

January 15, 2024

Lee and Roxanne Gnatzig P.O. Box 101 Reedsburg, WI 53959

> SUBJECT: 2<sup>nd</sup> Round Vapor Sampling Results - <u>Contaminants Not Detected</u> PROPERTY: Reedsburg Cleaners, 120 N. Locust Street (PSI A); BRRTS # 02-57-001682

Dear Lee and Roxanne Gnatzig,

Included are the findings of our recent 2<sup>nd</sup> round investigation on your property conducted by Bay West, LLC (Bay West) an environmental consultant hired by the Wisconsin Department of Natural Resources (WDNR).

#### **Background:**

As you are aware, this investigation was conducted because of the potential for contaminant vapors from the nearby Reedsburg Cleaners property identified above to migrate through soil, accumulate beneath the foundation of your property, and possibly enter your indoor air. The contaminant of concern at the Reedsburg Cleaners property is tetrachloroethylene (PCE) and trichloroethylene (TCE). The history of this site and the potential concerns to neighboring residents were described in detail in the original letter sent to your home.

#### Sampling:

On December 5, 2023, Bay West deployed passive air sampling devices at each floor of your residence and installed one passive vapor sampler below the concrete floor of your basement for the collection of indoor air and sub-slab soil vapor samples. On December 19, 2023, the sample devices were retrieved then submitted to Beacon Environmental, where it underwent laboratory analysis for five contaminants, including PCE, TCE, cis-1,2-dichloroethene (DCE), trans-1,2-dichloroethene (DCE) and vinyl chloride (VC).

#### **Your Test Results:**

Attached are copies of the laboratory report for your passive vapor sub-slab and indoor air samples. The results of this 2<sup>nd</sup> round of sampling shows that contaminants of concern were not detected.

In conclusion, sampling the air indoors and beneath your home on two different occasions revealed no detections of the chemicals of concern. As a result, no further air sampling is planned at your property. Thank you for your cooperation with sampling. Please contact us if you have any questions now or in the future.

Sincerely,

Tarek Aboueid
Environmental Scientist
651.724.9757

taboueid@baywest.com

Jason Kunze

Senior Project Manager

651.291.3438

Jkunze@baywest.com

Copy: Mr. Harry Ardono, renter (via US Mail)

Rob Hoverman, PG, WDNR, 414.497.0896, Robert.Hoverman@wisconsin.gov Jeff Ackerman, WDNR PM, 608.275.3323, jeff.ackerman@wisconsin.gov

Jeramiah Yee, Wisconsin Dept of Health Services, 608-266-1865, dhsdphoperations@dhs.wisconsin.gov



#### Attachments:

#### **TABLE**

Table – Tabulated vapor analytical results with the sample dates, sample type (sub-slab or indoor air), and location.

#### **FIGURES**

Figure 1 – Property Location Map

Figure 2 and 2A – Building Map showing sampling locations.

#### **APPENDIX**

Appendix A – Access Agreement

Appendix B – Laboratory Analytical Results with Chain of Custody (2<sup>nd</sup> Round)

Appendix C – Vapor Sampling Field Checklist from (2<sup>nd</sup> Round)

Appendix D – Understanding Chemical Vapor Testing Results (DNR PUB-RR-977)



#### Table 1A

#### **Indoor Air Sub-Slab Analytical Results**



157001460 – Reedsburg Cleaners 120 N. Locust Street, Reedsburg, WI Property Sample Identifier (PSI) - A

	Location						120 N Locust	Street (PSI A)			
	Sample ID	Indoor Air VAL	Sub-Slab Vapor	08A_SSV_01_20230801	08A_SSV_01_20231219	08A_IAB_01_20230801	08A_IAB_01_20231219	08A_IA1_02_20230801	08A_IA1_02_20231219	08A_IA2_03_20230801	08A_IA2_03_20231219
Date	s Sampled	Residential	VRSL Residential	7/18 to 8/1/2023	12/5 to 12/19/2023						
Applicable A	ction Level			VF	SL	V	AL	V.	AL	V	AL
Volatile Organic Compounds	s (method	EPA TO-17)									
cis-1,2-Dichloroethene	156-59-2	42	1400	< 0.935	< 0.936	< 0.928	< 0.929	< 0.929	< 0.929	< 0.929	< 0.929
Tetrachloroethene (PCE)	127-18-4	42	1400	< 1.21	< 1.21	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20
trans-1,2-Dichloroethene	156-60-5	42	1400	< 1.13	< 1.13	< 1.12	< 1.12	< 1.12	< 1.12	< 1.12	< 1.12
Trichloroethene (TCE)	79-01-6	2.1	70	< 1.50	< 1.50	< 1.49	< 1.49	< 1.49	< 1.49	< 1.49	< 1.49
Vinyl chloride	75-01-4	1.7	56	< 0.612	< 0.613	< 0.607	< 0.608	< 0.608	< 0.608	< 0.608	< 0.608

#### Notes:

All results are in micrograms per cubic meter (μg/m <sup>3</sup>)

USEPA VISL – United States Environmental Protection Agency Vapor Intrusion Screening Level

WIDNR – Wisconsin Department of Natural Resources

VAL – WIDNR Vapor Action Level, calculated using USEPA VISLs published November 2023

VRSL – WIDNR Vapor Risk Screening Level, calculated using USEPA VISLs published November 2023

— – No USEPA VISL established

< - Less than the laboratory Reporting Limit (RL)

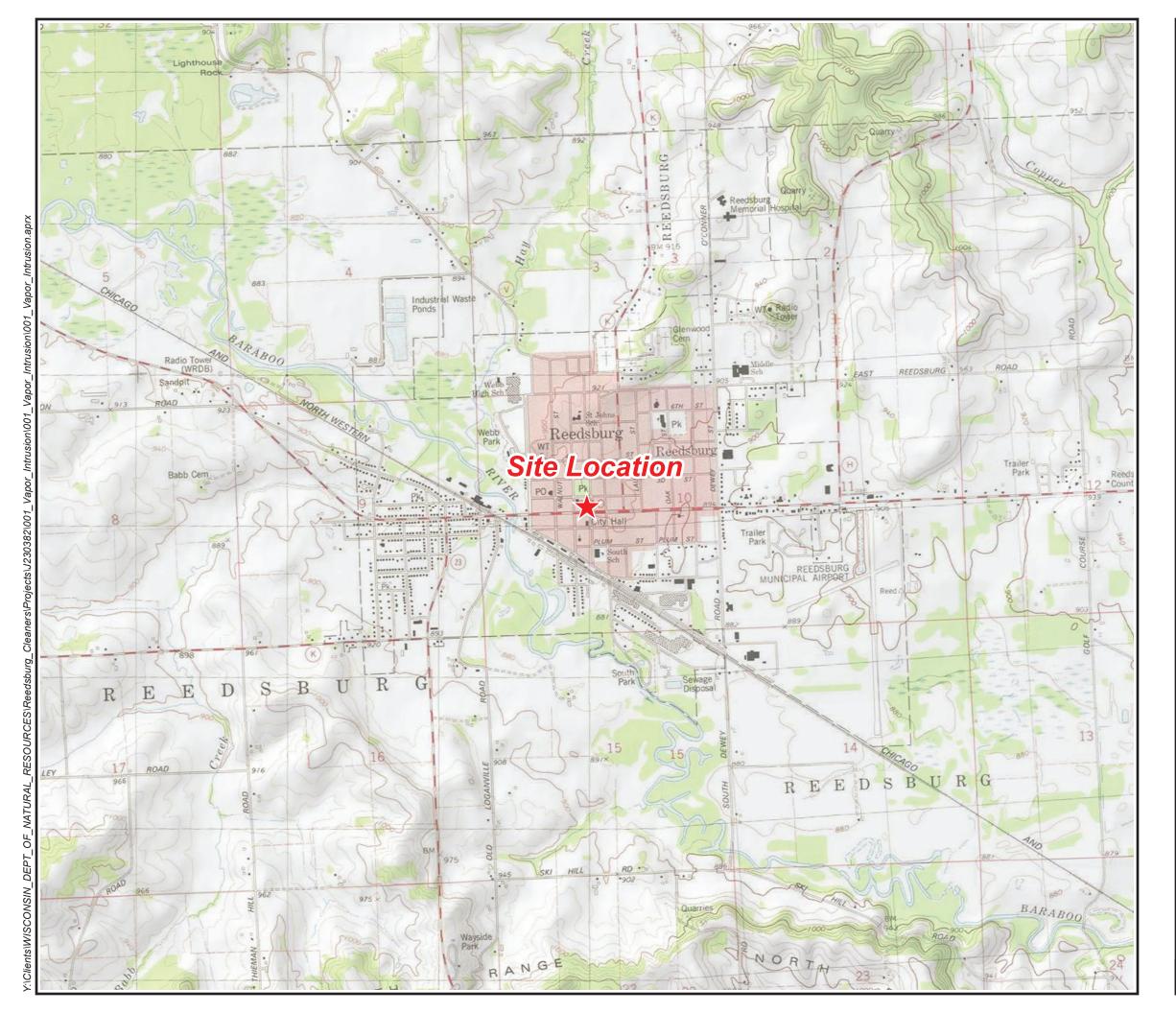
Bold – Analyte detected

Grey – Result exceeds the Residential VAL

Orange - Result exceeds the Residential VRSL



### **FIGURES**



## Figure 1

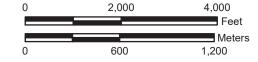
### Site Location Map

Reedsburg Cleaners WDNR ERP Case #: 02-57-001682 WDNR PS Act. ID: VIZC\_REEDSBURG

Reedsburg, WI 53959



Map Projection: NAD 1983 UTM Zone 15 N, Meters Basemap: ESRI USA Topo Maps WMS

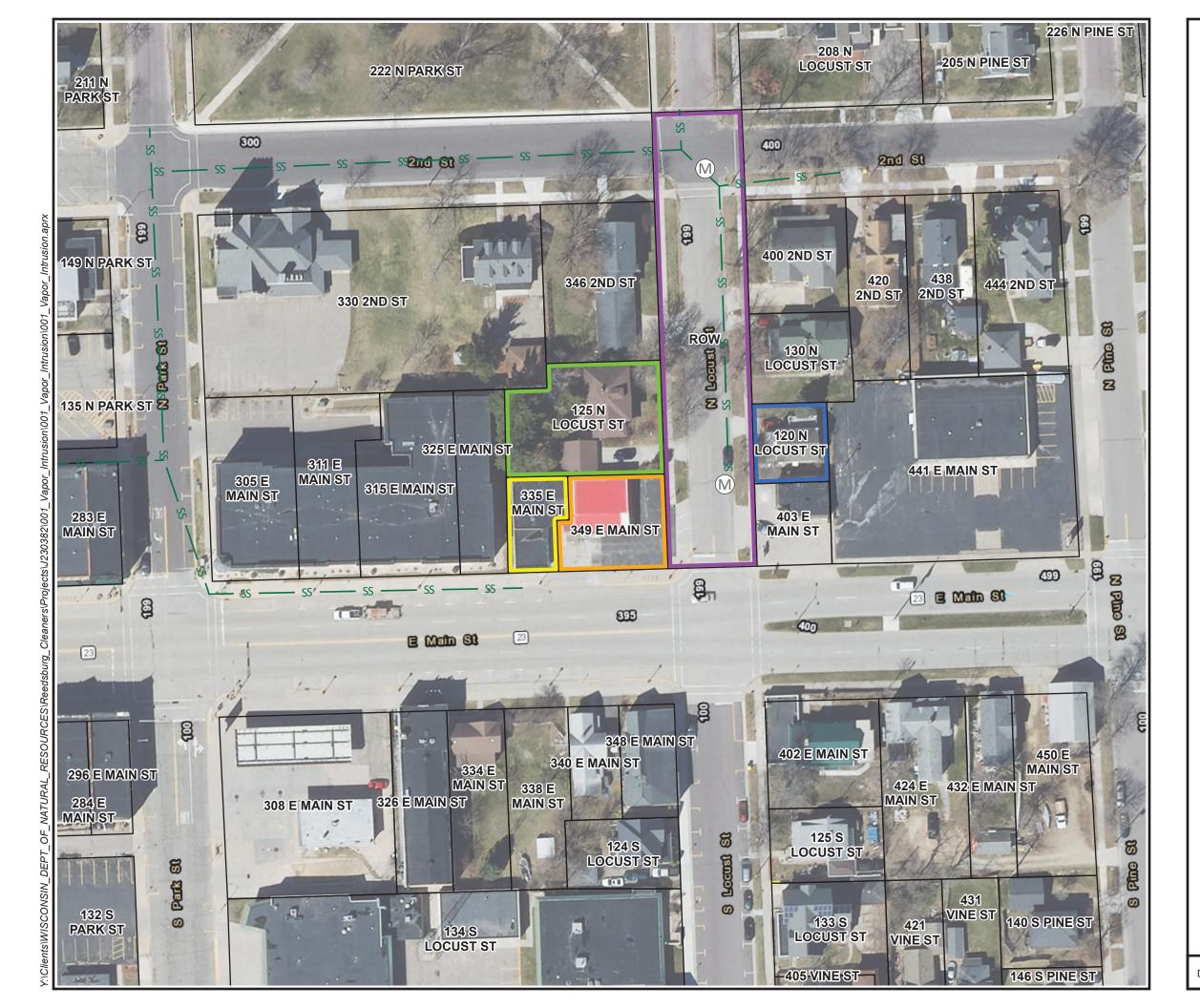


1:24,000





Drawn By: N.J. Date Drawn/Revised:8/28/2023 Project No.J230382



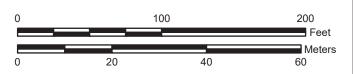
# Figure 2 **Site Map**

**Reedsburg Cleaners** WDNR ERP Case #: 02-57-001682 WDNR PS Act. ID: VIZC\_REEDSBURG

Reedsburg, WI 53959



Map Projection: NAD 1983 UTM Zone 15N, Meters Basemap: WI DNR Aerial Imagery WMS, 10/14/2022

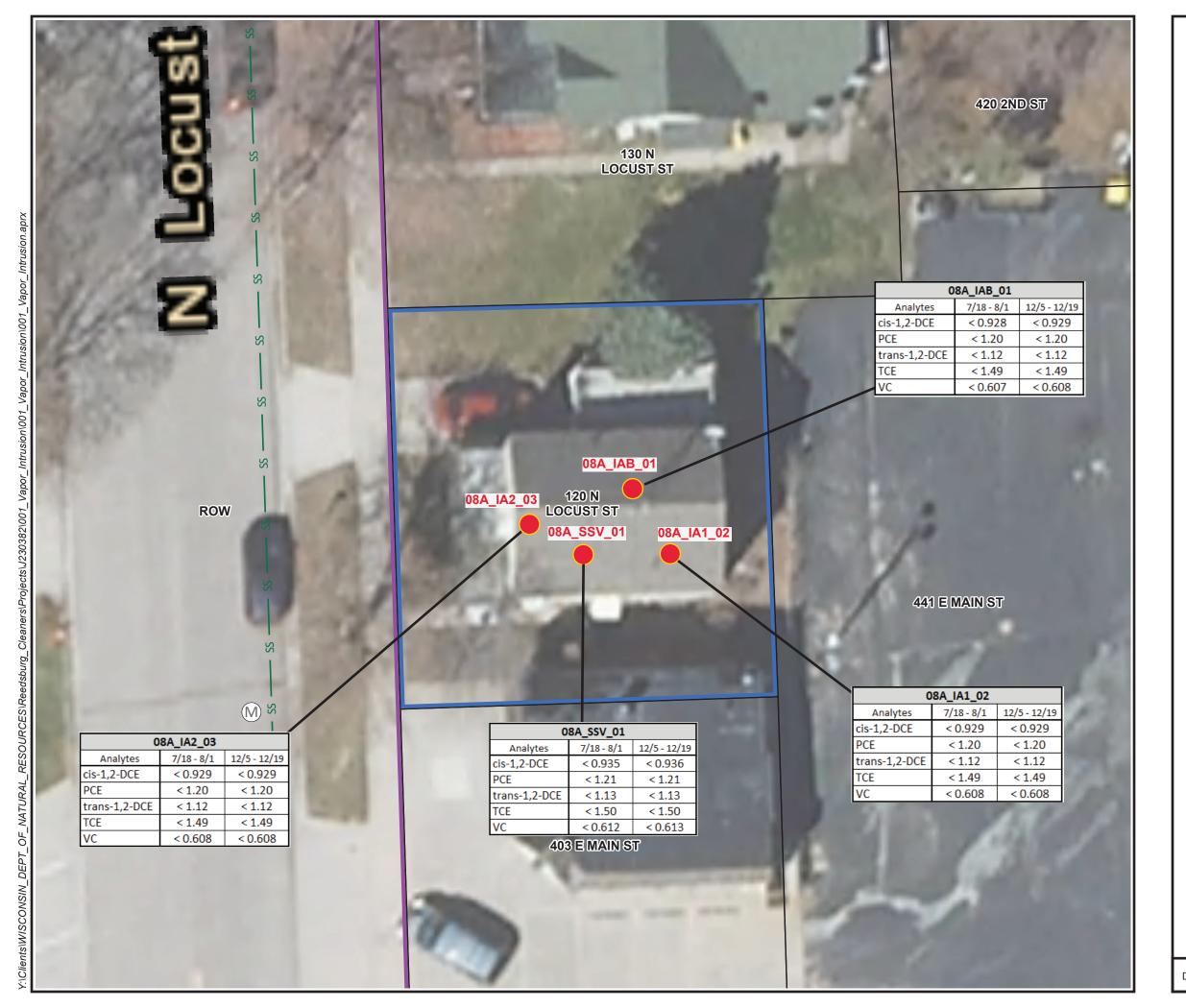


- Manhole
- Sanitary Sewers
- 120 N Locust St (PSI A)
- 125 N Locust St (PSI B)
  - 335 E Main St (PSI C)
- ROW (PSIR)
- 349 E Main St (Source)
  - Parcel Boundaries



Drawn By: N.J.

Date Drawn/Revised:8/28/2023 Project No.J230382



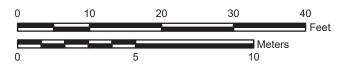
# Figure 2A **Site Map**

**Reedsburg Cleaners** WDNR ERP Case #: 02-57-001682 WDNR PS Act. ID: VIZC\_REEDSBURG

> 120 N Locust Street Reedsburg, WI 53959



Map Projection: NAD 1983 UTM Zone 15N, Meters Basemap: WI DNR Aerial Imagery WMS, 10/14/2022



Manhole

ss Sanitary Sewer

120 N Locust St (PSIA)

ROW (PSIR)

**Parcel Boundaries** 

#### **Features**



Passive Vapor Sample Location

All results are in micrograms per cubic meter (µg/m³) < - Less than the laboratory Reporting Limit (RL)

#### Bold - Analyte detected

Grey - Result exceeds the Residential VAL Orange - Result exceeds the Residential VRSL



Date Drawn/Revised:8/28/2023 Project No.J230382



### APPENDIX A

# Wisconsin Department of Natural Resources ACCESS PERMISSION AGREEMENT

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	0'338 8 0 YAM	
epen	tment of Natural Re	sour
	on and have access	

		0'339 8 0 YAM
1 600	GNATZIG hereby g	ive permission to the Wisconsin Department of Natural Resources
	(Print Name)	
	s employees, duly authorized representativnes to the home/business located at	ves, agents and contractors, to enter upon and have access at
(ADDRESS)	120 N Locust	
and that is ow	ned by Lee 1 NoxANNE 6. (Print as Listed on Title / Cour	ny GIS)
permission is migration fro	for the following purposes: The DNR ma m trichloroethylene (TCE) and tetrachloro	Sec 10, T12N, R04E, Sauk County, Wisconsin. The access by perform an investigation of the home/business for vapor pethylene (PCE) located in groundwater, associated with the ted near your property. This permission allows the DNR or its
	presentative to:	Addition of principles and the second special second secon
(1) (2)	Install and maintain sub-slab vapor pr Collect at least three (3) separate vapo	robe(s) into the foundation of the home or business. or samples from the sub-slab probe(s) at different times of the year
(3)	Collect indoor air samples on each lev if applicable.	vel of the home or business and within the sealed sump headspace,
(4)	Collect water sample(s) from the sump	
(5)	Abandon the vapor probe(s) when no l	onger needed.
work is expect. The property	cted to be complete. If an extension is nec	r one year from the signature date when the vapor investigation essary to complete the work, DNR will inform you in writing.  with the use of any sub-slab probe installed as permitted herein.
V ,	27 4	5-3-23
lle /	erty Øyner Representative	Signature Date
Print Name, Title	NATZIG	Lee GNATZIG QGMail. Com
Box 10	1 heredsburg, w153959	6089635266
Mailing Address	of Owner 7777	Area Code and Telephone Number
	ESSEE(S) by UNIT NUMBER, ETC.	
Name of Tenant(s	AR DONO	Mail or email correspondence
	52046	regarding this site to:
Tenant(s) phone i		Department of Natural Resources ATTN: Rob Hoverman

Tenant(s) email address

1027 West St. Paul Avenue Milwaukee, WI 53233-2641

Robert.Hoverman@wisconsin.gov Phone: 414.497.0896



### APPENDIX B



#### Beacon Environmental

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

#### CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 230427H01 Laboratory Work Order: 0007389

#### **Project Description:**

Reedsburg Cleaners (PSI A)
Reedsburg, WI

Prepared for:

Jason Kunze

**Bay West LLC** 

5 Empire Drive

St. Paul, MN 55103

Ryan W. Schneider Senior Project Manager

January 02, 2024

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

teven Thornley

Peter B. Kelly Quality Manager

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

Bay West LLCSite Name: Reedsburg Cleaners (PSI A)Beacon Proposal: 230427H015 Empire DriveSite Location: Reedsburg, WILab Work Order: 0007389St. Paul, MN 55103Project Manager: Jason KunzeReported: 01/02/2024

### **Sample Summary**

Lab Sample ID	Client Sample ID	Received	Analysis	Matrix
0007389-01	08A_SSV_01_20231219	12/20/2023	TO-17 (Passive)	Soil Gas
Sampler Type:	Beacon Passive Sampler			

#### **Project Completeness**

Samples Received: 1
Samples Analyzed: 1



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

#### Case Narrative

#### U.S. EPA Method TO-17

All samples were analyzed using thermal desorption-gas chromatography/mass spectrometry (TD-GC/MS) instrumentation following U.S. EPA Method TO-17, with laboratory results provided in nanograms (ng) and micrograms per cubic meter ( $\mu$ g/m³). Laboratory QA/QC procedures included internal standards, surrogates, and blanks based on EPA Method TO-17. 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. All reported results are 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.

#### 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.



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

Analytical Results



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

### **Detailed Analytical Results**



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

**Detailed Analytical Results- Mass** 



Bay West LLCSite Name: Reedsburg Cleaners (PSI A)Beacon Proposal: 230427H015 Empire DriveSite Location: Reedsburg, WILab Work Order: 0007389St. Paul, MN 55103Project Manager: Jason KunzeReported: 01/02/2024

 Lab Sample ID:
 0007389-01
 08A\_SSV\_01\_20231219
 Method:
 TO-17 (Passive)

 Soil Gas

		Resu	lt	LOQ		
Analyte	CAS#	(n	g) Q	(ng)	Analyzed	File ID
Vinyl Chloride	75-01-4	<10	.0	10.0	12/21/2023 16:34	C23122105.D
trans-1,2-Dichloroethene	156-60-5	<10	.0	10.0	12/21/2023 16:34	C23122105.D
cis-1,2-Dichloroethene	156-59-2	<10	.0	10.0	12/21/2023 16:34	C23122105.D
Trichloroethene	79-01-6	<10	.0	10.0	12/21/2023 16:34	C23122105.D
Tetrachloroethene	127-18-4	<10	.0	10.0	12/21/2023 16:34	C23122105.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	89.5%	70-130		12/21/2023 16:34	C23122105.D
Surrogate: Toluene-d8	2037-26-5	98.1%	70-130		12/21/2023 16:34	C23122105.D
Surrogate: Bromofluorobenzene	460-00-4	88.8%	70-130		12/21/2023 16:34	C23122105.D



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

Detailed Analytical Results- Concentration



Bay West LLCSite Name: Reedsburg Cleaners (PSI A)Beacon Proposal: 230427H015 Empire DriveSite Location: Reedsburg, WILab Work Order: 0007389St. Paul, MN 55103Project Manager: Jason KunzeReported: 01/02/2024

Lab Sample ID: 0007389-01 **08A\_SSV\_01\_20231219** Method: TO-17 (Passive) Soil Gas

		Resu	lt	LOQ		
Analyte	CAS#	(μg/m	<sup>3</sup> ) <b>Q</b>	$(\mu g/m^3)$	Analyzed	File ID
Vinyl Chloride	75-01-4	< 0.61	13	0.613	12/21/2023 16:34	C23122105.D
trans-1,2-Dichloroethene	156-60-5	<1.1	13	1.13	12/21/2023 16:34	C23122105.D
cis-1,2-Dichloroethene	156-59-2	< 0.93	36	0.936	12/21/2023 16:34	C23122105.D
Trichloroethene	79-01-6	<1.5	50	1.50	12/21/2023 16:34	C23122105.D
Tetrachloroethene	127-18-4	<1.2	21	1.21	12/21/2023 16:34	C23122105.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	89.5%	70-130		12/21/2023 16:34	C23122105.D
Surrogate: Toluene-d8	2037-26-5	98.1%	70-130		12/21/2023 16:34	C23122105.D
Surrogate: Bromofluorobenzene	460-00-4	88.8%	70-130		12/21/2023 16:34	C23122105.D



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

Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

QC Information/Summary



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

#### Sequence: B23L064 - Batch: 23L0060 - Instrument: C System - File ID: C23122102.D

#### 23L0060-BS1 (LCS, Calibration Source Verification)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	50.3	10	ng	50.0		101	70-130			
trans-1,2-Dichloroethene	48.8	10	ng	50.0		97.6	70-130			
cis-1,2-Dichloroethene	48.0	10	ng	50.0		96.1	70-130			
Trichloroethene	50.4	10	ng	50.0		101	70-130			
Tetrachloroethene	44.6	10	ng	50.0		89.3	70-130			
Surrogate: 1,2-DCA-d4	47.2		ng	50.0		94.4	70-130			
Surrogate: Toluene-d8	49.9		ng	50.0		99.9	70-130			
Surrogate: Bromofluorobenzene	47.9		ng	50.0		95.7	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

#### Sequence: B23L064 - Batch: 23L0060 - Instrument: C System - File ID: C23122103.D

#### 23L0060-BLK1 (Lab Blank)

				Spike	Source		%REC		RPD	
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Vinyl Chloride	< 0.613	0.613	μg/m³							U
trans-1,2-Dichloroethene	<1.13	1.13	$\mu g/m^3$							U
cis-1,2-Dichloroethene	< 0.936	0.936	$\mu g/m^3$							U
Trichloroethene	<1.50	1.50	$\mu g/m^3$							U
Tetrachloroethene	<1.21	1.21	$\mu g/m^3$							U
Surrogate: 1,2-DCA-d4	91.7		ng	100		91.7	70-130			
Surrogate: Toluene-d8	101		ng	100		101	70-130			
Surrogate: Bromofluorobenzene	90.0		ng	100		90.0	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

#### Sequence: B23L064 - Batch: 23L0060 - Instrument: C System - File ID: C23122103.D

#### 23L0060-BLK1 (Lab Blank)

	D. Iv	1.00	TT '	Spike	Source	0/BEC	%REC	DDD	RPD	NI 4
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Vinyl Chloride	< 5.0	10	ng							U
trans-1,2-Dichloroethene	<5.0	10	ng							U
cis-1,2-Dichloroethene	< 5.0	10	ng							U
Trichloroethene	< 5.0	10	ng							U
Tetrachloroethene	< 5.0	10	ng							U
Surrogate: 1,2-DCA-d4	91.7		ng	100		91.7	70-130			
Surrogate: Toluene-d8	101		ng	100		101	70-130			
Surrogate: Bromofluorobenzene	90.0		ng	100		90.0	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

Sequence: B23L064 - Instrument: C System - File ID: C23122104.D

B23L064-ICV1 (LCSD/Second Source Verification/CALV)

				Spike	Source		%REC		RPD	
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Vinyl Chloride	54.4	10	ng	50.0		109	70-130			
trans-1,2-Dichloroethene	51.1	10	ng	50.0		102	70-130			
cis-1,2-Dichloroethene	49.2	10	ng	50.0		98.3	70-130			
Trichloroethene	49.7	10	ng	50.0		99.5	70-130			
Tetrachloroethene	49.6	10	ng	50.0		99.1	70-130			
Surrogate: 1,2-DCA-d4	46.2		ng	50.0		92.5	70-130			
Surrogate: Toluene-d8	54.7		ng	50.0		109	70-130			
Surrogate: Bromofluorobenzene	46.3		ng	50.0		92.6	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

Sequence: B23L064 - Instrument: C System - File ID: C23122124.D

B23L064-CCV1 (LCS, Closing Calibration Verification)

				Spike	Source		%REC		RPD	
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Vinyl Chloride	39.7	10	ng	50.0		79.5	70-130			
trans-1,2-Dichloroethene	49.3	10	ng	50.0		98.6	70-130			
cis-1,2-Dichloroethene	48.7	10	ng	50.0		97.4	70-130			
Trichloroethene	49.9	10	ng	50.0		99.8	70-130			
Tetrachloroethene	47.3	10	ng	50.0		94.7	70-130			
Surrogate: 1,2-DCA-d4	45.0		ng	50.0		90.0	70-130			
Surrogate: Toluene-d8	51.3		ng	50.0		103	70-130			
Surrogate: Bromofluorobenzene	45.8		ng	50.0		91.7	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

Sequence: B23L064 - Instrument: C System - File ID: C23122125.D

#### B23L064-CCB1 (Lab Blank)

				Spike	Source		%REC		RPD	
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	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	89.6		ng	100		89.6	70-130			
Surrogate: Toluene-d8	99.0		ng	100		99.0	70-130			
Surrogate: Bromofluorobenzene	91.0		ng	100		91.0	70-130			



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

LCS: 23L0060-BS1 File ID: C23122102.D LCSD: B23L064-ICV1 File ID: C23122104.D Analyzed: 12/21/23 16:06 Analyzed: 12/21/23 15:19

		LCS Result	%REC		Spike Level	LCSD Result	%REC	%REC	RPD	RPD	
Analyte	CAS#	(ng)		Q	(ng)	(ng)		Limits		Limit	Q
Vinyl Chloride	75-01-4	50.31	100.62		50	54.41	109.00	70-130	7.83	30	
trans-1,2-Dichloroethene	156-60-5	48.78	97.56		50	51.1	102.00	70-130	4.65	30	
cis-1,2-Dichloroethene	156-59-2	48.03	96.06		50	49.15	98.30	70-130	2.31	30	
Trichloroethene	79-01-6	50.37	100.74		50	49.74	99.50	70-130	1.26	30	
Tetrachloroethene	127-18-4	44.63	89.26		50	49.56	99.10	70-130	10.47	30	



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

### Additional QC Information

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C23122105.D

 $\mathbf{C}$ 

Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

#### Sample Result Calculation Summary (Concentration)

#### TO-17 (Passive)

DF

	Analyte	Sampling Time minutes	Dilution Factor	Uptake Rate	Initial Result ng	Calculated Result µg/m³	File ID	
Lab I	<b>D:</b> 0007389-01 Sample Name	: 08A_SSV_01_2023	31219					
	Vinyl Chloride	20,153	1.00	0.810	U	U	C23122105.D	
	trans-1,2-Dichloroethene	20,153	1.00	0.440	U	U	C23122105.D	
	cis-1,2-Dichloroethene	20,153	1.00	0.530	U	U	C23122105.D	
	Trichloroethene	20,153	1.00	0.330	U	U	C23122105.D	

1.00

0.410

Calculations:

Tetrachloroethene

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

20,153

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

where: C = concentration ( $\mu g/m^3$ )

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



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

# **Method Detection and Reporting Limit Calculations (Concentration) TO-17 (Passive)**

	Analyte	t Sampling Time minutes	<b>DF</b> Dilution Factor	Uc Uptake Rate	<b>M</b> Initial LOQ ng	С Calculated LOQ µg/m³	
<b>Lab ID:</b> 00073	89-01 <b>Sample Name:</b> 08A_S	SSV_01_2023121	9				
	Vinyl Chloride	20,153	1.00	0.810	10.0	0.613	
	trans-1,2-Dichloroethene	20,153	1.00	0.440	10.0	1.13	
	cis-1,2-Dichloroethene	20,153	1.00	0.530	10.0	0.936	
	Trichloroethene	20,153	1.00	0.330	10.0	1.50	
	Tetrachloroethene		1.00	0.410	10.0	1.21	



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

#### 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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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

#### **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 ±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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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007389St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

Sample Management Records



### PASSIVE SOIL GAS SAMPLES

CHAIN-OF-CUSTODY

Project Information			Client Information							
Site Name:			Company Name:	Bay West LL	C	Project Manag	Jason Kunze (jkunze@baywest.com)			
Reedsburg Clear	ners (ERP 0	257001682)	Office Location: 5	Empire Driv	e, St. Paul, MN 551	03 Client PO: J2	30382 / PO1309			
120 N Locust St (PSI A)				nders Santel	man		me (check one):			
			Email: asante	lman@bayw	est.com	Mormal Normal	Rush (specify) days			
Field Sample ID	Start Date	Start Time	Stop Date	Stop Time	Sampling Hole Depth □	Surface Type (Soil, As Concrete, Grave				
08A_SSV_01_20231219	12/5/23	0915.	12/19/23	0908	5 inches	Concrete	A_SSV_01			
						17111				
						013110				
Special Instructions: Analyte	s: PCE	, TCE, ci	s-1,2-D	CE, tran	s-1,2-DCE, a	nd vinyl cl	nloride			
		Date / Time: 12	119/23	1300	Received by (signature):		Date / Time: 12.20.23 1456			
Relinquished by (signature): Date / Time:		12/ 1/-0		Received by (signature):		Date / Time:				
For Lab Use Only		Beacon Job No:	7389		Beacon Proposal:	230427H01	Analytical Method:			
Courier Name: Shipment Conditi			v.l	Custody Seal Intact:  Yes No	n/a	Custody Seal No: 5722458				



#### Beacon Environmental

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#### CERTIFICATE OF ANALYSIS

Beacon Proposal No.: 230427H01 Laboratory Work Order: 0007393

#### **Project Description:**

Reedsburg Cleaners (PSI A)
Reedsburg, WI

Prepared for:

Jason Kunze

**Bay West LLC** 

5 Empire Drive

St. Paul, MN 55103

Ryan W. Schneider Senior Project Manager

January 02, 2024

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

teven Thornley

Peter B. Kelly Quality Manager

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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

#### Sample Summary

Lab Sample ID	Client Sample ID	Received	Analysis	Matrix
0007393-01 Sampler Type:	08A_IAB_01_20231219 Beacon Passive Sampler	12/20/2023	TO-17 (Passive)	Indoor Air
0007393-02 Sampler Type:	08A_IA1_02_20231219 Beacon Passive Sampler	12/20/2023	TO-17 (Passive)	Indoor Air
0007393-03 Sampler Type:	08A_IA2_03_20231219 Beacon Passive Sampler	12/20/2023	TO-17 (Passive)	Indoor Air

#### **Project Completeness**

Samples Received: 3
Samples Analyzed: 3



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Bay West LLCSite Name: Reedsburg Cleaners (PSI A)Beacon Proposal: 230427H015 Empire DriveSite Location: Reedsburg, WILab Work Order: 0007393St. Paul, MN 55103Project Manager: Jason KunzeReported: 01/02/2024

#### 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  $\pm 30\%$  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.



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

Analytical Results



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

# **Detailed Analytical Results**



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

 Lab Sample ID:
 0007393-01
 08A\_IAB\_01\_20231219
 Method:
 TO-17 (Passive)

 Indoor Air

Analyte	CAS#	Resul		$\begin{array}{c} \textbf{LOQ} \\ (\mu g/m^3) \end{array}$	Analyzed	File ID
Vinyl Chloride	75-01-4	<0.608	3	0.608	12/22/2023 13:13	C23122120.D
trans-1,2-Dichloroethene	156-60-5	<1.12	2	1.12	12/22/2023 13:13	C23122120.D
cis-1,2-Dichloroethene	156-59-2	< 0.929	)	0.929	12/22/2023 13:13	C23122120.D
Trichloroethene	79-01-6	<1.49	9	1.49	12/22/2023 13:13	C23122120.D
Tetrachloroethene	127-18-4	<1.20	)	1.20	12/22/2023 13:13	C23122120.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	92.6%	70-130		12/22/2023 13:13	C23122120.D
Surrogate: Toluene-d8	2037-26-5	100%	70-130		12/22/2023 13:13	C23122120.D
Surrogate: Bromofluorobenzene	460-00-4	96.7%	70-130		12/22/2023 13:13	C23122120.D



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

 Lab Sample ID:
 0007393-02
 08A\_IA1\_02\_20231219
 Method:
 TO-17 (Passive)

 Indoor Air

		Resu	lt	LOO		
Analyte	CAS#		3) <b>Q</b>	$(\mu g/m^3)$	Analyzed	File ID
Vinyl Chloride	75-01-4	< 0.60	08	0.608	12/22/2023 13:41	C23122121.D
trans-1,2-Dichloroethene	156-60-5	<1.1	2	1.12	12/22/2023 13:41	C23122121.D
cis-1,2-Dichloroethene	156-59-2	< 0.92	.9	0.929	12/22/2023 13:41	C23122121.D
Trichloroethene	79-01-6	<1.4	19	1.49	12/22/2023 13:41	C23122121.D
Tetrachloroethene	127-18-4	<1.2	0	1.20	12/22/2023 13:41	C23122121.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	86.0%	70-130		12/22/2023 13:41	C23122121.D
Surrogate: Toluene-d8	2037-26-5	93.7%	70-130		12/22/2023 13:41	C23122121.D
Surrogate: Bromofluorobenzene	460-00-4	91.5%	70-130		12/22/2023 13:41	C23122121.D



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

 Lab Sample ID:
 0007393-03
 08A\_IA2\_03\_20231219
 Method:
 TO-17 (Passive)

 Indoor Air

		Resu	lt .	LOO		
Analyte	CAS#		<sup>3</sup> ) <b>Q</b>	$(\mu g/m^3)$	Analyzed	File ID
Vinyl Chloride	75-01-4	< 0.60	08	0.608	12/22/2023 14:08	C23122122.D
trans-1,2-Dichloroethene	156-60-5	<1.1	2	1.12	12/22/2023 14:08	C23122122.D
cis-1,2-Dichloroethene	156-59-2	< 0.92	29	0.929	12/22/2023 14:08	C23122122.D
Trichloroethene	79-01-6	<1.4	19	1.49	12/22/2023 14:08	C23122122.D
Tetrachloroethene	127-18-4	<1.2	20	1.20	12/22/2023 14:08	C23122122.D
Analyte	CAS#	% Recovery	Recovery Limits	Q	Analyzed	File ID
Surrogate: 1,2-DCA-d4	17060-07-0	91.7%	70-130		12/22/2023 14:08	C23122122.D
Surrogate: Toluene-d8	2037-26-5	96.0%	70-130		12/22/2023 14:08	C23122122.D
Surrogate: Bromofluorobenzene	460-00-4	92.1%	70-130		12/22/2023 14:08	C23122122.D



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

QC Information/Summary



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

Sequence: B23L064 - Batch: 23L0060 - Instrument: C System - File ID: C23122102.D

#### 23L0060-BS1 (LCS, Calibration Source Verification)

Analyte	Result	LOQ	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Vinyl Chloride	50.3	10	ng	50.0		101	70-130			
trans-1,2-Dichloroethene	48.8	10	ng	50.0		97.6	70-130			
cis-1,2-Dichloroethene	48.0	10	ng	50.0		96.1	70-130			
Trichloroethene	50.4	10	ng	50.0		101	70-130			
Tetrachloroethene	44.6	10	ng	50.0		89.3	70-130			
Surrogate: 1,2-DCA-d4	47.2		ng	50.0		94.4	70-130			
Surrogate: Toluene-d8	49.9		ng	50.0		99.9	70-130			
Surrogate: Bromofluorobenzene	47.9		ng	50.0		95.7	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

#### Sequence: B23L064 - Batch: 23L0060 - Instrument: C System - File ID: C23122103.D

#### 23L0060-BLK1 (Lab Blank)

				Spike	Source		%REC		RPD	
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Vinyl Chloride	< 0.608	0.608	μg/m³							U
trans-1,2-Dichloroethene	<1.12	1.12	$\mu g/m^3$							U
cis-1,2-Dichloroethene	< 0.929	0.929	$\mu g/m^3$							U
Trichloroethene	<1.49	1.49	$\mu g/m^3$							U
Tetrachloroethene	<1.20	1.20	$\mu g/m^3$							U
Surrogate: 1,2-DCA-d4	91.7		ng	100		91.7	70-130			
Surrogate: Toluene-d8	101		ng	100		101	70-130			
Surrogate: Bromofluorobenzene	90.0		ng	100		90.0	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

Sequence: B23L064 - Instrument: C System - File ID: C23122104.D

B23L064-ICV1 (LCSD/Second Source Verification/CALV)

				Spike	Source		%REC		RPD	
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Vinyl Chloride	54.4	10	ng	50.0		109	70-130			
trans-1,2-Dichloroethene	51.1	10	ng	50.0		102	70-130			
cis-1,2-Dichloroethene	49.2	10	ng	50.0		98.3	70-130			
Trichloroethene	49.7	10	ng	50.0		99.5	70-130			
Tetrachloroethene	49.6	10	ng	50.0		99.1	70-130			
Surrogate: 1,2-DCA-d4	46.2		ng	50.0		92.5	70-130			
Surrogate: Toluene-d8	54.7		ng	50.0		109	70-130			
Surrogate: Bromofluorobenzene	46.3		ng	50.0		92.6	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

Sequence: B23L064 - Instrument: C System - File ID: C23122124.D

B23L064-CCV1 (LCS, Closing Calibration Verification)

				Spike	Source		%REC		RPD	
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Vinyl Chloride	39.7	10	ng	50.0		79.5	70-130			
trans-1,2-Dichloroethene	49.3	10	ng	50.0		98.6	70-130			
cis-1,2-Dichloroethene	48.7	10	ng	50.0		97.4	70-130			
Trichloroethene	49.9	10	ng	50.0		99.8	70-130			
Tetrachloroethene	47.3	10	ng	50.0		94.7	70-130			
Surrogate: 1,2-DCA-d4	45.0		ng	50.0		90.0	70-130			
Surrogate: Toluene-d8	51.3		ng	50.0		103	70-130			
Surrogate: Bromofluorobenzene	45.8		ng	50.0		91.7	70-130			



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

Sequence: B23L064 - Instrument: C System - File ID: C23122125.D

#### B23L064-CCB1 (Lab Blank)

				Spike	Source		%REC		RPD	
Analyte	Result	LOQ	Units	Level	Result	%REC	Limits	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	89.6		ng	100		89.6	70-130			
Surrogate: Toluene-d8	99.0		ng	100		99.0	70-130			
Surrogate: Bromofluorobenzene	91.0		ng	100		91.0	70-130			



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

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

LCS: 23L0060-BS1 File ID: C23122102.D LCSD: B23L064-ICV1 File ID: C23122104.D Analyzed: 12/21/23 16:06 Analyzed: 12/21/23 15:19

		LCS Result	%REC		Spike Level	LCSD Result	%REC	%REC	RPD	RPD	
Analyte	CAS#	(ng)		Q	(ng)	(ng)		Limits		Limit	Q
Vinyl Chloride	75-01-4	50.31	100.62		50	54.41	109.00	70-130	7.83	30	
trans-1,2-Dichloroethene	156-60-5	48.78	97.56		50	51.1	102.00	70-130	4.65	30	
cis-1,2-Dichloroethene	156-59-2	48.03	96.06		50	49.15	98.30	70-130	2.31	30	
Trichloroethene	79-01-6	50.37	100.74		50	49.74	99.50	70-130	1.26	30	
Tetrachloroethene	127-18-4	44.63	89.26		50	49.56	99.10	70-130	10.47	30	



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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

# Additional QC Information



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

# **Sample Result Calculation Summary (Concentration)**

#### TO-17 (Passive)

		t	DF	Uc	M	C	
Analyte		Sampling Time minutes	Dilution Factor	Uptake Rate	Initial Result ng	Calculated Result µg/m³	File ID
Lab ID: 0007393-01	Sample Name: 08.	A_IAB_01_2023	1219			Х̄ Тетр (	°C): 21.00
Vinyl Chloride		20,154	1.00	0.816	U	U	C23122120.D
trans-1,2-Dichloroethene		20,154	1.00	0.443	U	U	C23122120.D
cis-1,2-Dichloroethene		20,154	1.00	0.534	U	U	C23122120.D
		20,154	1.00	0.332	U	U	C23122120.D
Trichloroethene		20,134	1.00				

Lab I	<b>D:</b> 0007393-02 <b>Sample Name:</b> 08	A_IA1_02_2023		<b>х</b> Те <b>тр (°С):</b> 21.00			
	Vinyl Chloride	20,155	1.00	0.816	U	U	C23122121.D
	trans-1,2-Dichloroethene	20,155	1.00	0.443	U	U	C23122121.D
	cis-1,2-Dichloroethene	20,155	1.00	0.534	U	U	C23122121.D
	Trichloroethene	20,155	1.00	0.332	U	U	C23122121.D
	Tetrachloroethene	20,155	1.00	0.413	U	U	C23122121.D

<b>Lab ID:</b> 0007393-03		Sample Name: 08.	A_IA2_03_2023	1219		<b>X Temp (°C):</b> 21.00			
	Vinyl Chloride		20,154	1.00	0.816	U	U	C23122122.D	
	trans-1,2-Dichloroethene		20,154	1.00	0.443	U	U	C23122122.D	
	cis-1,2-Dichloroethene		20,154	1.00	0.534	U	U	C23122122.D	
	Trichloroethene		20,154	1.00	0.332	U	U	C23122122.D	
	Tetrachloroethene		20,154	1.00	0.413	U	U	C23122122.D	

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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

Calculations:

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

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

where: C = concentration  $(\mu g/m^3)$ 

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



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

# **Method Detection and Reporting Limit Calculations (Concentration) TO-17 (Passive)**

	Analyte	t Sampling Time minutes	<b>DF</b> Dilution Factor	Uc Uptake Rate	<b>M</b> Initial LOQ ng	C Calculated LOQ μg/m³	
<b>Lab ID:</b> 0007393-01 <b>Sample Name:</b> 08A_IA		AB_01_2023121	9			<b>X</b> Temp (°C): 21.00	
	Vinyl Chloride	20,154	1.00	0.816	10.0	0.608	
	trans-1,2-Dichloroethene	20,154	1.00	0.443	10.0	1.12	
	cis-1,2-Dichloroethene	20,154	1.00	0.534	10.0	0.929	
	Trichloroethene	20,154	1.00	0.332	10.0	1.49	
	Tetrachloroethene	20,154	1.00	0.413	10.0	1.20	

Lab ID: 0007393-02         Sample Name: 08A_IA1_02_20231219         X̄ Temp (°C): 21.00										
Vinyl Chloride	20,155	1.00	0.816	10.0	0.608					
trans-1,2-Dichloroethene	20,155	1.00	0.443	10.0	1.12					
cis-1,2-Dichloroethene	20,155	1.00	0.534	10.0	0.929					
Trichloroethene	20,155	1.00	0.332	10.0	1.49					
Tetrachloroethene	20,155	1.00	0.413	10.0	1.20					

Lab ID: 0007393-03         Sample Name: 08A IA2 03 20231219         X̄ Temp (°C): 21.00										
Vinyl Chloride	20,154	1.00	0.816	10.0	0.608					
trans-1,2-Dichloroethene	20,154	1.00	0.443	10.0	1.12					
cis-1,2-Dichloroethene	20,154	1.00	0.534	10.0	0.929					
Trichloroethene	20,154	1.00	0.332	10.0	1.49					
Tetrachloroethene	20,154	1.00	0.413	10.0	1.20					



Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

#### 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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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)Beacon Proposal:230427H015 Empire DriveSite Location:Reedsburg, WILab Work Order:0007393St. Paul, MN 55103Project Manager:Jason KunzeReported:01/02/2024

#### **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 ±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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Bay West LLCSite Name:Reedsburg Cleaners (PSI A)5 Empire DriveSite Location:Reedsburg, WISt. Paul, MN 55103Project Manager:Jason Kunze

 Beacon Proposal:
 230427H01

 Lab Work Order:
 0007393

 Reported:
 01/02/2024

# Sample Management Records

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

CI	Client Information		Project Manager: Jason Kunze (jkunze@baywest.com)				Client PO J230382 / PO1309				
Company	Bay West LLC	Project Name:	Reedsburg C	leaners (ERP	0257001682)	Turn around time (check one):				C	
Address	5 Empire Dr.	Location:	120 N I	Locust St (PS	SI A)	Normal	Rush (specify) days	INDOOR	3	RA\	SE
City / State / Zip:	St. Paul, MN 55103	Submitted by:	An	ders Santelm	nan	Analysis:			BE	~	¥
Phone:	651-724-9757	Email:	asantelma	an@baywest.	com	Method TO	1-17 Method 8260C		AMBIENT AIR	CRAWL SPACE	SEWER GAS
	Location ID	Start Date	Start Time	Stop Date	Stop Time	Aver Temp (C)	Notes	AIR	Ŕ	CE	AS
08.	A_IAB_01_20231219	12/5/23	0921	12/19/23	0915	2/	A_IAB_01	X			
08	A_IA1_02_20231219	12/5/23	0925	12/19/23	0920	2/	A_IA1_02	X			
08	A_IA2_03_20231219	12/5/23	0929	12/19/23	0923	2/ **	A_IA2_03	Х			
Special Notes / Instru	ctions										
Special Hotes / Hotes	ouvra.		Analytes: F	CE, TCE, cis	s-1,2-DCE, tran	s-1,2-DCE, and	d vinyl chloride				
Relinquished by (sign	ature): 🗸	Date / Time: 12/14/	23 /	300	Received by (signa	iture):	Date / Time: 12 - 20	.23	1-	750	
Relinquished by (sign	ature):	Date / Time:			Received by (signa	iture):	Date / Time:	Date / Time:			
For Lab Use (	Only	Beacon Job No: 430	13		Beacon Proposal:	230427H01				13	
Courier Name:	dy	Shipment Condition:	govd		Custody Seal Intac	No n/a	Custody Seal No:	572	245	5	



# **APPENDIX C**





#### PASSIVE VAPOR SAMPLING INFORMATION

		Project Information	
Project Name: _	Reedsburg Clea	aners	
Bay West Job #:	J230382		
Bay West Sampler Name(s) _		lman	
Weather Conditions _			
		Project Information	
Property Address:	120 N Locus	t St	
Property Owner Name: _	Lee	Gnatzig	<u> </u>
Property Type: _	Single	e Family, Residential	
	Sub-	Slab Installation information	
Concrete Slab Thickness: 5 inc Type of Sub-slab installed: Pou Time of Sub-Slab Installation: 7 Time for Sub-Slab Vapor Equilib Ambient PID (ppm): 0.0	red /18/2023		
		#1	
Sample ID: 08A_SSV_01_20231 Passive Sampler Type: Passive Sample Location:Sub-Slab Duration of Test: 2 weeks Analysis: PCE, TCE, cis-1,2-DCE, and vinyl chloride Laboratory:Beacon	Soil-Gas Sampler		
Start (or Grab) Sample		Photo 1: Sub-slab sample as left	Photo 2:
Date: 12/05/2023	-	Thoto 1. 3db slab sample ds left	111000 2.
Time: 0915			
PID (ppm): 1.6			
Pressure Reading (Pa): 0.6			
End (or Grab) Sample			
Date: 12/19/2023			
Time: 0908			
PID (ppm): 2.1			
Pressure Reading (Pa): 0			

Photo 3:

Photo 4:





Sample ID: 08A\_IAB\_01\_20231219

Passive Sampler Type: Passive Air Sampler

Sample Location: Basement, Laundry/Utility room Duration of Test: 2 weeks Analysis: PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride Laboratory: Beacon Photo 1: Basement Sample Photo 2: \_\_\_\_\_ Start (or Grab) Sample Date: 12/05/2023 Time: 0921 PID (ppm): 0.0 Pressure Reading (Pa): End (or Grab) Sample Date: 12/19/2023 Time: 0915 PID (ppm): 0.1 Photo 3: Photo 4: #3 Sample ID: 08A\_IA1\_02\_20231219 Passive Sampler Type: Passive Air Sampler Sample Location: 1st Floor, kitchen **Duration of Test: 2 Weels** Analysis: PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride Laboratory: Beacon Start (or Grab) Sample Photo 1: 1<sup>st</sup> floor sample Photo 2: Date: 12/05/2023 Time: 0925 PID (ppm): 0.1 End (or Grab) Sample Date: 12/19/2023 Time: 0920 PID (ppm): 0.1 Photo 3: \_ Photo 4:



#4

Sample ID: 08A_IA2_03_20231219  Passive Sampler Type: Passive Air Sampler  Sample Location: 2 <sup>nd</sup> Floor, Main bedroom  Duration of Test: 2 Weeks  Analysis: PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride  Laboratory: Beacon  Start (or Grab) Sample		
Date: 12/05/2023	Photo 1: 2 <sup>nd</sup> floor sample	Photo 2:
Time: 0929		
PID (ppm): 0.1		
End (or Grab) Sample		
Date: 12/19/2023		
Time: 0923		
PID (ppm): 0.0		
	Photo 3:	Photo 4:

Project Info	- 7-5	Client Information							
Site Name:			Company Name:	Bay West LL	С	Project Manager:	Jason Kunze (jkunze@baywest.com)		
Reedsburg Clean	ers (ERP 0	257001682)	Office Location:	Empire Driv	e, St. Paul, MN 55103	Client PO: J230	0382 / PO1309		
Site Location:				nders Santelr	man	Turn around time			
120 N Loc	cust St	(PSIA)	Email: asante	lman@bayw	est.com	Normal	Rush (specify) days		
Field Sample ID	Start Date	Start Time	Stop Date	Stop Time	Sampling Hole Depth Sur	face Type (Soil, Asph Concrete, Gravel)	nalt, Optional Information (Location Description, Sample Condition, PID / FID Readings, etc)		
08A_SSV_01_20231219	12/5/23	0915.	12/19/23	0908	5 inches	Concrete	A_SSV_01		
Special Instructions: Analyte	s: PCE	TCE, ci	is-1,2-D	CE, trans	s-1,2-DCE, an	d vinyl chl	oride		
Relinquished by (signature):		Date / Time: 12		1300	Received by (signature):		Date / Time: 13.20.23 1456		
Relinquished by (signature):		Date / Time:	14,	. ,	Received by (signature):	- /	Date / Time:		
For Lab Use Only		Beacon Job No:	7389		Beacon Proposal: 23	0427H01	Analytical Method:		
Courier Name:	ui H	Shipment Condition	on:	rd	Custody Seal Intact: Yes No n/	a	Custody Seal No: 5722458		

## PASSIVE AIR SAMPLING - BEACON SAMPLER

CHAIN-OF-CUSTODY

С	lient Information	Project Manag	er: Jason Kun:	ze (jkunze@t	paywest.com)	Client PO:: J230382 / PO1309				20	
Company:	Bay West LLC	Project Name:	Reedsburg Cl	eaners (ERP	0257001682)	Turn around time				C	
Address:	5 Empire Dr.	Location:	120 N L	ocust St (PS	I A)	Normal	Rush (specify) days	INDOOR	¥ X	RA	SE
City / State / Zip:	St. Paul, MN 55103	Submitted by:	An	ders Santelm	ian	Analysis:	Analysis:			~	₩.
Phone:	651-724-9757	Email:	asantelma	n@baywest.	com	Method TO-17 Method 8260C			AMBIENT AIR	CRAWL SPACE	SEWER GAS
E-47	Location ID	Start Date	Start Time	Stop Date	Stop Time	Aver Temp (C)	Notes	A R	A R	CE	SA
08	A_IAB_01_20231219	12/5/23	0921	12/19/23	0915	2/	A_IAB_01	X			
	A_IA1_02_20231219	12/5/23	0925	12/19/23	0920	2/	A_IA1_02	X			
	A_IA2_03_20231219	12/5/23	0929	12/19/23	0923	2/	A_IA2_03	X			
	-										
								-			
1											
								-			
Special Notes / Instru	ictions:		Analytes: P	CE, TCE, cis	-1,2-DCE, tran	s-1,2-DCE, an	d vinyl chloride				
Relinquished by (sign	nature):	Date / Time: 12/14/	23 /	300	Received by (signa	ature):	Date / Time: 12 · 20	.23	1.	457	
Relinquished by (sign	nature):	Date / Time:	•		Received by (signature):		Date / Time:				
For Lab Use	Only	Beacon Job No: 430	13		Beacon Proposal:	23042	27H01				
Courier Name:	dy	Shipment Condition:	good	15	Yes	t: No n/a	Custody Seal No:	572	245	5	



# APPENDIX D



# 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.

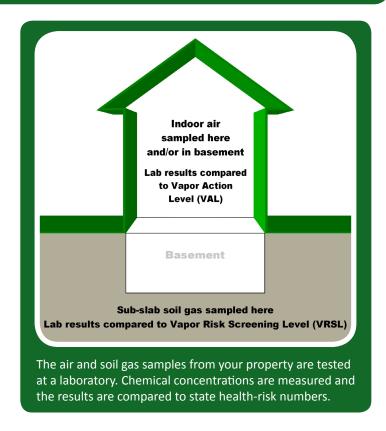
#### **Indoor Air Testing Results**

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.



#### **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.





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**

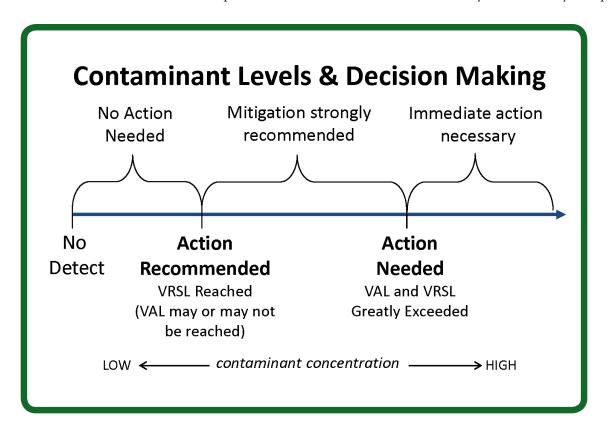
If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

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.



<u>A Note about Measurement Units:</u> 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  $\mu g/m3$  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 <a href="mailto:dnr.wi.gov/topic/Brownfields/Vapor.html">dnr.wi.gov/topic/Brownfields/Vapor.html</a>

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.