m ³	1.1	0.44 U	0.44 U	0.44 U	0.44 U	0.37 U	0.44 U	0.44 U
1,1,1-Trichloroethane	ug/m ³	500	0.19 U	0.19 U	0.19 U	0.19 U	0.16 U	0.19 U	0.19 U
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.24 U	0.24 U	0.24 U	0.24 U	0.21 U	0.24 U	0.24 U
1,1,2-Trichloroethane	ug/m ³	12	0.4	0.19 U	0.19 U	0.19 U	0.16 U	0.19 U	0.19 U
1,1-Dichloroethane	ug/m ³	430	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U
1,1-Dichloroethene	ug/m ³	20	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U
1,2,4-Trichlorobenzene	ug/m ³	NA	0.52 U	0.26 U	0.26 U	0.26 U	0.22 U	0.52 U	0.52 U
1,2,4-Trimethylbenzene	ug/m ³	52	0.54	0.17 U	0.17 U	0.17 U	0.15 U	0.17	0.17 U
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.27 U	0.27 U	0.27 U	0.27 U	0.23 U	0.27 U	0.27 U
1,2-Dichlorobenzene	ug/m ³	410	0.65 J	0.21 U	0.21 U	0.21 U	0.18 U	0.21 U	0.21 U
1,2-Dichloroethane	ug/m ³	0.31	0.14 U	0.46	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U
1,2-Dichloropropane	ug/m ³	0.42	0.4	0.8	0.16 U	0.16 U	0.14 U	0.16 U	0.09 J
1,2-Dichlorotetrafluoroethane	ug/m ³	NA	--	--	--	--	--	--	--
1,3,5-Trimethylbenzene	ug/m ³	52	0.39	0.17 U	0.17 U	0.17 U	0.15 U	0.058 J	0.17 U
1,3-Butadiene	ug/m ³	NA	0.078 U	0.078 U	0.078 U	0.077 U	0.066 U	0.077 U	0.077 U
1,3-Dichlorobenzene	ug/m ³	410	0.5	0.21 U	0.21 U	0.21 U	0.18 U	0.21 U	0.21 U
1,4-Dichlorobenzene	ug/m ³	24	0.57	0.21 U	0.21 U	0.21 U	0.18 U	0.21 U	0.21 U
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--
2-Butanone	ug/m ³	500	2.1 J	1.1 J	0.91 J	1.5 J	2 J	1.5 J	4.1 U
2-Hexanone	ug/m ³	NA	0.14 U	0.14 U	0.14 U	0.29 U	0.25 U	0.29 U	0.29 U
4-Ethyltoluene	ug/m ³	NA	0.49	0.17 U	0.17 U	0.17 U	0.15 U	0.17 U	0.17 U
4-Methyl-2-pentanone	ug/m ³	200	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U
Acetone	ug/m ³	500	13	18	26	16	16	13	10
Benzene	ug/m ³	3.3	0.85	0.4	0.41	0.11 U	0.63	0.43	0.63
Benzyl chloride	ug/m ³	NA	0.18 U	0.18 U	0.18 U	0.18 U	0.16 U	0.18 U	0.18 U
Bromodichloromethane	ug/m ³	0.46	0.24 U	0.24 U	0.24 U	0.23 U	0.2 U	0.23 U	0.23 U
Bromoform	ug/m ³	7.3	0.36 U	0.36 U	0.36 U	0.36 U	0.31 U	0.36 U	0.36 U
Bromomethane	ug/m ³	NA	0.14 U	1.4 U	0.27 U	0.14 U	0.12 U	0.14 U	0.14 U
Carbon disulfide	ug/m ³	NA	1.1 U	1.1 U	1.1 U	1.1 U	0.93 U	1.1 U	1.1 U
Carbon tetrachloride	ug/m ³	0.54	0.83	0.43	0.43	0.22 U	0.26	0.4	0.22 U
Chlorobenzene	ug/m ³	200	0.16 U	0.16 U	0.16 U	0.16 U	0.14 U	0.16 U	0.16 U
Chloroethane	ug/m ³	500	0.19 U	0.093 U	0.093 U	0.092 U	0.079 U	0.092 U	0.092 U
Chloroform	ug/m ³	0.5	0.57	0.34	0.17 U	0.17 U	0.15 U	0.17 U	0.17 U
Chlormethane	ug/m ³	80	0.14 U	0.14 U	1	0.14 U	0.12 U	1.2	1.4
cis-1,2-Dichloroethene	ug/m ³	100	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U
cis-1,3-Dichloropropene	ug/m ³	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.14 U	0.16 U	0.16 U
Cyclohexane	ug/m ³	NA	0.12 U	0.12 U	0.12 U	0.12 U	0.1 U	0.12 U	0.12 U
Dibromochloromethane	ug/m ³	NA	0.3 U	0.3 U	0.3 U	0.3 U	0.26 U	0.3 U	0.3 U
Dichlorodifluoromethane	ug/m ³	500	2.5	0.17 U	1.4	0.17 U	0.15 U	2.3	2
Ethanol	ug/m ³	NA	45	200	190	990	570	150	220
Ethyl acetate	ug/m ³	NA	0.13 U	0.13 U	0.13 U	1.3	3.8	1.3 U	1.3 U
Ethylbenzene	ug/m ³	290	0.48	0.48	0.15 U	0.15 U	0.14	0.18	0.15 U
Hexachlorobutadiene	ug/m ³	NA	0.75 U	0.37 U	0.37 U	0.37 U	0.32 U	0.37 U	0.37 U
Hexane	ug/m ³	NA	4.9 U	4.9 U	4.9 U	4.9 U	4.2 U	4.9 U	4.9 U
Isopropyl alcohol	ug/m ³	NA	5.6	18	8.9	33	18	6.1	3.4 J
m,p-Xylene	ug/m ³	NA	1.1	1.5	0.23 J	0.3 U	0.45	0.47	0.3 U
Methyl methacrylate	ug/m ³	NA	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U
Methylene chloride	ug/m ³	17	0.66 J	0.4 J	0.56 J	1.2 U	5.2	0.57 J	0.61 J
Methyl-t-butyl ether	ug/m ³	190	0.13 U	0.13 U	0.13 U	0.13 U	0.11 U	0.13 U	0.13 U
Naphthalene	ug/m ³	NA	--	--	--	--	--	--	--
n-Heptane	ug/m ³	NA	0.14 U	0.43	0.14 U	0.14 U	0.12 U	0.23	0.21
o-Xylene	ug/m ³	NA	0.48	0.51	0.15 U	0.15 U	0.17	0.2	0.085 J
Propylene (Propene)	ug/m ³	NA	2.4 U	2.4 U	2.4 U	2.4 U	2.1 U	2.4 U	2.4 U
Styrene	ug/m ³	290	0.15 U	0.33	0.15 U	0.15 U	0.13 U	0.08 J	0.15 U
Tetrachloroethene	ug/m ³	5	0.88	1.6	1.9	0.24 U	2	0.74	0.35
Tetrahydrofuran	ug/m ³	NA	0.1 U	0.1 U	0.1 U	1 U	0.88 U	1 U	1 U
Toluene	ug/m ³	500	1.2	3.9	0.42	0.13 U	0.75	1.1	0.24
Total VOCs	ug/m ³	NA	77.58	248.81	231.66	1040.5	620.6	180.688	241.605
trans-1,2-Dichloroethene	ug/m ³	200	0.28 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U
trans-1,3-Dichloropropene	ug/m ³	NA	0.16 U	0.16 U	0.16 U	0.16 U	0.14 U	0.16 U	0.16 U
Trichloroethene	ug/m ³	1	0.19 U	0.43	0.19 U	0.19 U	0.16 U	0.13 J	0.33
Trichlorotrifluoroethane	ug/m ³	500	1.8	1.2	1.2	0.78 U	1.2	1.2	1.7
Vinyl acetate	ug/m ³	NA	2.5 U	2.5 U	2.5 U	2.5 U	2.1 U	2.5 U	2.5 U
Vinyl chloride	ug/m ³	1.9	0.09 U	0.09 U	0.09 U	0.089 U	0.077 U	0.089 U	0.089 U

Notes:
NA - not available
B - 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
- Compound not analyzed.



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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25 U	--	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U		
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	68 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	3.4 U	0.69 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	54 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	0.55 U	0.55 U	5.5 U	11 U	2.7 U	0.27 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	0.4 U	4 U	7.9 U	2 U	0.2 U	0.84	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U		
1,2,4-Trichlorobenzene	ug/m3	7.4 U	74 U	3.7 U	3.7 U	7.5 U	3.7 U	7.4 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	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	3.8 U	0.77 U	0.77 U	7.7 U	15 U	3.8 U	0.38 U	0.77 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	6 U	12 U	3 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/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	0.4 U	4 U	8.1 U	2 U	0.2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U		
1,2-Dichloropropane	ug/m3	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	0.46 U										
1,2-Dichlortetrafluoroethane	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	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	2.2 U	4.4 U	1.1 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 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	6 U	12 U	3 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/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	6 U	12 U	3 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/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2 U	--	--	--	--	--	--	--		
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	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	0.49 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	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	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	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	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	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	0.67 U						
Bromoform	ug/m3	11 U	110 U	5.1 U	11 U	1 U	1 U	10 U	21 U	5.2 U	1 U	1 U	1 U	1 U	1 U	1 U											
Bromomethane	ug/m3	3.8 U	38 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8 U	0.39 U	0.39 U	3.9 U	7.8 U	1.9 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U						
Carbon disulfide	ug/m3	3.2 U	180	1.6 U	8	12	0.66	0.31 U	11	62 J	7.1 J	3.1 U	29	3.1 U	3.1 U	3.1 U	0.35 J										
Carbon tetrachloride	ug/m3	6.2 U	62 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	6.2 U	0.63 U	0.63 U	6.3 U	13 U	3.1 U	0.39	0.34 J	0.4 J	0.63 U	0.23 J	0.63 U						
Chlorobenzene	ug/m3	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	0.46 U	4.6 U	9.2 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U						
Chloroethane	ug/m3	140	50	34	18	13	26 U	13	14	4	1.3 U	2.8	2.6 U	0.26 U	0.26 U	2.6 U	5.3 U	1.3 U	0.26 U	1.4	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U		
Chloroform	ug/m3	42	24	19	29	21	50	14	12	12	7.2	3.7	4.8 U	2.4	0.49 U	4.9 U	9.8 U	1 J</									

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
-- Compound not analyzed.

Prepared By: AKN, 5/11/2022
Checked By: BT, 5/11/2022

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-6-090613	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-6-09020	EW-6-030821	EW-6	EW-6		
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	3/8/2021	9/8/2021	3/29/2022		
Analyte	Units																									
1,1,2-Tetrachloroethane	ug/m3	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	0.44 U					
1,1,1-Trichloroethane	ug/m3	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	0.55 U	0.55 U	0.55 U	0.21	
1,1,2,2-Tetrachloroethane	ug/m3	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	0.69 U	0.69 U	0.69 U	0.24 U		
1,1,2-Trichloroethane	ug/m3	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	0.55 U	0.55 U	0.55 U	0.19 U		
1,1-Dichloroethane	ug/m3	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	0.4 U	0.4 U	0.4 U	0.14 U	
1,1-Dichloroethene	ug/m3	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	0.4 U	0.4 U	0.4 U	0.14 U	
1,2,4-Trichlorobenzene	ug/m3	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	0.74 U	0.74 U	0.74 U	0.52 U		
1,2,4-Trimethylbenzene	ug/m3	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	0.17 U							
1,2-Dibromoethane (EDB)	ug/m3	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	0.77 U	0.77 U	0.77 U	0.27 U		
1,2-Dichlorobenzene	ug/m3	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	0.6 U	0.6 U	0.6 U	0.21 U	
1,2-Dichloroethane	ug/m3	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	0.4 U	0.4 U	0.4 U	0.14 U		
1,2-Dichloropropane	ug/m3	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	4.6 U	0.46 U	0.92 U	0.92 U	0.46 U	0.46 U	0.16 U									
1,2-Dichlorotetrafluoroethane	ug/m3	--	--	--	--	--	--	--	--	--	1.4 U	--	7 U	--	--	--	--	--	--	--	--	--	--	--		
1,3,5-Trimethylbenzene	ug/m3	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	0.98 U	4.9 U	0.49 U	0.98 U	0.98 U	0.49 U	0.49 U	0.49 U	0.17 U						
1,3-Butadiene	ug/m3	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	0.44 U	2.2 U	0.22 U	0.44 U	0.44 U	0.22 U	0.22 U	0.22 U	0.077 U						
1,3-Dichlorobenzene	ug/m3	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	1.5 J	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.21 U	
1,4-Dichlorobenzene	ug/m3	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	1.6 J	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.21 U	
1,4-Dioxane	ug/m3	--	--	--	--	--	--	--	--	--	7.2 U	--	36 U	--	--	--	--	--	--	--	--	--	--	--		
2-Butanone	ug/m3	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 J	4.2 J	4.1 U		
2-Hexanone	ug/m3	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	0.29 U							
4-Ethyltoluene	ug/m3	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	0.17 U							
4-Methyl-2-pentanone	ug/m3	0.14 U	0.41 U	0.41 U	0.41 U	0.82 U	0.41 U	0.13 J	0.41 U	0.82 U	0.82 U	4.1 U	0.41 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.14 U							
Acetone	ug/m3	35	17	16	27	36	35	39	35	44	17 J	33	210	25	26	17 J	42	33	38	26	63	32	35	6.4		
Benzene	ug/m3	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	1.6	1.4	0.7		
Benzyl chloride	ug/m3	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									

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

Area:		Extraction Well - Large Retail Space																								
Location:		EW-5																								
Sample ID:		EW-5-020309	EW-5-021109	EW-5-021809	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		
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	6/4/2012	9/13/2012	1/3/2013	3/15/2013		
Analyte	Units																									
1,1,2-Tetrachloroethane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25 U	--	12 U	1.2 U	1.2 U	1.2 U	1.2 U	
1,1,1-Trichloroethane	ug/m3	190000	41000	17000	7100	1800	2600	3100	1900	3500	920	540	550	460	210	400	340	430	130	81	100	190	0.55 U	0.55 U		
1,1,2,2-Tetrachloroethane	ug/m3	6.8 U	6.8 U	6.8 U	6.8 U	1.7 U	68 U	3.4 U	3.4 U	3.4 U	6.8 U	3.4 U	6.8 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		
1,1,2-Trichloroethane	ug/m3	5.4 U	5.4 U	5.4 U	5.4 U	1.4 U	54 U	2.7 U	2.7 U	2.7 U	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			
1,1-Dichloroethane	ug/m3	11000	1900	890	770	190	360	450	430	230	100	50	53	42	29	34	33	44	16	11	12	21	0.4 U	0.4 U		
1,1-Dichloroethene	ug/m3	2500	290	130	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	0.4 U		
1,2,4-Trichlorobenzene	ug/m3	7.4 U	7.4 U	7.4 U	7.4 U	1.9 U	74 U	3.7 U	3.7 U	3.7 U	7.5 U	15 U	3.7 U	7.4 U	1.5 U	7.4 U	30 U	7.4 U	15 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U		
1,2,4-Trimethylbenzene	ug/m3	5 U	5 U	5 U	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		
1,2-Dibromoethane (EDB)	ug/m3	7.6 U	7.6 U	7.6 U	7.6 U	1.9 U	76 U	3.8 U	3.8 U	3.8 U	7.6 U	3.8 U	7.6 U	1.5 U	1.5 U	7.7 U	15 U	3.8 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U		
1,2-Dichlorobenzene	ug/m3	6 U	6 U	6 U	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		
1,2-Dichloroethane	ug/m3	4 U	4 U	4 U	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	0.4 U	0.4 U	0.4 U		
1,2-Dichloropropane	ug/m3	4.6 U	4.6 U	4.6 U	4.6 U	1.2 U	46 U	2.3 U	2.3 U	2.3 U	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		
1,2-Dichlorotetrafluoroethane	ug/m3	7 U	7 U	7 U	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/m3	5 U	5 U	5 U	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	0.49 U	0.19 J	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	0.55 U	22 U	1.1 U	1.1 U	2.3 U	1.1 U	2.2 U	1.1 U	2.2 U	0.44 U	0.44 U	2.2 U	4.4 U	1.1 U	2.2 U	0.22 U	0.22 U	0.22 U	0.22 U		
1,3-Dichlorobenzene	ug/m3	6 U	6 U	6 U	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		
1,4-Dichlorobenzene	ug/m3	6 U	6 U	6 U	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		
1,4-Dioxane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2 U	--	--	--	--	--		
2-Butanone	ug/m3	6.3	89	75	170	3700	64000	100000	230000	110000	7800	18000	28000	15000	4000	7200 B	17000	13000	2700	1800	870	840	12 J	1.7 J		
2-Hexanone	ug/m3	4 U	4 U	4 U	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	0.41 U	0.41 U	0.41 U		
4-Ethyltoluene	ug/m3	5 U	5 U	5 U	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	0.49 U	0.49 U	0.49 U		
4-Methyl-2-pentanone	ug/m3	4 U	4 U	4 U	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	0.41 U			
Acetone	ug/m3	530	32	52	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		
Benzene	ug/m3	13	12	6.2	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		
Benzyl chloride	ug/m3	5.2 U	5.2 U	5.2 U	5.2 U	1.3 U	52 U	2.6 U	2.6 U	2.6 U	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			
Bromodichloromethane	ug/m3	6.6 U	6.6 U	6.6 U	6.6 U	1.7 U	66 U	3.3 U	3.3 U	3.3 U	6.6 U	3.3 U	6.6 U	1.3 U	1.3 U	6.7 U	13 U	3.4 U	3.4 U	0.67 U	0.67 U	0.67 U	0.67 U			
Bromoform	ug/m3	11 U	11 U	11 U	11 U	2.6 U	110 U	5.1 U	5.1 U	5.1 U	11 U	5.1 U	11 U	2.1 U	2.1 U	10 U	21 U	5.2 U	10							

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

Area:	Extraction Well - Large Retail Space																										
Location:	EW-5																										
Sample ID:	EW-5-060713	EW-5-090613	EW-5-121313	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-5-030821	EW-5				
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	3/8/2021	9/8/2021				
Analyte	Units																										
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	0.39 J	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	12 U	2.5 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U		
1,1,1-Trichloroethane	ug/m3	59	180	40	68	54	74	25	14	0.19 J	55	32	15	68	7.4	42	17	49	11	40	11	73	11	0.55 U	0.69 U	0.69 U	
1,1,2,2-Tetrachloroethane	ug/m3	0.69 U	0.32 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	0.69 U	0.69 U	0.69 U						
1,1,2-Trichloroethane	ug/m3	0.55 U	0.26 U	0.55 U	0.55 U	0.55 U	1.1 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	0.55 U	0.55 U	0.55 U	0.55 U		
1,1-Dichloroethane	ug/m3	6.4	20	4.8	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	1.6	0.4 U			
1,1-Dichloroethene	ug/m3	1.7	4.7	1.5	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	0.4 U	0.4 U	0.4 U	0.4 U	
1,2,4-Trichlorobenzene	ug/m3	0.74 U	0.35 U	0.74 U	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	0.74 U	0.74 U	0.74 U		
1,2,4-Trimethylbenzene	ug/m3	0.49 U	0.37	0.49 U	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	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
1,2-Dibromoethane (EDB)	ug/m3	0.77 U	0.36 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	0.77 U	0.77 U	0.77 U						
1,2-Dichlorobenzene	ug/m3	0.6 U	0.28 U	0.6 U	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	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/m3	0.4 U	0.19 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	4 U	0.4 U	0.81 U	4 U	0.4 U	0.81 U	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	
1,2-Dichloropropane	ug/m3	0.46 U	0.22 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	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U						
1,2-Dichlorotetrafluoroethane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	1.4 U	--	7 U	--	--	--	--	--	--	--	--	--	--	
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.23 U	0.49 U	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	0.49 U	0.49 U	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	0.1 U	0.22 U	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	0.22 U	0.44 U	2.2 U	0.42 J	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/m3	0.6 U	0.28 U	0.6 U	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	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/m3	0.6 U	0.28 U	0.6 U	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	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/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2 U	--	36 U	--	--	--	--	--	--	--	--	--	--
2-Butanone	ug/m3	1900	31000	680	1200	2100	3800	260	91	9.1 J	1700 E	410	130	4800	29	4500	750	5500	110	7300	160	12 U	130	3.5 J			
2-Hexanone	ug/m3	0.41 U	0.49	0.41 U	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	0.41 U	0.41 U	0.41 U	0.41 U
4-Ethyltoluene	ug/m3	0.49 U	0.23 U	0.49 U	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	0.49 U	0.49 U	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	0.56	0.41 U	0.41 U	0.41 U	0.46	0.82 U	0.41 U	0.41 U	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	0.41 U	0.41 U	0.41 U	0.41 U
Acetone	ug/m3	610	6800	210	380	610	500	98	49	21	550	120	58	570	11	700	320	710	47	1700	66	15	640	16			
Benzene	ug/m3	1	7.1	2.4	3.8	3	2.7	3.4	3.1	0.35	2.9	5	2.8	4	0.38	2.7	2 J	3.1	3.6	2.5	1.6	0.32 U	3	0.46			
Benzyl chloride	ug/m3	0.52 U	0.24 U	0.52 U	0.52 U	2.6 U	1 U	1 U	5.2 U	0.52 U	1 U	5.2 U	1 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/m3	0.67 U	0.31 U	0.67 U	0.67 U	3.4 U	1.3 U	1.3 U	6.7 U	0.67 U	1.3 U	6.7 U	1.2 J	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U					
Bromoform	ug/m3	1 U	0.48 U	1 U	1 U	1 U	2.1 U	1 U	1 U	5.2 U	2.1 U	2.1 U	10 U	1 U	2.1 U	10 U	2.1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/m3	0.39 U	0.18 U	0.39 U	0.39 U	0.39 U	0.78 U	0.39 U	0.39 U	1.9 U	0.78 U	0.78 U	3.9 U	0.39 U	0.78 U	0.78 U	0.39 U	3.9 U	0.78 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Carbon disulfide	ug/m3	19	77	8.9	26	35	46	13	7.4	0.98 J	56	19	6.1 J	100	1.2 J	120	62	200	66 J	210	44	3.1 U	3.1 U	3.1 U			
Carbon tetrachloride	ug/m3	0.63 U	0.47	0.63 U	0.63 U	0.63 U	0.63 U	0.33 J	0.31 J	0.33 J	3.1 U	1.3 U	1.3 U	6.3 U	0.63 U	1.3 U	6.3 U	0.45 J	0.63 U	6	0.63 U	0.47 J	0.63 U	0.43 J			
Chlorobenzene	ug/m3	0.46 U	0.22 U	0.46 U	0.46 U	2.3 U	0.92 U	0.92 U	4.6 U	0.46 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
-- Compound not analyzed.

Prepared By: AKN, 5/11/2022
Checked By: BT, 5/11/2022

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

Area:		Extraction Well	Extraction Well - Western Small Retail Space																						
Location:		EW-5	EW-7																						
Sample ID:		EW-5	EW-7-020309	EW-7-021109	EW-7-021809	EW-7-022609	EW-7-030609	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	
Sample Date:	3/29/2022	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		
Analyte	Units																								
1,1,1,2-Tetrachloroethane	ug/m3	0.44 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5 U	--	12 U	1.2 U	1.2 U	1.2 U	
1,1,1-Trichloroethane	ug/m3	15	5600	8500	7800	8200	8100	1600	3600	2600	1400	340	51	250	290	160	110	5.5 U	110	66	11	47	95	0.55 U	
1,1,2,2-Tetrachloroethane	ug/m3	0.24 U	6.8 U	1.4 U	1.7 U	1.7 U	6.8 U	3.4 U	3.4 U	3.4 U	3.4 U	0.68 U	0.68 U	0.68 U	0.69 U	0.69 U	6.9 U	1.4 U	0.69 U	3.4 U	0.69 U	0.69 U	0.69 U	0.69 U	
1,1,2-Trichloroethane	ug/m3	0.19 U	5.4 U	1.1 U	1.4 U	1.4 U	5.4 U	2.7 U	2.7 U	2.7 U	2.7 U	0.54 U	0.54 U	0.55 U	0.55 U	0.55 U	5.5 U	1.1 U	0.55 U	2.7 U	0.55 U	0.55 U	0.55 U	0.55 U	
1,1-Dichloroethane	ug/m3	0.32	1700	1800	1600	2100	1700	590	1000	1100	970	470	85	320	340	220	150	45	150	80	6.4	42	100	0.4 U	
1,1-Dichloroethene	ug/m3	0.14 U	14	15	8.5	9.4	6.6	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	
1,2,4-Trichlorobenzene	ug/m3	0.52 U	7.4 U	1.5 U	1.9 U	1.9 U	7.4 U	3.7 U	3.7 U	3.7 U	7.5 U	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	7.4 U	3 U	1.5 U	15 U	1.5 U	1.5 U	1.5 U	
1,2,4-Trimethylbenzene	ug/m3	0.17 U	5 U	1 U	1.3 U	1.3 U	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 J	0.32 J	4.9 U	0.32 J	0.97	0.49			
1,2-Dibromoethane (EDB)	ug/m3	0.27 U	7.6 U	1.6 U	1.9 U	1.9 U	7.6 U	3.8 U	3.8 U	3.8 U	3.8 U	0.76 U	0.76 U	0.76 U	0.77 U	0.77 U	7.7 U	1.5 U	0.77 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	
1,2-Dichlorobenzene	ug/m3	0.21 U	6 U	1.2 U	1.5 U	1.5 U	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	
1,2-Dichloroethane	ug/m3	0.14 U	4 U	0.8 U	1 U	1 U	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	
1,2-Dichloropropane	ug/m3	0.16 U	4.6 U	0.92 U	1.2 U	1.2 U	4.6 U	2.3 U	2.3 U	2.3 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	0.92 U	0.46 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	
1,2-Dichlortetrafluoroethane	ug/m3	--	7 U	1.4 U	1.8 U	1.8 U	7 U	3.5 U	3.5 U	3.5 U	3.5 U	0.7 U	--	--	--	--	--	--	--	--					
1,3,5-Trimethylbenzene	ug/m3	0.17 U	5 U	1 U	1.3 U	1.3 U	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			
1,3-Butadiene	ug/m3	0.077 U	2.2 U	0.44 U	0.55 U	0.55 U	0.55 U	2.2 U	1.1 U	1.1 U	2.3 U	1.1 U	0.22 U	0.22 U	0.22 U	0.22 U	2.2 U	0.44 U	0.22 U						
1,3-Dichlorobenzene	ug/m3	0.21 U	6 U	1.2 U	1.5 U	1.5 U	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	
1,4-Dichlorobenzene	ug/m3	0.21 U	6 U	1.2 U	1.5 U	1.5 U	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	
1,4-Dioxane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.72 U	--	--	--	--	--	
2-Butanone	ug/m3	1.2 J	8.7	12	7.3	8.5	5.5	4.5	7.1	16	4.9	3.5	31	3.8	1.8	4.1	5.3 B	59 U	24 J	6.2 J	100 J	14	3.6 J	12	
2-Hexanone	ug/m3	0.29 U	4 U	0.8 U	1 U	1 U	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		
4-Ethyltoluene	ug/m3	0.17 U	5 U	1 U	1.3 U	1.3 U	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			
4-Methyl-2-pentanone	ug/m3	0.14 U	4 U	0.8 U	1 U	1 U	4 U	2 U	2 U	2 U	2 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	0.31 J	0.41				
Acetone	ug/m3	4	580	38	58	30	24	15	24	24	7.9	49	26	25	12	42 B	35 B	48 U	23	12	46 J	31	17 B	9.5	
Benzene	ug/m3	0.41	3.2 U	3.9	4.5	1.9	2.3	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	
Benzyl chloride	ug/m3	0.18 U	5.2 U	1.1 U	1.3 U	1.3 U	5.2 U	2.6 U	2.6 U	2.6 U	2.6 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	5.2 U	1 U	0.52 U	5.2 U	0.52 U	0.52 U	0.52 U	0.52 U	
Bromodichloromethane	ug/m3	0.23 U	6.6 U	1.4 U	1.7 U	1.7 U	6.6 U	3.3 U	3.3 U	3.3 U	3.3 U	0.66 U	0.66 U	0.67 U	0.67 U	0.67 U	6.7 U	1.3 U	0.67 U	3.4 U	0.32	0.67 U	0.67 U		
Bromoform	ug/m3	0.36 U	11 U	2.1 U	2.6 U	2.6 U	2.6 U	11 U	5.1 U	5.1 U	5.1 U	5.1 U	1.1 U	10 U	2.1 U	1 U	10 U	1 U	1 U	1 U					
Bromomethane	ug/m3	0.14 U	3.8 U	0.76 U	0.95 U	0.95 U	0.95 U	3.8 U	1.9 U	1.9 U	1.9 U	1.9 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	3.9 U	0.78 U	0.39 U	3.9 U	0.39 U	0.39 U	0.39 U	
Carbon disulfide	ug/m3	0.1 J	5.7	3.4	2.7	3.7	3.3	3.2 U	3.2	2.7	2.1	1.6 U	1.5	0.93	0.9	0.78	0.31 U	3.1 U	6.2 J	3.1 U	31 U	0.41 J	3.1 U	3.1 U	
Carbon tetrachloride	ug/m3	0.44	6.2 U	1.3 U	1.6 U	1.6 U	6.2 U	3.1 U	3.1 U	3.1 U	3.1 U	0.62 U	0.62 U	0.63 U	0.63 U	0.63 U	6.3 U	1.3 U	0.34 J	3.1 U	0.3 J	0.33 J	0.63		
Chlorobenzene	ug/m3	0.16 U	4.6 U	0.92 U	1.2 U	1.2 U	4.6 U	2.3 U	2.3 U	2.3 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	4.6 U	0.92 U	0.46 U	4.6 U	0.46 U	0.46 U	0.46 U	0.46 U	
Chloroethane	ug/m3	0.092 U	170	150	88	41	33	7.1	9.6	10	8.1	6.5	1.6	2.2	3.6	2	0.26 U	2.6 U	1.9	0.26 U	2.6 U	0.82	0.26 U	0.26 U	
Chloroform	ug/m3	0.17 U	4.8 U	1	1.2 U	1.3	1.2 U	4.8 U	2.7	2.6	4.6	2.7	1.1	4.2	4.4	3.9	3	4.9 U	5	3.8	2.4 U	3.1	4.1	0.49 U	
Chloromethane	ug/m3	0.14 U	2 U	0.4 U	0.5 U	0.5 U	0.5 U	2 U	1 U	1 U	1 U	0													

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
-- Compound not analyzed.

Prepared By: AKN, 5/11/2022
Checked By: BT, 5/11/2022

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-7-031513	EW-7-060713	EW-7-090613	EW-7-100313	EW-7-121313	EW-7-030714	EW-7-061314	EW-7-091214	EW-7-121914	EW-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-7-090920			
Sample Date:		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	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																										
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	1.2 U	0.44 U	1.2 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							
1,1,1-Trichloroethane	ug/m3	3.1	15	76	52	41	30	15	52	6.1	25	14	63	40	1.1 U	160	30	1.2	20	7.9	8.7	8.3	9.4	9.4	8.7		
1,1,2,2-Tetrachloroethane	ug/m3	0.69 U	0.69 U	0.24 U	0.69 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	0.69 U								
1,1,2-Trichloroethane	ug/m3	0.55 U	0.55 U	0.19 U	0.55 U	1.1 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U															
1,1-Dichloroethane	ug/m3	2	7	51	25	12	6.9	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	0.4 U	0.4 U	
1,1-Dichloroethene	ug/m3	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	0.79 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	0.4 U	
1,2,4-Trichlorobenzene	ug/m3	1.5 U	0.74 U	0.26 U	0.74 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	7.4 U	0.74 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	0.74 U	0.74 U		
1,2,4-Trimethylbenzene	ug/m3	0.3 J	0.49 U	0.5	0.77	0.58	0.49 U	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	0.27 U	0.77 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	0.77 U								
1,2-Dichlorobenzene	ug/m3	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	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					
1,2-Dichloroethane	ug/m3	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	0.16 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		
1,2-Dichloropropane	ug/m3	0.46 U	0.46 U	0.16 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-Dichlortetrafluoroethane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4 U	--	7 U	--	--	--	--	--	--	--	--	--	
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.49 U	0.24	0.32 J	0.49 U	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	0.22 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	0.44 U	0.44 U	4.4 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	
1,3-Dichlorobenzene	ug/m3	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	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					
1,4-Dichlorobenzene	ug/m3	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	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					
1,4-Dioxane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	7 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	ug/m3	210	99	12	8.5 J	5.9 J	3.8 J	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	0.39 J	0.41 U	0.51	0.41 U	0.41 U	0.41 U	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	0.82 U	0.82 U	0.41 U	0.41 U	0.82 U		
4-Ethyltoluene	ug/m3	0.49 U	0.49 U	0.17 U	0.27 J	0.49 U	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	0.98 U	0.98 U	0.49 U	0.49 U	0.98 U			
4-Methyl-2-pentanone	ug/m3	0.41 U	0.41 U	0.14 U	0.41 U	0.41 U	0.46 U	0.46 U	4.1 U	0.41 U	0.46 U	0.46 U	0.41 U														
Acetone	ug/m3	55	28	24	35	14	6.9 J	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	0.54	0.61	1.9	1.9	0.86	1.3	1.1	0.59 J	0.49	2.1	2.3	2.3	1.3	1.2												

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-7-030821	EW-7	EW-7
Sample Date:	3/8/2021	9/8/2021	3/29/2022
Analyte	Units		
1,1,1,2-Tetrachloroethane	ug/m ³	1.2 U	1.2 U
1,1,1-Trichloroethane	ug/m ³	42	12
1,1,2,2-Tetrachloroethane	ug/m ³	0.69 U	0.69 U
1,1,2-Trichloroethane	ug/m ³	0.55 U	0.55 U
1,1-Dichloroethane	ug/m ³	2.7	1.5
1,1-Dichloroethene	ug/m ³	0.4 U	0.4 U
1,2,4-Trichlorobenzene	ug/m ³	0.74 U	1.5 U
1,2,4-Trimethylbenzene	ug/m ³	0.49 U	0.49 U
1,2-Dibromoethane (EDB)	ug/m ³	0.77 U	0.77 U
1,2-Dichlorobenzene	ug/m ³	0.6 U	0.6 U
1,2-Dichloroethane	ug/m ³	0.4 U	0.4 U
1,2-Dichloropropane	ug/m ³	0.46 U	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m ³	--	--
1,3,5-Trimethylbenzene	ug/m ³	0.49 U	0.49 U
1,3-Butadiene	ug/m ³	0.22 U	0.22 U
1,3-Dichlorobenzene	ug/m ³	0.6 U	0.6 U
1,4-Dichlorobenzene	ug/m ³	0.6 U	0.6 U
1,4-Dioxane	ug/m ³	--	--
2-Butanone	ug/m ³	21	25
2-Hexanone	ug/m ³	0.82 U	0.82 U
4-Ethyltoluene	ug/m ³	0.49 U	0.49 U
4-Methyl-2-pentanone	ug/m ³	0.41 U	0.41 U
Acetone	ug/m ³	11	7.8 J
Benzene	ug/m ³	1.2	0.66
Benzyl chloride	ug/m ³	0.52 U	0.52 U
Bromodichloromethane	ug/m ³	0.67 U	0.67 U
Bromoform	ug/m ³	1 U	1 U
Bromomethane	ug/m ³	0.39 U	0.39 U
Carbon disulfide	ug/m ³	3.1 U	66
Carbon tetrachloride	ug/m ³	0.47 J	0.44 J
Chlorobenzene	ug/m ³	0.46 U	0.46 U
Chloroethane	ug/m ³	0.26 U	0.26 U
Chloroform	ug/m ³	2.9	2.6
Chlormethane	ug/m ³	0.41 U	0.41 U
cis-1,2-Dichloroethene	ug/m ³	2.1	1.4
cis-1,3-Dichloropropene	ug/m ³	0.45 U	0.45 U
Cyclohexane	ug/m ³	0.34 U	0.34 U
Dibromochloromethane	ug/m ³	0.85 U	0.85 U
Dichlorodifluoromethane	ug/m ³	0.49 U	0.49 U
Ethanol	ug/m ³	150	12
Ethyl acetate	ug/m ³	3.6 U	3.6 U
Ethylbenzene	ug/m ³	0.16 J	0.18 J
Hexachlorobutadiene	ug/m ³	1.1 U	1.1 U
Hexane	ug/m ³	14 U	14 U
Isopropyl alcohol	ug/m ³	8.5 J	4 J
m,p-Xylene	ug/m ³	0.43 J	0.52 J
Methyl methacrylate	ug/m ³	--	0.41 U
Methylene chloride	ug/m ³	3.5 U	3.5 U
Methyl-t-butyl ether	ug/m ³	0.36 U	0.36 U
Naphthalene	ug/m ³	0.52 U	--
n-Heptane	ug/m ³	0.41 U	0.41 U
o-Xylene	ug/m ³	0.2 J	0.17 J
Propylene (Propene)	ug/m ³	6.9 U	6.9 U
Styrene	ug/m ³	0.46	0.21 J
Tetrachloroethene	ug/m ³	190	110
Tetrahydrofuran	ug/m ³	1300	1700
Toluene	ug/m ³	0.75	1.4
Total VOCs	ug/m ³	2657.07	2337.68
trans-1,2-Dichloroethene	ug/m ³	3.2	1.8
trans-1,3-Dichloropropene	ug/m ³	0.45 U	0.45 U
Trichloroethene	ug/m ³	320	210
Trichlorotrifluoroethane	ug/m ³	600	180
Vinyl acetate	ug/m ³	7 U	7 U
Vinyl chloride	ug/m ³	0.26 U	0.26 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
-- Compound not analyzed.

Prepared By: AKN, 5/11/2022
Checked By: BT, 5/11/2022



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																	
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																								
1,1,2-Tetrachloroethane	ug/m ³	1.1	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	0.137 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/m ³	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	0.27 U	0.24	0.27 U	0.27 U	0.27 U	0.76
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.137 U	0.137 U	0.137 U	0.137 U	0.137 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	
1,1,2-Trichloroethane	ug/m ³	12	0.109 U	0.109 U	0.109 U	0.109 U	0.109 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	0.27 U	0.27 U	0.27 U	0.27 U	
1,1-Dichloroethane	ug/m ³	430	0.182	0.321	0.233	0.224	0.218	0.235	0.71	0.2 U	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	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U
1,1-Dichloroethene	ug/m ³	20	0.104	0.098	0.091	0.08	0.189 U	0.086	0.38	0.2 U	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U											
1,2,4-Trichlorobenzene	ug/m ³	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	0.37 U	0.37 U	0.37 U	0.37 U	0.52 U	0.37 U	0.37 U	0.37 U	0.37 U	
1,2,4-Trimethylbenzene	ug/m ³	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	0.25 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/m ³	0.038	0.154 U	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	
1,2-Dichlorobenzene	ug/m ³	410	0.12 U	0.12 U	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	0.21 U	0.3 U	0.23 U	0.3 U	
1,2-Dichloroethane	ug/m ³	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	0.14 U	0.2 U	0.2 U	0.2 U	0.2 U	
1,2-Dichloropropane	ug/m ³	0.42	0.0924 U	0.0924 U	0.0924 U	0.0924 U	0.0924 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U	0.23 U	0.23 U	0.23 U	
1,2-Dichlorofluoroethane	ug/m ³	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/m ³	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	0.18	0.25 U	0.25 U	0.25 U	0.25 U	
1,3-Butadiene	ug/m ³	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	0.23 U												
1,3-Dichlorobenzene	ug/m ³	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	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	
1,4-Dichlorobenzene	ug/m ³	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	0.21 U	0.3 U	0.3 U	0.3 U	0.3 U	
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	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/m ³	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/m ³	NA	--	--	--	--	--	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U		
4-Isopropyltoluene	ug/m ³	370	2.74 U	2.74 U	2.74 U	2.74 U	6.55 U	2.74 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Methyl-2-pentanone	ug/m ³	200	2.05 U	2.05 U	2.05 U	2.05 U	4.88 U	2.05 U	0.2 U	0.43	0.3	0.2 U	0.2 U	0.14 U	0.52	0.21	0.35	0.32	0.2 U	0.34	0.2 U					
Acetone	ug/m ³	5																								

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																								
1,1,2-Tetrachloroethane	ug/m ³	1.1	--	--	--	--	--	--	--	--	--	0.62 U	--	0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.44 U	0.35 J	0.44 U	0.44 U	0.44 U	0.44 U	0.37 U	
1,1,1-Trichloroethane	ug/m ³	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	0.11 J	0.19 U	0.11 J	0.2					
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.1 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	0.1 U	
1,1,2-Trichloroethane	ug/m ³	12	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.16 U										
1,1-Dichloroethane	ug/m ³	430	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	0.061 U										
1,1-Dichloroethene	ug/m ³	20	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	0.059 U										
1,2,4-Trichlorobenzene	ug/m ³	NA	0.37 U	0.37 U	0.75 U	0.37 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 ³	52	0.25 U	0.25 U	0.25 U	0.25 U	0.4	0.43	0.56	0.25 U	0.55	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 ³	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.12 U										
1,2-Dichlorobenzene	ug/m ³	410	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	0.18 U	0.21 U	0.18 U									
1,2-Dichloroethane	ug/m ³	0.31	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	0.12 U	0.14 U	0.061 U										
1,2-Dichloropropane	ug/m ³	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.069 U										
1,2-Dichlorotetrafluoroethane	ug/m ³	NA	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 ³	52	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 J	0.044 J	0.15 U	0.059 J	0.32	0.17 U	0.068 J								
1,3-Butadiene	ug/m ³	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	0.066 U															
1,3-Dichlorobenzene	ug/m ³	410	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	0.21 U	0.18 U											
1,4-Dichlorobenzene	ug/m ³	24	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	0.21 U	0.18 U											
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	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 ³	NA	0.2 U	0.27	0.27	0.2 U	0.67	0.75	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 ³	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.071 J	0.19	0.17 U	0.15 U										
4-Isopropyltoluene	ug/m ³	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Methyl-2-pentanone	ug/m ³	200	0.22	0.2 U	0.2 U	0.2 U	0.28	0.35	0.35	0.2 U	0.2 U	0.23	0.39	0.13	0.093 J	0.26	0.14 U	0.24	0.52	0.14 U	0.23	0.49	0.33			
Acetone	ug/m ³	500																								

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

Area:			Large Retail Space																				IA-2					
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-1-030821	IA-1	IA-1	IA-2	IA-2-020309	IA-2-021109	IA-2-021809	IA-2-022609			
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	3/8/2021	9/8/2021	3/29/2022	1/16/2009	2/3/2009	2/11/2009	2/18/2009	2/26/2009					
Analyte	Units	CT IACTIND 2003																										
1,1,1,2-Tetrachloroethane	ug/m ³	1.1	0.44 U	0.44 U	0.44 U	--	0.44 U	0.37 U	0.44 U	0.44 U	--	--	--	--	--	--	--	--	--									
1,1,1-Trichloroethane	ug/m ³	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	0.16 U	0.19 U	0.99	0.63	1.1	1.1	0.44										
1,1,2,2-Tetrachloroethane	ug/m ³	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	0.21 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 ³	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	0.16 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U						
1,1-Dichloroethane	ug/m ³	430	0.14 U	0.14 U	0.14 U	0.082 J	0.14 U	0.12 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	0.2 U										
1,1-Dichloroethene	ug/m ³	20	0.14 U	0.14 U	0.078 J	0.14 U	0.12 U	0.14 U	0.14 U	0.41	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 ³	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	0.52	0.26 U	0.26 U	0.26 U	0.22 U	0.52 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U		
1,2,4-Trimethylbenzene	ug/m ³	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	0.15 U	0.23	0.17 U	0.25 U	0.37	0.7	0.65	0.3			
1,2-Dibromoethane (EDB)	ug/m ³	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	0.23 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 ³	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	0.7 J	0.21 U	0.21 U	0.21 U	0.18 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		
1,2-Dichloroethane	ug/m ³	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	0.12 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	0.2 U						
1,2-Dichloropropane	ug/m ³	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	0.16 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U		
1,2-Dichlorotetrafluoroethane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.35 U	0.35 U	0.35 U	0.35 U		
1,3,5-Trimethylbenzene	ug/m ³	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	0.15 U	0.089 J	0.17 U	0.25 U	0.25	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U						
1,3-Butadiene	ug/m ³	NA	0.078 U	0.048 J	0.078 U	0.13	0.16	0.078 U	0.077 U	0.066 U	0.077 U	0.11 U	0.11 U	0.3	0.66	0.11 U												
1,3-Dichlorobenzene	ug/m ³	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	0.54 J	0.21 U	0.21 U	0.21 U	0.18 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		
1,4-Dichlorobenzene	ug/m ³	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	0.59 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	0.3 U					
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	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	2 J	4.2	4.1 U	21	4.1	4.6	3	2.9			
2-Hexanone	ug/m ³	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	0.29 U	0.29 U	0.2 U	0.2 U	0.35	0.26	0.2 U					
4-Ethyltoluene	ug/m ³	NA	0.17 U	0.045 J	0.17 U	0.055 J	0.17 U	0.15 U	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U										
4-Isopropyltoluene	ug/m ³	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Methyl-2-pentanone	ug/m ³	200	0																									

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/m³ - micrograms per cubic meter
Bolted and shaded values are above the CT target indoor air concern
- Compound not analyzed.

Prepared By: AKN, 5/11/2022
Checked By: BT, 5/11/2022

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

Notes:
NA - not available
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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 concern
- Compound not analyzed.

Prepared By: AKN, 5/11/2022
Checked By: BT, 5/11/2022

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					IA-3																	
Sample ID:			IA-2-09092020	IA-2-10292020	IA-2-030821	IA-2	IA-2	IA-3	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
Analyte	Units	CT IACTIND 2003	9/9/2020	10/29/2020	3/8/2021	9/8/2021	3/29/2022	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
1,1,2-Tetrachloroethane	ug/m ³	1.1	0.44 U	0.44 U	0.37 U	0.44 U	0.44 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/m ³	500	530	0.19 U	0.16 U	0.19 U	0.19 U	9.8	0.57	1.1	1.1	0.28	1.5	2.2	0.27 U	0.27 U	0.27 U	0.45	0.71	0.29	0.86	0.27 U	1.2	0.27 U	
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.24 U	0.21 U	0.24 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	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 ³	12	0.19 U	0.19 U	0.16 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 ³	430	0.14 U	0.14 U	0.12 U	0.14 U	0.14 U	0.68	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	
1,1-Dichloroethene	ug/m ³	20	6.1	0.14 U	0.12 U	0.14 U	0.14 U	0.35	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 ³	NA	0.26 U	0.26 U	0.22 U	0.52 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 ³	52	0.17 U	0.62	0.15 U	0.23	0.17 U	0.25 U	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	0.25 U	0.26	0.34
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.27 U	0.27 U	0.23 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U													
1,2-Dichlorobenzene	ug/m ³	410	0.21 U	0.21 U	0.18 U	0.21 U	0.21 U	0.3 U	0.11 U	0.11 U	0.3	0.77	0.11 U	0.08 U	0.11 U	0.23 U									
1,2-Dichloroethane	ug/m ³	0.31	0.14 U	0.14 U	0.12 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	
1,2-Dichloropropane	ug/m ³	0.42	0.16 U	0.16 U	0.14 U	0.16 U	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U													
1,2-Dichlorofluoroethane	ug/m ³	NA	--	--	--	--	--	0.35 U	0.35 U	0.35 U	0.25 U	0.25 U	0.35 U												
1,3,5-Trimethylbenzene	ug/m ³	52	0.17 U	0.2	0.15 U	0.093 J	0.17 U	0.25 U	0.25	0.25 U	0.25 U	0.18 U	0.25 U	0.42	0.25 U										
1,3-Butadiene	ug/m ³	NA	0.077 U	0.077 U	0.066 U	0.077 U	0.11 U	0.11 U	0.3	0.77	0.11 U	0.08 U	0.11 U	0.23 U											
1,3-Dichlorobenzene	ug/m ³	410	0.21 U	0.21 U	0.18 U	0.21 U	0.21 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	
1,4-Dichlorobenzene	ug/m ³	24	0.21 U	0.21 U	0.18 U	0.21 U	0.21 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	
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	500	4.1 U	4.1 U	0.77 J	2.5 J	4.1 U	20	4.2	4.6	4	1.7	1.6	2.5	2	2.6	0.7	1.5	1.9	2	1.2	1.6	0.51	1	2.2
2-Hexanone	ug/m ³	NA	0.29 U	0.29 U	0.25 U	0.29 U	0.29 U	0.2 U	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
4-Ethyltoluene	ug/m ³	NA	0.17 U	0.17 U	0.15 U	0.17 U	0.17 U	0.25 U	0.25	0.25 U	0.25 U	0.18 U	0.25 U												
4-Isopropyltoluene	ug/m ³	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Methyl-2-pentanone	ug/m ³	200	0.14 U	0.14 U	0.12 U	2.2	0.14 U	0.2 U	0.29	0.34	0.2 U	0.14 U	0.22	0.22 U	0.42	0.2 U									
Acetone	ug/m ³	500	13	14	4.8	16	5.5	18	12	24	9.7	7.5	50	11	19	6.7	11	14	21	6.7	7.3	3.8	7.7	15	
Acrylonitrile	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Benzene	ug/m ³	3.3	0.45	1.1	0.51	0.45	0.41	1	0.7																

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-3-070110	IA-3-091610	IA-3-120710	IA-3-021711	IA-3-060211	IA-3-091511	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
Sample Date:	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	12/19/2014	3/27/2015	6/11/2015	9/16/2015	12/18/2015		
Analyte	Units	CT IACTIND 2003																							
1,1,2-Tetrachloroethane	ug/m ³	1.1	--	--	--	--	--	0.62 U	--	0.37 U	0.37 U	0.44 U	0.44 U	0.44 U	0.46	0.44 U	0.44 U	0.44 U	0.25 U	0.44 U	0.44 U	0.44 U	0.44 U	--	
1,1,1-Trichloroethane	ug/m ³	500	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.11 J	0.082 U	0.16 U	0.19 J	0.16 J	0.05 J	0.19 U	0.092 J	0.19 U									
1,1,2,2-Tetrachloroethane	ug/m ³	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									
1,1,2-Trichloroethane	ug/m ³	12	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U	0.11 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U								
1,1-Dichloroethane	ug/m ³	430	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												
1,1-Dichloroethene	ug/m ³	20	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/m ³	NA	0.37 U	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	0.26 U	0.26 U	0.26 U	0.26 U							
1,2,4-Trimethylbenzene	ug/m ³	52	0.46	0.6	0.25 U	0.49	0.25 U	0.25 J	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	0.12 J	0.13 J	0.13 J	0.17 U
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U	0.077 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U								
1,2-Dichlorobenzene	ug/m ³	410	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													
1,2-Dichloroethane	ug/m ³	0.31	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	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	0.14 U								
1,2-Dichloropropane	ug/m ³	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U	0.046 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U								
1,2-Dichlorotetrafluoroethane	ug/m ³	NA	0.35 U	0.35 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.25 U	
1,3,5-Trimethylbenzene	ug/m ³	52	0.25 U	0.25 U	0.25 U	0.25 U	0.25 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								
1,3-Butadiene	ug/m ³	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	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							
1,3-Dichlorobenzene	ug/m ³	410	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														
1,4-Dichlorobenzene	ug/m ³	24	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.18 U	0.18 U	0.21 U	0.068 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U									
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.3 U	
2-Butanone	ug/m ³	500	3.3	0.95	0.39	0.76 B	2.9 U	5.9 J	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
2-Hexanone	ug/m ³	NA	0.67	0.2 U	0.2 U	0.2 U	4.1 U	0.24	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	0.14 U	0.21	0.14 U	0.27	0.14	0.14 U	0.14 U
4-Ethyltoluene	ug/m ³	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.074 J	0.15 J	0.17 U	0.051 J	0.059 J	0.086 J	0.045 J	0.066 J	0.17 U								
4-Isopropyltoluene	ug/m ³	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Methyl-2-pentanone	ug/m ³	200	0.38	0.34	0.2 U	0.2 U	0.2 U	0.084 J	0.12 U	0.19	0.21	0.14 U	0.14 U	0.19	0.36	0.14 U	0.14 U	0.17	0.35	0.26	0.27	0.15	0.13 J	0.14 U	0.24
Acetone	ug/m ³	500	21	11	9.7 B	9.7 B	11 B	13	7.2	3.9	13	12 B	3.3	12	28	16	14	11	15	42	29	11	10	15	9.9
Acrylonitrile	ug/m ³	NA	--																						

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-3-021816	IA-3-080516	IA-3-021017	IA-3-090717	IA-3-022818	IA-3-091218	IA-3-020819	IA-3-090619	IA-3-021420	IA-3-090920	IA-3-030821	IA-3	IA-3	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
Sample Date:	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	3/8/2021	9/8/2021	3/29/2022	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		
Analyte	Units	CT IACTIND 2003																							
1,1,2-Tetrachloroethane	ug/m ³	1.1	0.44 U	--	0.44 U	0.37 U	0.44 U	0.44 U	--	--	--	--	--	--	--	--	--	--							
1,1,1-Trichloroethane	ug/m ³	500	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.49	0.19 U	0.19 U	0.16 U	0.19 U	0.19 U	10	0.62	1.1	0.45	1.5	2.2	0.27 U	0.27 U	0.27 U	0.27 U		
1,1,2,2-Tetrachloroethane	ug/m ³	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	0.21 U	0.24 U	0.34 U	0.34 U	0.34 U	0.34 U	0.24 U	0.34 U							
1,1,2-Trichloroethane	ug/m ³	12	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.55	0.19 U	0.19 U	0.16 U	0.19 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U		
1,1-Dichloroethane	ug/m ³	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	0.14 U	0.12 U	0.14 U	0.73	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 ³	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	0.12 U	0.14 U	0.42	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 ³	NA	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.52 U	0.26 U	0.26 U	0.22 U	0.52 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 ³	52	0.17 U	0.26	0.17 U	0.21	0.17 U	0.17 U	0.39	0.17 U	0.17 U	0.15 U	0.24	0.14 J	0.26	0.37	0.74	0.65	0.29	0.18 U	0.25 U	0.25 U	0.41	0.28	
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.72	0.27 U	0.27 U	0.23 U	0.27 U	0.38 U	0.38 U	0.38 U	0.38 U	0.27 U	0.38 U							
1,2-Dichlorobenzene	ug/m ³	410	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.84 U	0.21 U	0.21 U	0.18 U	0.21 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		
1,2-Dichloroethane	ug/m ³	0.31	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.057 J	0.14 U	0.14 U	0.12 U	0.14 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		
1,2-Dichloropropane	ug/m ³	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	0.23 U	0.23 U	0.23 U	0.23 U	0.17 U	0.23 U							
1,2-Dichlorotetrafluoroethane	ug/m ³	NA	--	0.25 U	--	--	--	--	--	--	--	--	0.35 U	0.35 U	0.35 U	0.35 U	0.25 U	0.35 U							
1,3,5-Trimethylbenzene	ug/m ³	52	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.32	0.17 U	0.17 U	0.17 U	0.15 U	0.099 J	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U		
1,3-Butadiene	ug/m ³	NA	0.078 U	0.078 U	0.078 U	0.078 U	0.078 U	0.077 U	0.066 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							
1,3-Dichlorobenzene	ug/m ³	410	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.58 J	0.21 U	0.21 U	0.18 U	0.21 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		
1,4-Dichlorobenzene	ug/m ³	24	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.62 J	0.21 U	0.21 U	0.18 U	0.21 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		
1,4-Dioxane	ug/m ³	NA	--	1.3 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Butanone	ug/m ³	500	0.8 J	2.3 J	0.62 J	2.5 J	1.2 J	2 J	2.7 J	1.2 J	0.71 J	4.1 U	3.1 J	2.9 J	1.2 J	21	4.4	6	3.2	2.5	1.1	1.6	1.5	2	1.3
2-Hexanone	ug/m ³	NA	0.14 U	0.47	0.14 U	0.31	0.28	0.14 U	0.14 U	0.14 U	0.29 U	0.25 U	0.29 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	
4-Ethyltoluene	ug/m ³	NA	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.11 J	0.17 U	0.17 U	0.17 U	0.15 U	0.17 U	0.17 U	0.25 U	0.25 U	0.25 U	0.25 U	0.18 U	0.25 U	0.25 U	0.25 U	0.25 U		
4-Isopropyltoluene	ug/m ³	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
4-Methyl-2-pentanone	ug/m ³	200	0.14 U	0.14 U	0.14 U	0.39	0.086 J	0.47	0.14 U	0.87	0.14 U	0.12 U	0.14 U	0.14 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		
Acetone	ug/m ³	500	8.5	19	4.9	14	7.9	12	13	8.5	6.7	13	15	16	7.4	17	10	15	20	7.8	7.9	20	9.3	16	9.3
Acrylonitrile	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
Benzene	ug/m ³	3.3	0.55	0.62	0.43	0.5	0.51	0.94	0.48	0.35	0.25	0.6													

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-4-100809	IA-4-012810	IA-4-020510	IA-4-021210	IA-4-021910	IA-4-032610	IA-4-043010	IA-4-052810	IA-4-070110	IA-4-091610	IA-4-120710	IA-4-021711	IA-4-060211	IA-4-091511	IA-4-120811	IA-4-030812	IA-4-061412	IA-4-091312	IA-4-010313	IA-4-031513	IA-4-060713	IA-4-090613	IA-4-121313	
Sample Date:	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	9/6/2013	12/13/2013			
Analyte	Units	CT IACTIND 2003	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,1,2-Tetrachloroethane	ug/m ³	1.1	--	--	--	--	--	--	--	--	--	--	--	--	0.62 U	--	0.37 U	0.37 U	0.44 U							
1,1,1-Trichloroethane	ug/m ³	500	0.27 U	0.27 U	0.76	0.29	0.89	0.27 U	1.1	0.28	0.27 U	0.27 U	0.27 U	0.27 U	0.14 J	0.082 U	0.16 U	0.19 U								
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.21 U	0.1 U	0.21 U	0.24 U									
1,1,2-Trichloroethane	ug/m ³	12	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.16 U	0.082 U	0.16 U	0.19 U									
1,1-Dichloroethane	ug/m ³	430	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	0.12 U	0.061 U	0.12 U	0.14 U								
1,1-Dichloroethene	ug/m ³	20	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	0.12 U	0.059 U	0.12 U	0.14 U								
1,2,4-Trichlorobenzene	ug/m ³	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	0.37 U	0.37 U	0.37 U	0.45 U	0.45 U	0.52 U	0.52 U	0.26 U								
1,2,4-Trimethylbenzene	ug/m ³	52	0.41	0.25 U	0.34	0.41	0.44	0.25 U	0.49	0.25 U	0.25 J	0.094 J	0.15 U	0.19	0.38	0.17	0.13 J	0.47	0.2	0.17 U	0.17 U					
1,2-Dibromoethane (EDB)	ug/m ³	0.038	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.23 U	0.12 U	0.23 U	0.27 U									
1,2-Dichlorobenzene	ug/m ³	410	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	0.18 U	0.18 U	0.18 U	0.21 U								
1,2-Dichloroethane	ug/m ³	0.31	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	0.063 J	0.061 U	0.12 U	0.14 U								
1,2-Dichloropropane	ug/m ³	0.42	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.14 U	0.069 U	0.14 U	0.16 U								
1,2-Dichlorotrifluoroethane	ug/m ³	NA	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/m ³	52	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 J	0.15 U	0.15 U	0.08 J	0.12 J	0.17	0.17 U					
1,3-Butadiene	ug/m ³	NA	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.11 U	0.066 U	0.066 U	0.078 U															
1,3-Dichlorobenzene	ug/m ³	410	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	0.18 U	0.18 U	0.18 U	0.21 U								
1,4-Dichlorobenzene	ug/m ³	24	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	0.18 U	0.18 U	0.18 U	0.21 U								
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	500	1.2	0.3 U	0.69	1.2	0.5	1.6	1.5	2.2	4.8	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	1.2 J
2-Hexanone	ug/m ³	NA	0.27	0.2 U	0.39	0.54	1	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	0.14 U				
4-Ethyltoluene	ug/m ³	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.15 U	0.15 U	0.068 J	0.12 J	0.17	0.17 U	0.17 U					
4-Isopropyltoluene	ug/m ³	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
4-Methyl-2-pentanone	ug/m ³	200	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.43	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	0.16	0.16
Acetone	ug/m ³	500	10	2																						

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-4-030714	IA-4-061314	IA-4-091214	IA-4-121914	IA-04-032715	IA-4-061115	IA-4-091615	IA-4-121815	IA-4-021816	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	IA-4-030821	IA-4	IA-4		
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	4/11/2019	9/6/2019	2/14/2020	9/9/2020	10/29/2020	3/8/2021	9/8/2021	3/29/2022				
Analyte	Units	CT IACTIND 2003																									
1,1,2-Tetrachloroethane	ug/m ³	1.1	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	0.37 U	0.44 U	0.44 U		
1,1,1-Trichloroethane	ug/m ³	500	0.19 U	0.19 U	0.055 U	0.28	0.19 U	0.19 U	0.054 J	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.16 U	0.19 U	0.16 J			
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	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	0.21 U	0.24 U	0.24 U			
1,1,2-Trichloroethane	ug/m ³	12	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	0.16 U	0.19 U	0.19 U			
1,1-Dichloroethane	ug/m ³	430	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	0.14 U	0.14 U			
1,1-Dichloroethene	ug/m ³	20	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	0.14 U	0.14 U			
1,2,4-Trichlorobenzene	ug/m ³	NA	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	0.22 U	0.52 U			
1,2,4-Trimethylbenzene	ug/m ³	52	0.56	0.26	0.17	0.14 J	0.25	0.2	0.22	0.45	0.24	0.2	0.17 U	0.18	0.36	0.21	0.6	0.17 U	0.27	0.17 U	0.17 U	0.61	0.15 U	0.21	0.17 U		
1,2-Dibromoethane (EDB)	ug/m ³	0.038	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	0.23 U	0.27 U	0.27 U			
1,2-Dichlorobenzene	ug/m ³	410	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	0.18 U	0.21 U	0.21 U		
1,2-Dichloroethane	ug/m ³	0.31	0.14 U	0.14 U	0.04 U	0.14 U	0.14 U	0.051 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	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 ³	0.42	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	0.16 U	0.16 U	0.16 U			
1,2-Dichlorotetrafluoroethane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
1,3,5-Trimethylbenzene	ug/m ³	52	0.17 U	0.17 U	0.098 U	0.17 U	0.066 J	0.066 J	0.066 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.15 U	0.15 U	0.086 J			
1,3-Butadiene	ug/m ³	NA	0.47	0.11	0.044 U	0.078 U	0.078 U	0.16	0.1	0.078 U	0.078 U	0.093	0.078 U	0.077 U	0.077 U	0.066 U	0.077 U										
1,3-Dichlorobenzene	ug/m ³	410	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	0.18 U	0.21 U	0.21 U			
1,4-Dichlorobenzene	ug/m ³	24	0.21 U	0.21 U	0.12 U	0.08 J	0.063 J	0.12 J	0.084 J	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.18 U	0.21 U	0.21 U			
1,4-Dioxane	ug/m ³	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
2-Butanone	ug/m ³	500	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	1.6 J	0.98 J	1.9 J	2.1 J	1.6 J	4.1 U	0.35 J	0.52 J	1.6 J	1.9 J	0.98 J	3.5 U	2.6 J			
2-Hexanone	ug/m ³	NA	0.15	0.36	0.2	0.14 U	0.25	0.14 U	0.14 U	0.22	0.14 U	0.14 U	0.35	0.69	0.14 U	0.14 U	0.14 U	0.14 U	0.16 U	0.14 U	0.16 U	0.14 U	0.29 U	0.29 U	0.29 U		
4-Ethyltoluene	ug/m ³	NA	0.18	0.17 U	0.098 U	0.055 J	0.069 J	0.041 J	0.076 J	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U			
4-Isopropyltoluene	ug/m ³	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
4-Methyl-2-pentanone	ug/m ³	200	0.48	1.3	1	0.34	0.89	0.97	1.6	1.5	0.52	0.14 U	0.13 J	2.1	0.6	1.7	0.14 U	0.16 U	0.14 U	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.17		
Acetone	ug/m ³	500	29	37	38	27	42	28	96																		

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:			LRAIR01	LRAIR02	LRAIR03	LRAIR04	LRAIR05	LRAIR06	LRAIR07	LRAIR08	LRAIR09	LRAIR10
Sample ID:			LRAIR01	LRAIR02	LRAIR03	LRAIR04	LRAIR05	LRAIR06	LRAIR07	LRAIR08	LRAIR09	LRAIR10
Sample Date:			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										
1,1,1,2-Tetrachloroethane	ug/m ³	1.1	--	--	--	--	--	--	--	--	--	
1,1,1-Trichloroethane	ug/m ³	500	0.45	0.52	0.65	0.57	0.51	0.44	0.69	0.5	0.49	0.53
1,1,2,2-Tetrachloroethane	ug/m ³	0.14	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/m ³	12	0.27 U	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 ³	430	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 ³	20	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 ³	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	0.37 U	
1,2,4-Trimethylbenzene	ug/m ³	52	0.25 U	0.25 U	0.25 U	0.29	0.25 U					
1,2-Dibromoethane (EDB)	ug/m ³	0.038	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/m ³	410	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 ³	0.31	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 ³	0.42	0.23 U	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 ³	NA	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/m ³	52	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/m ³	NA	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	
1,3-Dichlorobenzene	ug/m ³	410	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 ³	24	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 ³	NA	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m ³	500	3.3	3.4	2.1	2.6	2	1.6	3.1	2.5	2.6	1.4
2-Hexanone	ug/m ³	NA	0.73	0.66	0.38	0.51	0.37	0.38	0.61	0.48	0.43	0.29
4-Ethyltoluene	ug/m ³	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	
4-Isopropyltoluene	ug/m ³	370	--	--	--	--	--	--	--	--	--	
4-Methyl-2-pentanone	ug/m ³	200	0.42	0.39	0.32	0.36	0.54	0.27	0.32	0.3	0.61	0.23
Acetone	ug/m ³	500	12	13	10	11	8.5	7.7	13	11	9.8	6.9
Acrylonitrile	ug/m ³	NA	--	--	--	--	--	--	--	--	--	
Benzene	ug/m ³	3.3	0.54	0.6	0.67	0.55	0.56	0.51	0.53	0.6	0.51	0.57
Benzyl chloride	ug/m ³	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	
Bromodichloromethane	ug/m ³	0.46	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	
Bromoform	ug/m ³	7.3	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	
Bromomethane	ug/m ³	NA	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	
Carbon disulfide	ug/m ³	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	0.16 U	
Carbon tetrachloride	ug/m ³	0.54	0.7	0.68	0.71	0.68	0.68	0.63	0.68	0.7	0.64	0.66
Chlorobenzene	ug/m ³	200	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	
Chloroethane	ug/m ³	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	
Chloroform	ug/m ³	0.5	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	
Chloromethane	ug/m ³	80	1	0.98	1	0.95	1	1	0.92	1.1	0.91	1.2
cis-1,2-Dichloroethene	ug/m ³	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.21	0.2 U	0.2 U	0.2 U
cis-1,3-Dichloropropene	ug/m ³	NA	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	
Cyclohexane	ug/m ³	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	0.17 U	
Dibromochloromethane	ug/m ³	NA	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	
Dichlorodifluoromethane	ug/m ³	500	2.5	2.3	2.6	2.4	2.7	2.4	2.4	2.8	2.3	2.7
Ethanol	ug/m ³	NA	65	9	6.5	5.9	6	5.6	5.9	14	44	14
Ethyl acetate	ug/m ³	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	0.18 U	
Ethylbenzene	ug/m ³	290	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.27	0.22 U
Hexachlorobutadiene	ug/m ³	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	1.1 U	
Hexane	ug/m ³	NA	1.1	0.21	0.18 U	0.18	0.24	0.18 U	0.19	0.21	0.2	0.18 U
Isopropyl alcohol	ug/m ³	NA	3.3	3.4	3.7	3.5	3.6	3.4	4.4	3.6	2.8	3.2
Isopropylbenzene	ug/m ³	120	--	--	--	--	--	--	--	--	--	
m,p-Xylene	ug/m ³	NA	0.58	0.57	0.58	0.55	0.49	0.5	0.48	0.53	1	0.5
Methyl methacrylate	ug/m ³	NA	--	--	--	--	--	--	--	--	--	
Methylene chloride	ug/m ³	17	5.9	1.5	1.5	1.6	1.9	1.6	1.5	1.6	1.6	1.4
Methyl-t-butyl ether	ug/m ³	190	0.18 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	
Naphthalene	ug/m ³	NA	--	--	--	--	--	--	--	--	--	
n-Butylbenzene	ug/m ³	410	--	--	--	--	--	--	--	--	--	
n-Heptane	ug/m ³	NA	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	
o-Xylene	ug/m ³											



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-5																		
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-5-020309	EW-5-021109	EW-5-021809	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			
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	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			
Analyte	Units	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,2-Tetrachloroethane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/m3	59000	66000	26000	30000	54000	72000	11000	14000	190000	41000	17000	7100	1800	2600	3100	1900	3500	920	540	550	460	210	400	340		
1,1,2,2-Tetrachloroethane	ug/m3	6.8 U	1.7 U	6.8 U	1.7 U	68 U	3.4 U	3.4 U	3.4 U	3.4 U	6.8 U	3.4 U	6.8 U	1.4 U	1.4 U	6.9 U											
1,1,2-Trichloroethane	ug/m3	6.4	10	5.4 U	5.4 U	5.4 U	5.4 U	1.4 U	5.4 U	1.4 U	54 U	2.7 U	2.7 U	2.7 U	2.7 U	5.4 U	2.7 U	5.4 U	1.1 U	1.1 U	5.5 U						
1,1-Dichloroethane	ug/m3	4100	4400	5700	7000	1600	2300	690	1400	11000	1900	890	770	190	360	450	430	230	100	50	53	42	29	34	33		
1,1-Dichloroethene	ug/m3	570	1200	330	640	340	560	97	210	2500	290	130	190	61	160	160	160	98	30	18	21	15	13	15	11		
1,2,4-Trichlorobenzene	ug/m3	7.4 U	1.9 U	7.4 U	1.9 U	74 U	3.7 U	3.7 U	3.7 U	3.7 U	7.5 U	3.7 U	7.4 U	1.5 U	1.5 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	5 U	5 U	1.3 U	50 U	2.5 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		
1,2-Dibromoethane (EDB)	ug/m3	7.6 U	1.9 U	7.6 U	1.9 U	76 U	3.8 U	3.8 U	3.8 U	3.8 U	7.6 U	3.8 U	7.6 U	1.5 U	1.5 U	7.7 U											
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	6 U	6 U	1.5 U	60 U	3 U	3 U	3 U	3 U	6 U	3 U	6 U	1.2 U	1.2 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	4 U	4 U	1 U	40 U	2 U	2 U	2 U	2 U	4 U	2 U	4 U	0.81 U	0.81 U	4 U		
1,2-Dichloropropane	ug/m3	4.6 U	1.2 U	4.6 U	1.2 U	46 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6 U	2.3 U	4.6 U	0.92 U	0.92 U	4.6 U											
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	7 U	7 U	1.8 U	70 U	3.5 U	3.5 U	3.5 U	3.5 U	7 U	3.5 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	5 U	5 U	1.3 U	50 U	2.5 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		
1,3-Butadiene	ug/m3	2.2 U	0.55 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	0.55 U	22 U	1.1 U	1.1 U	1.1 U	1.1 U	2.2 U	1.1 U	2.2 U	0.44 U	0.44 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	6 U	6 U	1.5 U	60 U	3 U	3 U	3 U	3 U	6 U	3 U	6 U	1.2 U	1.2 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	6 U	6 U	1.5 U	60 U	3 U	3 U	3 U	3 U	6 U	3 U	6 U	1.2 U	1.2 U	6 U		
1,4-Dioxane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
2-Butanone	ug/m3	3.5	8.9	12	11	36	10	36	6.4	6.3	89	75	170	3700	64000	100000	230000	110000	7800	18000	28000	15000	4000	7200 B	17000		
2-Hexanone	ug/m3	4 U	4 U	4 U	4 U	4 U	4 U	1 U	4 U	4 U	4 U	4 U	4 U	1 U	40 U	2.7	2 U	2 U	2 U	4 U	2 U	4 U	0.82 U	0.82 U	82 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	5 U	5 U	1.3 U	50 U	2.5 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		
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	4 U	4 U	1 U	40 U	2 U	2 U	2 U	2 U	4 U	2 U	4 U	0.82 U	0.82 U	4.1 U		
Acetone	ug/m3	35	16	9.6 U	9.6 U	53	24	26	12	530	32	52	29	460	5600	14000	6900	9200	1700	3200	6000	4500	2000 B	1800 B	2200		
Benzene	ug/m3	5.3	11	5.6	7.8	3.2 U	6.8	1.4	3.2 U	13	12	6.2	4.8	5.6	32 U	11	7.1	11	6.3	5.5	8.2	5	4.2	4.5	4.2		
Benzyl chloride	ug/m3	5.2 U	1.3 U	5.2 U	1.3 U	52 U	2.6 U	2.6 U	2.6 U	2.6 U	5.2 U	2.6 U	5.2 U	1 U	1 U	5.2 U											
Bromodichloromethane	ug/m3	6.6 U	1.7 U	6.6 U	1.7 U	66 U	3.3 U	3.3 U	3.3 U	3.3 U	6.6 U	3.3 U	6.6 U	1.3 U	1.3 U	6.7 U											
Bromoform	ug/m3	11 U	110 U	5.1 U	5.1 U	5.1 U	5.1 U	11 U	5.1 U	11 U	2.1 U	2.1 U	10 U														
Bromomethane	ug/m3	3.8 U	0.95 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	0.95 U	38 U	1.9 U	1.9 U	1.9 U	1.9 U	3.8 U	1.9 U	3.8 U	0.78 U	0.78 U	3.9 U							
Carbon disulfide	ug/m3	3.2 U	3.2 U	27	25	3.2 U	3.2 U	1.8	3.2 U	0.8 U	230	4	5.4	8.2	2.9	5.7	12	14	8	15	22						
Carbon tetrachloride	ug/m3	6.2 U	1.6 U	6.2 U	1.6 U	62 U	3.1 U	3.1 U	3.1 U	3.1 U	6.2 U	3.1 U	6.2 U	1.3 U	1.3 U	6.3 U											
Chlorobenzene	ug/m3	4.6 U	1.2 U	4.6 U	1.2 U	46 U	2.3 U	2.3 U	2.3 U	2.3 U	4.6 U	2.3 U	4.6 U	0.92 U	0.92 U	4.6 U											
Chloroethane	ug/m3	170	250	700	590	41	44	17	33	260	23	16	11	4.5	26 U	11	15	7	6.5	3.5	3.6	5.5	3.1	3.4	2.6 U		
Chloroform	ug/m3	20	34	9.6	15	13	23	3.6	7.5	83	32	20	16	2.8	48 U	7.2	6.5	5.8	2.6	4.8 U	2.4 U	4.8 U	1.1	1.2	4.9 U		
Chloromethane	ug/m3	2 U	2 U	2 U	2 U	2 U	2 U	0.5 U	2 U	2 U	2 U	2 U	2 U	0.5 U	20 U	1 U	1 U	1 U	1 U	2 U	1 U	2 U	0.41 U	0			

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
- Compound not analyzed.

Prepared By: AKN, 5/11/2022
Checked By: BT, 5/11/2022

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-5																								
Sample ID:		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	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	
Sample Date:		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	2/10/2017	9/7/2017	2/28/2018	9/12/2018	
Analyte	Units																									
1,1,1,2-Tetrachloroethane	ug/m ³	25 U	--	12 U	1.2 U	1.2 U	1.2 U	1.2 U	0.39 J	1.2 U	1.2 U	1.2 U	2.5 U	1.2 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	
1,1,1-Trichloroethane	ug/m ³	430	130	81	100	190	0.55 U	0.55 U	59	180	40	68	54	74	25	14	0.19 J	55	32	15	68	7.4	42	17	49	
1,1,2,2-Tetrachloroethane	ug/m ³	14 U	3.4 U	3.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.32 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							
1,1,2-Trichloroethane	ug/m ³	11 U	2.7 U	2.7 U	0.55 U	0.55 U	0.55 U	0.55 U	0.26 U	0.55 U	0.55 U	0.55 U	1.1 U	0.55 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	
1,1-Dichloroethane	ug/m ³	44	16	11	12	21	0.4 U	0.4 U	6.4	20	4.8	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	
1,1-Dichloroethene	ug/m ³	14	5	4.5	4.5	6.9	0.4 U	0.4 U	1.7	4.7	1.5	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	
1,2,4-Trichlorobenzene	ug/m ³	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	0.74 U	0.74 U	1.5 U	0.74 U	0.74 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	
1,2,4-Trimethylbenzene	ug/m ³	9.8 U	2.5 U	4.9 U	0.2 J	0.63	0.49 U	0.49 U	0.37	0.49 U	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		
1,2-Dibromoethane (EDB)	ug/m ³	15 U	3.8 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.36 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							
1,2-Dichlorobenzene	ug/m ³	12 U	3 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.28 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	3 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	6 U	1.2 U	
1,2-Dichloroethane	ug/m ³	8.1 U	2 U	2 U	0.17 J	0.4 U	0.4 U	0.4 U	0.19 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	4 U	0.4 U	0.81 U	4 U	0.81 U	4 U	0.81 U	
1,2-Dichloropropane	ug/m ³	9.2 U	2.3 U	2.3 U	0.46 U	0.46 U	0.46 U	0.46 U	0.22 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							
1,2-Dichlorofluoroethane	ug/m ³	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4 U	--	7 U	--	--	
1,3,5-Trimethylbenzene	ug/m ³	9.8 U	2.5 U	4.9 U	0.19 J	0.49 U	0.49 U	0.49 U	0.23 U	0.49 U	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			
1,3-Butadiene	ug/m ³	4.4 U	1.1 U	2.2 U	0.22 U	0.22 U	0.22 U	0.22 U	0.1 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	1.1 U	0.44 U	0.44 U	2.2 U	0.22 U	0.44 U	2.2 U	0.42 J	
1,3-Dichlorobenzene	ug/m ³	12 U	3 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.28 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	3 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	6 U	1.2 U	
1,4-Dichlorobenzene	ug/m ³	12 U	3 U	6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.28 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	3 U	1.2 U	1.2 U	6 U	0.6 U	1.2 U	6 U	1.2 U	
1,4-Dioxane	ug/m ³	7.2 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2 U	--	36 U	--	--	
2-Butanone	ug/m ³	13000	2700	1800	870	840	12 J	1.7 J	1900	31000	680	1200	2100	3800	260	91	9.1 J	1700 E	410	130	4800	29	4500	750	5500	
2-Hexanone	ug/m ³	8.2 U	2 U	4.1 U	0.43	0.41 U	0.41 U	0.41 U	0.49	0.41 U	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		
4-Ethyltoluene	ug/m ³	9.8 U	2.5 U	4.9 U	0.49 U	0.18 J	0.49 U	0.49 U	0.23 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 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	
4-Methyl-2-pentanone	ug/m ³	8.2 U	2 U	4.1 U	0.27 J	0.34 J	0.41 U	0.41 U	0.41 U	0.56	0.41 U	0.41 U	0.46	0.82 U	0.41 U	0.41 U	0.41 U	2 U	0.82 U	0.82 U	4.1 U	0.41 U	0.82 U	4.1 U	0.82 U	
Acetone	ug/m ³	3400	710	400	440	670 B	9.5	8.5 J	610	6800	210	380	610	500	98	49	21	550	120	58	570	11	700	320	710	
Benzene	ug/m ³	6.4 J	2.8	2 J	1.1	3.7	0.32	0.47	1	7.1	2.4	3.8	3	2.7	3.4	3.1	0.35	2.9	5	2.8	4	0.38	2.7	2 J	3.1</td	

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-5								EW-Combined																	
Sample ID:		EW-5-020819	EW-5-090619	EW-5-021420	EW-5-09092020	EW-5-030821	EW-5	EW-5	EW-Combined-020309	EW-BLACKED-021109	EW-BLACKED-021809	EW-BLACKED-022609	EW-BLACKED-041409	EW-BLACKED-042409	EW-BLACKED-091709	EW-BLACKED-092409	EW-BLACKED-100109	EW-BLACKED-100809	EW-BLACKED-12810	EW-BLACKED-020510	EW-BLACKED-021210	EW-BLACKED-021910	EW-BLACKED-043010	EW-BLACKED-052810	EW-BLACKED-070110		
Sample Date:		2/8/2019	9/6/2019	2/14/2020	9/9/2020	3/8/2021	9/8/2021	3/29/2022	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	7/1/2010		
Analyte	Units																										
1,1,1,2-Tetrachloroethane	ug/m3	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.44 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	ug/m3	11	40	11	73	11	0.55 U	15	190000	91000	73000	32000	3500	19000	11000	8100	7900	6800	1500	2500	150	1200	1400	1700	2000		
1,1,2,2-Tetrachloroethane	ug/m3	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.24 U	6.8 U	6.8 U	14 U	14 U	6.8 U	0.34 U	3.4 U	6.8 U	14 U	14 U	0.68 U	6.8 U	0.34 U	0.68 U						
1,1,2-Trichloroethane	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.19 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						
1,1-Dichloroethane	ug/m3	0.4 U	4.9	1.7	0.4 U	1.6	0.4 U	0.32	19000	7800	5300	4800	390	2200	1600	1900	1900	1700	280	370	31	310	200	270	290		
1,1-Dichloroethene	ug/m3	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.14 U	7800	1800	1000	630	73	420	310	250	260	280	52	66	7.3	62	30	40	52			
1,2,4-Trichlorobenzene	ug/m3	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	1.5 U	0.52 U	7.4 U	7.4 U	15 U	7.4 U	0.37 U	3.7 U	7.4 U	15 U	15 U	0.74 U	7.4 U	0.37 U	0.74 U	0.74 U	0.74 U	0.74 U			
1,2,4-Trimethylbenzene	ug/m3	1.4	0.49 U	0.49 U	0.49 U	0.49 U	0.17 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	0.5 U	0.5 U			
1,2-Dibromoethane (EDB)	ug/m3	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.27 U	7.6 U	7.6 U	16 U	16 U	7.6 U	0.38 U	3.8 U	7.6 U	16 U	16 U	0.76 U	7.6 U	0.38 U	0.76 U	0.76 U	0.76 U	0.76 U			
1,2-Dichlorobenzene	ug/m3	2.4 U	0.6 U	0.6 U	0.6 U	0.6 U	0.21 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	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	0.14 U	4 U	8 U	4 U	4 U	0.2 U	2 U	4 U	8 U	4 U	0.2 U	4 U	0.2 U	4 U	0.4 U	4 U	0.4 U	4 U			
1,2-Dichloropropane	ug/m3	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	4.6 U	4.6 U	9.2 U	9.2 U	4.6 U	0.23 U	2.3 U	4.6 U	9.2 U	9.2 U	0.46 U	4.6 U	0.23 U	0.46 U	0.46 U	4.6 U	0.46 U			
1,2-Dichlorotetrafluoroethane	ug/m3	--	--	--	--	--	--	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	0.7 U			
1,3,5-Trimethylbenzene	ug/m3	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.17 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	0.5 U			
1,3-Butadiene	ug/m3	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.077 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	0.22 U			
1,3-Dichlorobenzene	ug/m3	1.6 J	0.6 U	0.6 U	0.6 U	0.6 U	0.21 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	0.6 U			
1,4-Dichlorobenzene	ug/m3	1.6 J	0.6 U	0.6 U	0.6 U	0.6 U	0.21 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	0.6 U			
1,4-Dioxane	ug/m3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
2-Butanone	ug/m3	110	7300	160	12 U	130	3.5 J	1.2 J	37	32	48	60	21	40	7.8	31	30	21	4	11	10	9	12	22			
2-Hexanone	ug/m3	0.41 U	0.41 U	0.41 U	0.82 U	0.82 U	0.29 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	0.4 U			
4-Ethyltoluene	ug/m3	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.17 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	0.5 U			
4-Methyl-2-pentanone	ug/m3	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.14 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	0.4 U			
Acetone	ug/m3	47	1700	66	15	640	16	4	1600	31	75	63	4.8 U	0.24 U	20	9.6 U	20	20	31	9.6 U	13	0.96 U	16	24	16		
Benzene	ug/m3	3.6	2.5	1.6	0.32 U	3	0.46	0.41	14	7.3	8.4	6.4 U	3.2 U	2.5	2.7	3.2 U	6.4 U	6.4 U	0.61	3.2 U	0.63	0.43	0.74	5.5	0.84		
Benzyl chloride	ug/m3	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.18 U	5.2 U	5.2 U	11 U	11 U	5.2 U	0.26 U	2.6 U	5.2 U	11 U	11 U	0.52 U	5.2 U	0.26 U	0.52 U	0.52 U	5.				

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-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-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	EW-Combined-021017
Sample Date:		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	2/10/2017
Analyte	Units	--	--	--	2.5 U	--	12 U	1.2 U	1.2 U	1.2 U	1.2 U	0.44 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5 U	1.2 U	1.2 U	2.5 U	--	2.5 U	--	1.2 U
1,1,1,2-Tetrachloroethane	ug/m3	--	--	--	2.5 U	--	12 U	1.2 U	1.2 U	1.2 U	1.2 U	0.44 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	2.5 U	1.2 U	1.2 U	2.5 U	--	2.5 U	--	1.2 U
1,1,1-Trichloroethane	ug/m3	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	260
1,1,2,2-Tetrachloroethane	ug/m3	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	0.24 U	0.69 U	1.4 U	1.4 U	1.4 U	1.4 U	0.69 U	0.69 U						
1,1,2-Trichloroethane	ug/m3	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	0.55 U	0.28 J	1.1 U	1.1 U	5.5 U	0.55 U				
1,1-Dichloroethane	ug/m3	330	36	170	200	70	78	130	200	0.4	59	68	150	62	53	68	130	55	49	100	190	69	25	360	25
1,1-Dichloroethene	ug/m3	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	11
1,2,4-Trichlorobenzene	ug/m3	0.74 U	0.74 U	0.74 U	3 U	1.5 U	3800	1.5 U	1.5 U	1.5 U	1.5 U	0.74 U	0.26 U	0.74 U	0.74 U	0.74 U	0.74 U	1.5 U	0.74 U	0.74 U	1.5 U	1.5 U	1.5 U	1.5 U	0.74 U
1,2,4-Trimethylbenzene	ug/m3	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	0.49 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	0.98 U	0.49 U
1,2-Dibromoethane (EDB)	ug/m3	0.76 U	0.77 U	0.77 U	1.5 U	0.77 U	3.8 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.27 U	0.77 U	1.5 U	0.77 U	1.5 U	1.5 U	1.5 U	1.5 U	0.77 U				
1,2-Dichlorobenzene	ug/m3	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	1.2 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6 U
1,2-Dichloroethane	ug/m3	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	0.81 U	0.81 U	0.81 U	0.81 U	0.4 U
1,2-Dichloropropane	ug/m3	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	0.92 U	0.46 U							
1,2-Dichlortetrafluoroethane	ug/m3	0.7 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.4 U	--
1,3,5-Trimethylbenzene	ug/m3	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	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.98 U	0.98 U	0.98 U	0.98 U	0.49 U	
1,3-Butadiene	ug/m3	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	0.44 U	0.22 U	0.22 U	0.44 U	0.44 U	0.44 U	0.44 U	0.22 U
1,3-Dichlorobenzene	ug/m3	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	1.2 U	0.6 U	0.6 U	1.2 U	1.2 U	1.2 U	1.2 U	0.6 U
1,4-Dichlorobenzene	ug/m3	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	0.64	0.6 U	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	0.6 U
1,4-Dioxane	ug/m3	--	--	--	0.72 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.2 U	--
2-Butanone	ug/m3	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	0.59 J
2-Hexanone	ug/m3	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	0.41 U	0.82 U	0.41 U	0.41 U	0.82 U	0.82 U	0.82 U	0.82 U	0.41 U	
4-Ethyltoluene	ug/m3	0.5 U	0.49 U	0.49 U	0.98 U	0.27 J	4.9 U	0.49 U	0.49 U	0.49 U	3.4	0.49 U	0.17 U	0.49 U	0.49 U	0.49 U	0.98 U	0.49 U	0.49 U	0.98 U	0.98 U	0.98 U	0.98 U	0.49 U	
4-Methyl-2-pentanone	ug/m3	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	0.41 U	0.41 U	0.82 U	0.41 U	0.13 J	0.41 U	0.82 U	0.82 U	0.82 U	0.41 U	
Acetone	ug/m3	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	3.7 J
Benzene	ug/m3	1.7	0.5	0.72	0.77	0.56	3.2 U	1	0.96	0.32	5	0.32 U	0.82	0.32 U	0.63	0.66	0.35 J								

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-090717	EW-Combined-022818	EW-Combined-091218	EW-Combined-020819	EW-Combined-090619	EW-Combined-021420	EW-Comb.-09092020	EW-Combined-030821	EW-Combined	EW-Combined	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	Post Carbon-030821	
Sample Date:		9/7/2017	2/28/2018	9/12/2018	2/8/2019	9/6/2019	2/14/2020	9/9/2020	3/8/2021	9/8/2021	3/29/2022	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	3/8/2021	
Analyte	Units																									
1,1,1,2-Tetrachloroethane	ug/m3	2.5 U	2.5 U	2.5 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	0.44 U	--	--	--	--	--	--	--	--	1.2 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	530	150	690	62	670	200	470	97	300	0.19 U	1	15	45	1.9	13000	0.56	450	380	740	0.55 U	2.3	2.4	840	730	
1,1,2,2-Tetrachloroethane	ug/m3	1.4 U	1.4 U	1.4 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.24 U	0.34 U	1.7 U	0.68 U	0.68 U	68 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	0.69 U		
1,1,2-Trichloroethane	ug/m3	1.1 U	1.1 U	1.1 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.19 U	0.27 U	1.4 U	0.54 U	0.54 U	54 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	0.55 U		
1,1-Dichloroethane	ug/m3	67	19	73	13	45	19	29	9	34	0.14 U	0.2 U	1 U	5.4	11000	490	370	610	21	80	0.4 U	2.8	17	62	16	
1,1-Dichloroethene	ug/m3	24	10	27	10	24	10	27	7.4	16	0.14 U	0.2 U	1 U	0.4 U	6400	96	78	3.8	30	0.4 U	9.8	9.1	41	9.8		
1,2,4-Trichlorobenzene	ug/m3	1.5 U	1.5 U	1.5 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	1.5 U	0.52 U	0.37 U	1.9 U	0.74 U	0.74 U	74 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	0.98 U	0.98 U	0.98 U	1.2	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.17 U	0.25 U	1.3 U	0.5 U	0.5 U	50 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	1.5 U	1.5 U	1.5 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.27 U	0.38 U	1.9 U	0.76 U	0.76 U	76 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	1.2 U	1.2 U	1.2 U	2 J	0.6 U	0.6 U	0.6 U	0.6 U	0.21 U	0.3 U	1.5 U	0.6 U	0.6 U	60 U	0.3 U	0.6 U	1.2 U	2.4 U	0.6 U	0.6 U	0.6 U	0.6 U			
1,2-Dichloroethane	ug/m3	0.81 U	0.81 U	0.81 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.14 U	0.2 U	1 U	0.4 U	40 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	0.4 U			
1,2-Dichloropropane	ug/m3	0.92 U	0.92 U	0.92 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.16 U	0.23 U	1.2 U	0.46 U	0.46 U	46 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-Dichlortetrafluoroethane	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	0.98 U	0.98 U	0.98 U	1.2	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.17 U	2.1	1.3 U	0.5 U	0.5 U	50 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	0.44 U	0.44 U	0.44 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.077 U	0.11 U	0.55 U	0.22 U	0.22 U	22 U	0.23 U	0.22 U	0.44 U	0.22 U							
1,3-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.21 U	2.9	1.5 U	0.6 U	0.6 U	60 U	0.3 U	0.6 U	1.2 U	1.4 J	0.6 U	0.6 U	0.6 U	0.6 U			
1,4-Dichlorobenzene	ug/m3	1.2 U	1.2 U	1.2 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.21 U	0.3 U	1.5 U	0.6 U	0.6 U	60 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	2.5 J	1.3 J	1.9 J	3.1 J	1.6 J	2 J	8 J	12 U	1.2 J	4.1 U	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	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.82 U	0.82 U	0.82 U	0.29 U	0.2 U	1 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	0.82 U			
4-Ethyltoluene	ug/m3	0.98 U	0.98 U	0.98 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.17 U	2.1	1.3 U	0.5 U	0.5 U	50 U	0.25 U	0.49 U	0.98 U	0.49 U	9.5	0.49 U	0.49 U	0.49 U			
4-Methyl-2-pentanone	ug/m3	0.82 U	0.82 U	0.82 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.14 U	0.4 U	5	1 U	0.4 U	40 U	0.2 U	0.41 U	0.82 U	0.41 U	28	0.41 U	0.41 U	0.41 U			
Acetone	ug/m3	8.7 J	19 U	19 U	9.4 J	4.9 J	12	12	9.5 U	9.5 U	7.8	1200	11	19	12	430	3.6	5.7	21	19 U	3.5 J	71	10	9.5 U	6.8 J	
Benzene	ug/m3	0.51 J	0.4 J	0.49 J	1.4	0.4	0.33	0.32 U	0.4	0.95	0.5	1.3	0.8 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	0.32 U	0.12 J	
Benzyl chloride	ug/m3	1 U	1 U	1 U	0.52 U	0.52 U	0.52 U	0.52 U	0.52 U	0.18 U	0.26 U	1.3 U	0.52 U	0.52 U	52 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	1.3 U	1.																							

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

Area:	Post Treatment - Large Retail	
Location:	PostCarbon	
Sample ID:	Post Carbon	Post Carbon
Sample Date:	9/8/2021	3/29/2022
Analyte	Units	
1,1,1,2-Tetrachloroethane	ug/m ³	1.2 U
1,1,1-Trichloroethane	ug/m ³	0.55 U
1,1,2,2-Tetrachloroethane	ug/m ³	0.69 U
1,1,2-Trichloroethane	ug/m ³	0.55 U
1,1-Dichloroethane	ug/m ³	52
1,1-Dichloroethene	ug/m ³	37
1,2,4-Trichlorobenzene	ug/m ³	1.5 U
1,2,4-Trimethylbenzene	ug/m ³	0.49 U
1,2-Dibromoethane (EDB)	ug/m ³	0.77 U
1,2-Dichlorobenzene	ug/m ³	0.6 U
1,2-Dichloroethane	ug/m ³	0.4 U
1,2-Dichloropropane	ug/m ³	0.46 U
1,2-Dichlorotetrafluoroethane	ug/m ³	--
1,3,5-Trimethylbenzene	ug/m ³	0.49 U
1,3-Butadiene	ug/m ³	0.22 U
1,3-Dichlorobenzene	ug/m ³	0.6 U
1,4-Dichlorobenzene	ug/m ³	0.6 U
1,4-Dioxane	ug/m ³	--
2-Butanone	ug/m ³	12 U
2-Hexanone	ug/m ³	0.82 U
4-Ethyltoluene	ug/m ³	0.49 U
4-Methyl-2-pentanone	ug/m ³	0.41 U
Acetone	ug/m ³	9.5 U
Benzene	ug/m ³	0.32 U
Benzyl chloride	ug/m ³	0.52 U
Bromodichloromethane	ug/m ³	0.67 U
Bromoform	ug/m ³	1 U
Bromomethane	ug/m ³	0.39 U
Carbon disulfide	ug/m ³	3.1 U
Carbon tetrachloride	ug/m ³	0.63 U
Chlorobenzene	ug/m ³	0.46 U
Chloroethane	ug/m ³	0.26 U
Chloroform	ug/m ³	0.58
Chlormethane	ug/m ³	0.41 U
cis-1,2-Dichloroethene	ug/m ³	40
cis-1,3-Dichloropropene	ug/m ³	0.45 U
Cyclohexane	ug/m ³	0.34 U
Dibromochloromethane	ug/m ³	0.85 U
Dichlorodifluoromethane	ug/m ³	0.49 U
Ethanol	ug/m ³	2.3 J
Ethyl acetate	ug/m ³	3.6 U
Ethylbenzene	ug/m ³	0.43 U
Hexachlorobutadiene	ug/m ³	1.1 U
Hexane	ug/m ³	14 U
Isopropyl alcohol	ug/m ³	5.7 J
m,p-Xylene	ug/m ³	0.87 U
Methyl methacrylate	ug/m ³	0.41 U
Methylene chloride	ug/m ³	3.5 U
Methyl-t-butyl ether	ug/m ³	0.36 U
Naphthalene	ug/m ³	--
n-Heptane	ug/m ³	0.41 U
o-Xylene	ug/m ³	0.43 U
Propylene (Propene)	ug/m ³	6.9 U
Styrene	ug/m ³	0.43 U
Tetrachloroethene	ug/m ³	1.2
Tetrahydrofuran	ug/m ³	2.9 U
Toluene	ug/m ³	0.45
Total VOCs	ug/m ³	420.72
trans-1,2-Dichloroethene	ug/m ³	0.86
trans-1,3-Dichloropropene	ug/m ³	0.45 U
Trichloroethene	ug/m ³	0.63
Trichlorofluoromethane	ug/m ³	280
Trichlorotrifluoroethane	ug/m ³	3.1 U
Vinyl acetate	ug/m ³	7 U
Vinyl chloride	ug/m ³	0.26 U
	ug/m ³	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
- Compound not analyzed.

Prepared By: AKN, 5/11/2022
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