



September 10, 2020

Linda Caflisch Adamske
Box 503
Camarillo, CA 93010

**Subject: Vapor Intrusion Sampling Results – 614 Oak Street, Baraboo, Wisconsin
BRRTS: 02-57-548538**

Dear Ms. Caflisch Adamske:

In accordance with your request, EnviroForensics, LLC is providing the results of environmental samples collected from your property located at 614 Oak Street in Baraboo, Wisconsin. The samples were collected on August 26, 2020. The sampling activities are part of an environmental investigation being performed for the Badger Cleaners facility located at 616 Oak Street in Baraboo 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:

Badger Cleaners
616 Oak Street
Baraboo, WI

Sampling Results

Two indoor air samples designated 6492-614 Oak St.-IA-B and 6492-614 Oak St.-IA-1 were collected from within the basement and first floor, respectively. For quality control purposes, a sample of outdoor ambient air designated 6492-OA-1 was collected. One (1) sub-slab vapor sample designated 6492-614 Oak St.-SSV-1 was 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.

Indoor air samples 6492-614 Oak St.-IA-B and 6492-614 Oak St.-IA-1 contained PCE at a concentration of 118 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and 108 ($\mu\text{g}/\text{m}^3$), respectively, which are **below** the Vapor Action Level (VAL) of $180 \mu\text{g}/\text{m}^3$ for PCE detected within small commercial buildings.

Document: 6492-0494
EnviroForensics, LLC
N16 W23390 Stone Ridge Drive, Suite G
Waukesha, WI 53188
Phone: 262-290-4001 • Fax 317.972.7875

September 10, 2020



Sub-slab vapor sample 6492-614 Oak St.-SSV-1 contained PCE at a concentration of 5,720 $\mu\text{g}/\text{m}^3$, which is **below** the vapor risk screening level (VRSL) of 6,000 $\mu\text{g}/\text{m}^3$ for PCE detected below small commercial buildings.

We are recommending additional sampling events to understand the indoor air trends in your building. We will contact you to discuss the next steps. If you have any questions or concerns, please contact us at 262-510-0612 or by email at rhoverman@enviroforensics.com. The WDNR project manager, Trevor Bannister, can be reached at 608-275-3490. We greatly appreciate your help and patience with this matter.

Sincerely,
EnviroForensics, LLC

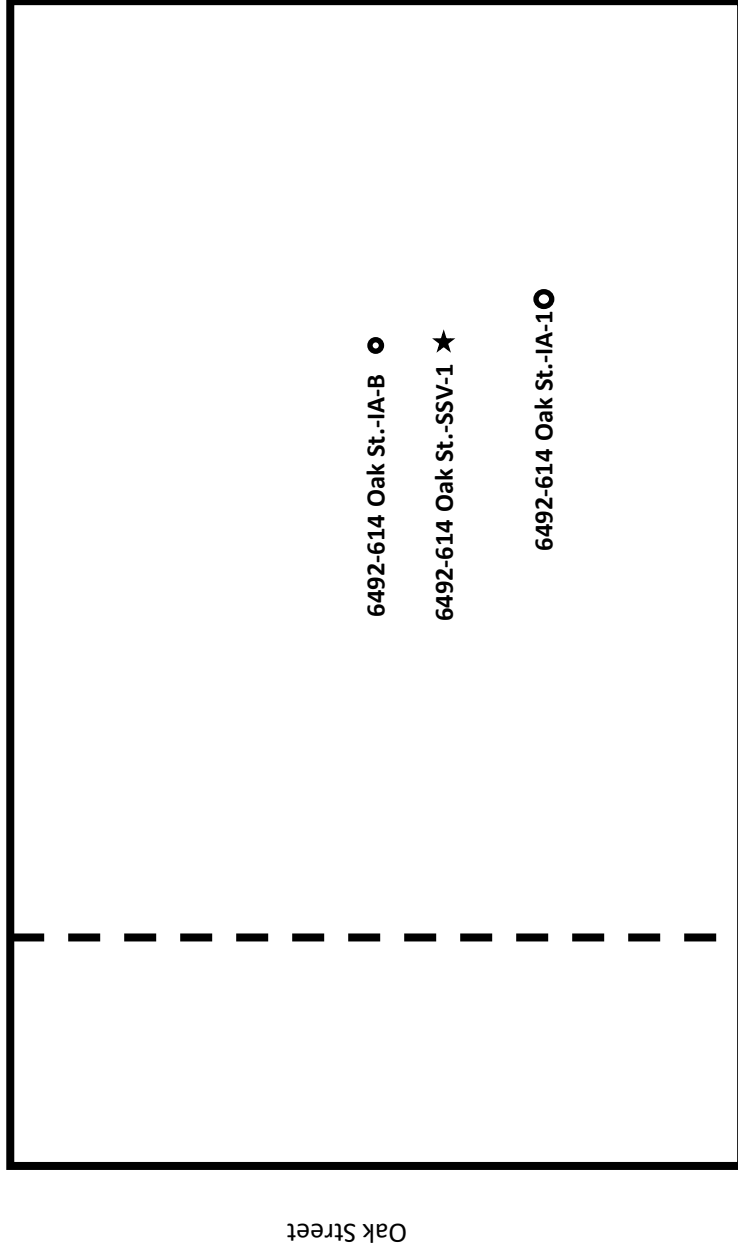
A handwritten signature in blue ink, appearing to read "Rob Hoverman".

Rob Hoverman, LPG
Senior Project Manager

Attachments: Figure 1 – Vapor Intrusion Sampling Locations
Table 1 – Vapor Intrusion Assessment Results Summary
Laboratory Analytical Report

Copy: Trevor Bannister, Wisconsin Department of Natural Resources

FIGURE 1
VAPOR INTRUSION SAMPLE LOCATIONS
614 Oak Street, Baraboo Wisconsin



6492-OA-1



Legend

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



Alley

TABLE 1
VAPOR INTRUSION ANALYTICAL RESULTS SUMMARY - 614 OAK STREET

Badger Cleaners
616 Oak Street, Baraboo, WI 53913

Sample Identification	Sample Location	Date Sampled	Mitigation	Tetrachloroethene	Trichloroethene
INDOOR/ OUTDOOR AIR					
Small Commercial Vapor Action Level				180	8.8
6492-614 Oak ST-IA-B	614 Oak Street	9/7/2017	No	383	<1.07
		12/6/2017	No	543	<1.07
		6/22/2020	Yes	7,890	<1.07
		8/26/2020	Yes	118	<1.07
6492-614 Oak ST-IA-1		9/7/2017	No	80.9	<1.07
		12/6/2017	No	331	<1.07
		6/22/2020	Yes	3,340	<1.07
		8/26/2020	Yes	108	<1.07
6492-OA-1	9/7/2017	No	46.3	<1.07	
	12/6/2017	No	28.8	<1.07	
	6/22/2020	Yes	<3.19	<1.07	
	8/26/2020	Yes	<3.19	<1.07	
SUB-SLAB VAPOR					
Small Commercial Vapor Risk Screening Level				6,000	290
6492-614 Oak ST-SSV-1	614 Oak Street	9/7/2017	No	56,300	54.8
		12/6/2017	No	197,000	29.0
		6/22/2020	Yes	32,000	4.5
		8/26/2020	Yes	5,720	<10.7

Notes:

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

Samples analyzed according to EPA Method TO-15

The 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

Mr. Rob Hoverman
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

September 4, 2020

EnvisionAir Project Number: 2020-489
Client Project Name: 6492 Badger Cleaners

Dear Mr. Hoverman,

Please find the attached analytical report for the samples received August 28, 2020. 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,



Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

Client Name: ENVIROFORENSICS
Project ID: 6492 BADGER CLEANERS
Client Project Manager: ROB HOVERMAN
EnvisionAir Project Number: 2020-489

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>Collected:</u>	<u>Collected:</u>					<u>Collected:</u>	<u>Collected:</u>	<u>Received:</u>
20-2277	6492-614 OAK-IA-1	A	8/26/20	9:41	8/26/20	17:40	8/28/20	16:17	-29	-7	-7
20-2278	6492-614 OAK-IA-B	A	8/26/20	9:44	8/26/20	17:35	8/28/20	16:17	-29	-6	-6
20-2279	6492-614 OAK-OA-1	A	8/26/20	9:33	8/26/20	17:30	8/28/20	16:17	-30	-8	-8
20-2280	6492-614 OAK-SSV-1	A	8/26/20	17:46	8/26/20	17:54	8/28/20	16:17	-28	-4	-4

Client Name: ENVIROFORENSICS
Project ID: 6492 BADGER CLEANERS
Client Project Manager: ROB HOVERMAN
EnvisionAir Project Number: 2020-489

Analytical Method: TO-15
Analytical Batch: 090220CAIR

Client Sample ID: 6492-614 OAK-IA-1 **Sample Collection START Date/Time:** 8/26/20 9:41
EnvisionAir Sample Number: 20-2277 **Sample Collection END Date/Time:** 8/26/20 17:40
Sample Matrix: AIR **Sample Received Date/Time:** 8/28/20 16:17

<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	108	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	95%		
Analysis Date/Time:	9-3-20/03:57		
Analyst Initials	tjg		

Client Name: ENVIROFORENSICS
Project ID: 6492 BADGER CLEANERS
Client Project Manager: ROB HOVERMAN
EnvisionAir Project Number: 2020-489

Analytical Method: TO-15
Analytical Batch: 090220CAIR

Client Sample ID: 6492-614 OAK-IA-B **Sample Collection START Date/Time:** 8/26/20 9:44
EnvisionAir Sample Number: 20-2278 **Sample Collection END Date/Time:** 8/26/20 17:35
Sample Matrix: AIR **Sample Received Date/Time:** 8/28/20 16:17

<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	118	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	101%		
Analysis Date/Time:	9-3-20/04:40		
Analyst Initials	tjg		

Client Name: ENVIROFORENSICS
Project ID: 6492 BADGER CLEANERS
Client Project Manager: ROB HOVERMAN
EnvisionAir Project Number: 2020-489

Analytical Method: TO-15
Analytical Batch: 090220CAIR

Client Sample ID: 6492-614 OAK-OA-1 **Sample Collection START Date/Time:** 8/26/20 9:33
EnvisionAir Sample Number: 20-2279 **Sample Collection END Date/Time:** 8/26/20 17:30
Sample Matrix: AIR **Sample Received Date/Time:** 8/28/20 16:17

<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)	94%		
Analysis Date/Time:	9-3-20/05:19		
Analyst Initials	tjg		

Client Name: ENVIROFORENSICS
Project ID: 6492 BADGER CLEANERS
Client Project Manager: ROB HOVERMAN
EnvisionAir Project Number: 2020-489

Analytical Method: TO-15
Analytical Batch: 090220CAIR

Client Sample ID: 6492-614 OAK-SSV-1 **Sample Collection START Date/Time:** 8/26/20 17:46
EnvisionAir Sample Number: 20-2280 **Sample Collection END Date/Time:** 8/26/20 17:54
Sample Matrix: AIR **Sample Received Date/Time:** 8/28/20 16:17

<u>Compounds</u>	<u>Sample Results ug/m³</u>	<u>Reporting Limit ug/m³</u>	<u>Flag</u>
cis-1,2-Dichloroethene	< 198	198	
Tetrachloroethene	5,720	1280	1
trans-1,2-Dichloroethene	< 396	396	
Trichloroethene	< 10.7	10.7	
Vinyl Chloride	< 12.8	12.8	
4-bromofluorobenzene (surrogate)	97%		
Analysis Date/Time:	9-3-20/14:01		
Analyst Initials	tjg		

TO-15 Quality Control Data

EnvisionAir Batch Number: 090220CAIR

<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)	106%		
Analysis Date/Time:	9-2-20/23:53		
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	8.51	10.4	10	85%	104%	20.0%	
trans-1,2-Dichloroethene	10.9	10.4	10	109%	104%	4.7%	
cis-1,2-Dichloroethene	10.7	10.4	10	107%	104%	2.8%	
Trichloroethene	9.44	9.1	10	94%	91%	3.7%	
Tetrachloroethene	9.82	9.97	10	98%	100%	1.5%	
4-bromofluorobenzene (surrogate)	105%	97%					
Analysis Date/Time:	9-2-20/19:18	9-2-20/21:47					
Analyst Initials	tjg	tjg					

Flag Number

1

Comments

Reported value is from a 400x dilution. TJK 9/4/20

CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: **ENVIROFORENSICS**
 Report: **N16W03390 STONE RIDGE**
 Address: **WAUKESHA, WI**
 Report To: **R. HOVERMAN**
 Phone: **414.630.0060**
 Invoice Address:
 Desired TAT: (Please Circle One)
 1 day 2 days 3 days 5 bus. days

REQUESTED PARAMETERS

TO-15 Full List
 TO-15 Short List (Specify in notes)



Sampling Type:
 Soil-Gas:
 Sub-Slab:
 Indoor-Air:
 www.envision-air.com

Air Sample ID	Media Type (see code above)	Coll. Date (Start/Comp)	Coll. Time (Start)	Coll. Date (Comp/End)	Coll. Time (Comp/End)	Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6492-614 OAK-1A-1	6LC	8/26/20	941	8/26/20	1740	11090	07254	-29	-7	-7	20-2277
6492-614 OAK-1A-B	↓	↓	944	↓	1735	4650	07549	-29	-6	-6	20-2278
6492-614 OAK-OA-1	↓	↓	933	↓	1730	20668	04144	-30	-8	-8	20-2279
6492-614 OAK-55V-1	1LC	↓	1746	↓	1754	2223	0127	-28	-4	-4	20-2280

Comments: SHORT LIST: PCE, TCE, cDCE, tDCE, VC

Relinquished by:	Date	Time	Received by:	Date	Time
<i>[Signature]</i>	8/27/20	1023	FEDT X Steve Munnich	8/28/20	1617