



May, 2, 2019

Mr. Brian Joyce, CPA  
Property Owner  
1536 N. 68<sup>th</sup> Street  
Wauwatosa, Wisconsin 53213

**Subject: Vapor Intrusion Sampling Results**  
**BRRTS #: 02-41-551923**

Dear Mr. Joyce:

In accordance with the executed Agreement to Provide Access for Sampling Activities, and in accordance with Wisconsin Department of Natural Resources (WDNR) regulation NR 716.14, EnviroForensics, LLC (EnviroForensics) is providing the results of the sub-slab vapor sample collected from your property located at 1536 N. 68<sup>th</sup> Street, Wauwatosa, Wisconsin on April, 26, 2019. The sampling activity is part of an environmental investigation being performed for the One Hour Martinizing facility located at 6737 West Milwaukee Avenue under the direction of the WDNR pursuant to the authority granted to it under State and Federal law. The chemicals of concern for the investigation are the dry cleaning solvent tetrachloroethene (PCE) and its associated breakdown products.

The Responsible Party is:

Mr. Brian Cass  
OHM Holdings, Inc.  
W229 N2494 Hwy F  
Waukesha, WI 53186  
Telephone: 262-521-9710

### **Sampling Type, Locations, and Results**

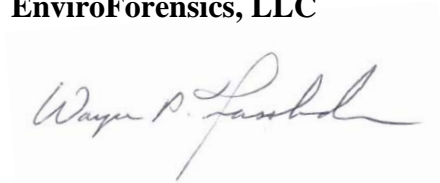
One (1) sub-slab vapor sample was collected from beneath the concrete slab in the basement of your building at the location of SSV-1. The sample location is depicted on the attached **Figure 1**. The results of this sub-slab vapor sample, along with all past sub-slab and indoor air samples collected at your property, are summarized and compared to WDNR standards on the attached **Table 1**. A copy of the laboratory report that relates to the sub-slab vapor sample is also attached.

PCE was detected in the sub-slab vapor sample at a concentration of 1,970 micrograms

per cubic meter ( $\mu\text{g}/\text{m}^3$ ); however, the concentration detected was *below* the vapor risk screening Level of  $6,000 \mu/\text{m}^3$ . No other COCs were detected in the sub-slab vapor samples.

We will contact you to discuss additional investigation or remediation work as may be required. If you have any questions or concerns, please contact me at 414-982-3988 or by email at [wfassbender@enviroforensics.com](mailto:wfassbender@enviroforensics.com). The WDNR project manager, Binyoti Amungwafor, can be reached at 262-574-2166. We greatly appreciate your help and patience with this matter.

Sincerely,  
**EnviroForensics, LLC**

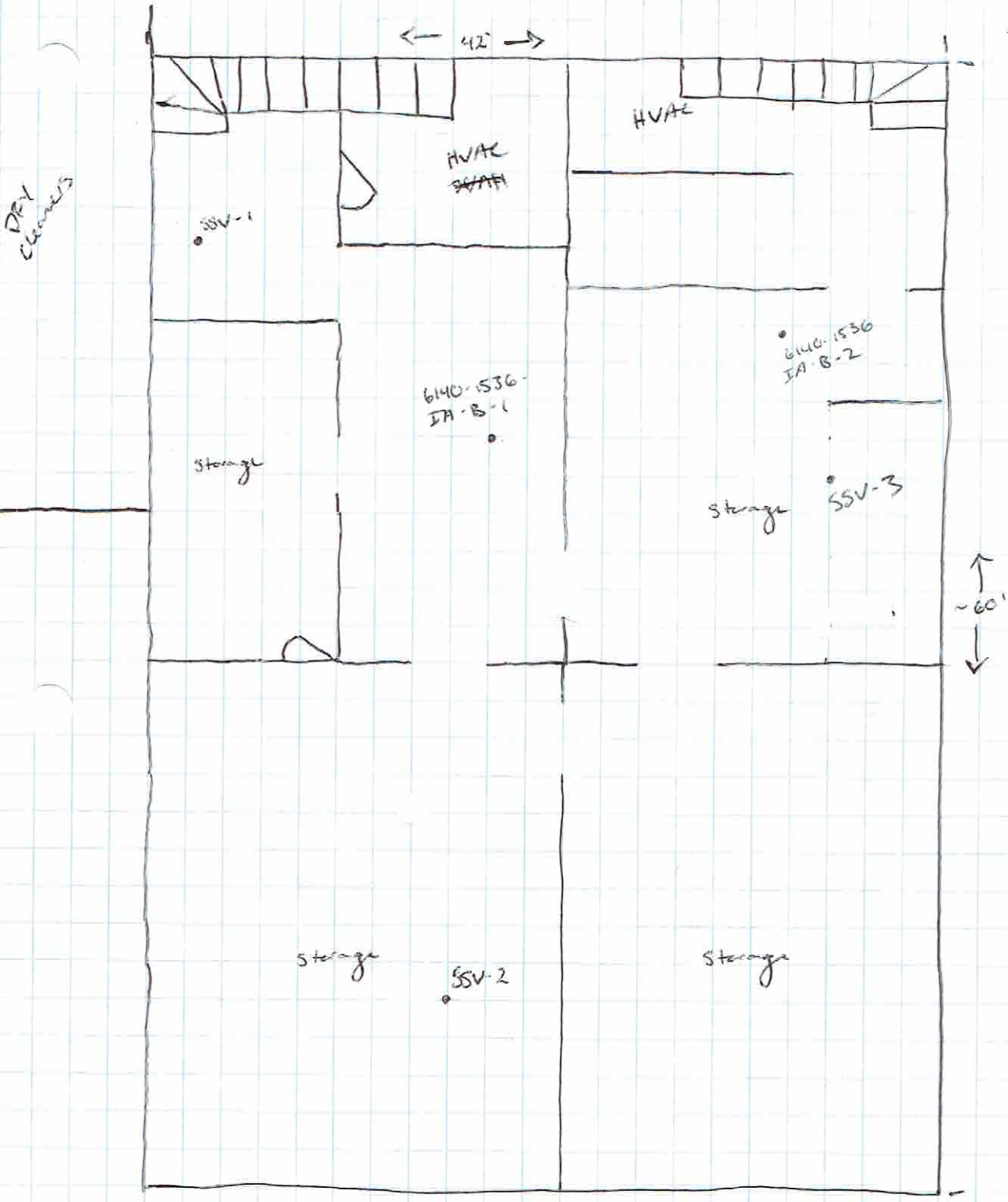
A handwritten signature in black ink that reads "Wayne P. Fassbender".

Wayne Fassbender, PG, PMP  
*Senior Project Manager*

Attachments: Hand Sketches of Sample Location  
Table 1 – Vapor Intrusion Assessment Results Summary  
Laboratory Report

Copy: Binyoti Amungwafor, Wisconsin Department of Natural Resources

Basement



Dry Cleaners

← 42' →

HVAC

HVAC

SSV-1

6140-536  
IA-B-1

6140-536  
IA-B-2

Storage

Storage

SSV-3

↑  
~60'  
↓

Storage

SSV-2

Storage



68th St

**TABLE 1**  
**VAPOR INTRUSION ASSESSMENT RESULTS SUMMARY**

Brian Joyce Property, 1536 N 68th Street  
 One Hour Martinizing  
 Wauwatosa, Wisconsin

Sample Identification	Sample Location	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
<b>Indoor/Outdoor Air Samples</b>							
<b>Small Commercial Vapor Action Level</b>			<b>180</b>	<b>8.8</b>	<b>NE</b>	<b>NE</b>	<b>28</b>
6140-OA-1	Outdoor	5/15/2014	<3.19	<1.07	<19.8	<39.6	<1.28
		1/22/2015	<3.19	<1.07	<19.8	<39.6	<1.28
6140-1536-OA	Outdoor	5/6/2015	<3.19	<1.07	<19.8	<39.6	<1.28
6140-1536-IA-1-1	First Floor	5/15/2014	<3.19	<1.07	<19.8	<39.6	<1.28
6140-1536-IA-1	First Floor	1/22/2015	<b>4.61</b>	<1.07	<19.8	<39.6	<1.28
		5/6/2015	<3.19	<1.07	<19.8	<39.6	<1.28
6140-1536-IA-B-1	Basement	5/15/2014	<3.19	<1.07	<19.8	<39.6	<1.28
		1/22/2015	<3.19	<1.07	<19.8	<39.6	<1.28
		5/6/2015	<3.19	<1.07	<19.8	<39.6	<1.28
6140-1536-IA-B-2	Basement	5/15/2014	<3.19	<1.07	<19.8	<39.6	<1.28
		1/22/2015	<3.19	<1.07	<19.8	<39.6	<1.28
		5/6/2015	<3.19	<1.07	<19.8	<39.6	<1.28
<b>Sub-Slab Vapor Samples</b>							
<b>Small Commercial Vapor Risk Screening Level</b>			<b>6,000</b>	<b>290</b>	<b>NE</b>	<b>NE</b>	<b>930</b>
6140-1536-SSV-1	Basement (Sub-Slab)	1/14/2014	<b>12,400</b>	<b>29</b>	<198	<396	<12.8
		5/15/2014	<b>2,500</b>	<10.7	<198	<396	<12.8
		1/23/2015	<b>1,110</b>	<10.7	<198	<396	<12.8
		5/6/2015	<b>3,800</b>	<10.7	<198	<396	<12.8
		4/26/2019	<b>1,970</b>	<1.07	<19.8	<39.6	<1.28
6140-1536-SSV-2	Basement (Sub-Slab)	1/14/2014	<b>423</b>	<10.7	<198	<396	<12.8
		5/15/2014	<b>137</b>	<10.7	<198	<396	<12.8
		1/23/2015	<b>337</b>	<10.7	<198	<396	<12.8
		5/6/2015	<b>157</b>	<10.7	<198	<396	<12.8
6140-1536-SSV-3	Basement (Sub-Slab)	1/14/2014	<b>153</b>	<10.7	<198	<396	<12.8
		5/15/2014	<b>139</b>	<10.7	<198	<396	<12.8
		1/23/2015	<b>195</b>	<10.7	<198	<396	<12.8
		5/6/2015	<b>157</b>	<10.7	<198	<396	<12.8

**Notes:**

<sup>1</sup> The Vapor Risk Screening Levels are based on U.S. E.P.A.'s Regional Screening Levels (RSL's) for industrial indoor air with an attenuation factor of 0.03 for sub-slab samples a 0.1 adjustment for  $1 \times 10^{-5}$  lifetime cancer risk for carcinogens  
 All concentrations reported in units of micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

**Bolded** values are above detection limits

**Bolded and Orange Shaded** values exceed the Small Commercial Vapor Risk Screening Level

NE = Not Established





**EnvisionAir**  
1441 Sadler Circle West Drive  
Indianapolis, IN 46239  
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www.envision-air.com

Mr. Wes Fassbender  
Enviroforensics  
N16 W. 23390 Stone Ridge Dr  
Suite G  
Waukesha, WI 53188

May 1, 2019

EnvisionAir Project Number: 2019-280  
Client Project Name: 6140

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received April 29, 2019. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

A handwritten signature in black ink that reads "Stanley A. Hunnicutt".

Stanley A Hunnicutt

Project Manager  
EnvisionAir, LLC



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**Client Name:** ENVIROFORENSICS  
**Project ID:** 6140  
**Client Project Manager:** WES FASSBENDER  
**EnvisionAir Project Number:** 2019-280

**Sample Summary**

*Canister Pressure / Vacuum*

<u>Laboratory Sample Number:</u>	<u>Sample Description:</u>	<u>START</u> <u>Date</u>	<u>START</u> <u>Time</u>	<u>End Date</u>	<u>End Time</u>	<u>Date</u>	<u>Time</u>	<u>Initial Field</u>	<u>Final Field</u>	<u>Lab</u> <u>Received</u>	
		<u>Collected:</u>	<u>Collected:</u>	<u>Collected:</u>	<u>Collected:</u>	<u>Received:</u>	<u>Received</u>	<u>(in. Hg)</u>	<u>(in. Hg)</u>	<u>(in. Hg)</u>	
19-1234	6140-1536-SSV-1	A	4/26/19	12:21	4/26/19	12:26	4/29/19	10:00	-29	-4	-4



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**Client Name:** ENVIROFORENSICS

**Project ID:** 6140

**Client Project Manager:** WES FASSBENDER

**EnvisionAir Project Number:** 2019-280

**Analytical Method:** TO-15  
**Analytical Batch:** 042919AIR

**Client Sample ID:** 6140-1536-SV-1

**EnvisionAir Sample Number:** 19-1234  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 4/26/19 12:21  
**Sample Collection END Date/Time:** 4/26/19 12:26  
**Sample Received Date/Time:** 4/29/19 10:00

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	



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<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 54.1	54.1	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	<b>1,970</b>	128	2
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichloroethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	99%		
Analysis Date/Time:	4-29-19/18:18		
Analyst Initials	tjg		



**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 042919AIR

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	<u>Reporting Limit (ppbv)</u>	<u>Flags</u>
4-Ethyltoluene	< 100	100	
4-Methyl-2-pentanone (MIBK)	< 500	500	
1,1,1-Trichloroethane	< 100	100	
1,1,2,2-Tetrachloroethane	< 0.049	0.049	1
1,1,2-Trichloroethane	< 0.038	0.038	1
1,1-Dichloroethane	< 1	1	
1,1-Dichloroethene	< 50	50	
1,2,4-Trichlorobenzene	< 0.1	0.1	
1,2,4-Trimethylbenzene	< 1	1	
1,2-dibromoethane (EDB)	< 0.0041	0.0041	1
1,2-Dichlorobenzene	< 10	10	
1,2-Dichloroethane	< 0.1	0.1	
1,2-Dichloropropane	< 0.1	0.1	
1,3,5-Trimethylbenzene	< 1	1	
1,3-Butadiene	< 0.1	0.1	
1,3-Dichlorobenzene	< 10	10	
1,4-Dichlorobenzene	< 0.1	0.1	
1,4-Dioxane	< 0.5	0.5	
2-Butanone (MEK)	< 1000	1000	
2-Hexanone	< 5	5	
Acetone	< 1000	1000	
Benzene	< 0.5	0.5	
Benzyl Chloride	< 0.08	0.08	1
Bromodichloromethane	< 0.08	0.08	1
Bromoform	< 1	1	
Bromomethane	< 1	1	
Carbon Disulfide	< 100	100	
Carbon Tetrachloride	< 0.1	0.1	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
Chloroform	< 0.17	0.17	
Chloromethane	< 10	10	
cis-1,2-Dichloroethene	< 5	5	
cis-1,3-Dichloropropene	< 1	1	
Cyclohexane	< 1600	1600	
Dibromochloromethane	< 0.1	0.1	
Dichlorodifluoromethane	< 10	10	
Ethyl Acetate	< 15	15	
Ethylbenzene	< 2	2	
Hexachloro-1,3-butadiene	< 0.1	0.1	
Isooctane	< 100	100	
m,p-Xylene	< 10	10	
Methylene Chloride	< 12	12	
Methyl-tert-butyl ether	< 10	10	
N-Heptane	< 100	100	
N-Hexane	< 50	50	
o-Xylene	< 10	10	
Propylene	< 100	100	
Styrene	< 100	100	
Tetrachloroethene	< 0.47	0.47	
Tetrahydrofuran	< 100	100	

Analytical Report

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	<u>Reporting Limit (ppbv)</u>	<u>Flags</u>
Toluene	< 1000	1000	
trans-1,2-Dichloroethene	< 10	10	
trans-1,3-Dichloropropene	< 1	1	
Trichloroethene	< 0.2	0.2	
Trichlorofluoromethane	< 100	100	
Vinyl Acetate	< 50	50	
Vinyl Bromide	< 0.1	0.1	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	94%		
Analysis Date/Time:	4-29-19/11:27		
Analyst Initials	tjg		

<u>LCS/LCSD</u>	<u>LCS Results (ppbv)</u>	<u>LCSD Results (ppbv)</u>	<u>LCS/D Conc(ppbv)</u>	<u>LCS Rec.</u>	<u>LCSD Rec.</u>	<u>RPD</u>	<u>Flag</u>
Propylene	8.86	8.56	10	89%	86%	3.4%	
Dichlorodifluoromethane	9.99	9.57	10	100%	96%	4.3%	
Chloromethane	8.89	8.9	10	89%	89%	0.1%	
Vinyl Chloride	10.4	10.2	10	104%	102%	1.9%	
1,3-Butadiene	10.9	10.8	10	109%	108%	0.9%	
Bromomethane	10.8	10.9	10	108%	109%	0.9%	
Chloroethane	11.8	10.7	10	118%	107%	9.8%	
Vinyl Bromide	11.6	10.1	10	116%	101%	13.8%	
Trichlorofluoromethane	9.96	9.68	10	100%	97%	2.9%	
Acetone	9.64	9.83	10	96%	98%	2.0%	
1,1-Dichloroethene	10.3	10.5	10	103%	105%	1.9%	
Methylene Chloride	9.06	9.25	10	91%	93%	2.1%	
Carbon Disulfide	9.94	10.4	10	99%	104%	4.5%	
trans-1,2-Dichloroethene	10	10.5	10	100%	105%	4.9%	
Methyl-tert-butyl ether	10.3	11.1	10	103%	111%	7.5%	
1,1-Dichloroethane	10.1	10.7	10	101%	107%	5.8%	
Vinyl Acetate	9.28	9.88	10	93%	99%	6.3%	
N-Hexane	8.89	9.52	10	89%	95%	6.8%	
2-Butanone (MEK)	8.93	9.67	10	89%	97%	8.0%	
cis-1,2-Dichloroethene	9.9	10.4	10	99%	104%	4.9%	
Ethyl Acetate	8.78	9.53	10	88%	95%	8.2%	
Chloroform	9.58	10.1	10	96%	101%	5.3%	
Tetrahydrofuran	9.69	9.34	10	97%	93%	3.7%	
1,2-Dichloroethane	10.8	10.3	10	108%	103%	4.7%	
1,1,1-Trichloroethane	10.8	10.5	10	108%	105%	2.8%	
Carbon Tetrachloride	10.9	10.6	10	109%	106%	2.8%	
Benzene	9.74	9.47	10	97%	95%	2.8%	
Cyclohexane	9.89	9.73	10	99%	97%	1.6%	
1,2-Dichloropropane	9.24	9.03	10	92%	90%	2.3%	
Trichloroethene	10.1	9.86	10	101%	99%	2.4%	
Bromodichloromethane	10.4	10.1	10	104%	101%	2.9%	
1,4-Dioxane	8.78	10.4	10	88%	104%	16.9%	
Isooctane	9.12	8.8	10	91%	88%	3.6%	
N-Heptane	9.14	9.07	10	91%	91%	0.8%	
cis-1,3-Dichloropropene	10	9.88	10	100%	99%	1.2%	
4-Methyl-2-pentanone (MIBK)	10.7	10.6	10	107%	106%	0.9%	
trans-1,3-Dichloropropene	10.4	10.1	10	104%	101%	2.9%	
1,1,2-Trichloroethane	9.14	9.02	10	91%	90%	1.3%	
Toluene	9.6	9.5	10	96%	95%	1.0%	
2-Hexanone	9.59	10.1	10	96%	101%	5.2%	
Dibromochloromethane	11.3	9.5	10	113%	95%	17.3%	
1,2-dibromoethane (EDB)	10.7	9	10	107%	90%	17.3%	
Tetrachloroethene	11.2	9.57	10	112%	96%	15.7%	
Chlorobenzene	9.93	8.42	10	99%	84%	16.5%	
Ethylbenzene	9.45	9.34	10	95%	93%	1.2%	
m,p-Xylene	19.9	19.9	20	100%	100%	0.0%	
Bromoform	11.7	9.88	10	117%	99%	16.9%	

Analytical Report

<u>LCS/LCSD</u>	<u>LCS Results (ppbv)</u>	<u>LCSD Results (ppbv)</u>	<u>LCS/D Conc(ppbv)</u>	<u>LCS Rec.</u>	<u>LCSD Rec.</u>	<u>RPD</u>	<u>Flag</u>
Styrene	10.2	10.2	10	102%	102%	0.0%	
1,1,2,2-Tetrachloroethane	9.62	9.86	10	96%	99%	2.5%	
o-Xylene	10.5	9.08	10	105%	91%	14.5%	
4-Ethyltoluene	9.92	10.1	10	99%	101%	1.8%	
1,3,5-Trimethylbenzene	9.5	9.08	10	95%	91%	4.5%	
1,2,4-Trimethylbenzene	10.6	9.19	10	106%	92%	14.2%	
1,3-Dichlorobenzene	10.4	9.73	10	104%	97%	6.7%	
Benzyl Chloride	11.5	9.73	10	115%	97%	16.7%	
1,4-Dichlorobenzene	10.5	10.1	10	105%	101%	3.9%	
1,2-Dichlorobenzene	10.2	10.4	10	102%	104%	1.9%	
1,2,4-Trichlorobenzene	10.8	10.4	10	108%	104%	3.8%	
Hexachloro-1,3-butadiene	11	9.65	10	110%	97%	13.1%	
4-bromofluorobenzene (surrogate)	109%	91%					
Analysis Date/Time:	4-29-19/09:42	4-29-19/10:20					
Analyst Initials	tjg	tjg					



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<u>Flag Number</u>	<u>Comments</u>
1	Reporting limit is supported by MDL. TJG
2	Reported value is from a 40x dilution. TJG 5/1/19

