From: Jenna Williams <jwilliams@fehrgraham.com>
Sent: Wednesday, June 28, 2023 12:56 PM
To: Robert Goplin; Carri Prigge
Cc: Schultz, Josie M - DNR; Jbutz@baytowel.com; dongallolaw@outlook.com; Jeanne Tarvin; nreid@resolutemgmt.com; sroalsvik@resolutemgmt.com; Dillon Plamann; Kendyl Hoss
Subject: RE: Vapor Sampling Results - 501 S. Washington Street, Green Bay (Fire Dept)
Attachments: 21-1121 - Bay Towel 2023-06-28 - Sampling Results May 2023, 501 S Washington Street.pdf

Importance: High

CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

We have received the results of the 2nd round of vapor sampling conducted at your site, located at 501 S. Washington Street, Green Bay and sampled using passive sampling methods from May 16th to May 23rd, 2023. Please find attached the laboratory analytical results for your site, along with a letter which provides information on the results.

Please feel free to reach out if you or your team has any questions.

Thank you,
Jenna

JENNA WILLIAMS | EHS Specialist
Fehr Graham | Engineering & Environmental

From: Jenna Williams
Sent: Monday, April 24, 2023 3:08 PM
To: Robert Goplin <Robert.Goplin@greenbaywi.gov>; Carri Prigge <Carri.Prigge@greenbaywi.gov>
Cc: josie.schultz@wisconsin.gov; Jbutz@baytowel.com; dongallolaw@outlook.com; Jeanne Tarvin <jtarvin@ramboll.com>; nreid@resolutemgmt.com; sroalsvik@resolutemgmt.com; Dillon Plamann <dplamann@fehrgraham.com>; Kendyl Hoss <khoss@fehrgraham.com>
Subject: RE: Vapor Sampling Results - 501 S. Washington Street, Green Bay (Fire Dept)

Okay, great! We will only need to be there during normal business hours, so that's perfect.

Thanks so much for your quick response, Rob; much appreciated!

I'll be in touch again soon to relay final details.

Thanks again!

JENNA WILLIAMS | EHS Specialist
Fehr Graham | Engineering & Environmental

From: Robert Goplin <Robert.Goplin@greenbaywi.gov>
Sent: Monday, April 24, 2023 3:00 PM
To: Jenna Williams <jwilliams@fehrgraham.com>; Carri Prigge <Carri.Prigge@greenbaywi.gov>
Cc: josie.schultz@wisconsin.gov; Jbutz@baytowel.com; dongallolaw@outlook.com; Jeanne Tarvin <jtarvin@ramboll.com>; nreid@resolutemgmt.com; sroalsvik@resolutemgmt.com; Dillon Plamann <dplamann@fehrgraham.com>; Kendyl Hoss <khoss@fehrgraham.com>
Subject: RE: Vapor Sampling Results - 501 S. Washington Street, Green Bay (Fire Dept)

Yes, those dates will work. We will have someone here as long as the work is done during normal business hours.

Rob Goplin
Assistant Chief - Operations
Green Bay Metro Fire Department
MABAS Division 112 President
MABAS WI President
Office: 920-448-3279
Cell: 920-615-8961
robertgo@greenbaywi.gov

"Failure is not fatal, but failure to change might be." – John Wooden

---

From: Jenna Williams <jwilliams@fehrgraham.com>
Sent: Monday, April 24, 2023 2:53 PM
To: Robert Goplin <Robert.Goplin@greenbaywi.gov>
Cc: josie.schultz@wisconsin.gov; Jbutz@baytowel.com; dongallolaw@outlook.com; Jeanne Tarvin <jtarvin@ramboll.com>; nreid@resolutemgmt.com; sroalsvik@resolutemgmt.com; Dillon Plamann <dplamann@fehrgraham.com>; Kendyl Hoss <khoss@fehrgraham.com>
Subject: RE: Vapor Sampling Results - 501 S. Washington Street, Green Bay (Fire Dept)

Good afternoon,

I am reaching out to coordinate the 2nd round of vapor sampling needed at your site, located at 501 S. Washington Street, Green Bay.

For the 2nd round of vapor sampling, we will be using a different sampling method than was used for the 1st round. We have been directed by the Wisconsin Department of Natural Resources (WDNR) that a passive, longer duration sampling approach should be used for this 2nd round, which must occur over at least 7-days.

Per the WDNR and the laboratory, the samples will include the same number of samples and will be collected from the same areas, or areas immediately adjacent to the 1st round sample locations. In lieu of the 24-hour indoor air and 30-minute grab sub-slab vapor samples, we will be collecting 7-day, passive samples for both indoor air and sub-slab vapor samples for this 2nd round.

What we need to coordinate will be 1 day onsite to install the samplers and 7-days later, we will need to return to pick them up and close the holes.

Please let me know if Tuesday May 16th to install and Tuesday May 23rd to pick up the samplers would work for you and your team.
If not, please let me know some other dates that work for you and your team.

Also, please feel free to reach out or give me a call if you have any questions – 920-858-0617.

Thank you!

JENNA WILLIAMS | EHS Specialist
Fehr Graham | Engineering & Environmental

From: Jenna Williams
Sent: Friday, March 17, 2023 12:19 PM
To: Robert Goplin <Robert.Goplin@greenbaywi.gov>
Cc: josie.schultz@wisconsin.gov; Jbutz@baytowel.com; dongallolaw@outlook.com; Jeanne Tarvin <jtarvin@ramboll.com>; nreid@resolutemgmt.com; sroalsvik@resolutemgmt.com; Dillon Plamann <dplamann@fehrgraham.com>; Kendyl Hoss <khoss@fehrgraham.com>
Subject: Vapor Sampling Results - 501 S. Washington Street, Green Bay (Fire Dept)

Greetings,

We have received the results of the vapor sampling conducted at your site, located at 501 S. Washington Street, Green Bay and sampled on February 28 and March 1, 2023. Please find attached the laboratory analytical results for your site, along with a letter which provides information on the results.

Please let us know if there are any questions.

Thank you,
Jenna

JENNA WILLIAMS I EHS Specialist
Fehr Graham I Engineering & Environmental

909 North 8th Street, Suite 101
Sheboygan, Wisconsin 53081
P: 920.453.0700
C: 920.858.0617
fehrgraham.com

June 28, 2023

Mr. Robert Goplin
City of Green Bay Fire Station 1
100 N. Jefferson Street
Green Bay, WI 54301

Submitted via email only to: robertgo@greenbaywi.gov

RE: Vapor Sampling Results May 2023 for 501 S. Washington Street, Green Bay, WI
Former Bay Towel Site
501 S. Adams Street
Green Bay, WI
BRRTS # 02-05-237064

Dear Mr. Goplin:

Fehr Graham, on behalf of Bay Towel, has completed additional site investigation activities for the former Bay Towel site located at 501 South Adams Street, Green Bay, WI 54301 (BRRTS #02-05-237064). The following site investigation activities have been completed on the City of Green Bay Fire Station 1 property located at 501 S. Washington Street:

- Two (2) sub-slab vapor passive samplers were installed and sampled over seven (7) days to analyze the vapor chemistry below the property building. The second of two (2) sub-slab vapor sampling events was completed, with the second round completed using passive, longer duration sampling methods.
- One (1) indoor air sample was collected to analyze the vapor chemistry within the property building. The second of two (2) indoor air sampling events was completed.
- One (1) outdoor ambient air sample was collected for quality control purposes to analyze the upwind vapor chemistry outside the property building.
- All vapor and air samples were submitted for laboratory analysis of Chlorinated Volatile Organic Compounds (CVOCs) that are associated with drycleaning solvents: tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, and vinyl chloride.

CVOC compounds were detected in vapors at your property. However, based on vapor laboratory analytical results, none of these detections exceed the Residential Sub-Slab or Indoor Air standards established by the Wisconsin Department and Natural Resources (DNR) and the Wisconsin Department of Health Services. The vapor results are summarized and compared to relevant standards in attached Table A.4.ii and Table A.4.v. The laboratory analytical reports for the vapor and air samples are also included as attachments.

The completed second round of vapor testing at the property building confirms the results of the first round of vapor testing, that there is not a health concern in the property building in regards to vapor intrusion from the Bay Towel site.

A full summary of all site investigation results will be submitted to the DNR in the near future in a Site Investigation Report. Please refer to the attached DNR fact sheet RR-977 for additional explanation of the vapor results at your property.

Thank you for your cooperation during this investigation, and please share these results with all property building occupants. If you have any questions, please feel free to contact the DNR Project Manager for the Bay Towel Site, Ms. Josie Schultz (josie.schultz@wisconsin.gov or 920.366.5685), or contact me at dplamann@fehrgraham.com or 920.946.2407.

Sincerely,

Dillon Plamann, PG
Project Hydrogeologist

Attachments: Table A.4.ii: Vapor Analytical Table – 501 S. Washington Street
Table A.4.v: Vapor Analytical Table – Upwind-Outdoor Air
Laboratory Analytical Reports
RR-977: Understanding Chemical Vapor Intrusion Testing Results

Cc: Ms. Josie Schultz, WDNR, via email only to josie.schultz@wisconsin.gov
Mr. Don Gallo, Gallo Law, LLC, via email only to don.gallo@dgallolaw.com
Mr. John Butz, Bay Towel, via email only to jbutz@baytowel.com

TABLE A.4.II
Vapor Analytical Table - 501 S. Washington Street
Former Bay Towel
501 S Adams Street, Green Bay, WI 54301
BRRTS# 02-05-237064

Sample ID		C-Carcinogen N-Non Carcinogen	WDNR / WDHFS **Residential** Subslab Vapor VRSL	WDNR / WDHFS **Residential** Indoor Air VAL	Fire Department Indoor Air	
Sample Location					basement/boiler room	
Sample Date(s)					3/1/23	5/16/23-5/23/23
Type of Sample					indoor air	indoor air
Collection Method					Composite	Composite - Passive
Time Period of Collection					24-hour	7 Days
Analytical Method					TO-15 chlorinated	TO-17
Method/Result Leak Detection					shut-in/pass	none applicable
Tetrachloroethene (PCE)	µg/m^3	N	*1,400*	**42**	<1.36	<2.40
Trichloroethene (TCE)	µg/m^3	C	*70*	**2.1**	<1.07	<2.98
cis-1,2 Dichloroethene	µg/m^3	N	*1,400*	**42**	<0.793	<1.85
trans-1,2 Dichloroethene	µg/m^3	N	*1,400*	**42**	<0.793	<2.23
Vinyl Chloride	µg/m^3	C	*56*	**1.7**	<0.511	<1.21

Notes:
N = Noncarcinogen; C = Carcinogen
ITALICS : Exceeds **Subslab** Vapor Standard
BOLD : Exceeds **Indoor** Air Standard

NA = Not Analyzed
NS = No Standards
VAL = Vapor Action Level (compared for indoor air concentrations)
VRSL = Vapor Risk Screening Levels (compared for sub-slab vapor concentrations)
AF (Attenuation Factor) = 0.03 for Residential and Small Commercial

Standards for VAL and VRSL from January 2023 WDNR RR-0136 based on November 2022 U.S. EPA Regional Screening Level (RSL) Tables:
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

All values in ug/m^3 obtained from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator from
U.S. EPA Regional Screening Level (RSL) database of toxicity and chemical parameters.

Indoor air values from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator and Regional Screening Levels (RSL) and correspond to noncarcinogenic hazard index of 1 or a carcinogenic target risk level of 1x10E-6 .

Residential vs. Small Commercial vs. Large Commercial/Industrial determined based on WDNR Publication RR-800

RR-800 Table 6a - Default Attenuation Factors
Sub-Slab Vapor = 0.03 (Small Commercial & Residential)

TABLE A.4.II
Vapor Analytical Table - 501 S. Washington Street
Former Bay Towel
501 S Adams Street, Green Bay, WI 54301
BRRTS# 02-05-237064

Sample ID		C-Carcinogen N-Non Carcinogen	WDNR / WDHFS **Residential** Subslab Vapor VRSL	WDNR / WDHFS **Residential** Indoor Air VAL	Fire Department SSVS-1		Fire Department SSVS-2	
Sample Location					basement/boiler room		cleaner storage room/garage	
Sample Date(s)					2/28/23	5/16/23-5/23/23	2/28/23	5/16/23-5/23/23
Type of Sample					sub-slab	sub-slab	sub-slab	sub-slab
Collection Method					Grab	Composite - Passive	Grab	Composite - Passive
Time Period of Collection					30-min	7 Days	30-min	7 Days
Analytical Method					TO-15 chlorinated	EPA 8260C	TO-15 chlorinated	EPA 8260C
Method/Result Leak Detection					water/pass	none applicable	water/pass	none applicable
Tetrachloroethene (PCE)	µg/m^3	N	*1,400*	**42**	<1.36	4.05	2.32	6.41
Trichloroethene (TCE)	µg/m^3	C	*70*	**2.1**	<1.07	<3.01	<1.07	<3.01
cis-1,2 Dichloroethene	µg/m^3	N	*1,400*	**42**	<0.793	<1.87	<0.793	<1.87
trans-1,2 Dichloroethene	µg/m^3	N	*1,400*	**42**	<0.793	<2.26	<0.793	<2.25
Vinyl Chloride	µg/m^3	C	*56*	**1.7**	<0.511	<1.23	<0.511	<1.22

Notes:
N = Noncarcinogen; C = Carcinogen
ITALICS : Exceeds **Subslab** Vapor Standard
BOLD : Exceeds **Indoor** Air Standard

NA = Not Analyzed
NS = No Standards
VAL = Vapor Action Level (compared for indoor air concentrations)
VRSL = Vapor Risk Screening Levels (compared for sub-slab vapor concentrations)
AF (Attenuation Factor) = 0.03 for Residential and Small Commercial

Standards for VAL and VRSL from January 2023 WDNR RR-0136 based on November 2022 U.S.
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

All values in ug/m^3 obtained from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator frc
U.S. EPA Regional Screening Level (RSL) database of toxicity and chemical parameters.

Indoor air values from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator and Regional S
noncarcinogenic hazard index of 1 or a carcinogenic target risk level of 1x10E-6 .

Residential vs. Small Commercial vs. Large Commercial/Industrial determined based on WDNR

RR-800 Table 6a - Default Attenuation Factors
Sub-Slab Vapor = 0.03 (Small Commercial & Residential)

TABLE A.4.V
Vapor Analytical Table - Upwind-Outdoor Air
Former Bay Towel
501 S Adams Street, Green Bay, WI 54301
BRRTS# 02-05-237064

Sample ID		C-Carcinogen N-Non Carcinogen	WDNR / WDHFS **SMALL COMMERCIAL** Subslab Vapor VRSL	WDNR / WDHFS **SMALL COMMERCIAL** Indoor Air VAL	WDNR / WDHFS **Residential** Subslab Vapor VRSL	WDNR / WDHFS **Residential** Indoor Air VAL	Outdoor Air	
Sample Location							SW of 501 S. Washington	
Sample Date(s)							2/28/23	5/16/23-5/25/23
Type of Sample							outdoor (ambient) air	outdoor (ambient) air
Collection Method							Composite	Composite - Passive
Time Period of Collection							24-hour	9 Days
Analytical Method							TO-15 chlorinated	TO-17
Method/Result Leak Detection							shut-in/pass	none applicable
Tetrachloroethene (PCE)	µg/m^3	N	*5,800*	**180**	*1,400*	**42**	<1.36	<1.90
Trichloroethene (TCE)	µg/m^3	C	*290*	**8.8**	*70*	**2.1**	<1.07	<2.36
cis-1,2 Dichloroethene	µg/m^3	N	*5,800*	**180**	*1,400*	**42**	<0.793	<1.47
trans-1,2 Dichloroethene	µg/m^3	N	*5,800*	**180**	*1,400*	**42**	<0.793	<1.77
Vinyl Chloride	µg/m^3	C	*930*	**28**	*56*	**1.7**	<0.511	<0.960

Notes:
N = Noncarcinogen; C = Carcinogen
ITALICS : Exceeds **Subslab** Vapor Standard
BOLD : Exceeds **Indoor** Air Standard

NA = Not Analyzed
NS = No Standards
VAL = Vapor Action Level (compared for indoor air concentrations)
VRSL = Vapor Risk Screening Levels (compared for sub-slab vapor concentrations)
AF (Attenuation Factor) = 0.03 for Residential and Small Commercial

Standards for VAL and VRSL from January 2023 WDNR RR-0136 based on November 2022 U.S. EPA Regional Screening Level (RSL) Tables:
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

All values in ug/m^3 obtained from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator from
U.S. EPA Regional Screening Level (RSL) database of toxicity and chemical parameters.

Indoor air values from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator and Regional Screening Levels (RSL) and correspond to noncarcinogenic hazard index of 1 or a carcinogenic target risk level of 1x10E-6 .

Residential vs. Small Commercial vs. Large Commercial/Industrial determined based on WDNR Publication RR-800

RR-800 Table 6a - Default Attenuation Factors
Sub-Slab Vapor = 0.03 (Small Commercial & Residential)

Beacon Environmental
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 230330R04

Laboratory Work Order: 0007001

Project Description:
Bay Towel 21-1121
Green Bay, WI

Prepared for:
Jenna Williams
Fehr Graham
909 North 8th Street, Suite 101
Sheboygan, WI 53081

Ryan W. Schneider
Senior Project Manager

June 12, 2023

All data meet requirements as specified in the Beacon Environmental Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2017, except samples were analyzed within a 24-hour tune window. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley
Laboratory Director

Peter B. Kelly
Quality Manager

Table of Contents

Table of Contents (continued)

BEACON ENVIRONMENTAL

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Summary

Lab Sample ID	Client Sample ID	Received	Analysis	Matrix
0007001-01	Fire Dept #1 Boiler Room	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-02	Fire Dept #2 Store Room	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-03	Clinic Rm 108	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-04	Clinic Bathroom	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-05	Clinic Rm 106	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-06	Residence	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-07	Clinic Exam Rm	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			

Project Completeness

Samples Received: 7
Samples Analyzed: 7

2203A Commerce Road, Suite 1
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1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Case Narrative

U.S. EPA Method 8260C

All samples were analyzed using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following U.S. EPA Method 8260C, with laboratory results provided in nanograms (ng) and micrograms per cubic meter ($\mu g/m^3$). Laboratory QA/QC procedures included internal standards, surrogates, and blanks based on EPA Method 8260C. Analyses and reporting were under BEACON's Quality Assurance Project Plan.

Passive Soil-Gas Survey Notes

If sample locations are covered with or near the edge of an impervious surface (*e.g.*, asphalt or concrete), the concentrations of compounds in soil gas are higher than if the surfacing was not present. Therefore, the sample location conditions should be considered when comparing results between locations.

Survey findings are exclusive to this project and when the spatial relationships are compared with results of other BEACON Surveys it is necessary to incorporate information from both investigations (*e.g.*, depth to sources, soil types, porosity, soil moisture, presence of impervious surfacing, sample collection times).

Reporting Limits

The RLs represent a baseline above which results meet laboratory-determined limits of precision and accuracy. Beacon performed dilution analysis when results exceeded the upper calibration limit, bringing all reported results within the calibration range. The project method quantitation limit (MQL) is the limit of quantitation (LOQ) as noted in the data tables. Beacon determined uptake rates for a suite of compounds with the Beacon sampler for sampling in air. Beacon calculated the uptake rates for the remaining compounds using Graham's Law of Diffusion. The reported data includes LOQ limits.

Project Details

Samples were received in proper condition and laboratory control parameters were met unless otherwise noted below. The work performed was in accordance with ISO/IEC 17025:2017, except samples were analyzed within a 24-hour tune window.

End of Case Narrative

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Analytical Results

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Summary of Compound Detections- Mass

Lab Sample ID: 0007001-01 — **Fire Dept #1 Boiler Room** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	RT	LOQ (ng)	File ID
Tetrachloroethene	127-18-4	**17**		5.942	10	C23060113.D

Lab Sample ID: 0007001-02 — **Fire Dept #2 Store Room** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	RT	LOQ (ng)	File ID
Tetrachloroethene	127-18-4	**27**		5.936	10	C23060114.D

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Summary of Compound Detections- Concentration

Lab Sample ID: 0007001-01 — **Fire Dept #1 Boiler Room** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
Tetrachloroethene	127-18-4	**4.05**		5.942	2.42	C23060113.D

Lab Sample ID: 0007001-02 — **Fire Dept #2 Store Room** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
Tetrachloroethene	127-18-4	**6.41**		5.936	2.42	C23060114.D

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Data Summary Table- Mass

Compound	Frequency	LOQ (ng)	Max Value (ng)
Trichloroethene	3	10	177
Tetrachloroethene	7	10	44,200

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Data Summary Table- Concentration

Compound	Frequency	LOQ (µg/m³)	Max Value (µg/m³)
Trichloroethene	3	2.37	42.0
Tetrachloroethene	7	1.90	8,510

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Detailed Analytical Results

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Detailed Analytical Results- Mass

BEACON ENVIRONMENTAL

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-01

Fire Dept #1 Boiler Room

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	Analyzed	File ID
Vinyl Chloride	75-01-4	<10		10	06/01/2023 19:47	C23060113.D
trans-1,2-Dichloroethene	156-60-5	<10		10	06/01/2023 19:47	C23060113.D
cis-1,2-Dichloroethene	156-59-2	<10		10	06/01/2023 19:47	C23060113.D
Trichloroethene	79-01-6	<10		10	06/01/2023 19:47	C23060113.D
Tetrachloroethene	127-18-4	**17**		10	06/01/2023 19:47	C23060113.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*112%*	*70-130*		*06/01/2023 19:47*	*C23060113.D*
Surrogate: Toluene-d8	2037-26-5	*95.8%*	*70-130*		*06/01/2023 19:47*	*C23060113.D*
Surrogate: Bromofluorobenzene	460-00-4	*95.7%*	*70-130*		*06/01/2023 19:47*	*C23060113.D*

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-02

Fire Dept #2 Store Room

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	Analyzed	File ID
Vinyl Chloride	75-01-4	<10		10	06/01/2023 20:18	C23060114.D
trans-1,2-Dichloroethene	156-60-5	<10		10	06/01/2023 20:18	C23060114.D
cis-1,2-Dichloroethene	156-59-2	<10		10	06/01/2023 20:18	C23060114.D
Trichloroethene	79-01-6	<10		10	06/01/2023 20:18	C23060114.D
Tetrachloroethene	127-18-4	**27**		10	06/01/2023 20:18	C23060114.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*113%*	*70-130*		*06/01/2023 20:18*	*C23060114.D*
Surrogate: Toluene-d8	2037-26-5	*95.4%*	*70-130*		*06/01/2023 20:18*	*C23060114.D*
Surrogate: Bromofluorobenzene	460-00-4	*98.6%*	*70-130*		*06/01/2023 20:18*	*C23060114.D*

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Detailed Analytical Results- Concentration

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-01

Fire Dept #1 Boiler Room

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<1.23		1.23	06/01/2023 19:47	C23060113.D
trans-1,2-Dichloroethene	156-60-5	<2.26		2.26	06/01/2023 19:47	C23060113.D
cis-1,2-Dichloroethene	156-59-2	<1.87		1.87	06/01/2023 19:47	C23060113.D
Trichloroethene	79-01-6	<3.01		3.01	06/01/2023 19:47	C23060113.D
Tetrachloroethene	127-18-4	**4.05**		2.42	06/01/2023 19:47	C23060113.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*112%*	*70-130*		*06/01/2023 19:47*	*C23060113.D*
Surrogate: Toluene-d8	2037-26-5	*95.8%*	*70-130*		*06/01/2023 19:47*	*C23060113.D*
Surrogate: Bromofluorobenzene	460-00-4	*95.7%*	*70-130*		*06/01/2023 19:47*	*C23060113.D*

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-02

Fire Dept #2 Store Room

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<1.22		1.22	06/01/2023 20:18	C23060114.D
trans-1,2-Dichloroethene	156-60-5	<2.25		2.25	06/01/2023 20:18	C23060114.D
cis-1,2-Dichloroethene	156-59-2	<1.87		1.87	06/01/2023 20:18	C23060114.D
Trichloroethene	79-01-6	<3.01		3.01	06/01/2023 20:18	C23060114.D
Tetrachloroethene	127-18-4	**6.41**		2.42	06/01/2023 20:18	C23060114.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*113%*	*70-130*		*06/01/2023 20:18*	*C23060114.D*
Surrogate: Toluene-d8	2037-26-5	*95.4%*	*70-130*		*06/01/2023 20:18*	*C23060114.D*
Surrogate: Bromofluorobenzene	460-00-4	*98.6%*	*70-130*		*06/01/2023 20:18*	*C23060114.D*

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

QC Information/Summary

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23E015 - Instrument: C System - File ID: FC23050329.D

B23E015-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	52.4	10	ng	50.0		105	70-130			
trans-1,2-Dichloroethene	57.3	10	ng	50.0		115	70-130			
cis-1,2-Dichloroethene	50.8	10	ng	50.0		102	70-130			
Trichloroethene	53.2	10	ng	50.0		106	70-130			
Tetrachloroethene	54.8	10	ng	50.0		110	70-130			
Surrogate: 1,2-DCA-d4	*53.0*		*ng*	50.0		*106*	*70-130*			
Surrogate: Toluene-d8	*54.3*		*ng*	50.0		*109*	*70-130*			
Surrogate: Bromofluorobenzene	*52.9*		*ng*	50.0		*106*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23E015 - Instrument: C System - File ID: FC23050330.D

B23E015-ICB1 (Lab Blank/Initial Calibration Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
Surrogate: 1,2-DCA-d4	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Toluene-d8	*105*		*ng*	100		*105*	*70-130*			
Surrogate: Bromofluorobenzene	*100*		*ng*	100		*100*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060102.D

23F0001-BS1 (LCS, Calibration Source Verification)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	42.9	10	ng	50.0		85.8	80-120			
trans-1,2-Dichloroethene	53.9	10	ng	50.0		108	80-120			
cis-1,2-Dichloroethene	50.2	10	ng	50.0		100	80-120			
Trichloroethene	54.5	10	ng	50.0		109	80-120			
Tetrachloroethene	56.0	10	ng	50.0		112	80-120			
Surrogate: 1,2-DCA-d4	*57.6*		*ng*	50.0		*115*	*70-130*			
Surrogate: Toluene-d8	*50.8*		*ng*	50.0		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*51.0*		*ng*	50.0		*102*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Analysis by EPA 8260 - Data in Concentration - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060103.D

23F0001-BLK1 (Lab Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<0.964	0.964	µg/m³							U
trans-1,2-Dichloroethene	<1.77	1.77	µg/m³							U
cis-1,2-Dichloroethene	<1.47	1.47	µg/m³							U
Trichloroethene	<2.37	2.37	µg/m³							U
Tetrachloroethene	<1.90	1.90	µg/m³							U
Surrogate: 1,2-DCA-d4	*117*		*ng*	100		*117*	*70-130*			
Surrogate: Toluene-d8	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*95.4*		*ng*	100		*95.4*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060103.D

23F0001-BLK1 (Lab Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
Surrogate: 1,2-DCA-d4	*117*		*ng*	100		*117*	*70-130*			
Surrogate: Toluene-d8	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*95.4*		*ng*	100		*95.4*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23F002 - Instrument: C System - File ID: C23060104.D

B23F002-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	47.7	10	ng	50.0		95.3	70-130			
trans-1,2-Dichloroethene	54.7	10	ng	50.0		109	70-130			
cis-1,2-Dichloroethene	50.6	10	ng	50.0		101	70-130			
Trichloroethene	56.2	10	ng	50.0		112	70-130			
Tetrachloroethene	56.0	10	ng	50.0		112	70-130			
Surrogate: 1,2-DCA-d4	*56.9*		*ng*	50.0		*114*	*70-130*			
Surrogate: Toluene-d8	*50.7*		*ng*	50.0		*101*	*70-130*			
Surrogate: Bromofluorobenzene	*50.0*		*ng*	50.0		*100*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Additional QC Information

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Result Calculation Summary (Concentration)

EPA 8260C

Analyte	t Sampling Time minutes	DF Dilution Factor	U Uptake Rate	M Initial Result ng	C Calculated Result µg/m³	File ID
Lab ID: 0007001-01 **Sample Name:** Fire Dept #1 Boiler Room						
Vinyl Chloride	10,075	1.00	0.810	U	U	C23060113.D
trans-1,2-Dichloroethene	10,075	1.00	0.440	U	U	C23060113.D
cis-1,2-Dichloroethene	10,075	1.00	0.530	U	U	C23060113.D
Trichloroethene	10,075	1.00	0.330	U	U	C23060113.D
Tetrachloroethene	10,075	1.00	0.410	16.73	4.05	C23060113.D
Lab ID: 0007001-02 **Sample Name:** Fire Dept #2 Store Room						
Vinyl Chloride	10,080	1.00	0.810	U	U	C23060114.D
trans-1,2-Dichloroethene	10,080	1.00	0.440	U	U	C23060114.D
cis-1,2-Dichloroethene	10,080	1.00	0.530	U	U	C23060114.D
Trichloroethene	10,080	1.00	0.330	U	U	C23060114.D
Tetrachloroethene	10,080	1.00	0.410	26.50	6.41	C23060114.D

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Result Calculation Summary (Concentration)

EPA 8260C

Calculations:

$$C = \frac{1000 \times M \times DF}{U \times t}$$

where:

C	=	concentration ($\mu g/m^3$)
M	=	mass (ng)
DF	=	dilution factor
t	=	sampling time (minutes)
U	=	compound specific uptake rate

Reference: Federal Register/Vol. 79, No. 125/June 30, 2014

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Method Detection and Reporting Limit Calculations (Concentration)

EPA 8260C

Analyte	t Sampling Time minutes	DF Dilution Factor	U Uptake Rate	M Initial LOQ ng	C Calculated LOQ µg/m³
Lab ID: 0007001-01 **Sample Name:** Fire Dept #1 Boiler Room					
Vinyl Chloride	10,075	1.00	0.810	10.0	1.23
trans-1,2-Dichloroethene	10,075	1.00	0.440	10.0	2.26
cis-1,2-Dichloroethene	10,075	1.00	0.530	10.0	1.87
Trichloroethene	10,075	1.00	0.330	10.0	3.01
Tetrachloroethene	10,075	1.00	0.410	10.0	2.42
Lab ID: 0007001-02 **Sample Name:** Fire Dept #2 Store Room					
Vinyl Chloride	10,080	1.00	0.810	10.0	1.22
trans-1,2-Dichloroethene	10,080	1.00	0.440	10.0	2.25
cis-1,2-Dichloroethene	10,080	1.00	0.530	10.0	1.87
Trichloroethene	10,080	1.00	0.330	10.0	3.01
Tetrachloroethene	10,080	1.00	0.410	10.0	2.42

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Laboratory Certification List

Certification ID	Certification No.	Description	Expires	Project Required
Alaska CS-LAP	19-002	Alaska Department of Environmental Conservation	12/30/2024	
DoD-ELAP	72690/L22-563	United States Department of Defense Environmental Laboratory Accreditation	11/30/2024	
ISO/IEC 17025:2017	72690/L22-563	General Requirements for the Competence of Testing and Calibration Laboratories	11/30/2024	
NEFAP	72690/L22-564	TNI National Environmental Field Activities Program (NEFAP)	11/30/2024	
NY-NELAC	12097	New York Department of Health	04/01/2024	
Utah-NELAC	MD010912022-12	Utah Department of Health	12/31/2023	

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Qualifiers/Notes and Definitions

General Definitions:

DF	Dilution Factor
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
NA	Not Applicable
Q	Qualifier
RPD	Relative Percent Difference
RT	Retention Times in Minutes
RRT	Evaluation of Relative Retention Times in RRT Units (qualified if outside $\pm$0.06 control limits)
3σ	Uncertainty
∉	Compound not on scope of accreditation
+	values are outside method/contract required QC limits
∅	Compound not on scope of accreditation and analyzed with a one-point calibration

Sample/Sample Receipt Qualifiers and Notes:

D	Dilution required to report within calibration Limits.

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Management Records

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Forest Hill, MD 21050, USA
Need help? Call 1-410-838-8780
or email help@beacon-usa.com

(PSG)

PASSIVE SOIL GAS SAMPLES | CHAIN-OF-CUSTODY

Project Information		Client Information	
Site Name: Bay Towel 21-1121		Company Name: Fehr Graham	Project Manager: Dillon Plamann
		Office Location: Sheboygan, WI	Client PO:
Site Location: Green Bay, Wisconsin		Submitted by: J. Williams	Turn around time (check one): [X] Normal [ ] Rush (specify) ____ days
		Email: jwilliams@fehrgraham.com	

Field Sample ID	Start Date	Start Time	Stop Date	Stop Time	Sampling Hole Depth [ ] cm [X] inches	Surface Type (Soil, Asphalt, Concrete, Gravel)	Optional Information (Location Description, Sample Condition, PID / FID Readings, etc)
#1 FireDept #1 Boiler Room	5/16/23	1145a	5/23/23	1140a	7"	Concrete	Boiler Room (Basement)
#2 FireDept #2 Store Room		1230p	5/23/23	1230pm	8"	concrete	Store Room (Garage)
Clinic Rm 108		115p	5/25/23	10:40am	11.4"	Carpet, vinyl flooring, concrete	Room 108
Clinic Bathroom		200p	5/25/23	11:05am	12"	vinyl, concrete	Bathroom
Clinic Rm 104		245p	5/25/23	1005 am	10"	carpet, vinyl flooring, concrete	Room 104
Residence	↓	515pm	5/23/23	130pm	9"	concrete	Basement
Clinic Exam Rm	5/18/23	945a	5/25/23	11:35am	8.50"	vinyl, concrete	Exam Room

Special Instructions: CVOCs

For Lab Use Only	Beacon Job No: 7001	Beacon Proposal: 230330R04	Analytical Method:

FedEx Good custody seal not in tact: 4769935

Nicole Reife 6/1/23 10:32

Pg ___ of ___

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CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 230330R05

Laboratory Work Order: 0007002

Project Description:
Bay Towel 21-1121(A)
Green Bay, WI

Prepared for:
Jenna Williams
Fehr Graham
909 North 8th Street, Suite 101
Sheboygan, WI 53081

Ryan W. Schneider
Senior Project Manager

June 12, 2023

All data meet requirements as specified in the Beacon Environmental Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2017. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley
Laboratory Director

Peter B. Kelly
Quality Manager

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Summary

Lab Sample ID	Client Sample ID	Received	Analysis	Matrix
0007002-01	Outdoor Air	06/01/2023	TO-17 (Passive)	Ambient Air
Sampler Type:	Beacon Passive Sampler			
0007002-02	Fire Dept. Indoor Air	06/01/2023	TO-17 (Passive)	Indoor Air
Sampler Type:	Beacon Passive Sampler			
0007002-03	Clinic Indoor Air	06/01/2023	TO-17 (Passive)	Indoor Air
Sampler Type:	Beacon Passive Sampler			
0007002-04	Residence Indoor Air	06/01/2023	TO-17 (Passive)	Indoor Air
Sampler Type:	Beacon Passive Sampler			

Project Completeness

Samples Received: 4
Samples Analyzed: 4

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Case Narrative

Beacon Environmental provided thermally conditioned Beacon Samplers for sampling, with analyses following U.S. EPA Method TO-17, with analytical results reported in µg/m3. Beacon calculated concentration results using the exposure period, target analyte mass, and the following procedures detailed in ISO 16017-2, *Indoor, ambient and workplace air-Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography-Part 2: Diffusive sampling.*

Beacon reports results and reporting limits to three significant digits.

Reporting Limits (RLs)
The RLs represent a baseline above which results meet laboratory-determined limits of precision and accuracy. Beacon performed dilution analysis when results exceeded the upper calibration limit, bringing all reported results within the calibration range. The project method quantitation limit (MQL) is the limit of quantitation (LOQ) as noted in the data tables. The reported data includes LOQ limits.

Calibration Verification
All continuing calibration verification (CCV) values are within ±30% of the true values as defined by the initial calibration and met the requirements specified in BEACON's Quality Manual.

Internal Standards and Surrogates
Internal standards and surrogates are spiked on all blanks (ICB, BLK), field samples and laboratory control samples (ICV/CALV, BS, ICV and CCV). Acceptance criteria for internal standards are 60 to 140 percent and surrogate recoveries are 70 to 130 percent; all internal standards and surrogates are within the acceptance criteria unless noted in the **Case Narrative**.

Blank Contamination
No targeted compounds above the project method quantitation limit (MQL) for each compound were observed in the Laboratory Method Blanks unless noted in the **Case Narrative**.

Laboratory Control Samples
Acceptance criteria for surrogate and analytes recoveries are 70 to 130 percent; all recoveries are within the acceptance criteria unless noted in the **Case Narrative**.

Discussion
Samples were received in proper condition and laboratory control parameters were met unless otherwise noted below. The work performed was in accordance with ISO/IEC 17025:2017.

End of Case Narrative

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Analytical Results

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Summary of Compound Detections- Concentration

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Data Summary Table- Concentration

Compound	Frequency	LOQ (µg/m³)	Max Value (µg/m³)
Tetrachloroethene	1	1.90	7.76

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909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Detailed Analytical Results

BEACON ENVIRONMENTAL

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007002-01

Outdoor Air

Ambient Air

Method: TO-17 (Passive)

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.960		0.960	06/01/2023 16:05	C23060105.D
trans-1,2-Dichloroethene	156-60-5	<1.77		1.77	06/01/2023 16:05	C23060105.D
cis-1,2-Dichloroethene	156-59-2	<1.47		1.47	06/01/2023 16:05	C23060105.D
Trichloroethene	79-01-6	<2.36		2.36	06/01/2023 16:05	C23060105.D
Tetrachloroethene	127-18-4	<1.90		1.90	06/01/2023 16:05	C23060105.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*115%*	*70-130*		*06/01/2023 16:05*	*C23060105.D*
Surrogate: Toluene-d8	2037-26-5	*97.7%*	*70-130*		*06/01/2023 16:05*	*C23060105.D*
Surrogate: Bromofluorobenzene	460-00-4	*96.5%*	*70-130*		*06/01/2023 16:05*	*C23060105.D*

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007002-02

Fire Dept. Indoor Air

Indoor Air

Method: TO-17 (Passive)

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<1.21		1.21	06/01/2023 16:36	C23060106.D
trans-1,2-Dichloroethene	156-60-5	<2.23		2.23	06/01/2023 16:36	C23060106.D
cis-1,2-Dichloroethene	156-59-2	<1.85		1.85	06/01/2023 16:36	C23060106.D
Trichloroethene	79-01-6	<2.98		2.98	06/01/2023 16:36	C23060106.D
Tetrachloroethene	127-18-4	<2.40		2.40	06/01/2023 16:36	C23060106.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*114%*	*70-130*		*06/01/2023 16:36*	*C23060106.D*
Surrogate: Toluene-d8	2037-26-5	*98.1%*	*70-130*		*06/01/2023 16:36*	*C23060106.D*
Surrogate: Bromofluorobenzene	460-00-4	*100%*	*70-130*		*06/01/2023 16:36*	*C23060106.D*

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909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

QC Information/Summary

BEACON ENVIRONMENTAL

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23E015 - Instrument: C System - File ID: FC23050329.D

B23E015-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	52.4	10	ng	50.0		105	70-130			
trans-1,2-Dichloroethene	57.3	10	ng	50.0		115	70-130			
cis-1,2-Dichloroethene	50.8	10	ng	50.0		102	70-130			
Trichloroethene	53.2	10	ng	50.0		106	70-130			
Tetrachloroethene	54.8	10	ng	50.0		110	70-130			
Surrogate: 1,2-DCA-d4	*53.0*		*ng*	50.0		*106*	*70-130*			
Surrogate: Toluene-d8	*54.3*		*ng*	50.0		*109*	*70-130*			
Surrogate: Bromofluorobenzene	*52.9*		*ng*	50.0		*106*	*70-130*			

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23E015 - Instrument: C System - File ID: FC23050330.D

B23E015-ICB1 (Lab Blank/Initial Calibration Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
Surrogate: 1,2-DCA-d4	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Toluene-d8	*105*		*ng*	100		*105*	*70-130*			
Surrogate: Bromofluorobenzene	*100*		*ng*	100		*100*	*70-130*			

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060102.D

23F0001-BS1 (LCS, Calibration Source Verification)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	44.6	10	ng	50.0		89.2	70-130			
trans-1,2-Dichloroethene	53.7	10	ng	50.0		107	70-130			
cis-1,2-Dichloroethene	50.0	10	ng	50.0		100	70-130			
Trichloroethene	54.7	10	ng	50.0		109	70-130			
Tetrachloroethene	55.8	10	ng	50.0		112	70-130			
Surrogate: 1,2-DCA-d4	*57.5*		*ng*	50.0		*115*	*70-130*			
Surrogate: Toluene-d8	*50.8*		*ng*	50.0		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*51.0*		*ng*	50.0		*102*	*70-130*			

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060103.D

23F0001-BLK1 (Lab Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<0.938	0.938	µg/m³							U
trans-1,2-Dichloroethene	<1.73	1.73	µg/m³							U
cis-1,2-Dichloroethene	<1.43	1.43	µg/m³							U
Trichloroethene	<2.30	2.30	µg/m³							U
Tetrachloroethene	<1.85	1.85	µg/m³							U
Surrogate: 1,2-DCA-d4	*117*		*ng*	100		*117*	*70-130*			
Surrogate: Toluene-d8	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*95.8*		*ng*	100		*95.8*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Instrument: C System - File ID: C23060104.D

B23F002-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	48.3	10	ng	50.0		96.6	70-130			
trans-1,2-Dichloroethene	56.4	10	ng	50.0		113	70-130			
cis-1,2-Dichloroethene	51.6	10	ng	50.0		103	70-130			
Trichloroethene	57.5	10	ng	50.0		115	70-130			
Tetrachloroethene	57.1	10	ng	50.0		114	70-130			
Surrogate: 1,2-DCA-d4	*56.8*		*ng*	50.0		*114*	*70-130*			
Surrogate: Toluene-d8	*50.7*		*ng*	50.0		*101*	*70-130*			
Surrogate: Bromofluorobenzene	*50.5*		*ng*	50.0		*101*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Instrument: C System - File ID: C23060111.D

B23F002-CCV1 (LCS, Closing Calibration Verification)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	51.1	10	ng	50.0		102	70-130			
trans-1,2-Dichloroethene	55.3	10	ng	50.0		111	70-130			
cis-1,2-Dichloroethene	51.4	10	ng	50.0		103	70-130			
Trichloroethene	56.3	10	ng	50.0		113	70-130			
Tetrachloroethene	58.3	10	ng	50.0		117	70-130			
Surrogate: 1,2-DCA-d4	*55.7*		*ng*	50.0		*111*	*70-130*			
Surrogate: Toluene-d8	*48.5*		*ng*	50.0		*97.0*	*70-130*			
Surrogate: Bromofluorobenzene	*48.9*		*ng*	50.0		*97.9*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Instrument: C System - File ID: C23060112.D

B23F002-CCB1 (Lab Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
Surrogate: 1,2-DCA-d4	*115*		*ng*	100		*115*	*70-130*			
Surrogate: Toluene-d8	*99.7*		*ng*	100		*99.7*	*70-130*			
Surrogate: Bromofluorobenzene	*95.8*		*ng*	100		*95.8*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

TO-17 (Passive) - LCS/LCSD RPD Quality Control Summary

LCS: 23F0001-BS1 File ID: C23060102.D Analyzed: 6/1/23 15:35

LCSD: B23F002-ICV1 File ID: C23060104.D Analyzed: 6/1/23 14:46

Analyte	CAS#	LCS Result (ng)	%REC	Q	Spike Level (ng)	LCSD Result (ng)	%REC	%REC Limits	RPD	RPD Limit	Q
Vinyl Chloride	75-01-4	44.61	89.22		50	48.3	96.60	70-130	7.94	30	
trans-1,2-Dichloroethene	156-60-5	53.72	107.44		50	56.42	113.00	70-130	4.90	30	
cis-1,2-Dichloroethene	156-59-2	50.04	100.08		50	51.62	103.00	70-130	3.11	30	
Trichloroethene	79-01-6	54.69	109.38		50	57.45	115.00	70-130	4.92	30	
Tetrachloroethene	127-18-4	55.83	111.66		50	57.09	114.00	70-130	2.23	30	

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Additional QC Information

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Result Calculation Summary (Concentration)

TO-17 (Passive)

Analyte	t Sampling Time minutes	DF Dilution Factor	Uc Uptake Rate	M Initial Result ng	C Calculated Result µg/m³	File ID
Lab ID: 0007002-01 **Sample Name:** Outdoor Air					**Temp (°C):** 7.20	
Vinyl Chloride	13,070	1.00	0.797	U	U	C23060105.D
trans-1,2-Dichloroethene	13,070	1.00	0.433	U	U	C23060105.D
cis-1,2-Dichloroethene	13,070	1.00	0.521	U	U	C23060105.D
Trichloroethene	13,070	1.00	0.325	U	U	C23060105.D
Tetrachloroethene	13,070	1.00	0.403	U	U	C23060105.D
Lab ID: 0007002-02 **Sample Name:** Fire Dept. Indoor Air					**Temp (°C):** 21.00	
Vinyl Chloride	10,103	1.00	0.816	U	U	C23060106.D
trans-1,2-Dichloroethene	10,103	1.00	0.443	U	U	C23060106.D
cis-1,2-Dichloroethene	10,103	1.00	0.534	U	U	C23060106.D
Trichloroethene	10,103	1.00	0.332	U	U	C23060106.D
Tetrachloroethene	10,103	1.00	0.413	U	U	C23060106.D

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Calculations:

$$C = \frac{1000 \times M \times DF}{Uc \times t}$$

$$Uc = U * \left(\left(\frac{Ts + 273.15}{Tu + 273.15}\right)^{1/2}\right)$$

where:
- C = concentration (µg/m^3)
- M = mass (ng)
- DF = dilution factor
- Uc = uptake rate (ml/min), corrected
- t = sampling time (minutes)
- U = compound specific uptake rate
- Tu = uptake rate study temperature
- Ts = sample average temperature

Note: Tu is 16.65°C

Reference: Federal Register/Vol. 79, No. 125/June 30, 2014

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Method Detection and Reporting Limit Calculations (Concentration)

TO-17 (Passive)

Analyte	t Sampling Time minutes	DF Dilution Factor	Uc Uptake Rate	M Initial LOQ ng	C Calculated LOQ µg/m³
Lab ID: 0007002-01 **Sample Name:** Outdoor Air					**Temp (°C):** 7.20
Vinyl Chloride	13,070	1.00	0.797	10.0	0.960
trans-1,2-Dichloroethene	13,070	1.00	0.433	10.0	1.77
cis-1,2-Dichloroethene	13,070	1.00	0.521	10.0	1.47
Trichloroethene	13,070	1.00	0.325	10.0	2.36
Tetrachloroethene	13,070	1.00	0.403	10.0	1.90
Lab ID: 0007002-02 **Sample Name:** Fire Dept. Indoor Air					**Temp (°C):** 21.00
Vinyl Chloride	10,103	1.00	0.816	10.0	1.21
trans-1,2-Dichloroethene	10,103	1.00	0.443	10.0	2.23
cis-1,2-Dichloroethene	10,103	1.00	0.534	10.0	1.85
Trichloroethene	10,103	1.00	0.332	10.0	2.98
Tetrachloroethene	10,103	1.00	0.413	10.0	2.40

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Laboratory Certification List

Certification ID	Certification No.	Description	Expires	Project Required
Alaska CS-LAP	19-002	Alaska Department of Environmental Conservation	12/30/2024	
DoD-ELAP	72690/L22-563	United States Department of Defense Environmental Laboratory Accreditation	11/30/2024	
ISO/IEC 17025:2017	72690/L22-563	General Requirements for the Competence of Testing and Calibration Laboratories	11/30/2024	
NEFAP	72690/L22-564	TNI National Environmental Field Activities Program (NEFAP)	11/30/2024	
NY-NELAC	12097	New York Department of Health	04/01/2024	
Utah-NELAC	MD010912022-12	Utah Department of Health	12/31/2023	

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Qualifiers/Notes and Definitions

General Definitions:

DF	Dilution Factor
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
NA	Not Applicable
Q	Qualifier
RPD	Relative Percent Difference
RT	Retention Times in Minutes
RRT	Evaluation of Relative Retention Times in RRT Units (qualified if outside $\pm$0.06 control limits)
3σ	Uncertainty
∉	Compound not on scope of accreditation
+	values are outside method/contract required QC limits
∅	Compound not on scope of accreditation and analyzed with a one-point calibration

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Management Records

(AIR)

BEACON ENVIRONMENTAL
2203A Commerce Rd, Suite 1
Forest Hill, MD 21050, USA
1-410-838-8780
800-878-5510 Toll Free

PASSIVE AIR SAMPLING - BEACON SAMPLER | CHAIN-OF-CUSTODY

Client Information			
Company: Fehr Graham	Project Manager: Dan Mamann	Client PO:	
Address: 909 N 8th Street, Suite 101	Project Name: Bay Towel 21-1121	Turn around time (check one): ☒ Normal ☐ Rush (specify) ____ days	
City / State / Zip: Sheboygan, WI 53081	Location: Green Bay, WI	Analysis: ☐ Method TO-17 ☐ Method 8260C	
Phone: 920-453-0700	Submitted by: J. Williams		
	Email: jwilliams@fehrgraham.com		

Location ID	Start Date	Start Time	Stop Date	Stop Time	Aver Temp (C)	Notes	INDOOR AIR	AMBIENT AIR	CRAWL SPACE	SEWER GAS
Outdoor Air	5/16/23	1030a	5/25/23	1220pm	~~27.2~~	S/W of FD	X	X		
Fire Dept. Indoor Air	↓	1100a	5/23/23	1123a	21 ~~28°C~~		X			
Clinic Indoor Air		400pm	5/25/23	1200p	21 ~~25°C~~	→ moved before Tues. 5/23	X			
Residence Indoor Air		530pm	5/23/23	1:15pm	21 ~~25°C~~ NAK 6/2/23		X			

Special Notes / Instructions: CVOCs

For Lab Use Only	Beacon Job No: 7002	Beacon Proposal: 230330R05	

FedEx Good custody seal not in tact: 4769935

Nicole Reife 6/1/23 10:32

Pg ___ of ___

Understanding Chemical Vapor Intrusion Testing Results

RR-977 October 2014

From the Lab to You

Chemical vapor samples were taken from underneath your house or building and possibly indoors as well. These samples have been tested by a certified laboratory and a report was issued. The Wisconsin Department of Natural Resources (DNR) uses these test results to determine if people in the building are being exposed to chemical vapors coming from nearby contaminated soil or groundwater, and to decide what, if any, action is needed to prevent this exposure.

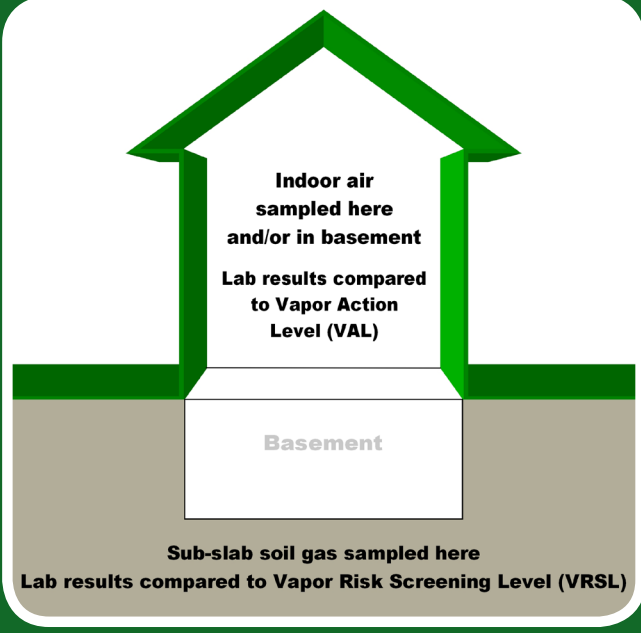
Indoor Air Testing Results

If indoor air samples were collected in your house or building, test results from the lab will be compared to the state Vapor Action Level (VAL) for chemicals of concern. The VAL is a chemical compound's numerical value that represents a health hazard risk to no more than 1 in 100,000 people during a lifetime of exposure. If test results show chemical concentrations in your air below the VAL then adverse health effects are extremely rare, even if you were to breathe the chemical at this concentration for your entire life.

Test results showing chemical concentrations in the air at or above the VAL prompt DNR to recommend that exposure to these chemical vapors be reduced. If test results show concentrations significantly above the VAL, or more than one type of chemical vapor is identified in your indoor air, the risk from exposure increases. If the concentration of any indoor chemical vapor greatly exceeds the VAL, DNR is concerned about even short-term exposure and will typically require immediate action to address the problem.

The VAL for each chemical is set by scientific research. It is protective of all people, including those who are most susceptible to adverse health effects.

If test results identify chemicals in your air that are not present in nearby soil or groundwater contamination, it is likely that these vapors are coming from some product or activity in or near your house or building. Many everyday consumer products (e.g., cleaners, solvents, polish, adhesives, lubricants, aerosols, insect repellants, etc.); combustion processes (e.g., smoking, home heating); fuels in attached garages; dry cleaned clothing or draperies; and occupant activities (e.g., craft hobbies), also release chemical vapors into the air.



The air and soil gas samples from your property are tested at a laboratory. Chemical concentrations are measured and the results are compared to state health-risk numbers.

Sub-slab Soil Gas Testing Results

Soil gas samples were collected from the ground beneath the concrete slab of your building foundation or basement. The lab measured the concentrations of various chemicals in these samples. DNR compares these measurements to the state Vapor Risk Screening Level (VRSL), which identifies the concentration of a chemical in soil gas that scientific research suggests can be a health risk if vapor enters a building. If soil gas measurements exceed the VRSL for a chemical of concern, action to reduce exposure is strongly recommended.

The VRSL is a higher number (higher chemical concentration) than the VAL because it is presumed that concrete building foundations and basement walls will prevent most soil gas from entering a building. Further, any soil gas that does enter a building through cracks, holes, sump pumps, drains, etc., will be diluted to some extent by the indoor air. So, people inside will not be breathing air that includes the full concentration of chemical vapors that exist in the ground.

Wisconsin Department of Natural Resources
P.O. Box 7921, Madison, WI 53707
dnr.wi.gov, search "Brownfields"

DNR generally relies on the test results of the sub-slab soil gas samples when determining what, if any, action should be taken related to chemical vapors coming from nearby soil or groundwater contamination. Indoor air quality is highly variable, and it is difficult to make a definitive decision about vapor intrusion based on indoor air sampling alone.

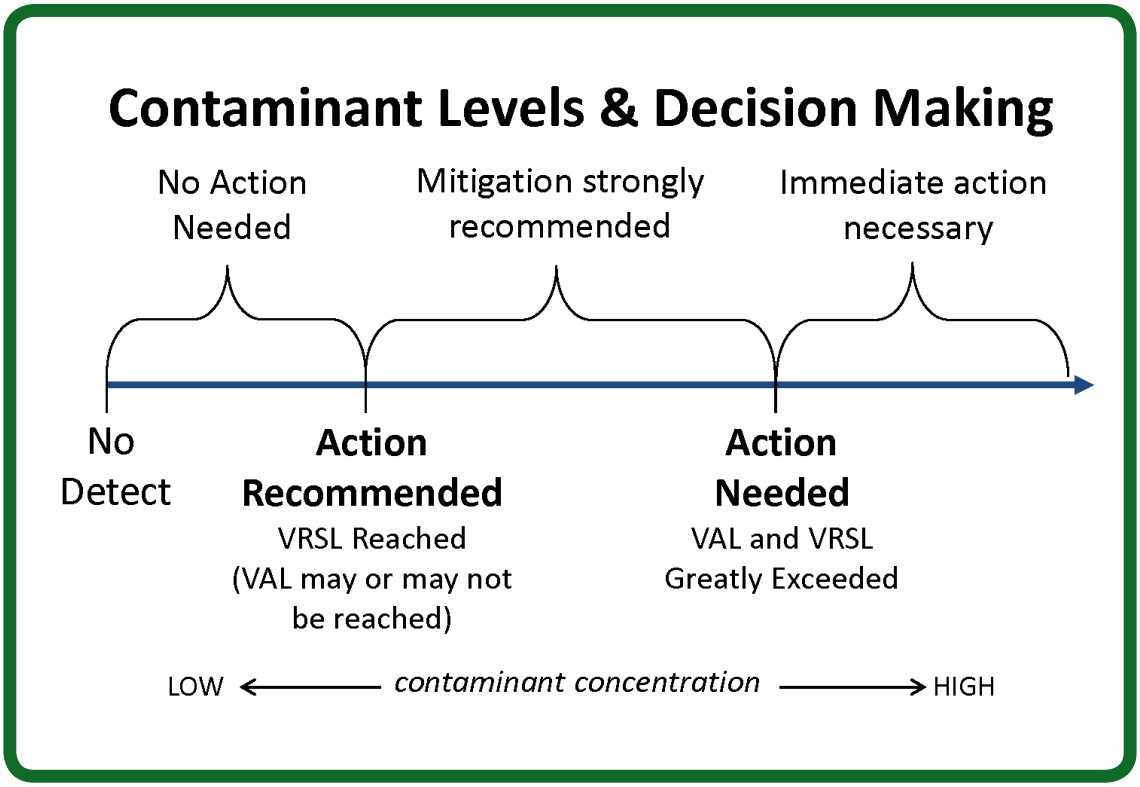
Follow-Up Actions

If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

When test results show soil gas chemical concentrations above a VRSL, both DNR and the Wisconsin Department of Health Services recommend that owners take action to reduce potential exposure. This typically involves installing a vapor mitigation system that vents chemical vapors from beneath your home or building to the outdoors, similar to a radon mitigation system.

If indoor air concentrations exceed a VAL, but sub-slab concentrations are less than a VRSL, then the chemical vapors are most likely coming from indoor sources. Steps should be taken by the house or building owner to identify the products and practices causing the problem and implement appropriate remedies.

If soil gas mitigation is recommended, a representative of the party who is responsible for the soil or groundwater contamination will contact you to discuss your options.



A Note about Measurement Units: The lab report may include some unfamiliar technical language. The most important point to note is whether or not the test result for a specific chemical exceeds a VAL or VRSL, which are also sometimes referred to, generically, as "screening levels."

The concentration of gaseous pollutants in air is typically described in two different ways: 1) as units of mass per volume, where µg/m3 represents micrograms of gaseous pollutant per cubic meter of ambient air; and 2) as parts per billion by volume (ppbv), where the volume of a gaseous pollutant is compared to a set volume of ambient air. These are the numbers that are compared to the VAL and VRSL.

For more information, visit **dnr.wi.gov/topic/Brownfields/Vapor.html**

This document contains information about certain state statutes and administrative rules but does not necessarily include all of the details found in the statutes and rules. Readers should consult the actual language of the statutes and rules to answer specific questions. The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240. This publication is available in alternative format upon request. Please call 608-267-3543 for more information.

From: Dillon Plamann <dplamann@fehrgraham.com>
Sent: Wednesday, June 28, 2023 12:58 PM
To: Kerstenrealty@yahoo.com
Cc: Jenna Williams; Kendyl Hoss; Schultz, Josie M - DNR; John Butz; Don Gallo; Jeanne Tarvin (jtarvin@ramboll.com); Nancy Reid; Silje Roalsvik
Subject: Vapor Sampling Results - 445 S. Adams Street, Green Bay (Clinic)
Attachments: 21-1121 - Bay Towel 2023-06-28 - Sampling Results May 2023, 445 S Adams Street.pdf

CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

We have received the results of the vapor sampling conducted at your site, located at 445 S. Adams Street, Green Bay and sampled between May 16 and May 25, 2023. Please find attached the laboratory analytical results for your property, along with a letter which provides information on the results.

Based on the findings of the indoor air sampling, the current assessment suggests that there are no immediate health concerns in the property building regarding vapor intrusion from the Bay Towel site. However, it is important to address the potential risk of elevated concentrations in the sub-slab vapors that could pose future concerns. In order to ensure the ongoing safety and well-being of building occupants, Fehr Graham strongly advises the installation of a sub-slab vapor mitigation system at the property building.

Once we receive your approval as the property owner, Fehr Graham, representing Bay Towel, will take responsibility for coordinating the installation of a sub-slab vapor mitigation system at the property building.

Please let us know if there are any questions.

Thank you,

FEHR GRAHAM
1973 | 2023

DILLON PLAMANN, PG | Project Hydrogeologist
Fehr Graham | Engineering & Environmental

909 North 8th Street, Suite 101
Sheboygan, Wisconsin 53081
P: 920.453.0700
C: 920.946.2407

June 28, 2023

Mr. Adam Kersten Submitted via email only to: kerstenrealty@yahoo.com
301 N Broadway LLC
1600 Shawano Avenue, Suite 204
Green Bay, WI 54303

RE: Vapor Sampling Results May 2023 for 445 S. Adams Street, Green Bay, WI
Former Bay Towel Site
501 S. Adams Street
Green Bay, WI
BRRTS # 02-05-237064

Dear Mr. Kersten:

Fehr Graham, on behalf of Bay Towel, has completed additional site investigation activities for the former Bay Towel site located at 501 South Adams Street, Green Bay, WI 54301 (BRRTS #02-05-237064). The following site investigation activities have been completed on your property at 445 S. Adams Street:

- Four (4) sub-slab vapor passive samplers were installed and sampled, with three (3) sampled over nine (9) days and one (1) sampled over seven (7) days to analyze the vapor chemistry below the property building. The second of two (2) sub-slab vapor sampling events was completed, with the second round completed using passive, longer duration sampling methods.
- One (1) indoor air sample was collected to analyze the vapor chemistry within the property building. The second of two (2) indoor air sampling events was completed.
- One (1) outdoor ambient air sample was collected for quality control purposes to analyze the upwind vapor chemistry outside the property building.
- All vapor and air samples were submitted for laboratory analysis of Chlorinated Volatile Organic Compounds (CVOCs) that are associated with drycleaning solvents: tetrachloroethylene, trichloroethylene, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, and vinyl chloride.

CVOC compounds were detected in vapors at your property. Based on vapor laboratory analytical results, tetrachloroethylene exceeded the Commercial Sub-Slab in two (2) of the samples (Clinic SSVS-2 and Clinic SSVS-3). There were no exceedances of the Commercial Sub-Slab or Indoor Air standards established by the Wisconsin Department and Natural Resources (DNR) and the Wisconsin Department of Health Services in the other two (2) sub-slab vapor samples or the indoor air sample. The vapor results are summarized and compared to relevant standards in attached Table A.4.iv and Table A.4.v. The laboratory analytical reports for the vapor and air samples are also included as attachments.

Based on the findings of the indoor air sampling, the current assessment suggests that there are no immediate health concerns in the property building regarding vapor intrusion from the Bay Towel site. However, it is important to address the potential risk of elevated concentrations in the sub-slab vapors that could pose future concerns. In order to ensure the ongoing safety and well-being of building occupants, Fehr Graham strongly advises the installation of a sub-slab vapor mitigation system at the property building. This proactive measure will effectively safeguard occupants from any potential hazards in the future.

Once we receive your approval as the property owner, Fehr Graham, representing Bay Towel, will take responsibility for coordinating the installation of a sub-slab vapor mitigation system at the property building. After the installation, testing will be conducted to verify that the system is functioning as intended. Furthermore, we will develop an Operations and Maintenance Plan specifically designed to ensure the continued effectiveness of the system, benefiting both current and future property owners and occupants. This comprehensive plan will outline the necessary steps and guidelines for proper system maintenance and operation.

A full summary of all site investigation results will be submitted to the DNR in the near future in a Site Investigation Report. Please refer to the attached DNR fact sheet RR-977 for additional explanation of the vapor results at your property.

Thank you for your cooperation during this investigation, and please share these results with all property building occupants. If you have any questions, please feel free to contact the WDNR Project Manager for the Bay Towel Site, Ms. Josie Schultz (josie.schultz@wisconsin.gov or 920.366.5685), or contact me at dplamann@fehrgraham.com or 920.946.2407.

Sincerely,

Dillon Plamann, PG
Project Hydrogeologist

Attachments: Table A.4.iv: Vapor Analytical Table – 445 S. Adams Street
Table A.4.v: Vapor Analytical Table – Upwind-Outdoor Air
Laboratory Analytical Reports
RR-977: Understanding Chemical Vapor Intrusion Testing Results

Cc: Ms. Josie Schultz, WDNR, via email only to josie.schultz@wisconsin.gov
Mr. Don Gallo, Gallo Law, LLC, via email only to don.gallo@dgallolaw.com
Mr. John Butz, Bay Towel, via email only to jbutz@baytowel.com

TABLE A.4.IV
Vapor Analytical Table - 445 S. Adams Street
Former Bay Towel
501 S Adams Street, Green Bay, WI 54301
BRRTS# 02-05-237064

Sample ID		C-Carcinogen N-Non Carcinogen	WDNR / WDHFS **SMALL COMMERCIAL** Subslab Vapor VRSL	WDNR / WDHFS **SMALL COMMERCIAL** Indoor Air VAL	Clinic Indoor Air		Clinic SSVS-1	
Sample Location					Prevention Center Office		Room 108	
Sample Date(s)					2/28/23	5/16/23-5/25/23	2/28/23	5/16/23-5/25/23
Type of Sample					indoor air	indoor air	sub-slab	sub-slab
Collection Method					Composite	Composite - Passive	Grab	Composite - Passive
Time Period of Collection					8-hour	9 Days	30-min	9 Days
Analytical Method					TO-15 chlorinated	TO-17	TO-15 chlorinated	EPA 8260C
Method/Result Leak Detection					shut-in/pass	none applicable	water/pass	none applicable
Tetrachloroethene (PCE)	µg/m^3	N	*5,800*	**180**	11.9	7.76	168	97.8
Trichloroethene (TCE)	µg/m^3	C	*290*	**8.8**	<1.07	<2.36	<5.36	<2.37
cis-1,2 Dichloroethene	µg/m^3	N	*5,800*	**180**	<0.793	<1.47	<3.96	<1.47
trans-1,2 Dichloroethene	µg/m^3	N	*5,800*	**180**	<0.793	<1.77	<3.96	<1.77
Vinyl Chloride	µg/m^3	C	*930*	**28**	<0.511	<0.963	<2.56	<0.96

Notes:
N = Noncarcinogen; C = Carcinogen
ITALICS : Exceeds **Subslab** Vapor Standard
BOLD : Exceeds **Indoor** Air Standard

NA = Not Analyzed
NS = No Standards
VAL = Vapor Action Level (compared for indoor air concentrations)
VRSL = Vapor Risk Screening Levels (compared for sub-slab vapor concentrations)
AF (Attenuation Factor) = 0.03 for Residential and Small Commercial

Standards for VAL and VRSL from January 2023 WDNR RR-0136 based on November 2022 U.S. EPA Regional Screening Level (RSL) Tables:
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

All values in ug/m^3 obtained from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator from
U.S. EPA Regional Screening Level (RSL) database of toxicity and chemical parameters.

Indoor air values from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator and Regional Screening Levels (RSL) and correspond to noncarcinogenic hazard index of 1 or a carcinogenic target risk level of 1x10E-6 .

Residential vs. Small Commercial vs. Large Commercial/Industrial determined based on WDNR Publication RR-800

RR-800 Table 6a - Default Attenuation Factors
Sub-Slab Vapor = 0.03 (Small Commercial & Residential)

TABLE A.4.IV
Vapor Analytical Table - 445 S. Adams Street
Former Bay Towel
501 S Adams Street, Green Bay, WI 54301
BRRTS# 02-05-237064

Sample ID		C-Carcinogen N-Non Carcinogen	WDNR / WDHFS **SMALL COMMERCIAL** Subslab Vapor VRSL	WDNR / WDHFS **SMALL COMMERCIAL** Indoor Air VAL	Clinic SSVS-2		Clinic SSVS-3		Clinic SSVS-4	
Sample Location					Restroom		Room 106		Room 102 (Exam Room)	
Sample Date(s)					2/28/23	5/16/23-5/25/23	2/28/23	5/16/23-5/25/23	2/28/23	5/18/23-5/25/23
Type of Sample					sub-slab	sub-slab	sub-slab	sub-slab	sub-slab	sub-slab
Collection Method					Grab	Composite - Passive	Grab	Composite - Passive	Grab	Composite - Passive
Time Period of Collection					30-min	9 Days	30-min	9 Days	30-min	7 Days
Analytical Method					TO-15 chlorinated	EPA 8260C	TO-15 chlorinated	EPA 8260C	TO-15 chlorinated	EPA 8260C
Method/Result Leak Detection					water/pass	none applicable	water/pass	none applicable	water/pass	none applicable
Tetrachloroethene (PCE)	µg/m^3	N	*5,800*	**180**	3,910	*6,310*	2,610	*8,510*	30.6	52.5
Trichloroethene (TCE)	µg/m^3	C	*290*	**8.8**	28.8	42	<21.4	30.2	<1.07	<2.97
cis-1,2 Dichloroethene	µg/m^3	N	*5,800*	**180**	<0.793	<1.48	<0.793	<1.49	<0.793	<1.85
trans-1,2 Dichloroethene	µg/m^3	N	*5,800*	**180**	<0.793	<1.78	2.96	<1.79	<0.793	<2.23
Vinyl Chloride	µg/m^3	C	*930*	**28**	<0.511	<0.97	<0.511	<0.97	<0.511	<1.21

Notes:
N = Noncarcinogen; C = Carcinogen
ITALICS : Exceeds **Subslab** Vapor Standard
BOLD : Exceeds **Indoor** Air Standard

NA = Not Analyzed
NS = No Standards
VAL = Vapor Action Level (compared for indoor air concentrations)
VRSL = Vapor Risk Screening Levels (compared for sub-slab vapor concentrations)
AF (Attenuation Factor) = 0.03 for Residential and Small Commercial

Standards for VAL and VRSL from January 2023 WDNR RR-0136 based on November 2022 U.S.
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

All values in ug/m^3 obtained from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator fr
U.S. EPA Regional Screening Level (RSL) database of toxicity and chemical parameters.

Indoor air values from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator and Regional
noncarcinogenic hazard index of 1 or a carcinogenic target risk level of 1x10E-6 .

Residential vs. Small Commercial vs. Large Commercial/Industrial determined based on WDNR

RR-800 Table 6a - Default Attenuation Factors
Sub-Slab Vapor = 0.03 (Small Commercial & Residential)

TABLE A.4.V
Vapor Analytical Table - Upwind-Outdoor Air
Former Bay Towel
501 S Adams Street, Green Bay, WI 54301
BRRTS# 02-05-237064

Sample ID		C-Carcinogen N-Non Carcinogen	WDNR / WDHFS **SMALL COMMERCIAL** Subslab Vapor VRSL	WDNR / WDHFS **SMALL COMMERCIAL** Indoor Air VAL	WDNR / WDHFS **Residential** Subslab Vapor VRSL	WDNR / WDHFS **Residential** Indoor Air VAL	Outdoor Air	
Sample Location							SW of 501 S. Washington	
Sample Date(s)							2/28/23	5/16/23-5/25/23
Type of Sample							outdoor (ambient) air	outdoor (ambient) air
Collection Method							Composite	Composite - Passive
Time Period of Collection							24-hour	9 Days
Analytical Method							TO-15 chlorinated	TO-17
Method/Result Leak Detection							shut-in/pass	none applicable
Tetrachloroethene (PCE)	µg/m^3	N	*5,800*	**180**	*1,400*	**42**	<1.36	<1.90
Trichloroethene (TCE)	µg/m^3	C	*290*	**8.8**	*70*	**2.1**	<1.07	<2.36
cis-1,2 Dichloroethene	µg/m^3	N	*5,800*	**180**	1,400	42.0	<0.793	<1.47
trans-1,2 Dichloroethene	µg/m^3	N	*5,800*	**180**	1,400	42	<0.793	<1.77
Vinyl Chloride	µg/m^3	C	*930*	**28**	*56*	**1.7**	<0.511	<0.960

Notes:
N = Noncarcinogen; C = Carcinogen
ITALICS : Exceeds **Subslab** Vapor Standard
BOLD : Exceeds **Indoor** Air Standard

NA = Not Analyzed
NS = No Standards
VAL = Vapor Action Level (compared for indoor air concentrations)
VRSL = Vapor Risk Screening Levels (compared for sub-slab vapor concentrations)
AF (Attenuation Factor) = 0.03 for Residential and Small Commercial

Standards for VAL and VRSL from January 2023 WDNR RR-0136 based on November 2022 U.S. EPA Regional Screening Level (RSL) Tables:
https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

All values in ug/m^3 obtained from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator from
U.S. EPA Regional Screening Level (RSL) database of toxicity and chemical parameters.

Indoor air values from U.S. EPA Vapor Intrusion Screening Level (VISL) calculator and Regional Screening Levels (RSL) and correspond to noncarcinogenic hazard index of 1 or a carcinogenic target risk level of 1x10E-6 .

Residential vs. Small Commercial vs. Large Commercial/Industrial determined based on WDNR Publication RR-800

RR-800 Table 6a - Default Attenuation Factors
Sub-Slab Vapor = 0.03 (Small Commercial & Residential)

Beacon Environmental
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 230330R04

Laboratory Work Order: 0007001

Project Description:
Bay Towel 21-1121
Green Bay, WI

Prepared for:
Jenna Williams
Fehr Graham
909 North 8th Street, Suite 101
Sheboygan, WI 53081

Ryan W. Schneider
Senior Project Manager

June 12, 2023

All data meet requirements as specified in the Beacon Environmental Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2017, except samples were analyzed within a 24-hour tune window. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley
Laboratory Director

Peter B. Kelly
Quality Manager

Table of Contents

Table of Contents (continued)

BEACON ENVIRONMENTAL

2203A Commerce Road, Suite 1
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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Summary

Lab Sample ID	Client Sample ID	Received	Analysis	Matrix
0007001-01	Fire Dept #1 Boiler Room	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-02	Fire Dept #2 Store Room	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-03	Clinic Rm 108	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-04	Clinic Bathroom	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-05	Clinic Rm 106	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-06	Residence	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			
0007001-07	Clinic Exam Rm	06/01/2023	EPA 8260C	Soil Gas
Sampler Type:	Beacon Passive Sampler			

Project Completeness

Samples Received: 7
Samples Analyzed: 7

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Case Narrative

U.S. EPA Method 8260C

All samples were analyzed using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following U.S. EPA Method 8260C, with laboratory results provided in nanograms (ng) and micrograms per cubic meter ($\mu g/m^3$). Laboratory QA/QC procedures included internal standards, surrogates, and blanks based on EPA Method 8260C. Analyses and reporting were under BEACON's Quality Assurance Project Plan.

Passive Soil-Gas Survey Notes

If sample locations are covered with or near the edge of an impervious surface (*e.g.*, asphalt or concrete), the concentrations of compounds in soil gas are higher than if the surfacing was not present. Therefore, the sample location conditions should be considered when comparing results between locations.

Survey findings are exclusive to this project and when the spatial relationships are compared with results of other BEACON Surveys it is necessary to incorporate information from both investigations (*e.g.*, depth to sources, soil types, porosity, soil moisture, presence of impervious surfacing, sample collection times).

Reporting Limits

The RLs represent a baseline above which results meet laboratory-determined limits of precision and accuracy. Beacon performed dilution analysis when results exceeded the upper calibration limit, bringing all reported results within the calibration range. The project method quantitation limit (MQL) is the limit of quantitation (LOQ) as noted in the data tables. Beacon determined uptake rates for a suite of compounds with the Beacon sampler for sampling in air. Beacon calculated the uptake rates for the remaining compounds using Graham's Law of Diffusion. The reported data includes LOQ limits.

Project Details

Samples were received in proper condition and laboratory control parameters were met unless otherwise noted below. The work performed was in accordance with ISO/IEC 17025:2017, except samples were analyzed within a 24-hour tune window.

End of Case Narrative

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Analytical Results

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Summary of Compound Detections- Mass

Lab Sample ID: 0007001-03 — **Clinic Rm 108** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	RT	LOQ (ng)	File ID
Tetrachloroethene	127-18-4	**513**		5.939	10	C23060115.D

Lab Sample ID: 0007001-04 — **Clinic Bathroom** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	RT	LOQ (ng)	File ID
Trichloroethene	79-01-6	**177**		4.300	10	C23060116.D
Tetrachloroethene	127-18-4	**33,100**	D	5.940	233	C23060148.D

Lab Sample ID: 0007001-05 — **Clinic Rm 106** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	RT	LOQ (ng)	File ID
Trichloroethene	79-01-6	**127**		4.300	10	C23060117.D
Tetrachloroethene	127-18-4	**44,200**	D	5.936	233	C23060149.D

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Summary of Compound Detections- Mass

Lab Sample ID: 0007001-07

Clinic Exam Rm

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	RT	LOQ (ng)	File ID
Tetrachloroethene	127-18-4	**219**		5.936	10	C23060119.D

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909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Summary of Compound Detections- Concentration

Lab Sample ID: 0007001-03 — **Clinic Rm 108** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
Tetrachloroethene	127-18-4	**97.8**		5.939	1.90	C23060115.D

Lab Sample ID: 0007001-04 — **Clinic Bathroom** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
Trichloroethene	79-01-6	**42.0**		4.300	2.37	C23060116.D
Tetrachloroethene	127-18-4	**6,310**	D	5.940	44.4	C23060148.D

Lab Sample ID: 0007001-05 — **Clinic Rm 106** — Soil Gas — Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
Trichloroethene	79-01-6	**30.2**		4.300	2.39	C23060117.D
Tetrachloroethene	127-18-4	**8,510**	D	5.936	44.7	C23060149.D

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Summary of Compound Detections- Concentration

Lab Sample ID: 0007001-07

Clinic Exam Rm
Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
Tetrachloroethene	127-18-4	**52.5**		5.936	2.39	C23060119.D

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Data Summary Table- Mass

Compound	Frequency	LOQ (ng)	Max Value (ng)
Trichloroethene	3	10	177
Tetrachloroethene	7	10	44,200

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Data Summary Table- Concentration

Compound	Frequency	LOQ (µg/m³)	Max Value (µg/m³)
Trichloroethene	3	2.37	42.0
Tetrachloroethene	7	1.90	8,510

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Detailed Analytical Results

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Detailed Analytical Results- Mass

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-03

Clinic Rm 108

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	Analyzed	File ID
Vinyl Chloride	75-01-4	<10		10	06/01/2023 20:49	C23060115.D
trans-1,2-Dichloroethene	156-60-5	<10		10	06/01/2023 20:49	C23060115.D
cis-1,2-Dichloroethene	156-59-2	<10		10	06/01/2023 20:49	C23060115.D
Trichloroethene	79-01-6	<10		10	06/01/2023 20:49	C23060115.D
Tetrachloroethene	127-18-4	**513**		10	06/01/2023 20:49	C23060115.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*113%*	*70-130*		*06/01/2023 20:49*	*C23060115.D*
Surrogate: Toluene-d8	2037-26-5	*95.6%*	*70-130*		*06/01/2023 20:49*	*C23060115.D*
Surrogate: Bromofluorobenzene	460-00-4	*99.7%*	*70-130*		*06/01/2023 20:49*	*C23060115.D*

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-04

Clinic Bathroom

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	Analyzed	File ID
Vinyl Chloride	75-01-4	<10		10	06/01/2023 21:20	C23060116.D
trans-1,2-Dichloroethene	156-60-5	<10		10	06/01/2023 21:20	C23060116.D
cis-1,2-Dichloroethene	156-59-2	<10		10	06/01/2023 21:20	C23060116.D
Trichloroethene	79-01-6	**177**		10	06/01/2023 21:20	C23060116.D
Tetrachloroethene	127-18-4	**33,100**	D	233	06/02/2023 11:04	C23060148.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*115%*	*70-130*		*06/01/2023 21:20*	*C23060116.D*
Surrogate: 1,2-DCA-d4	17060-07-0	*119%*	*70-130*		*06/02/2023 11:04*	*C23060148.D*
Surrogate: Toluene-d8	2037-26-5	*93.3%*	*70-130*		*06/01/2023 21:20*	*C23060116.D*
Surrogate: Toluene-d8	2037-26-5	*99.4%*	*70-130*		*06/02/2023 11:04*	*C23060148.D*
Surrogate: Bromofluorobenzene	460-00-4	*103%*	*70-130*		*06/01/2023 21:20*	*C23060116.D*
Surrogate: Bromofluorobenzene	460-00-4	*95.0%*	*70-130*		*06/02/2023 11:04*	*C23060148.D*

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-05

Clinic Rm 106

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	Analyzed	File ID
Vinyl Chloride	75-01-4	<10		10	06/01/2023 21:50	C23060117.D
trans-1,2-Dichloroethene	156-60-5	<10		10	06/01/2023 21:50	C23060117.D
cis-1,2-Dichloroethene	156-59-2	<10		10	06/01/2023 21:50	C23060117.D
Trichloroethene	79-01-6	**127**		10	06/01/2023 21:50	C23060117.D
Tetrachloroethene	127-18-4	**44,200**	D	233	06/02/2023 12:04	C23060149.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*112%*	*70-130*		*06/01/2023 21:50*	*C23060117.D*
Surrogate: 1,2-DCA-d4	17060-07-0	*118%*	*70-130*		*06/02/2023 12:04*	*C23060149.D*
Surrogate: Toluene-d8	2037-26-5	*93.9%*	*70-130*		*06/01/2023 21:50*	*C23060117.D*
Surrogate: Toluene-d8	2037-26-5	*99.2%*	*70-130*		*06/02/2023 12:04*	*C23060149.D*
Surrogate: Bromofluorobenzene	460-00-4	*101%*	*70-130*		*06/01/2023 21:50*	*C23060117.D*
Surrogate: Bromofluorobenzene	460-00-4	*93.8%*	*70-130*		*06/02/2023 12:04*	*C23060149.D*

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CERTIFICATE OF ANALYSIS

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-07

Clinic Exam Rm

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (ng)	Q	LOQ (ng)	Analyzed	File ID
Vinyl Chloride	75-01-4	<10		10	06/01/2023 22:52	C23060119.D
trans-1,2-Dichloroethene	156-60-5	<10		10	06/01/2023 22:52	C23060119.D
cis-1,2-Dichloroethene	156-59-2	<10		10	06/01/2023 22:52	C23060119.D
Trichloroethene	79-01-6	<10		10	06/01/2023 22:52	C23060119.D
Tetrachloroethene	127-18-4	**219**		10	06/01/2023 22:52	C23060119.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*110%*	*70-130*		*06/01/2023 22:52*	*C23060119.D*
Surrogate: Toluene-d8	2037-26-5	*94.4%*	*70-130*		*06/01/2023 22:52*	*C23060119.D*
Surrogate: Bromofluorobenzene	460-00-4	*99.3%*	*70-130*		*06/01/2023 22:52*	*C23060119.D*

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Detailed Analytical Results- Concentration

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-03

Clinic Rm 108

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.96		0.96	06/01/2023 20:49	C23060115.D
trans-1,2-Dichloroethene	156-60-5	<1.77		1.77	06/01/2023 20:49	C23060115.D
cis-1,2-Dichloroethene	156-59-2	<1.47		1.47	06/01/2023 20:49	C23060115.D
Trichloroethene	79-01-6	<2.37		2.37	06/01/2023 20:49	C23060115.D
Tetrachloroethene	127-18-4	**97.8**		1.90	06/01/2023 20:49	C23060115.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*113%*	*70-130*		*06/01/2023 20:49*	*C23060115.D*
Surrogate: Toluene-d8	2037-26-5	*95.6%*	*70-130*		*06/01/2023 20:49*	*C23060115.D*
Surrogate: Bromofluorobenzene	460-00-4	*99.7%*	*70-130*		*06/01/2023 20:49*	*C23060115.D*

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Lab Sample ID: 0007001-04

Clinic Bathroom

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.97		0.97	06/01/2023 21:20	C23060116.D
trans-1,2-Dichloroethene	156-60-5	<1.78		1.78	06/01/2023 21:20	C23060116.D
cis-1,2-Dichloroethene	156-59-2	<1.48		1.48	06/01/2023 21:20	C23060116.D
Trichloroethene	79-01-6	**42.0**		2.37	06/01/2023 21:20	C23060116.D
Tetrachloroethene	127-18-4	**6,310**	D	44.4	06/02/2023 11:04	C23060148.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*115%*	*70-130*		*06/01/2023 21:20*	*C23060116.D*
Surrogate: 1,2-DCA-d4	17060-07-0	*119%*	*70-130*		*06/02/2023 11:04*	*C23060148.D*
Surrogate: Toluene-d8	2037-26-5	*93.3%*	*70-130*		*06/01/2023 21:20*	*C23060116.D*
Surrogate: Toluene-d8	2037-26-5	*99.4%*	*70-130*		*06/02/2023 11:04*	*C23060148.D*
Surrogate: Bromofluorobenzene	460-00-4	*103%*	*70-130*		*06/01/2023 21:20*	*C23060116.D*
Surrogate: Bromofluorobenzene	460-00-4	*95.0%*	*70-130*		*06/02/2023 11:04*	*C23060148.D*

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-05

Clinic Rm 106

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.97		0.97	06/01/2023 21:50	C23060117.D
trans-1,2-Dichloroethene	156-60-5	<1.79		1.79	06/01/2023 21:50	C23060117.D
cis-1,2-Dichloroethene	156-59-2	<1.49		1.49	06/01/2023 21:50	C23060117.D
Trichloroethene	79-01-6	**30.2**		2.39	06/01/2023 21:50	C23060117.D
Tetrachloroethene	127-18-4	**8,510**	D	44.7	06/02/2023 12:04	C23060149.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*118%*	*70-130*		*06/02/2023 12:04*	*C23060149.D*
Surrogate: 1,2-DCA-d4	17060-07-0	*112%*	*70-130*		*06/01/2023 21:50*	*C23060117.D*
Surrogate: Toluene-d8	2037-26-5	*99.2%*	*70-130*		*06/02/2023 12:04*	*C23060149.D*
Surrogate: Toluene-d8	2037-26-5	*93.9%*	*70-130*		*06/01/2023 21:50*	*C23060117.D*
Surrogate: Bromofluorobenzene	460-00-4	*101%*	*70-130*		*06/01/2023 21:50*	*C23060117.D*
Surrogate: Bromofluorobenzene	460-00-4	*93.8%*	*70-130*		*06/02/2023 12:04*	*C23060149.D*

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CERTIFICATE OF ANALYSIS

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007001-07

Clinic Exam Rm

Soil Gas

Method: EPA 8260C

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<1.21		1.21	06/01/2023 22:52	C23060119.D
trans-1,2-Dichloroethene	156-60-5	<2.23		2.23	06/01/2023 22:52	C23060119.D
cis-1,2-Dichloroethene	156-59-2	<1.85		1.85	06/01/2023 22:52	C23060119.D
Trichloroethene	79-01-6	<2.97		2.97	06/01/2023 22:52	C23060119.D
Tetrachloroethene	127-18-4	**52.5**		2.39	06/01/2023 22:52	C23060119.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*110%*	*70-130*		*06/01/2023 22:52*	*C23060119.D*
Surrogate: Toluene-d8	2037-26-5	*94.4%*	*70-130*		*06/01/2023 22:52*	*C23060119.D*
Surrogate: Bromofluorobenzene	460-00-4	*99.3%*	*70-130*		*06/01/2023 22:52*	*C23060119.D*

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

QC Information/Summary

2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23E015 - Instrument: C System - File ID: FC23050329.D

B23E015-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	52.4	10	ng	50.0		105	70-130			
trans-1,2-Dichloroethene	57.3	10	ng	50.0		115	70-130			
cis-1,2-Dichloroethene	50.8	10	ng	50.0		102	70-130			
Trichloroethene	53.2	10	ng	50.0		106	70-130			
Tetrachloroethene	54.8	10	ng	50.0		110	70-130			
Surrogate: 1,2-DCA-d4	*53.0*		*ng*	50.0		*106*	*70-130*			
Surrogate: Toluene-d8	*54.3*		*ng*	50.0		*109*	*70-130*			
Surrogate: Bromofluorobenzene	*52.9*		*ng*	50.0		*106*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23E015 - Instrument: C System - File ID: FC23050330.D

B23E015-ICB1 (Lab Blank/Initial Calibration Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
Surrogate: 1,2-DCA-d4	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Toluene-d8	*105*		*ng*	100		*105*	*70-130*			
Surrogate: Bromofluorobenzene	*100*		*ng*	100		*100*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060102.D

23F0001-BS1 (LCS, Calibration Source Verification)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	42.9	10	ng	50.0		85.8	80-120			
trans-1,2-Dichloroethene	53.9	10	ng	50.0		108	80-120			
cis-1,2-Dichloroethene	50.2	10	ng	50.0		100	80-120			
Trichloroethene	54.5	10	ng	50.0		109	80-120			
Tetrachloroethene	56.0	10	ng	50.0		112	80-120			
Surrogate: 1,2-DCA-d4	*57.6*		*ng*	50.0		*115*	*70-130*			
Surrogate: Toluene-d8	*50.8*		*ng*	50.0		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*51.0*		*ng*	50.0		*102*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Analysis by EPA 8260 - Data in Concentration - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060103.D

23F0001-BLK1 (Lab Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<0.964	0.964	µg/m³							U
trans-1,2-Dichloroethene	<1.77	1.77	µg/m³							U
cis-1,2-Dichloroethene	<1.47	1.47	µg/m³							U
Trichloroethene	<2.37	2.37	µg/m³							U
Tetrachloroethene	<1.90	1.90	µg/m³							U
Surrogate: 1,2-DCA-d4	*117*		*ng*	100		*117*	*70-130*			
Surrogate: Toluene-d8	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*95.4*		*ng*	100		*95.4*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060103.D

23F0001-BLK1 (Lab Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
Surrogate: 1,2-DCA-d4	*117*		*ng*	100		*117*	*70-130*			
Surrogate: Toluene-d8	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*95.4*		*ng*	100		*95.4*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Soil-Gas Sample Analysis by EPA Method 8260C - Quality Control Summary

Sequence: B23F002 - Instrument: C System - File ID: C23060104.D

B23F002-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	47.7	10	ng	50.0		95.3	70-130			
trans-1,2-Dichloroethene	54.7	10	ng	50.0		109	70-130			
cis-1,2-Dichloroethene	50.6	10	ng	50.0		101	70-130			
Trichloroethene	56.2	10	ng	50.0		112	70-130			
Tetrachloroethene	56.0	10	ng	50.0		112	70-130			
Surrogate: 1,2-DCA-d4	*56.9*		*ng*	50.0		*114*	*70-130*			
Surrogate: Toluene-d8	*50.7*		*ng*	50.0		*101*	*70-130*			
Surrogate: Bromofluorobenzene	*50.0*		*ng*	50.0		*100*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Additional QC Information

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Result Calculation Summary (Concentration)

EPA 8260C

Analyte	t Sampling Time minutes	DF Dilution Factor	U Uptake Rate	M Initial Result ng	C Calculated Result µg/m³	File ID
Lab ID: 0007001-03 **Sample Name:** Clinic Rm 108						
Vinyl Chloride	12,805	1.00	0.810	U	U	C23060115.D
trans-1,2-Dichloroethene	12,805	1.00	0.440	U	U	C23060115.D
cis-1,2-Dichloroethene	12,805	1.00	0.530	U	U	C23060115.D
Trichloroethene	12,805	1.00	0.330	U	U	C23060115.D
Tetrachloroethene	12,805	1.00	0.410	513.37	97.8	C23060115.D
Lab ID: 0007001-04 **Sample Name:** Clinic Bathroom						
Vinyl Chloride	12,785	1.00	0.810	U	U	C23060116.D
trans-1,2-Dichloroethene	12,785	1.00	0.440	U	U	C23060116.D
cis-1,2-Dichloroethene	12,785	1.00	0.530	U	U	C23060116.D
Trichloroethene	12,785	1.00	0.330	177.17	42.0	C23060116.D
Tetrachloroethene	12,785	23.25	0.410	1423.48	6,310	C23060148.D
Lab ID: 0007001-05 **Sample Name:** Clinic Rm 106						
Vinyl Chloride	12,680	1.00	0.810	U	U	C23060117.D
trans-1,2-Dichloroethene	12,680	1.00	0.440	U	U	C23060117.D
cis-1,2-Dichloroethene	12,680	1.00	0.530	U	U	C23060117.D
Trichloroethene	12,680	1.00	0.330	126.54	30.2	C23060117.D
Tetrachloroethene	12,680	23.25	0.410	1903.13	8,510	C23060149.D

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Result Calculation Summary (Concentration)

EPA 8260C

Analyte	t Sampling Time minutes	DF Dilution Factor	U Uptake Rate	M Initial Result ng	C Calculated Result µg/m³	File ID
Lab ID: 0007001-07 **Sample Name:** Clinic Exam Rm						
Vinyl Chloride	10,190	1.00	0.810	U	U	C23060119.D
trans-1,2-Dichloroethene	10,190	1.00	0.440	U	U	C23060119.D
cis-1,2-Dichloroethene	10,190	1.00	0.530	U	U	C23060119.D
Trichloroethene	10,190	1.00	0.330	U	U	C23060119.D
Tetrachloroethene	10,190	1.00	0.410	219.28	52.5	C23060119.D

Calculations:

$$C = \frac{1000 \times M \times DF}{U \times t}$$

where: C = concentration (µg/m^3)
M = mass (ng)
DF = dilution factor
t = sampling time (minutes)
U = compound specific uptake rate

Reference: Federal Register/Vol. 79, No. 125/June 30, 2014

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007001
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Method Detection and Reporting Limit Calculations (Concentration)

EPA 8260C

Analyte	t Sampling Time minutes	DF Dilution Factor	U Uptake Rate	M Initial LOQ ng	C Calculated LOQ µg/m³
Lab ID: 0007001-03 **Sample Name:** Clinic Rm 108					
Vinyl Chloride	12,805	1.00	0.810	10.0	0.96
trans-1,2-Dichloroethene	12,805	1.00	0.440	10.0	1.77
cis-1,2-Dichloroethene	12,805	1.00	0.530	10.0	1.47
Trichloroethene	12,805	1.00	0.330	10.0	2.37
Tetrachloroethene	12,805	1.00	0.410	10.0	1.90
Lab ID: 0007001-04 **Sample Name:** Clinic Bathroom					
Vinyl Chloride	12,785	1.00	0.810	10.0	0.97
trans-1,2-Dichloroethene	12,785	1.00	0.440	10.0	1.78
cis-1,2-Dichloroethene	12,785	1.00	0.530	10.0	1.48
Trichloroethene	12,785	1.00	0.330	10.0	2.37
Tetrachloroethene	12,785	23.25	0.410	10.0	44.4
Lab ID: 0007001-05 **Sample Name:** Clinic Rm 106					
Vinyl Chloride	12,680	1.00	0.810	10.0	0.97
trans-1,2-Dichloroethene	12,680	1.00	0.440	10.0	1.79
cis-1,2-Dichloroethene	12,680	1.00	0.530	10.0	1.49
Trichloroethene	12,680	1.00	0.330	10.0	2.39
Tetrachloroethene	12,680	23.25	0.410	10.0	44.7

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Method Detection and Reporting Limit Calculations (Concentration)

EPA 8260C

Analyte	t Sampling Time minutes	DF Dilution Factor	U Uptake Rate	M Initial LOQ ng	C Calculated LOQ µg/m³
Lab ID: 0007001-07 **Sample Name:** Clinic Exam Rm					
Vinyl Chloride	10,190	1.00	0.810	10.0	1.21
trans-1,2-Dichloroethene	10,190	1.00	0.440	10.0	2.23
cis-1,2-Dichloroethene	10,190	1.00	0.530	10.0	1.85
Trichloroethene	10,190	1.00	0.330	10.0	2.97
Tetrachloroethene	10,190	1.00	0.410	10.0	2.39

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Laboratory Certification List

Certification ID	Certification No.	Description	Expires	Project Required
Alaska CS-LAP	19-002	Alaska Department of Environmental Conservation	12/30/2024	
DoD-ELAP	72690/L22-563	United States Department of Defense Environmental Laboratory Accreditation	11/30/2024	
ISO/IEC 17025:2017	72690/L22-563	General Requirements for the Competence of Testing and Calibration Laboratories	11/30/2024	
NEFAP	72690/L22-564	TNI National Environmental Field Activities Program (NEFAP)	11/30/2024	
NY-NELAC	12097	New York Department of Health	04/01/2024	
Utah-NELAC	MD010912022-12	Utah Department of Health	12/31/2023	

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Qualifiers/Notes and Definitions

General Definitions:

DF	Dilution Factor
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
NA	Not Applicable
Q	Qualifier
RPD	Relative Percent Difference
RT	Retention Times in Minutes
RRT	Evaluation of Relative Retention Times in RRT Units (qualified if outside $\pm$0.06 control limits)
3σ	Uncertainty
∉	Compound not on scope of accreditation
+	values are outside method/contract required QC limits
∅	Compound not on scope of accreditation and analyzed with a one-point calibration

Sample/Sample Receipt Qualifiers and Notes:

D	Dilution required to report within calibration Limits.

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Fehr Graham	**Site Name:** Bay Towel 21-1121	**Beacon Proposal:** 230330R04
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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Management Records

BEACON ENVIRONMENTAL
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Forest Hill, MD 21050, USA
Need help? Call 1-410-838-8780
or email help@beacon-usa.com

(PSG)

PASSIVE SOIL GAS SAMPLES | CHAIN-OF-CUSTODY

Project Information		Client Information	
Site Name: Bay Towel 21-1121		Company Name: Fehr Graham	Project Manager: Dillon Plamann
		Office Location: Sheboygan, WI	Client PO:
Site Location: Green Bay, Wisconsin		Submitted by: J. Williams	Turn around time (check one): [X] Normal [ ] Rush (specify) ____ days
		Email: jwilliams@fehrgraham.com	

Field Sample ID	Start Date	Start Time	Stop Date	Stop Time	Sampling Hole Depth [ ] cm [X] inches	Surface Type (Soil, Asphalt, Concrete, Gravel)	Optional Information (Location Description, Sample Condition, PID / FID Readings, etc)
#1 FireDept #1 Boiler Room	5/16/23	1145a	5/23/23	1140a	7"	Concrete	Boiler Room (Basement)
#2 FireDept #2 Store Room		1230p	5/23/23	1230pm	8"	concrete	Store Room (Garage)
Clinic Rm 108		115p	5/25/23	10:40am	11.4"	Carpet, vinyl flooring, concrete	Room 108
Clinic Bathroom		200p	5/25/23	11:05am	12"	vinyl, concrete	Bathroom
Clinic Rm 104		245p	5/25/23	1005 am	10"	carpet, vinyl flooring, concrete	Room 104
Residence	↓	515pm	5/23/23	130pm	9"	concrete	Basement
Clinic Exam Rm	5/18/23	945a	5/25/23	11:35am	8.50"	vinyl, concrete	Exam Room

Special Instructions: CVOCs

For Lab Use Only	Beacon Job No: 7001	Beacon Proposal: 230330R04	Analytical Method:

FedEx Good custody seal not in tact: 4769935

Nicole Reife 6/1/23 10:32

Pg ___ of ___

Beacon Environmental
2203A Commerce Road, Suite 1
Forest Hill, MD 21050 USA
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CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 230330R05

Laboratory Work Order: 0007002

Project Description:
Bay Towel 21-1121(A)
Green Bay, WI

Prepared for:
Jenna Williams
Fehr Graham
909 North 8th Street, Suite 101
Sheboygan, WI 53081

Ryan W. Schneider
Senior Project Manager

June 12, 2023

All data meet requirements as specified in the Beacon Environmental Quality Assurance Project Plan and the results relate only to the samples reported. The work performed was in accordance with ISO/IEC 17025:2017. This report shall not be reproduced, except in full, without written approval of the laboratory. Release of the data contained in this data package has been authorized by the Laboratory Director or his signee, as verified by the following signatures:

Steven C. Thornley
Laboratory Director

Peter B. Kelly
Quality Manager

Table of Contents

BEACON ENVIRONMENTAL

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Summary

Lab Sample ID	Client Sample ID	Received	Analysis	Matrix
0007002-01	Outdoor Air	06/01/2023	TO-17 (Passive)	Ambient Air
Sampler Type:	Beacon Passive Sampler			
0007002-02	Fire Dept. Indoor Air	06/01/2023	TO-17 (Passive)	Indoor Air
Sampler Type:	Beacon Passive Sampler			
0007002-03	Clinic Indoor Air	06/01/2023	TO-17 (Passive)	Indoor Air
Sampler Type:	Beacon Passive Sampler			
0007002-04	Residence Indoor Air	06/01/2023	TO-17 (Passive)	Indoor Air
Sampler Type:	Beacon Passive Sampler			

Project Completeness

Samples Received: 4
Samples Analyzed: 4

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Case Narrative

Beacon Environmental provided thermally conditioned Beacon Samplers for sampling, with analyses following U.S. EPA Method TO-17, with analytical results reported in µg/m3. Beacon calculated concentration results using the exposure period, target analyte mass, and the following procedures detailed in ISO 16017-2, *Indoor, ambient and workplace air-Sampling and analysis of volatile organic compounds by sorbent tube/thermal desorption/capillary gas chromatography-Part 2: Diffusive sampling.*

Beacon reports results and reporting limits to three significant digits.

Reporting Limits (RLs)
The RLs represent a baseline above which results meet laboratory-determined limits of precision and accuracy. Beacon performed dilution analysis when results exceeded the upper calibration limit, bringing all reported results within the calibration range. The project method quantitation limit (MQL) is the limit of quantitation (LOQ) as noted in the data tables. The reported data includes LOQ limits.

Calibration Verification
All continuing calibration verification (CCV) values are within ±30% of the true values as defined by the initial calibration and met the requirements specified in BEACON's Quality Manual.

Internal Standards and Surrogates
Internal standards and surrogates are spiked on all blanks (ICB, BLK), field samples and laboratory control samples (ICV/CALV, BS, ICV and CCV). Acceptance criteria for internal standards are 60 to 140 percent and surrogate recoveries are 70 to 130 percent; all internal standards and surrogates are within the acceptance criteria unless noted in the **Case Narrative**.

Blank Contamination
No targeted compounds above the project method quantitation limit (MQL) for each compound were observed in the Laboratory Method Blanks unless noted in the **Case Narrative**.

Laboratory Control Samples
Acceptance criteria for surrogate and analytes recoveries are 70 to 130 percent; all recoveries are within the acceptance criteria unless noted in the **Case Narrative**.

Discussion
Samples were received in proper condition and laboratory control parameters were met unless otherwise noted below. The work performed was in accordance with ISO/IEC 17025:2017.

End of Case Narrative

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Analytical Results

BEACON ENVIRONMENTAL

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Summary of Compound Detections- Concentration

Lab Sample ID: 0007002-03

Clinic Indoor Air
Indoor Air

Method: TO-17 (Passive)

Analyte	CAS#	Result (µg/m³)	Q	RT	LOQ (µg/m³)	File ID
Tetrachloroethene	127-18-4	**7.76**		5.939	1.90	C23060107.D

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Data Summary Table- Concentration

Compound	Frequency	LOQ (µg/m³)	Max Value (µg/m³)
Tetrachloroethene	1	1.90	7.76

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1.410.838.8780

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Detailed Analytical Results

BEACON ENVIRONMENTAL

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007002-01

Outdoor Air

Ambient Air

Method: TO-17 (Passive)

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.960		0.960	06/01/2023 16:05	C23060105.D
trans-1,2-Dichloroethene	156-60-5	<1.77		1.77	06/01/2023 16:05	C23060105.D
cis-1,2-Dichloroethene	156-59-2	<1.47		1.47	06/01/2023 16:05	C23060105.D
Trichloroethene	79-01-6	<2.36		2.36	06/01/2023 16:05	C23060105.D
Tetrachloroethene	127-18-4	<1.90		1.90	06/01/2023 16:05	C23060105.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*115%*	*70-130*		*06/01/2023 16:05*	*C23060105.D*
Surrogate: Toluene-d8	2037-26-5	*97.7%*	*70-130*		*06/01/2023 16:05*	*C23060105.D*
Surrogate: Bromofluorobenzene	460-00-4	*96.5%*	*70-130*		*06/01/2023 16:05*	*C23060105.D*

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Lab Sample ID: 0007002-03

Clinic Indoor Air

Indoor Air

Method: TO-17 (Passive)

Analyte	CAS#	Result (µg/m³)	Q	LOQ (µg/m³)	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.963		0.963	06/01/2023 17:07	C23060107.D
trans-1,2-Dichloroethene	156-60-5	<1.77		1.77	06/01/2023 17:07	C23060107.D
cis-1,2-Dichloroethene	156-59-2	<1.47		1.47	06/01/2023 17:07	C23060107.D
Trichloroethene	79-01-6	<2.36		2.36	06/01/2023 17:07	C23060107.D
Tetrachloroethene	127-18-4	**7.76**		1.90	06/01/2023 17:07	C23060107.D

Analyte	*CAS#*	*% Recovery*	*Recovery Limits*	*Q*	*Analyzed*	*File ID*
Surrogate: 1,2-DCA-d4	17060-07-0	*115%*	*70-130*		*06/01/2023 17:07*	*C23060107.D*
Surrogate: Toluene-d8	2037-26-5	*96.7%*	*70-130*		*06/01/2023 17:07*	*C23060107.D*
Surrogate: Bromofluorobenzene	460-00-4	*104%*	*70-130*		*06/01/2023 17:07*	*C23060107.D*

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

QC Information/Summary

BEACON ENVIRONMENTAL

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23E015 - Instrument: C System - File ID: FC23050329.D

B23E015-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	52.4	10	ng	50.0		105	70-130			
trans-1,2-Dichloroethene	57.3	10	ng	50.0		115	70-130			
cis-1,2-Dichloroethene	50.8	10	ng	50.0		102	70-130			
Trichloroethene	53.2	10	ng	50.0		106	70-130			
Tetrachloroethene	54.8	10	ng	50.0		110	70-130			
Surrogate: 1,2-DCA-d4	*53.0*		*ng*	50.0		*106*	*70-130*			
Surrogate: Toluene-d8	*54.3*		*ng*	50.0		*109*	*70-130*			
Surrogate: Bromofluorobenzene	*52.9*		*ng*	50.0		*106*	*70-130*			

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23E015 - Instrument: C System - File ID: FC23050330.D

B23E015-ICB1 (Lab Blank/Initial Calibration Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
Surrogate: 1,2-DCA-d4	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Toluene-d8	*105*		*ng*	100		*105*	*70-130*			
Surrogate: Bromofluorobenzene	*100*		*ng*	100		*100*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060102.D

23F0001-BS1 (LCS, Calibration Source Verification)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	44.6	10	ng	50.0		89.2	70-130			
trans-1,2-Dichloroethene	53.7	10	ng	50.0		107	70-130			
cis-1,2-Dichloroethene	50.0	10	ng	50.0		100	70-130			
Trichloroethene	54.7	10	ng	50.0		109	70-130			
Tetrachloroethene	55.8	10	ng	50.0		112	70-130			
Surrogate: 1,2-DCA-d4	*57.5*		*ng*	50.0		*115*	*70-130*			
Surrogate: Toluene-d8	*50.8*		*ng*	50.0		*102*	*70-130*			
Surrogate: Bromofluorobenzene	*51.0*		*ng*	50.0		*102*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Batch: 23F0001 - Instrument: C System - File ID: C23060103.D

23F0001-BLK1 (Lab Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<0.938	0.938	µg/m³							U
trans-1,2-Dichloroethene	<1.73	1.73	µg/m³							U
cis-1,2-Dichloroethene	<1.43	1.43	µg/m³							U
Trichloroethene	<2.30	2.30	µg/m³							U
Tetrachloroethene	<1.85	1.85	µg/m³							U
Surrogate: 1,2-DCA-d4	*117*		*ng*	100		*117*	*70-130*			
Surrogate: Toluene-d8	*104*		*ng*	100		*104*	*70-130*			
Surrogate: Bromofluorobenzene	*95.8*		*ng*	100		*95.8*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Instrument: C System - File ID: C23060104.D

B23F002-ICV1 (LCSD/Second Source Verification/CALV)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	48.3	10	ng	50.0		96.6	70-130			
trans-1,2-Dichloroethene	56.4	10	ng	50.0		113	70-130			
cis-1,2-Dichloroethene	51.6	10	ng	50.0		103	70-130			
Trichloroethene	57.5	10	ng	50.0		115	70-130			
Tetrachloroethene	57.1	10	ng	50.0		114	70-130			
Surrogate: 1,2-DCA-d4	*56.8*		*ng*	50.0		*114*	*70-130*			
Surrogate: Toluene-d8	*50.7*		*ng*	50.0		*101*	*70-130*			
Surrogate: Bromofluorobenzene	*50.5*		*ng*	50.0		*101*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Instrument: C System - File ID: C23060111.D

B23F002-CCV1 (LCS, Closing Calibration Verification)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	51.1	10	ng	50.0		102	70-130			
trans-1,2-Dichloroethene	55.3	10	ng	50.0		111	70-130			
cis-1,2-Dichloroethene	51.4	10	ng	50.0		103	70-130			
Trichloroethene	56.3	10	ng	50.0		113	70-130			
Tetrachloroethene	58.3	10	ng	50.0		117	70-130			
Surrogate: 1,2-DCA-d4	*55.7*		*ng*	50.0		*111*	*70-130*			
Surrogate: Toluene-d8	*48.5*		*ng*	50.0		*97.0*	*70-130*			
Surrogate: Bromofluorobenzene	*48.9*		*ng*	50.0		*97.9*	*70-130*			

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Organics in Air by EPA TO-17 Using Beacon Sampler - Quality Control Summary

Sequence: B23F002 - Instrument: C System - File ID: C23060112.D

B23F002-CCB1 (Lab Blank)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	<5	10	ng							U
trans-1,2-Dichloroethene	<5	10	ng							U
cis-1,2-Dichloroethene	<5	10	ng							U
Trichloroethene	<5	10	ng							U
Tetrachloroethene	<5	10	ng							U
Surrogate: 1,2-DCA-d4	*115*		*ng*	100		*115*	*70-130*			
Surrogate: Toluene-d8	*99.7*		*ng*	100		*99.7*	*70-130*			
Surrogate: Bromofluorobenzene	*95.8*		*ng*	100		*95.8*	*70-130*			

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CERTIFICATE OF ANALYSIS

Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

TO-17 (Passive) - LCS/LCSD RPD Quality Control Summary

LCS: 23F0001-BS1 File ID: C23060102.D Analyzed: 6/1/23 15:35

LCSD: B23F002-ICV1 File ID: C23060104.D Analyzed: 6/1/23 14:46

Analyte	CAS#	LCS Result (ng)	%REC	Q	Spike Level (ng)	LCSD Result (ng)	%REC	%REC Limits	RPD	RPD Limit	Q
Vinyl Chloride	75-01-4	44.61	89.22		50	48.3	96.60	70-130	7.94	30	
trans-1,2-Dichloroethene	156-60-5	53.72	107.44		50	56.42	113.00	70-130	4.90	30	
cis-1,2-Dichloroethene	156-59-2	50.04	100.08		50	51.62	103.00	70-130	3.11	30	
Trichloroethene	79-01-6	54.69	109.38		50	57.45	115.00	70-130	4.92	30	
Tetrachloroethene	127-18-4	55.83	111.66		50	57.09	114.00	70-130	2.23	30	

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Additional QC Information

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Result Calculation Summary (Concentration)

TO-17 (Passive)

Analyte	t Sampling Time minutes	DF Dilution Factor	Uc Uptake Rate	M Initial Result ng	C Calculated Result µg/m³	File ID
Lab ID: 0007002-01 **Sample Name:** Outdoor Air					**Temp (°C):** 7.20	
Vinyl Chloride	13,070	1.00	0.797	U	U	C23060105.D
trans-1,2-Dichloroethene	13,070	1.00	0.433	U	U	C23060105.D
cis-1,2-Dichloroethene	13,070	1.00	0.521	U	U	C23060105.D
Trichloroethene	13,070	1.00	0.325	U	U	C23060105.D
Tetrachloroethene	13,070	1.00	0.403	U	U	C23060105.D
Lab ID: 0007002-03 **Sample Name:** Clinic Indoor Air					**Temp (°C):** 21.00	
Vinyl Chloride	12,720	1.00	0.816	U	U	C23060107.D
trans-1,2-Dichloroethene	12,720	1.00	0.443	U	U	C23060107.D
cis-1,2-Dichloroethene	12,720	1.00	0.534	U	U	C23060107.D
Trichloroethene	12,720	1.00	0.332	U	U	C23060107.D
Tetrachloroethene	12,720	1.00	0.413	40.79	7.76	C23060107.D

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Calculations:

$$C = \frac{1000 \times M \times DF}{Uc \times t}$$

$$Uc = U * \left(\left(\frac{Ts + 273.15}{Tu + 273.15}\right)^{1/2}\right)$$

where:
- C = concentration (µg/m^3)
- M = mass (ng)
- DF = dilution factor
- Uc = uptake rate (ml/min), corrected
- t = sampling time (minutes)
- U = compound specific uptake rate
- Tu = uptake rate study temperature
- Ts = sample average temperature

Note: Tu is 16.65°C

Reference: Federal Register/Vol. 79, No. 125/June 30, 2014

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Method Detection and Reporting Limit Calculations (Concentration)

TO-17 (Passive)

Lab ID: 0007002-01 **Sample Name:** Outdoor Air **Temp (°C):** 7.20

Analyte	t Sampling Time minutes	DF Dilution Factor	Uc Uptake Rate	M Initial LOQ ng	C Calculated LOQ µg/m³
Vinyl Chloride	13,070	1.00	0.797	10.0	0.960
trans-1,2-Dichloroethene	13,070	1.00	0.433	10.0	1.77
cis-1,2-Dichloroethene	13,070	1.00	0.521	10.0	1.47
Trichloroethene	13,070	1.00	0.325	10.0	2.36
Tetrachloroethene	13,070	1.00	0.403	10.0	1.90

Lab ID: 0007002-03 **Sample Name:** Clinic Indoor Air **Temp (°C):** 21.00

Analyte	t Sampling Time minutes	DF Dilution Factor	Uc Uptake Rate	M Initial LOQ ng	C Calculated LOQ µg/m³
Vinyl Chloride	12,720	1.00	0.816	10.0	0.963
trans-1,2-Dichloroethene	12,720	1.00	0.443	10.0	1.77
cis-1,2-Dichloroethene	12,720	1.00	0.534	10.0	1.47
Trichloroethene	12,720	1.00	0.332	10.0	2.36
Tetrachloroethene	12,720	1.00	0.413	10.0	1.90

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Fehr Graham	**Site Name:** Bay Towel 21-1121(A)	**Beacon Proposal:** 230330R05
909 North 8th Street, Suite 101	**Site Location:** Green Bay, WI	**Lab Work Order:** 0007002
Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Laboratory Certification List

Certification ID	Certification No.	Description	Expires	Project Required
Alaska CS-LAP	19-002	Alaska Department of Environmental Conservation	12/30/2024	
DoD-ELAP	72690/L22-563	United States Department of Defense Environmental Laboratory Accreditation	11/30/2024	
ISO/IEC 17025:2017	72690/L22-563	General Requirements for the Competence of Testing and Calibration Laboratories	11/30/2024	
NEFAP	72690/L22-564	TNI National Environmental Field Activities Program (NEFAP)	11/30/2024	
NY-NELAC	12097	New York Department of Health	04/01/2024	
Utah-NELAC	MD010912022-12	Utah Department of Health	12/31/2023	

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Qualifiers/Notes and Definitions

General Definitions:

DF	Dilution Factor
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
NA	Not Applicable
Q	Qualifier
RPD	Relative Percent Difference
RT	Retention Times in Minutes
RRT	Evaluation of Relative Retention Times in RRT Units (qualified if outside $\pm$0.06 control limits)
3σ	Uncertainty
∉	Compound not on scope of accreditation
+	values are outside method/contract required QC limits
∅	Compound not on scope of accreditation and analyzed with a one-point calibration

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Sheboygan, WI 53081	**Project Manager:** Jenna Williams	**Reported:** 06/12/2023

Sample Management Records

(AIR)

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Forest Hill, MD 21050, USA
1-410-838-8780
800-878-5510 Toll Free

PASSIVE AIR SAMPLING - BEACON SAMPLER | CHAIN-OF-CUSTODY

Client Information			
Company: Fehr Graham	Project Manager: Dan Mamann	Client PO:	
Address: 909 N 8th Street, Suite 101	Project Name: Bay Towel 21-1121	Turn around time (check one): ☒ Normal ☐ Rush (specify) ____ days	
City / State / Zip: Sheboygan, WI 53081	Location: Green Bay, WI	Analysis: ☐ Method TO-17 ☐ Method 8260C	
Phone: 920-453-0700	Submitted by: J. Williams		
	Email: jwilliams@fehrgraham.com		

Location ID	Start Date	Start Time	Stop Date	Stop Time	Aver Temp (C)	Notes	INDOOR AIR	AMBIENT AIR	CRAWL SPACE	SEWER GAS
Outdoor Air	5/16/23	1030a	5/25/23	1220pm	~~27.2~~	S/W of FD	X	X		
Fire Dept. Indoor Air	↓	1100a	5/23/23	1123a	21 ~~28°C~~		X			
Clinic Indoor Air		400pm	5/25/23	1200p	21 ~~25°C~~	→ moved before Tues. 5/23	X			
Residence Indoor Air		530pm	5/23/23	1:15pm	21 ~~25°C~~ NAK 6/2/23		X			

Special Notes / Instructions: CVOCs

For Lab Use Only	Beacon Job No: 7002	Beacon Proposal: 230330R05	

FedEx Good custody seal not in tact: 4769935

Nicole Reife 6/1/23 10:32

Pg ___ of ___

Understanding Chemical Vapor Intrusion Testing Results

RR-977 October 2014

From the Lab to You

Chemical vapor samples were taken from underneath your house or building and possibly indoors as well. These samples have been tested by a certified laboratory and a report was issued. The Wisconsin Department of Natural Resources (DNR) uses these test results to determine if people in the building are being exposed to chemical vapors coming from nearby contaminated soil or groundwater, and to decide what, if any, action is needed to prevent this exposure.

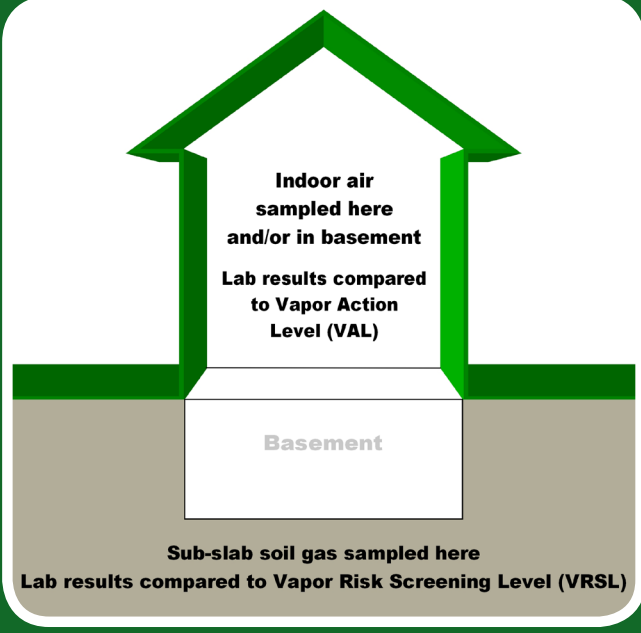
Indoor Air Testing Results

If indoor air samples were collected in your house or building, test results from the lab will be compared to the state Vapor Action Level (VAL) for chemicals of concern. The VAL is a chemical compound's numerical value that represents a health hazard risk to no more than 1 in 100,000 people during a lifetime of exposure. If test results show chemical concentrations in your air below the VAL then adverse health effects are extremely rare, even if you were to breathe the chemical at this concentration for your entire life.

Test results showing chemical concentrations in the air at or above the VAL prompt DNR to recommend that exposure to these chemical vapors be reduced. If test results show concentrations significantly above the VAL, or more than one type of chemical vapor is identified in your indoor air, the risk from exposure increases. If the concentration of any indoor chemical vapor greatly exceeds the VAL, DNR is concerned about even short-term exposure and will typically require immediate action to address the problem.

The VAL for each chemical is set by scientific research. It is protective of all people, including those who are most susceptible to adverse health effects.

If test results identify chemicals in your air that are not present in nearby soil or groundwater contamination, it is likely that these vapors are coming from some product or activity in or near your house or building. Many everyday consumer products (e.g., cleaners, solvents, polish, adhesives, lubricants, aerosols, insect repellants, etc.); combustion processes (e.g., smoking, home heating); fuels in attached garages; dry cleaned clothing or draperies; and occupant activities (e.g., craft hobbies), also release chemical vapors into the air.



The air and soil gas samples from your property are tested at a laboratory. Chemical concentrations are measured and the results are compared to state health-risk numbers.

Sub-slab Soil Gas Testing Results

Soil gas samples were collected from the ground beneath the concrete slab of your building foundation or basement. The lab measured the concentrations of various chemicals in these samples. DNR compares these measurements to the state Vapor Risk Screening Level (VRSL), which identifies the concentration of a chemical in soil gas that scientific research suggests can be a health risk if vapor enters a building. If soil gas measurements exceed the VRSL for a chemical of concern, action to reduce exposure is strongly recommended.

The VRSL is a higher number (higher chemical concentration) than the VAL because it is presumed that concrete building foundations and basement walls will prevent most soil gas from entering a building. Further, any soil gas that does enter a building through cracks, holes, sump pumps, drains, etc., will be diluted to some extent by the indoor air. So, people inside will not be breathing air that includes the full concentration of chemical vapors that exist in the ground.

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DNR generally relies on the test results of the sub-slab soil gas samples when determining what, if any, action should be taken related to chemical vapors coming from nearby soil or groundwater contamination. Indoor air quality is highly variable, and it is difficult to make a definitive decision about vapor intrusion based on indoor air sampling alone.

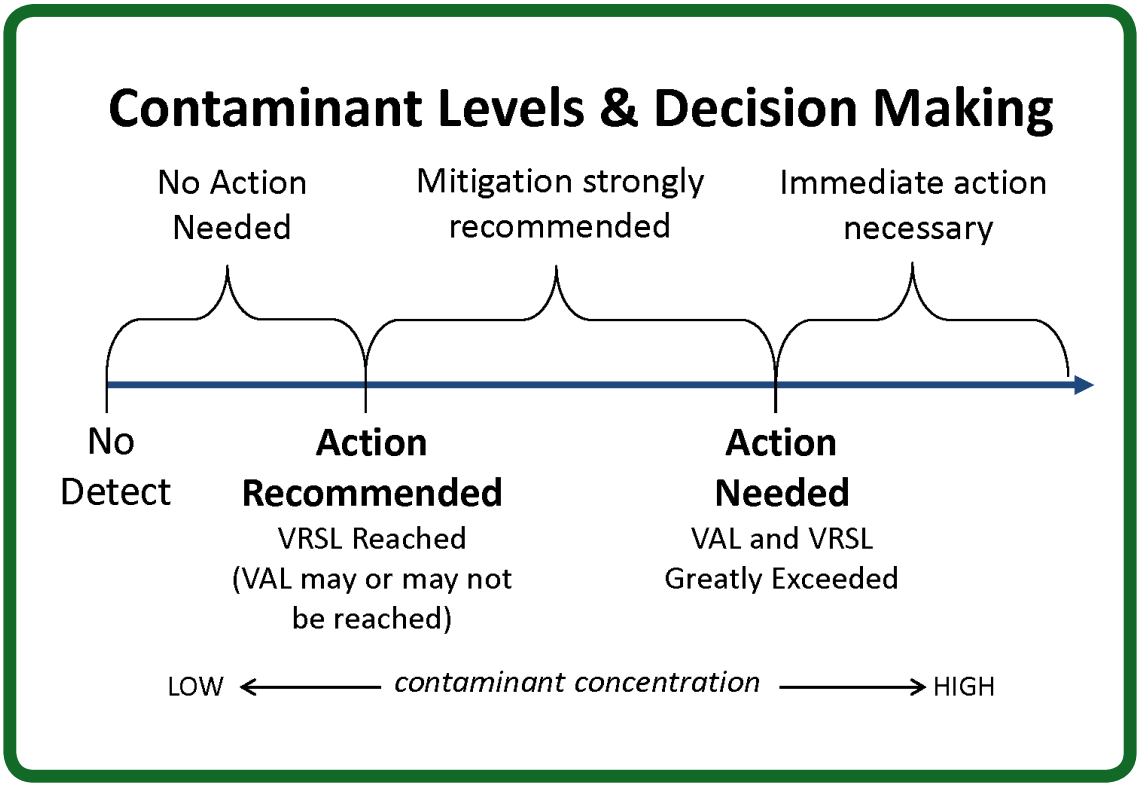
Follow-Up Actions

If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

When test results show soil gas chemical concentrations above a VRSL, both DNR and the Wisconsin Department of Health Services recommend that owners take action to reduce potential exposure. This typically involves installing a vapor mitigation system that vents chemical vapors from beneath your home or building to the outdoors, similar to a radon mitigation system.

If indoor air concentrations exceed a VAL, but sub-slab concentrations are less than a VRSL, then the chemical vapors are most likely coming from indoor sources. Steps should be taken by the house or building owner to identify the products and practices causing the problem and implement appropriate remedies.

If soil gas mitigation is recommended, a representative of the party who is responsible for the soil or groundwater contamination will contact you to discuss your options.



A Note about Measurement Units: The lab report may include some unfamiliar technical language. The most important point to note is whether or not the test result for a specific chemical exceeds a VAL or VRSL, which are also sometimes referred to, generically, as "screening levels."

The concentration of gaseous pollutants in air is typically described in two different ways: 1) as units of mass per volume, where µg/m3 represents micrograms of gaseous pollutant per cubic meter of ambient air; and 2) as parts per billion by volume (ppbv), where the volume of a gaseous pollutant is compared to a set volume of ambient air. These are the numbers that are compared to the VAL and VRSL.

For more information, visit **dnr.wi.gov/topic/Brownfields/Vapor.html**

This document contains information about certain state statutes and administrative rules but does not necessarily include all of the details found in the statutes and rules. Readers should consult the actual language of the statutes and rules to answer specific questions. The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240. This publication is available in alternative format upon request. Please call 608-267-3543 for more information.