

From: Femal, Kristina A - DNR
Sent: Tuesday, March 3, 2020 1:59 PM
To: 'gminikel@manitowoc.org'
Cc: Krueger, Sarah E - DNR
Subject: Susie's Vapor Investigation Notifications
Attachments: 20200303_99_Notification_of_Vapor_Sampling_Results.pdf

Good Afternoon Greg,

Attached are the notifications to the deeded properties from the vapor investigation that we completed on February 11 and 12, 2020 near the former Susie's Restaurant site. I am mailing them out today.

Please feel to contact me with any questions.

Warm Regards,
Kristina

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Kristina Femal

Hydrogeologist -- Remediation & Redevelopment Program

Wisconsin Department of Natural Resources

Green Bay, WI 54313

Phone: (920) 662-5431

Kristina.Femal@wisconsin.gov



dnr.wi.gov





March 3, 2020

SALVADOR VELASQUES
2604 CUSTER STREET
MANITOWOC WI 54220

SUBJECT: Vapor and Groundwater Sampling Results - Contaminant Detection Below DNR Screening Level
PROPERTY: WI DOT – Susies Restaurant (Former) – LGU-SL, 1020 S. 26th Street, Manitowoc, WI
BRRTS Activity # 02-36-000516

Dear Mr. Velasques,

Included are the findings of recent investigations on your properties located at 2604 and 2614 Custer Street, and 1002 South 26th Street by the Wisconsin Department of Natural Resources (DNR).

As you are aware, this investigation was conducted because of the potential for contaminant vapors from the nearby WI DOT - Susies Restaurant (Former) property identified above to migrate through soil, accumulate beneath the foundation of your home or business, and possibly enter your indoor air. The contaminant of concern at the WI DOT - Susies Restaurant (Former) property is Trichloroethene, or TCE. The history of this site and the potential concerns to neighboring residents were described in detail in the original letter sent to your business.

On February 11, 2020, an environmental consultant hired by DNR collected indoor air samples from your property. The samples were then submitted to Pace Analytical Services, LLC, where they underwent laboratory analysis for five contaminants, including tetrachloroethene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethylene, trans-1,2-dichloroethylene and vinyl chloride (VC).

Please also find the attached results from the February 11, 2020 sampling of the groundwater monitoring well, at your property located at 2604 Custer Street, City of Manitowoc, WI, 54220. An environmental consultant hired by DNR collected the groundwater samples from your property. The samples were then submitted to Eurofins TestAmerica, where they underwent laboratory analysis for Volatile Organic Compounds (VOCs).

Your Vapor Test Results:

Attached is a copy of the laboratory report for your indoor air samples.

The results of this round of sampling shows that TCE was not detected at 1002 S 26th Street.

At 2604 Custer Street the results show that a small amount of TCE was detected in the sample taken from your basement, the level at which it was detected is such that it does not pose a threat to you or your employees. This is called “a detection below screening level” and is explained in the enclosed fact sheet.

The laboratory report from the February sampling event also shows very low levels of VOCs other than TCE in the indoor air samples from your building. Tetrachloroethylene, or PCE was detected in the indoor air samples from the basement, behind the counter, and men’s room at 2604 Custer Street. Additionally, cis-1,2-dichloroethylene was detected in the indoor air sample from the basement. This is likely due to the activities that

took place at WI DOT – Susies Restaurant (Former) in the past. The level at which the additional VOCs were detected is such that they do not pose a threat to you or your employees.

For the property at 1002 South 26th Street these sampling results confirm the previous conclusion that there does not appear to be a risk of TCE vapor entering your home or business from beneath the foundation. In order to assess the soil vapors beneath your foundation floor, I will contact you to schedule a time to sample the sub-slab vapor pin that was installed in December 2019.

For the property at 2604 Custer Street, these sampling results confirm the previous conclusion that there does not appear to be a risk of TCE vapor entering your home or business from beneath the foundation. Please note that the DNR will continue to maintain the Vapor Mitigation System that was installed at the site, and the vapor pins installed in the foundation of your business will remain in place as part of the operation and maintenance of the vapor mitigation system.

Additionally, I will contact you to schedule a time to abandon the vapor pin that was installed in the residence at 2614 Custer Street.

Your Groundwater Test Results:

Attached is a copy of the laboratory report for your groundwater samples.

The results from the groundwater sample collected from the monitoring well MW-3 at 2604 Custer Street had detections of VOCs including TCE, cis-1,2-dichloroethylene, and trans-1,2-dichloroethylene below the public health preventative action level and enforcement standard, and does not pose a threat to you or your employees. These detections are likely due to the activities that took place at WI DOT – Susies Restaurant (Former) in the past.

The laboratory report from the February groundwater sampling event also shows very low levels of Toluene in one sample collected from the well. The detection of toluene was below the public health preventative action level and enforcement standard and does not pose a threat to you or your employees.

Please feel free to contact me at (920) 662-5443 or by email to Sarah.Krueger@wisconsin.gov if you have any questions about these results. You may also contact Kristina Femal, the new project manager for the site, at (920) 662-5431 or by email to Kristina.Femal@wisconsin.gov.

Sincerely,



Sarah Krueger
Project Manager
Remediation & Redevelopment Program

Encl. Understanding Chemical Vapor Testing Results, [RR977](#)

Att. Laboratory Analytical Report
Sample Location Figure

March 3, 2019
Salvador Velasques
Vapor Sampling Results
WI DOT – Susies Restaurant (Former), BRRTS #02-36-000516

Page 3 of 3

cc: Greg Minikel, City of Manitowoc, gminikel@manitowoc.org

ANALYTICAL RESULTS

Project: 25219179.00 Susies Restaurant
Pace Project No.: 10508457

Sample: IA-3 Lab ID: 10508457001 Collected: 02/11/20 14:35 Received: 02/13/20 11:15 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	0.53J	ug/m3	1.3	0.35	1.61		02/16/20 15:17	156-59-2	
trans-1,2-Dichloroethene	<0.46	ug/m3	1.3	0.46	1.61		02/16/20 15:17	156-60-5	
Tetrachloroethene	0.52J	ug/m3	1.1	0.51	1.61		02/16/20 15:17	127-18-4	
Trichloroethene	0.89	ug/m3	0.88	0.41	1.61		02/16/20 15:17	79-01-6	
Vinyl chloride	<0.20	ug/m3	0.42	0.20	1.61		02/16/20 15:17	75-01-4	

Sample: IA-4 Lab ID: 10508457002 Collected: 02/11/20 14:30 Received: 02/13/20 11:15 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.38	ug/m3	1.4	0.38	1.75		02/16/20 16:11	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.75		02/16/20 16:11	156-60-5	
Tetrachloroethene	0.57J	ug/m3	1.2	0.55	1.75		02/16/20 16:11	127-18-4	
Trichloroethene	<0.44	ug/m3	0.96	0.44	1.75		02/16/20 16:11	79-01-6	
Vinyl chloride	<0.22	ug/m3	0.46	0.22	1.75		02/16/20 16:11	75-01-4	

Sample: IA-5 Lab ID: 10508457003 Collected: 02/11/20 14:30 Received: 02/13/20 11:15 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 16:38	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 16:38	156-60-5	
Tetrachloroethene	0.75J	ug/m3	1.2	0.53	1.68		02/16/20 16:38	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 16:38	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 16:38	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25219179.00 Susies Restaurant

Pace Project No.: 10508457

Sample: IA-8 **Lab ID: 10508457006** Collected: 02/11/20 14:46 Received: 02/13/20 11:15 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 17:58	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 17:58	156-60-5	
Tetrachloroethene	<0.53	ug/m3	1.2	0.53	1.68		02/16/20 17:58	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 17:58	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 17:58	75-01-4	

Sample: IA-9 **Lab ID: 10508457007** Collected: 02/11/20 14:46 Received: 02/13/20 11:15 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 18:25	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 18:25	156-60-5	
Tetrachloroethene	<0.53	ug/m3	1.2	0.53	1.68		02/16/20 18:25	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 18:25	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 18:25	75-01-4	

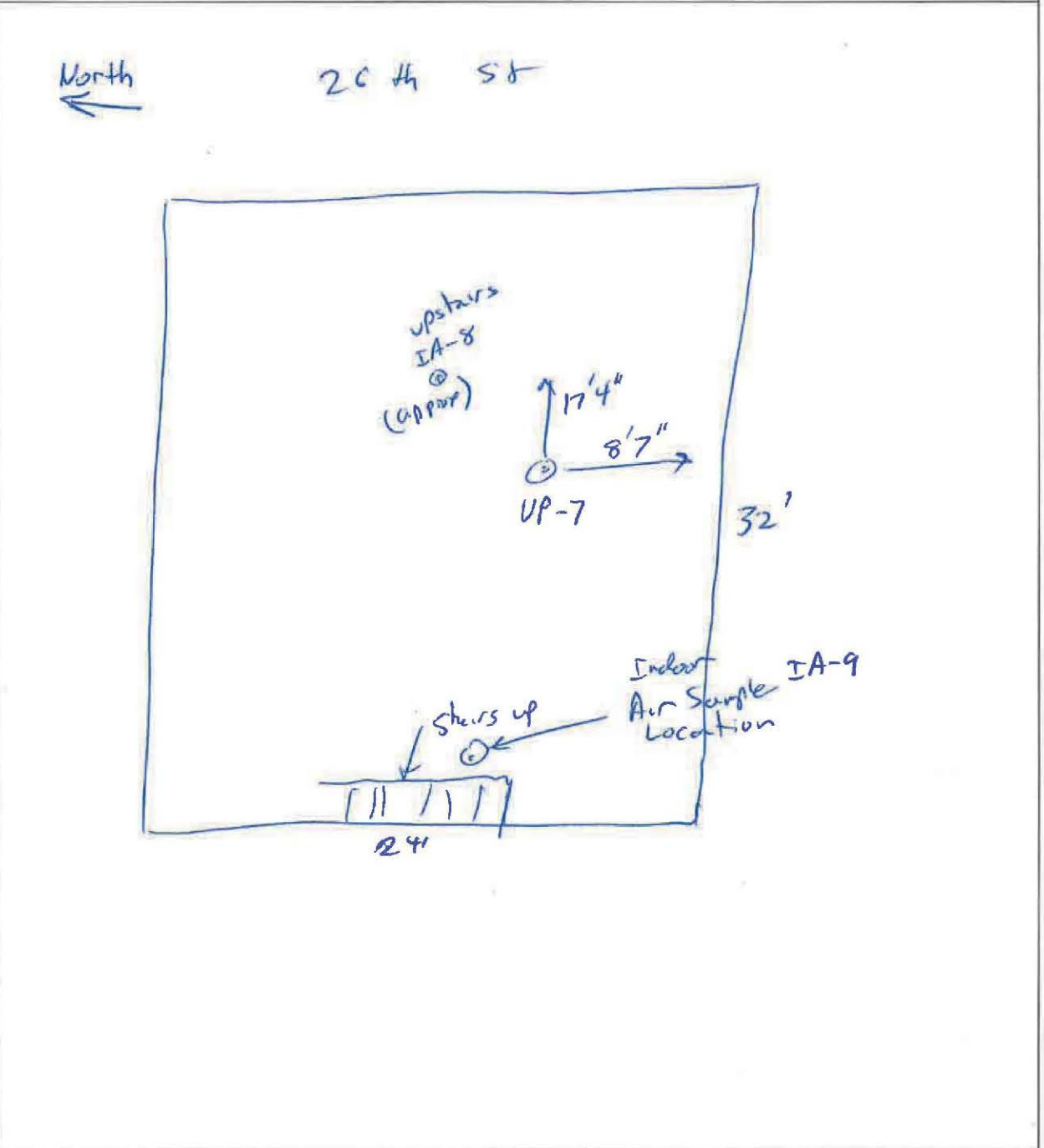
REPORT OF LABORATORY ANALYSIS

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Project No.: 25219179 Sample Location/ID: VP-87

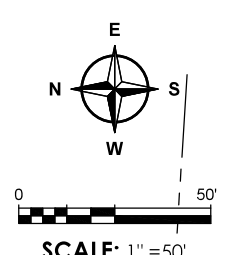
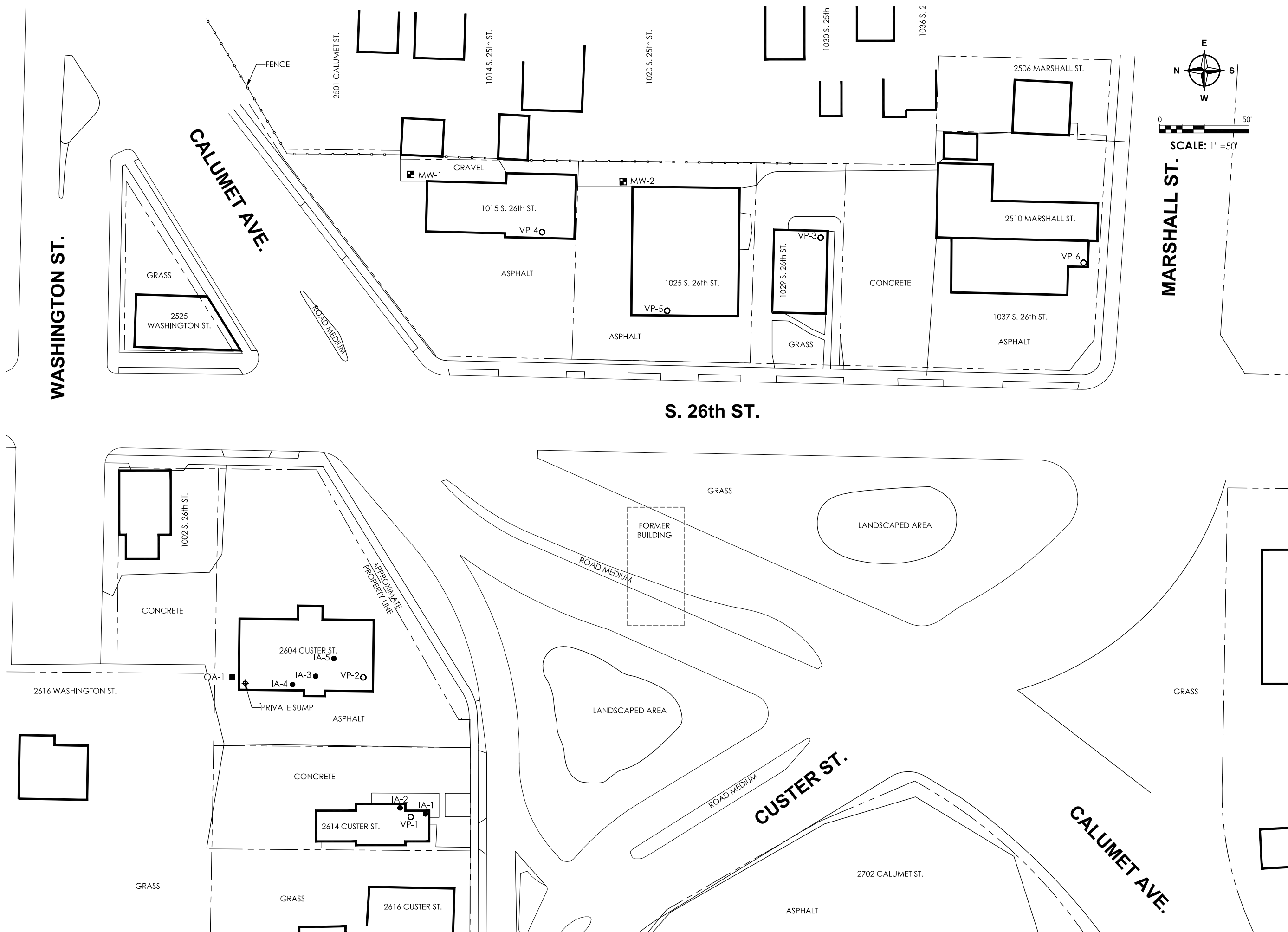
Date: 12/3/19 1002 26th St

Sample Locations Sketch:



↑ N NOT TO SCALE

W



General Engineering Company
 P.O. Box 340 • 916 Silver Lake Dr. • Portage, WI 53901
 608-742-2169 (Office) • 608-742-2592 (Fax)
 www.generalengineering.net

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SITE PLAN & SAMPLE LOCATIONS
SUSIE'S RESTAURANT

CITY OF MANITOWOC
 MANITOWOC COUNTY, WI

LEGEND

	MOTORING WELL LOCATION
	SUB SLAB VAPOR TESTING LOCATION
	INDOOR AMBIENT AIR TESTING LOCATION
	OUTDOOR AMBIENT AIR TESTING LOCATION

DRAWN BY	KSP
REVIEWED BY	LMB
ISSUE DATE	AUG 2019
GEC FILE NO.	2-0519-258
SHEET NO.	

FIGURE 2



March 3, 2020

MAREK ENTERPRISES LLC
MICHAEL C MAREK
2616 WASHINGTON ST
MANITOWOC WI 54220-4822

SUBJECT: Vapor Sampling Results - Contaminant Detection Below DNR Screening Level
PROPERTY: WI DOT – Susies Restaurant (Former) – LGU-SL, 1020 S. 26th Street, Manitowoc, WI
BRRTS Activity # 02-36-000516

Dear Mr. Marek,

Included are the findings of a recent investigation on your properties located at 2616 Washington Street by the Wisconsin Department of Natural Resources (DNR).

As you are aware, this investigation was conducted because of the potential for contaminant vapors from the nearby WI DOT - Susies Restaurant (Former) property identified above to migrate through soil, accumulate beneath the foundation of your business, and possibly enter your indoor air. The contaminant of concern at the WI DOT - Susies Restaurant (Former) property is Trichloroethene, or TCE. The history of this site and the potential concerns to neighboring residents were described in detail in the original letter sent to your business.

On February 11, 2020 an environmental consultant hired by DNR collected indoor air samples from your property. The samples were then submitted to Pace Analytical Services, LLC, where they underwent laboratory analysis for five contaminants, including tetrachloroethene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethylene, trans-1,2-dichloroethylene and vinyl chloride (VC).

Your Test Results:

Attached is a copy of the laboratory report for your Indoor air samples.

At 2616 Washington Street the results show that a small amount of PCE was detected in the samples taken from the indoor air in your basement and first floor. This is likely due to the activities that took place at WI DOT - Susies Restaurant (Former) in the past. Although PCE was detected in the indoor air within your building, the level at which it was detected is such that it does not pose a threat to you or your employees. This is called “a detection below screening level” and is explained in the enclosed fact sheet.

These latest sample results confirm the previous test results, indicating that there does not appear to be a risk of PCE vapor entering your home from beneath the foundation. In order to assess the soil vapors beneath your foundation floor, the DNR will contact you to schedule a time to sample the sub-slab vapor pin that was installed in December 2019.

Please feel free to contact me at (920) 662-5443 or by email to Sarah.Krueger@wisconsin.gov if you have any questions about these results. You may also contact Kristina Femal, the new project manager for the site, at (920) 662-5431 or by email to Kristina.Femal@wisconsin.gov.

March 3, 2020
Michael C Marek – Marek Enterprises LLC
Vapor Sampling Results
WI DOT – Susies Restaurant (Former), BRRTS #02-36-000516

Page 2 of 2

Sincerely,

A handwritten signature in black ink that reads "Sarah Krueger". The signature is written in a cursive, flowing style.

Sarah Krueger
Project Manager
Remediation & Redevelopment Program

Encl. Understanding Chemical Vapor Testing Results, [RR977](#)

Att. Laboratory Analytical Report
Sample Location Figure

cc: Greg Minikel, City of Manitowoc, gminikel@manitowoc.org

ANALYTICAL RESULTS

Project: 25219179.00 Susies Restaurant

Pace Project No.: 10508457

Sample: IA-3 Lab ID: 10508457001 Collected: 02/11/20 14:35 Received: 02/13/20 11:15 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	0.53J	ug/m3	1.3	0.35	1.61		02/16/20 15:17	156-59-2	
trans-1,2-Dichloroethene	<0.46	ug/m3	1.3	0.46	1.61		02/16/20 15:17	156-60-5	
Tetrachloroethene	0.52J	ug/m3	1.1	0.51	1.61		02/16/20 15:17	127-18-4	
Trichloroethene	0.89	ug/m3	0.88	0.41	1.61		02/16/20 15:17	79-01-6	
Vinyl chloride	<0.20	ug/m3	0.42	0.20	1.61		02/16/20 15:17	75-01-4	

Sample: IA-4 Lab ID: 10508457002 Collected: 02/11/20 14:30 Received: 02/13/20 11:15 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.38	ug/m3	1.4	0.38	1.75		02/16/20 16:11	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.75		02/16/20 16:11	156-60-5	
Tetrachloroethene	0.57J	ug/m3	1.2	0.55	1.75		02/16/20 16:11	127-18-4	
Trichloroethene	<0.44	ug/m3	0.96	0.44	1.75		02/16/20 16:11	79-01-6	
Vinyl chloride	<0.22	ug/m3	0.46	0.22	1.75		02/16/20 16:11	75-01-4	

Sample: IA-5 Lab ID: 10508457003 Collected: 02/11/20 14:30 Received: 02/13/20 11:15 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 16:38	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 16:38	156-60-5	
Tetrachloroethene	0.75J	ug/m3	1.2	0.53	1.68		02/16/20 16:38	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 16:38	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 16:38	75-01-4	

Sample: IA-6 Lab ID: 10508457004 Collected: 02/11/20 15:16 Received: 02/13/20 11:15 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.38	ug/m3	1.4	0.38	1.75		02/16/20 17:04	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.75		02/16/20 17:04	156-60-5	
Tetrachloroethene	0.66J	ug/m3	1.2	0.55	1.75		02/16/20 17:04	127-18-4	
Trichloroethene	<0.44	ug/m3	0.96	0.44	1.75		02/16/20 17:04	79-01-6	
Vinyl chloride	<0.22	ug/m3	0.46	0.22	1.75		02/16/20 17:04	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25219179.00 Susies Restaurant

Pace Project No.: 10508457

Sample: IA-7									
		Lab ID: 10508457005	Collected: 02/11/20 15:17	Received: 02/13/20 11:15	Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 17:31	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 17:31	156-60-5	
Tetrachloroethene	0.73J	ug/m3	1.2	0.53	1.68		02/16/20 17:31	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 17:31	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 17:31	75-01-4	

Sample: IA-8									
		Lab ID: 10508457006	Collected: 02/11/20 14:46	Received: 02/13/20 11:15	Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 17:58	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 17:58	156-60-5	
Tetrachloroethene	<0.53	ug/m3	1.2	0.53	1.68		02/16/20 17:58	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 17:58	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 17:58	75-01-4	

Sample: IA-9									
		Lab ID: 10508457007	Collected: 02/11/20 14:46	Received: 02/13/20 11:15	Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 18:25	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 18:25	156-60-5	
Tetrachloroethene	<0.53	ug/m3	1.2	0.53	1.68		02/16/20 18:25	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 18:25	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 18:25	75-01-4	

Sample: IA-10									
		Lab ID: 10508457008	Collected: 02/11/20 15:53	Received: 02/13/20 11:15	Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.30	ug/m3	1.1	0.30	1.39		02/16/20 18:51	156-59-2	
trans-1,2-Dichloroethene	<0.40	ug/m3	1.1	0.40	1.39		02/16/20 18:51	156-60-5	
Tetrachloroethene	2.1	ug/m3	0.96	0.44	1.39		02/16/20 18:51	127-18-4	
Trichloroethene	<0.35	ug/m3	0.76	0.35	1.39		02/16/20 18:51	79-01-6	
Vinyl chloride	<0.18	ug/m3	0.36	0.18	1.39		02/16/20 18:51	75-01-4	

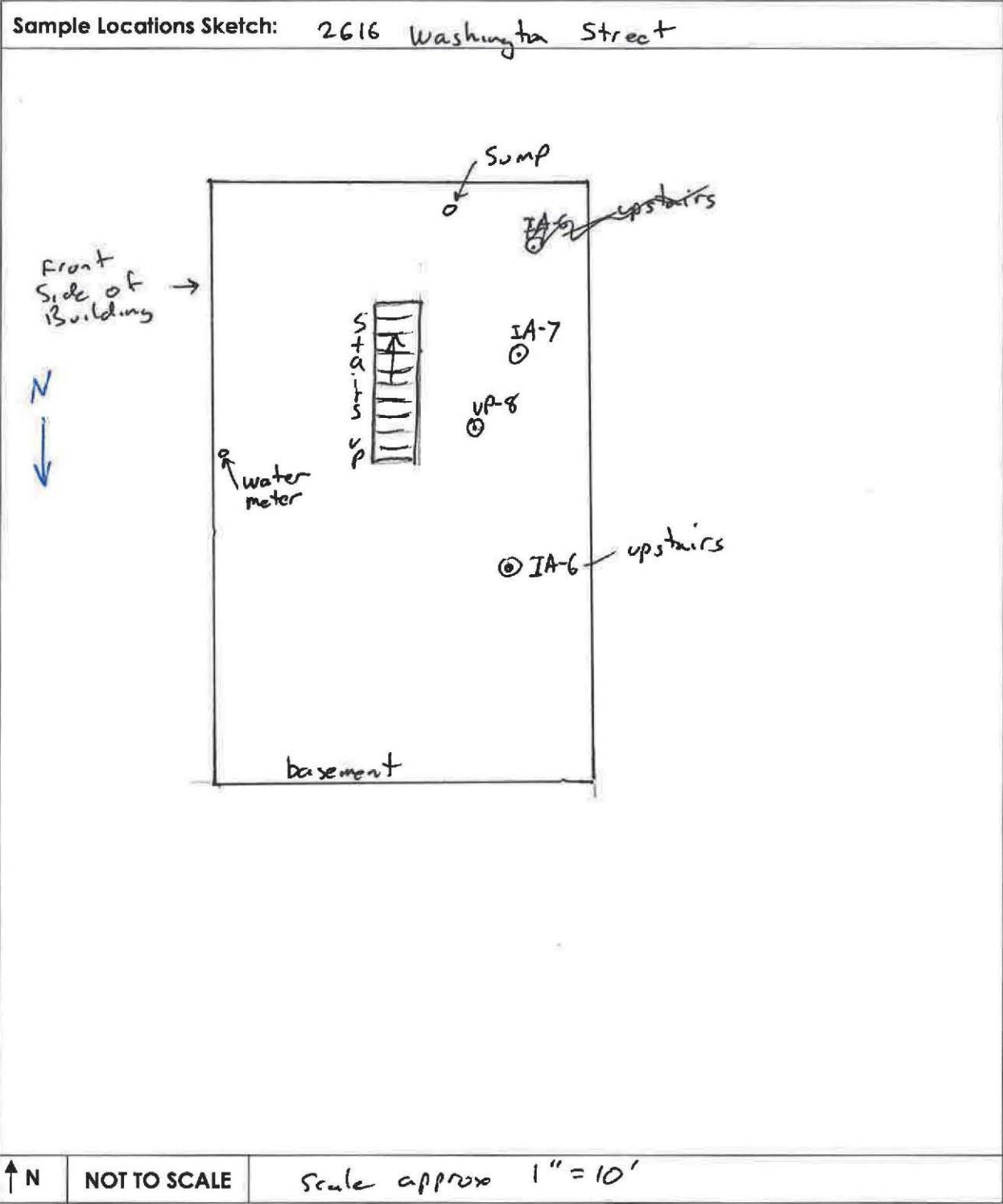
REPORT OF LABORATORY ANALYSIS

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Project No.: 25219179

Sample Location/ID: VP-8

Date: 12/4/2019





March 3, 2020

TSD PROPERTIES LLC
DEBRA JOANNE GABRIEL
2525 WASHINGTON STREET
MANITOWOC, WI 54220-4821

SUBJECT: Vapor Sampling Results - Contaminants Below DNR Screening Level
PROPERTY: WI DOT – Susies Restaurant (Former) – LGU-SL, 1020 S. 26th Street, Manitowoc, WI
BRRTS Activity # 02-36-000516

Dear Ms. Gabriel,

Included are the findings of a recent investigation on your properties located at 2525 Washington Street by the Wisconsin Department of Natural Resources (DNR).

As you are aware, this investigation was conducted because of the potential for contaminant vapors from the nearby WI DOT - Susies Restaurant (Former) property identified above to migrate through soil, accumulate beneath the foundation of your business, and possibly enter your indoor air. The contaminant of concern at the WI DOT - Susies Restaurant (Former) property is Trichloroethene, or TCE. The history of this site and the potential concerns to neighboring residents were described in detail in the original letter sent to your business.

On February 11th and February 12th, 2020, an environmental consultant hired by DNR collected an indoor air sample and collected a soil vapor sample. The samples were then submitted to Pace Analytical Services, LLC, where they underwent laboratory analysis for five contaminants, including tetrachloroethene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethylene, trans-1,2-dichloroethylene and vinyl chloride (VC).

Your Test Results:

Attached is a copy of the laboratory report for your sub-slab and indoor air samples.

At 2525 Washington Street, the results show that a small amount of PCE was detected in the samples taken from beneath your foundation and from the indoor air. This is likely due to the activities that took place at WI DOT - Susies Restaurant (Former) in the past. Although PCE was detected in soil vapors beneath your foundation floor and the indoor air, the level at which it was detected is such that it does not pose a threat to you or your employees. This is called “a detection below screening level” and is explained in the enclosed fact sheet.

These latest sample results confirm the previous test results, indicating that there does not appear to be a risk of TCE vapor entering your business at 2525 Washington Street from beneath the foundation at this time. I will contact you to schedule a time to abandon the vapor pin that was installed in December 2019.

Please feel free to contact me at (920) 662-5443 or by email to Sarah.Krueger@wisconsin.gov if you have any questions about these results. You may also contact Kristina Femal, the new project manager for the site, at (920) 662-5431 or by email to Kristina.Femal@wisconsin.gov.

March 3, 2020
Debra Joanne Gabriel – TSD Properties LLC
Vapor Sampling Results
WI DOT – Susies Restaurant (Former), BRRTS #02-36-000516

Page 2 of 2

Sincerely,

A handwritten signature in cursive script that reads "Sarah Krueger".

Sarah Krueger
Project Manager
Remediation & Redevelopment Program

Encl. Understanding Chemical Vapor Testing Results, [RR977](#)

Att. Laboratory Analytical Report
Sample Location Figure

cc: Greg Minikel, City of Manitowoc, gminikel@manitowoc.org

ANALYTICAL RESULTS

Project: 25219179.00 Susies Restaurant

Pace Project No.: 10508457

Sample: IA-7									
		Lab ID: 10508457005	Collected: 02/11/20 15:17	Received: 02/13/20 11:15	Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 17:31	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 17:31	156-60-5	
Tetrachloroethene	0.73J	ug/m3	1.2	0.53	1.68		02/16/20 17:31	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 17:31	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 17:31	75-01-4	

Sample: IA-8									
		Lab ID: 10508457006	Collected: 02/11/20 14:46	Received: 02/13/20 11:15	Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 17:58	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 17:58	156-60-5	
Tetrachloroethene	<0.53	ug/m3	1.2	0.53	1.68		02/16/20 17:58	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 17:58	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 17:58	75-01-4	

Sample: IA-9									
		Lab ID: 10508457007	Collected: 02/11/20 14:46	Received: 02/13/20 11:15	Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.37	ug/m3	1.4	0.37	1.68		02/16/20 18:25	156-59-2	
trans-1,2-Dichloroethene	<0.48	ug/m3	1.4	0.48	1.68		02/16/20 18:25	156-60-5	
Tetrachloroethene	<0.53	ug/m3	1.2	0.53	1.68		02/16/20 18:25	127-18-4	
Trichloroethene	<0.43	ug/m3	0.92	0.43	1.68		02/16/20 18:25	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		02/16/20 18:25	75-01-4	

Sample: IA-10									
		Lab ID: 10508457008	Collected: 02/11/20 15:53	Received: 02/13/20 11:15	Matrix: Air				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.30	ug/m3	1.1	0.30	1.39		02/16/20 18:51	156-59-2	
trans-1,2-Dichloroethene	<0.40	ug/m3	1.1	0.40	1.39		02/16/20 18:51	156-60-5	
Tetrachloroethene	2.1	ug/m3	0.96	0.44	1.39		02/16/20 18:51	127-18-4	
Trichloroethene	<0.35	ug/m3	0.76	0.35	1.39		02/16/20 18:51	79-01-6	
Vinyl chloride	<0.18	ug/m3	0.36	0.18	1.39		02/16/20 18:51	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25219179.00 Susies Restaurant

Pace Project No.: 10508457

Sample: OA-2									
Lab ID: 10508457009									
Collected: 02/11/20 15:42									
Received: 02/13/20 11:15									
Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		02/16/20 19:18	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		02/16/20 19:18	156-60-5	
Tetrachloroethene	<0.47	ug/m3	1.0	0.47	1.49		02/16/20 19:18	127-18-4	
Trichloroethene	<0.38	ug/m3	0.81	0.38	1.49		02/16/20 19:18	79-01-6	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		02/16/20 19:18	75-01-4	

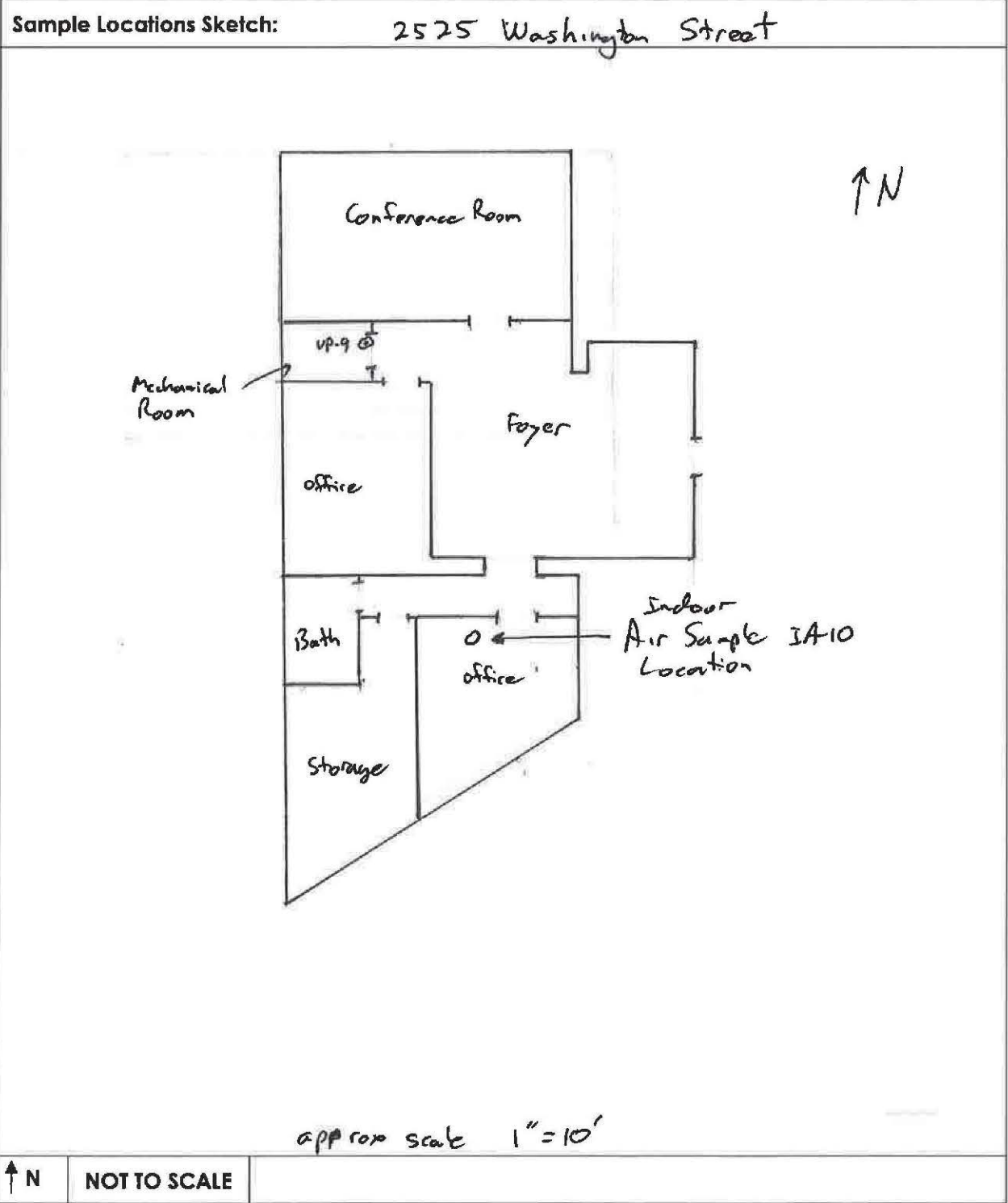
Sample: VP-9									
Lab ID: 10508457010									
Collected: 02/12/20 08:48									
Received: 02/13/20 11:15									
Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR									
Analytical Method: TO-15									
cis-1,2-Dichloroethene	<0.40	ug/m3	1.5	0.40	1.83		02/16/20 19:45	156-59-2	
trans-1,2-Dichloroethene	<0.52	ug/m3	1.5	0.52	1.83		02/16/20 19:45	156-60-5	
Tetrachloroethene	1.4	ug/m3	1.3	0.57	1.83		02/16/20 19:45	127-18-4	
Trichloroethene	<0.46	ug/m3	1.0	0.46	1.83		02/16/20 19:45	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.48	0.23	1.83		02/16/20 19:45	75-01-4	

REPORT OF LABORATORY ANALYSIS

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Project No.: 25219179 Sample Location/ID: VP-9

Date: ~~12~~ 12/4/2019





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.

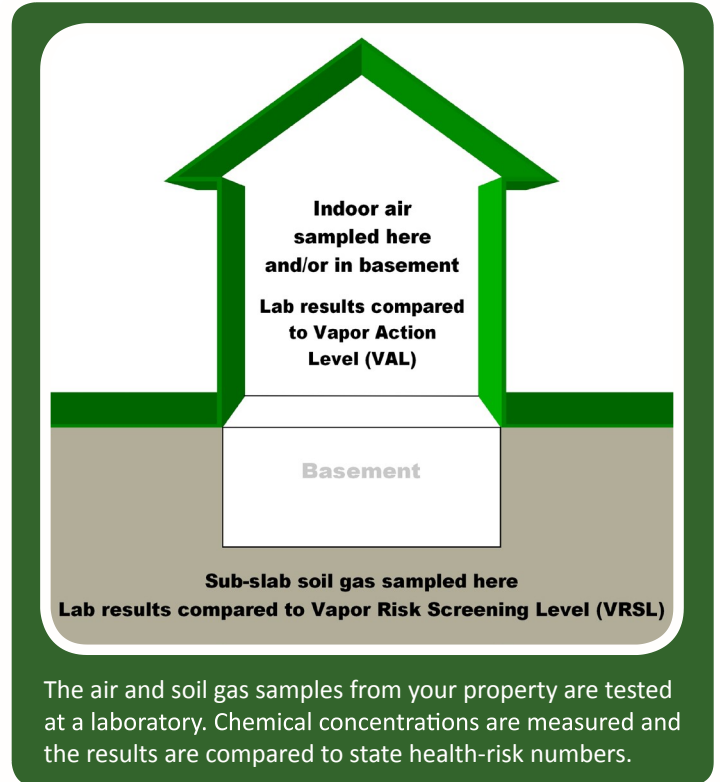
Indoor Air Testing Results

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.



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

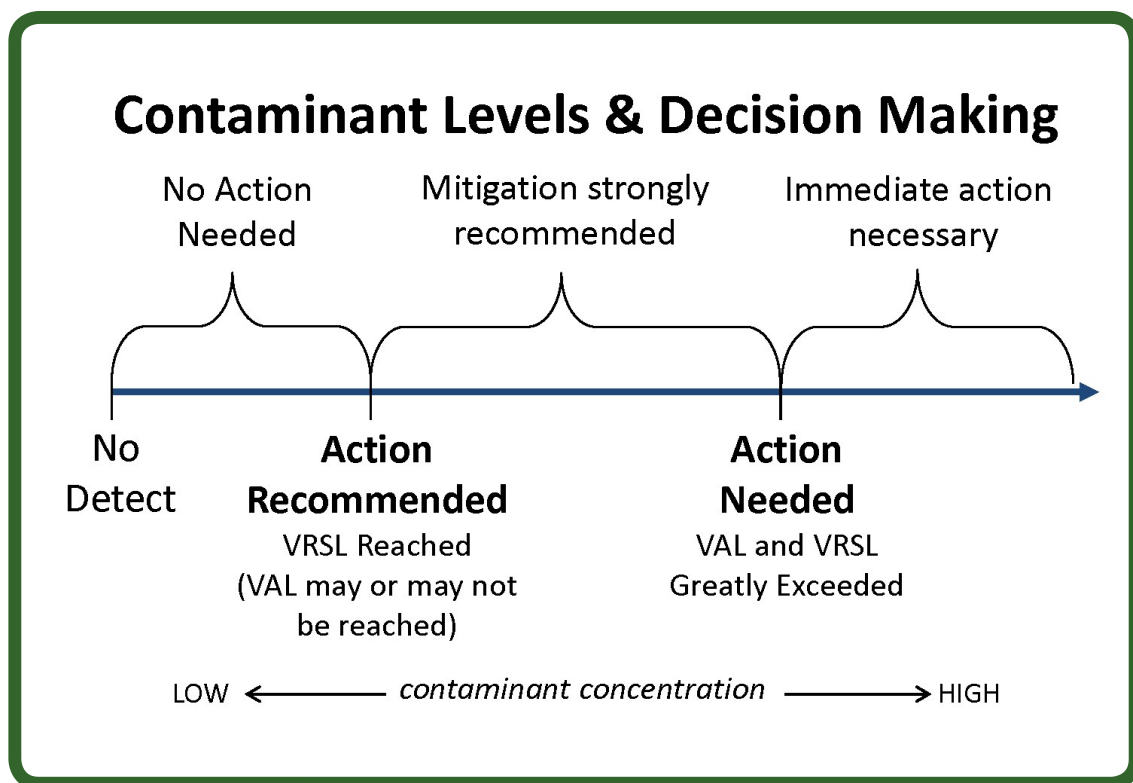
If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

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 $\mu\text{g}/\text{m}^3$ 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