

Joslin, Richard R - DNR

From: Wayne Fassbender <WFassbender@enviroforensics.com>
Sent: Thursday, October 19, 2017 3:52 PM
To: Joslin, Richard R - DNR
Subject: Former Dutch Cleaners; BRRTS #02-60-271527
Attachments: 403 S. Main St. VI Results Letter_Final.pdf

Categories: WORK - Important

Hi Rick:

We sent you a copy of the off-site results letter sent to the current property owner, Ms. Marilyn Berlin (attached). As you can see in this letter, we detected PCE in sub-slab vapor at concentrations well over risk levels (14,100 ug/m³ and 66,300 ug/m³). PCE was detected in both indoor air samples, but at concentrations well below vapor action levels. Given the high concentrations below the slab, we should be looking at installing an SSDS at the Site.

In looking at Site data collected by past consultants and figures showing the location of nearby structures, it appears that the adjacent residence to the west is within 35 feet of the Site and should be checked for vapor intrusion.

The property to the north is about 60 feet from the Site, but soil and groundwater impacts do not extend to this property and soil gas samples collected along the northern Site boundary did not have concentrations exceeding risk levels. The nearest property to the east is around 90 feet away, but is up-gradient/side-gradient to the direction of groundwater flow and I would not anticipate that vapors would migrate to this location.

We had budgeted for two rounds of sub-slab/indoor air sampling at the Site building, but given the concentrations, I do not think we need a second round. Therefore, we may be able to sample the residence to the west and not need a change order. I will check to see if we have enough in budget to go through the access agreement process.

The soil sample we collected is silt and clay and I do not think that SVE is a viable remedial method for the Site. Instead, some limited excavation and injectable groundwater treatment may be more applicable.

Let's talk to discuss logistics in getting this work done.

Wayne P. Fassbender, PG

Senior Project Manager

EnviroForensics | N16 W23390 Stone Ridge Drive, Suite G | Waukesha, WI 53188
P. 414-982-3988 | C. 262-490-6472 | F. 262-510-0460

www.enviroforensics.com | www.policyfind.com

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October 13, 2017

Marilyn Berlin
W2626 Miley Rd.
Sheboygan Falls, Wisconsin 53085

**Subject: Vapor Intrusion Sampling Results – 403 S. Main St., Cedar Grove,
Wisconsin
BRRTS: 02-60-271527**

Dear Ms. Berlin:

In accordance with Wisconsin Department of Natural Resources (WDNR) regulation NR 716.14, EnviroForensics, LLC. (EnviroForensics) is providing the results of environmental samples collected from your property located at 403 South Main Street in Cedar Grove, Wisconsin. The samples were collected on September 13, 2017. The sampling activities are part of an environmental investigation being performed for the former Dutch Cleaners facility at 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. Jere Ebbers
Former Dutch Cleaners
231 S. Main St.
Cedar Grove, WI 53013

Sampling Results

Two indoor air samples designated 6420-403 S Main St-IA-1 and 6420-403 S Main St-IA-2 were collected from within the first floor and basement, respectively. For quality control purposes a sample of outdoor ambient air designated 6420-403 S Main St-OA-1 was also collected. Additionally, two (2) sub-slab vapor samples designated 6420-403 S Main St-SSV-1 and 6420-403 S Main St-SSV-2 were collected from beneath the basement floor of your building. The sampling locations are depicted on the attached **Figure 1**. The results of the vapor samples are summarized and compared to WDNR standards on the attached **Table 1**. A copy of the laboratory report that relates to the vapor samples is also attached.

Document: 6420-0096
EnviroForensics, LLC
N16 W23390 Stone Ridge Drive, Suite G
Waukesha, WI 53188
Phone: 262-290-4001 • Fax 317.972.7875

October 13, 2017



Indoor air samples 6420-403 S Main St-IA-1 and 6420-403 S Main St-IA-2 contained PCE at concentrations of 6.92 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and 7.26 $\mu\text{g}/\text{m}^3$, respectively, which are below the Vapor Action Level of 180 $\mu\text{g}/\text{m}^3$ for PCE detected within small commercial buildings.

Sub-slab vapor samples 6420-403 S Main St-SSV-1 and 6420-403 S Main St-SSV-2 contained PCE at a concentrations of 14,100 $\mu\text{g}/\text{m}^3$ and 66,300 $\mu\text{g}/\text{m}^3$ which exceed the vapor risk screening level (VRSL) of 6,000 $\mu\text{g}/\text{m}^3$ for PCE detected below small commercial buildings. Trichloroethene (TCE) was also detected in each sub-slab vapor sample but, at concentrations below the VRSL for TCE.

Sub-slab vapor samples have exceeded the screening levels set by the WDNR. We are evaluating the options for mitigating the sub-slab vapors. We will contact you to discuss the next steps. If you have any questions or concerns, please contact us at 414-982-3988 or by email at wfassbender@enviroforensics.com. The WDNR project manager, Richard Joslin, can be reached at 920-424-7077. We greatly appreciate your help and patience with this matter.

Sincerely,
EnviroForensics, LLC

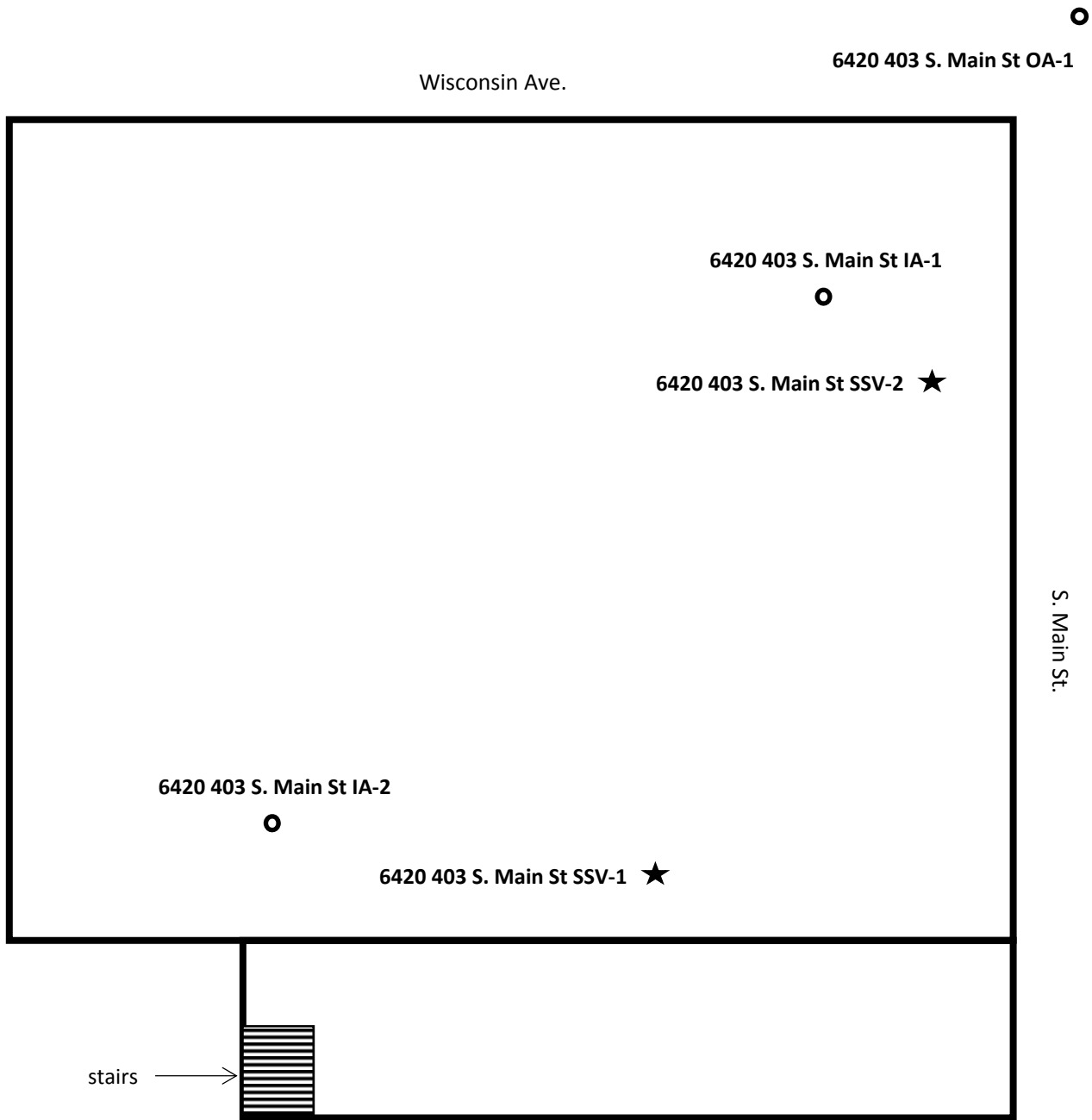
A handwritten signature in black ink that reads "Wayne P. Fassbender".

Wayne Fassbender, PG
Senior Project Manager

Attachments: Figure 1 – Vapor Intrusion Sample Locations
Table 1 – Vapor Intrusion Analytical Results – 403 S. Main St.
Laboratory Analytical Report

Copy: Jere Ebbers, Former Dutch Cleaners
Richard Joslin, Wisconsin Department of Natural Resources

FIGURE 1
VAPOR INTRUSION SAMPLE LOCATIONS
403 S. Main Street, Cedar Grove Wisconsin



Legend

- = Indoor/Outdoor Air Sample
- IA-B = Basement
- IA-1 = 1st Floor
- SSV-1 = Sub-Slab Vapor
- ★ = Sub-Slab Vapor Sampling Port Location



TABLE 1
VAPOR INTRUSION ANALYTICAL RESULTS - 403 S. MAIN ST.
Former Dutch Cleaners
403 S. Main Street, Cedar Grove, Wisconsin

Sample Address	Sample Identification	Sample Date	Consultant	Mitigation	Tetrachloroethene	Trichloroethene
INDOOR/ OUTDOOR AIR						
Non-Residential Vapor Action Level					180	8.8
403 S. Main St.	6420-403 S Main St-IA-1	09/13/17	EnviroForensics	No	6.92	<1.07
	6420-403 S Main St-IA-2	09/13/17	EnviroForensics	No	7.26	<1.07
	6420-403 S Main St-OA-1	09/13/17	EnviroForensics	No	<3.019	<1.07
SUB-SLAB VAPOR						
Non-Residential Vapor Risk Screening Level					6,000	290
403 S. Main St.	6420-403 S Main St-SSV-1	09/13/17	EnviroForensics	No	14,100	35.3
	6420-403 S Main St-SSV-2	09/13/17	EnviroForensics	No	66,300	16.4

Notes:

Results reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)

Samples analyzed according to EPA Method TO-15

Vapor Risk Screening/Action Levels are calculated in accordance with WDNR Publication RR-800 and subsequent guidance documents

IA = Indoor Air

OA = Outdoor Air

SSV = Sub-slab vapor

Bolded values are above detection limits

Bolded and Orange shaded concentration exceed the applicable non-residential screening level



EnvisionAir
1441 Sadler Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

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

September 28, 2017

EnvisionAir Project Number: 2017-576
Client Project Name: 6420

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received September 15, 2017. 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



EnvisionAir
 1441 Sadlier Circle West Drive
 Indianapolis, IN 46239
 Ph: 317-351-0885
 Fax: 317-351-0882
 www.envision-air.com

Client Name: ENVIROFORENSICS
Project ID: 6420
Client Project Manager: WAYNE FASSBENDER
EnvisionAir Project Number: 2017-576

Sample Summary

Canister Pressure / Vacuum

<u>Laboratory Sample Number:</u>	<u>Sample Description:</u>	<u>Matrix:</u>	<u>START</u>	<u>START</u>	<u>End Date</u>	<u>End Time</u>	<u>Date</u>	<u>Time</u>	<u>Canister Pressure / Vacuum</u>		<u>Lab</u>
			<u>Date</u>	<u>Time</u>					<u>Initial Field</u>	<u>Final Field</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>
17-2255	6420-403 S MAIN ST-IA-1	A	9/13/17	9:28	9/13/17	17:30	9/15/17	11:00	-29	-5	-5
17-2256	6420-403 S MAIN ST-IA-2	A	9/13/17	9:30	9/13/17	17:31	9/15/17	11:00	-29	-6	-6
17-2257	6420-403 S MAIN ST-OA-1	A	9/13/17	9:23	9/13/17	17:33	9/15/17	11:00	-29	-7	-7
17-2258	6420-403 S MAIN ST-SSV-1	A	9/13/17	18:27	9/13/17	18:33	9/15/17	11:00	-27	-5	-5
17-2259	6420-403 S MAIN ST-SSV-2	A	9/13/17	18:14	9/13/17	18:21	9/15/17	11:00	-28	-4	-4



EnvisionAir
 1441 Sadlier Circle West Drive
 Indianapolis, IN 46239
 Ph: 317-351-0885
 Fax: 317-351-0882
 www.envision-air.com

Client Name: ENVIROFORENSICS
Project ID: 6420
Client Project Manager: WAYNE FASSBENDER
EnvisionAir Project Number: 2017-576

Analytical Method: TO-15
Analytical Batch: 092117AIR

Client Sample ID: 6420-403 S MAIN ST-IA-1
Envision Sample Number: 17-2255
Sample Matrix: AIR

Sample Collection START Date/Time: 9/13/17 9:28
Sample Collection END Date/Time: 9/13/17 17:30
Sample Received Date/Time: 9/15/17 11:00

<u>Compounds</u>	<u>Sample Results ug/m³</u>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	6.92	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	110%		
Analysis Date/Time:	9-21-17/18:36		
Analyst Initials	tjg		



EnvisionAir
 1441 Sadler Circle West Drive
 Indianapolis, IN 46239
 Ph: 317-351-0885
 Fax: 317-351-0882
 www.envision-air.com

Client Name: ENVIROFORENSICS
Project ID: 6420
Client Project Manager: WAYNE FASSBENDER
EnvisionAir Project Number: 2017-576

Analytical Method: TO-15
Analytical Batch: 092117AIR

Client Sample ID: 6420-403 S MAIN ST-IA-2
Envision Sample Number: 17-2256
Sample Matrix: AIR

Sample Collection START Date/Time: 9/13/17 9:30
Sample Collection END Date/Time: 9/13/17 17:31
Sample Received Date/Time: 9/15/17 11:00

<u>Compounds</u>	<u>Sample Results ug/m³</u>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	7.26	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	112%		
Analysis Date/Time:	9-21-17/19:15		
Analyst Initials	tjg		



EnvisionAir
 1441 Sadler Circle West Drive
 Indianapolis, IN 46239
 Ph: 317-351-0885
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 www.envision-air.com

Client Name: ENVIROFORENSICS
Project ID: 6420
Client Project Manager: WAYNE FASSBENDER
EnvisionAir Project Number: 2017-576

Analytical Method: TO-15
Analytical Batch: 092117AIR

Client Sample ID: 6420-403 S MAIN ST-OA-1
Envision Sample Number: 17-2257
Sample Matrix: AIR

Sample Collection START Date/Time: 9/13/17 9:23
Sample Collection END Date/Time: 9/13/17 17:33
Sample Received Date/Time: 9/15/17 11:00

<u>Compounds</u>	<u>Sample Results ug/m³</u>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	103%		
Analysis Date/Time:	9-21-17/16:01		
Analyst Initials	tjg		



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 1441 Sadler Circle West Drive
 Indianapolis, IN 46239
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 Fax: 317-351-0882
 www.envision-air.com

Client Name: ENVIROFORENSICS
Project ID: 6420
Client Project Manager: WAYNE FASSBENDER
EnvisionAir Project Number: 2017-576

Analytical Method: TO-15
Analytical Batch: 092517AIR

Client Sample ID: 6420-403 S MAIN ST-SSV-1
Envision Sample Number: 17-2258
Sample Matrix: AIR

Sample Collection START Date/Time: 9/13/17 18:27
Sample Collection END Date/Time: 9/13/17 18:33
Sample Received Date/Time: 9/15/17 11:00

<u>Compounds</u>	<u>Sample Results ug/m³</u>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	14,100	1280	1
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	35.3	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	113%		
Analysis Date/Time:	9-26-17/03:54		
Analyst Initials	tjg		



EnvisionAir
 1441 Sadler Circle West Drive
 Indianapolis, IN 46239
 Ph: 317-351-0885
 Fax: 317-351-0882
 www.envision-air.com

Client Name: ENVIROFORENSICS
Project ID: 6420
Client Project Manager: WAYNE FASSBENDER
EnvisionAir Project Number: 2017-576

Analytical Method: TO-15
Analytical Batch: 092517AIR

Client Sample ID: 6420-403 S MAIN ST-SSV-2
Envision Sample Number: 17-2259
Sample Matrix: AIR

Sample Collection START Date/Time: 9/13/17 18:14
Sample Collection END Date/Time: 9/13/17 18:21
Sample Received Date/Time: 9/15/17 11:00

<u>Compounds</u>	<u>Sample Results ug/m³</u>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	66,300	5100	2
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	16.4	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	105%		
Analysis Date/Time:	9-26-17/04:32		
Analyst Initials	tjg		

TO-15 Quality Control Data

EnvisionAir Batch Number: 092117AIR

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	<u>Reporting Limit (ppbv)</u>	<u>Flags</u>
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichloroethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	102%		
Analysis Date/Time:	9-21-17/15:25		
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>
Vinyl Chloride	10.3	10.6	10	103%	106%	2.9%	
trans-1,2-Dichloroethene	9.02	9.38	10	90%	94%	3.9%	
cis-1,2-Dichloroethene	9.34	9.8	10	93%	98%	4.8%	
Trichloroethene	11.3	11.2	10	113%	112%	0.9%	
Tetrachloroethene	11	11.5	10	110%	115%	4.4%	
4-bromofluorobenzene (surrogate)	114%	118%					
Analysis Date/Time:	9-21-17/13:25	9-21-17/14:49					
Analyst Initials	tjg	tjg					

TO-15 Quality Control Data

EnvisionAir Batch Number: 092517AIR

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	<u>Reporting Limit (ppbv)</u>	<u>Flags</u>
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichloroethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	102%		
Analysis Date/Time:	9-25-17/17:36		
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>
Vinyl Chloride	9.37	9.64	10	94%	96%	2.8%	
trans-1,2-Dichloroethene	8.65	8.86	10	87%	89%	2.4%	
cis-1,2-Dichloroethene	9.98	10.3	10	100%	103%	3.2%	
Trichloroethene	10.9	10.5	10	109%	105%	3.7%	
Tetrachloroethene	11.4	11.5	10	114%	115%	0.9%	
4-bromofluorobenzene (surrogate)	118%	120%					
Analysis Date/Time:	9-25-17/15:37	9-25-17/16:19					
Analyst Initials	tjg	tjg					



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1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

<u>Flag Number</u>	<u>Comments</u>
1	Reported value is from a 400x dilution. TJG 9-27-17
2	Reported value is from a 1600x dilution. TJG 9-27-17

