

March 28, 2023



Sara Perrault
714 Lincoln Street
Green Bay, WI 54303



Subject: Former V&L Stripping
864 Mather Street
WDNR BRRTS #02-05-216722
Off-Site Vapor Sampling Results

Dear Ms. Perrault

Included are the findings of a recent investigation on your property by REI Engineering, Inc.

As you are aware, this investigation was conducted because of the potential for contaminant vapors from the nearby V&L Stripping property, identified above, to migrate through soils, accumulate beneath the foundation of your home, and possibly enter your indoor air. The contaminant of concern at the V&L property is Tetrachloroethylene, or PCE. The history of this site and the potential concerns to neighboring residents were described in detail in the original letter sent to your home.

On April 14, 2022, August 22, 2022, and March 2, 2023, an environmental consultant hired by Ken Juza installed a sampling device into the floor of your foundation, and collected a soil vapor sample. Additional samples were collected from the ambient air, and the atmosphere within your sump pit. Sampling on March 2, 2023 did not include sump pit sampling, however the ambient air was collected over a 7 day period. The samples were then submitted to the Synergy Laboratories, where they underwent laboratory analysis for TO-15 analysis including Tetrachloroethylene (PCE), Trichloroethylene (TCE), cis-1,2 Dichloroethylene (Cis-1,2 DCE), Trans-1,2 Dichloroethylene (Trans-1,2 DCE), and Vinyl Chloride (VC).

Your Test Results

Attached is a copy of the laboratory report for your sub slab, sump pit and ambient air samples. The results show that a small amount of PCE and TCE were detected in the samples. Although PCE and TCE were detected in soil vapors beneath your basement, the levels at which they were detected is such that it does not pose a threat to you or your family. This is called “a detection below screening level” and is explained in the enclosed fact sheet.

The highest level of PCE detected beneath your foundation at was 55 µg/m³. The DNR screening level beneath the foundation is 1,390 µg/m³. The highest level of TCE in the sub-slab sample was 1.29 µg/m³, with a screening level of 69.5 µg/m³. In ambient air, the highest level of PCE was 1.43



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4080 N. 20th Avenue Wausau, WI 54401
715-675-9784 REIengineering.com

Sara Perrault
March 28, 2023

µg/m³ with a screening level of 41.7 µg/m³. TCE was only detected in one of the ambient air samples at an estimated concentration below the laboratory limit of quantification.

At this time, there is not a risk of PCE or TCE vapor entering your home from beneath the foundation. Upon DNR approval, we can remove the sample port from your basement and seal the floor.

The laboratory report also shows very low levels of volatile organic compounds (VOCs) other than PCE and TCE in indoor air. This is likely due to trace amounts of VOCs from products such as paints, adhesives, fragrances, etc. that are commonly found in the typical home or office, and unrelated to the activities that took place at V&L Stripping in the past.

Thank you for your assistance with this project. Please contact me if you have any questions about these results at (715) 675-9784 or adelforge@reiengineering.com.

Sincerely,
REI Engineering, Inc.



Andrew R. Delforge, P.C.
Senior Hydrogeologist

Enclosures

Tables
DNR-PUB RR-977 Understanding Chemical Vapor Testing Results
Site Map – Sample Locations

CC: Josie Schultz, WDNR
Ken Juza

TABLE 4a
AMBIENT AIR SAMPLING RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

						<i>Sample --></i>		
						<i>Collected By--></i>		
						<i>AD</i>	<i>AD</i>	<i>AD</i>
						<i>Sample Date--></i>		
						<i>AA714L</i>		
TO-15 Detected VOC's (µg/m³)	CAS Number	carcinogen	<i>Indoor Air VAL</i>					
			Residential [R]	Small Commercial [SC]	Large Commercial/ Industrial [LC/I]			
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	<0.197	<0.197	<0.197
trans-1,2-Dichloroethene	156-60-5	c	--	--	--	<0.231	<0.231	<0.231
Tetrachloroethene (PCE)	127-18-4	n	41.7	175	175	1.43	0.48j	0.75j
Trichloroethene (TCE)	79-01-6	--	2.09	8.76	8.76	0.48j	<0.237	<0.237
Vinyl chloride	75-01-4	n	1.68	27.9	27.9	<0.148	<0.148	<0.148

Notes:

VAL = Vapor Action Level

< = Concentration Below Laboratory Detection Limit

- = Not Sampled/Collected

-- = No Standard/Not Applicable

^J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ)

c = carcinogen

n = non-carcinogen

Target Risk for Carcinogens = 1.00E-05

Target Hazard Quotient for Non-Carcinogens = 1

Immediate Action Criteria for Indoor Air

Carinogens (c) = 10 x VAL

Non-carinogens (n) = 3 x VAL

<i>Italics</i>	= Exceeds US EPA Residential VAL
Bold	= Exceeds US EPA Commercial VAL
<u>Underlined</u>	= Exceeds Immediate Action Criteria for Indoor Air

**TABLE 4b
SUB-SLAB AIR SAMPLING RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303**

		<i>Sample --></i>			<i>SS714L</i>			<i>SP714L</i>		
		<i>Collected By--></i>			<i>AD</i>	<i>AD</i>	<i>AD</i>	<i>AD</i>	<i>AD</i>	
		<i>Sample Date--></i>			<i>4/14/22</i>	<i>8/22/22</i>	<i>3/2/23</i>	<i>4/14/22</i>	<i>8/22/22</i>	
WDNR Common VOC's (µg/m³)	CAS Number	carcinogen	Sub-Slab VRSL							
			Residential [R] (AF = 0.03)	Small Commercial [SC] (AF = 0.03)	Large Commercial/ Industrial [LC/I] (AF = 0.01)					
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	<0.197	<0.197	<0.197	<0.197	<0.197
trans-1,2-Dichloroethene	156-60-5	--	--	--	--	<0.231	<0.231	<0.231	<0.231	<0.231
Tetrachloroethene (PCE)	127-18-4	n	1,390	5,840	17,500	13.7	24.8	55	2.17	3.3
Trichloroethene (TCE)	79-01-6	n	69.5	292	876	1.12	1.29	0.96	0.268j	0.70j
Vinyl chloride	75-01-4	c	55.9	929	2,790	0.23j	<0.148	<0.148	<0.148	<0.148

Notes:

Indoor Air Standards based on US EPA Vapor Intrusion Screening Levels (VISL) online calculator.

VISL Calculated on Date: 6/14/2019

AF = Attenuation Factor

VAL = Vapor Action Level

VRSL = Vapor Risk Screening Level

< = Concentration Below Laboratory Detection Limit

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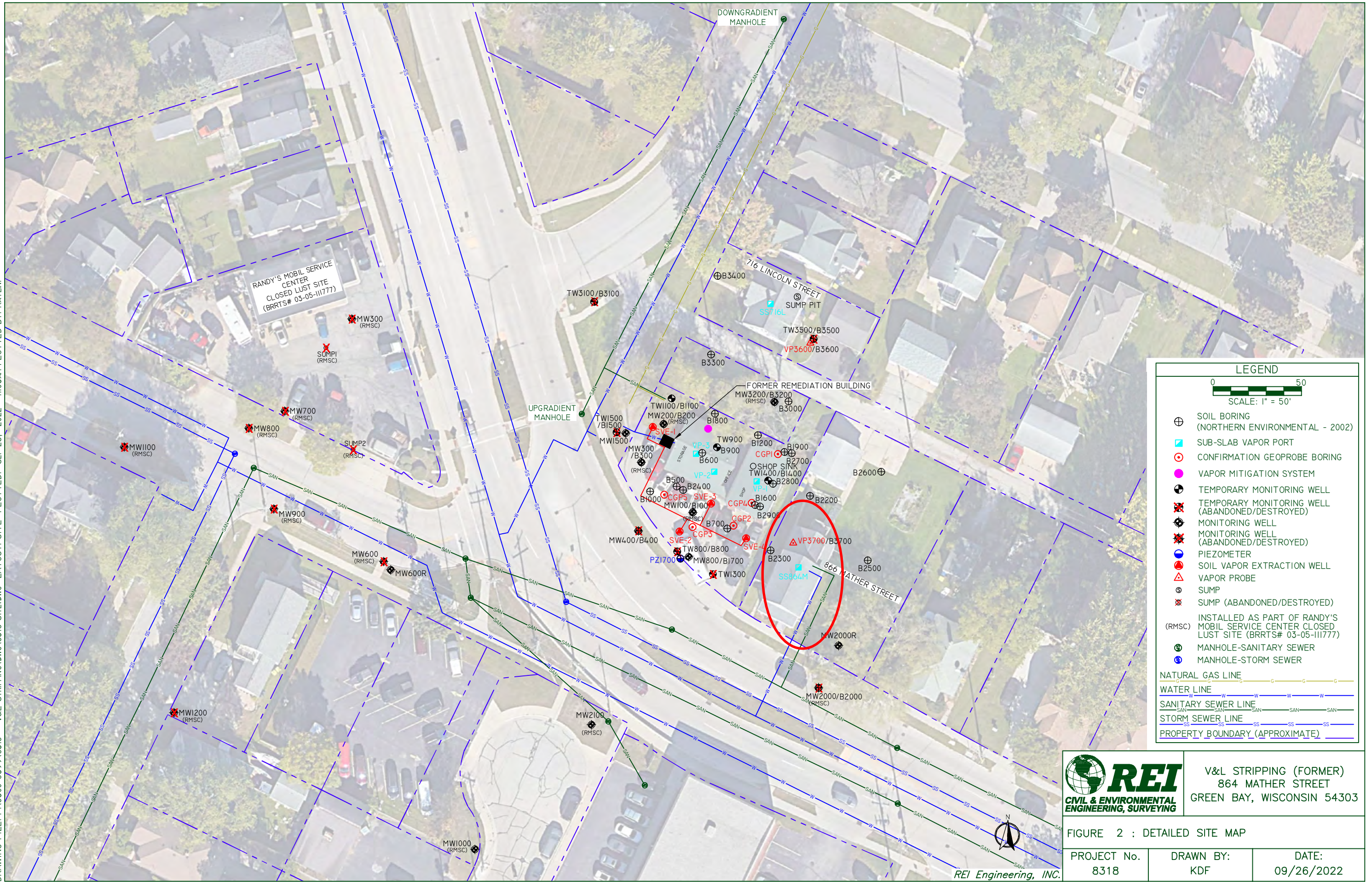
n = non-carcinogen

Target Risk for Carcinogens = 1.00E-05

Target Hazard Quotient for Non-Carcinogens = 1

<i>Italics</i>	= Exceeds US EPA Residential VRSL
Bold	= Exceeds US EPA Small Commercial VRSL
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DRAWING FILE: P:\8300-8599\8318 - V&L STRIPPING.DWG\8518-SITE.DWG LAYOUT: SITE PLOTTED: SEP 26, 2022 - 11:03AM PLOTTED BY: KAYLINF



LEGEND

0 50
SCALE: 1" = 50'

- SOIL BORING (NORTHERN ENVIRONMENTAL - 2002)
- SUB-SLAB VAPOR PORT
- CONFIRMATION GEOPROBE BORING
- VAPOR MITIGATION SYSTEM
- TEMPORARY MONITORING WELL
- TEMPORARY MONITORING WELL (ABANDONED/DESTROYED)
- MONITORING WELL
- MONITORING WELL (ABANDONED/DESTROYED)
- PIEZOMETER
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- SUMP
- SUMP (ABANDONED/DESTROYED)
- (RMSC) INSTALLED AS PART OF RANDY'S MOBIL SERVICE CENTER CLOSED LUST SITE (BRRTS# 03-05-111777)
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER

NATURAL GAS LINE
WATER LINE
SANITARY SEWER LINE
STORM SEWER LINE
PROPERTY BOUNDARY (APPROXIMATE)

REI
CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING

V&L STRIPPING (FORMER)
864 MATHER STREET
GREEN BAY, WISCONSIN 54303

FIGURE 2 : DETAILED SITE MAP

PROJECT No. 8318	DRAWN BY: KDF	DATE: 09/26/2022
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REI Engineering, INC.



Understanding Chemical Vapor Intrusion Testing Results

RR-977

October 2014

From the Lab to You

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

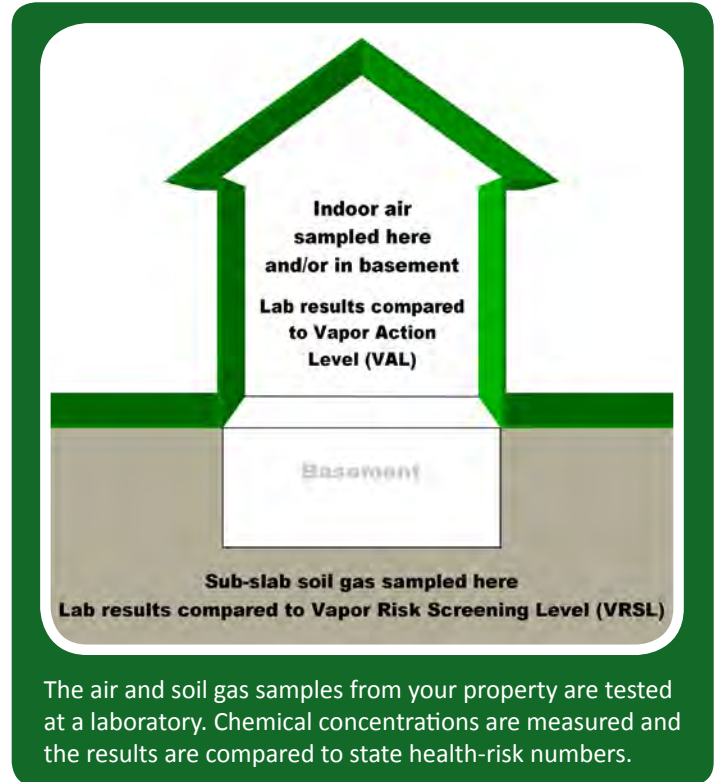
Indoor Air Testing Results

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

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

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

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



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

Sub-slab Soil Gas Testing Results

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

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



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



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

Follow-Up Actions

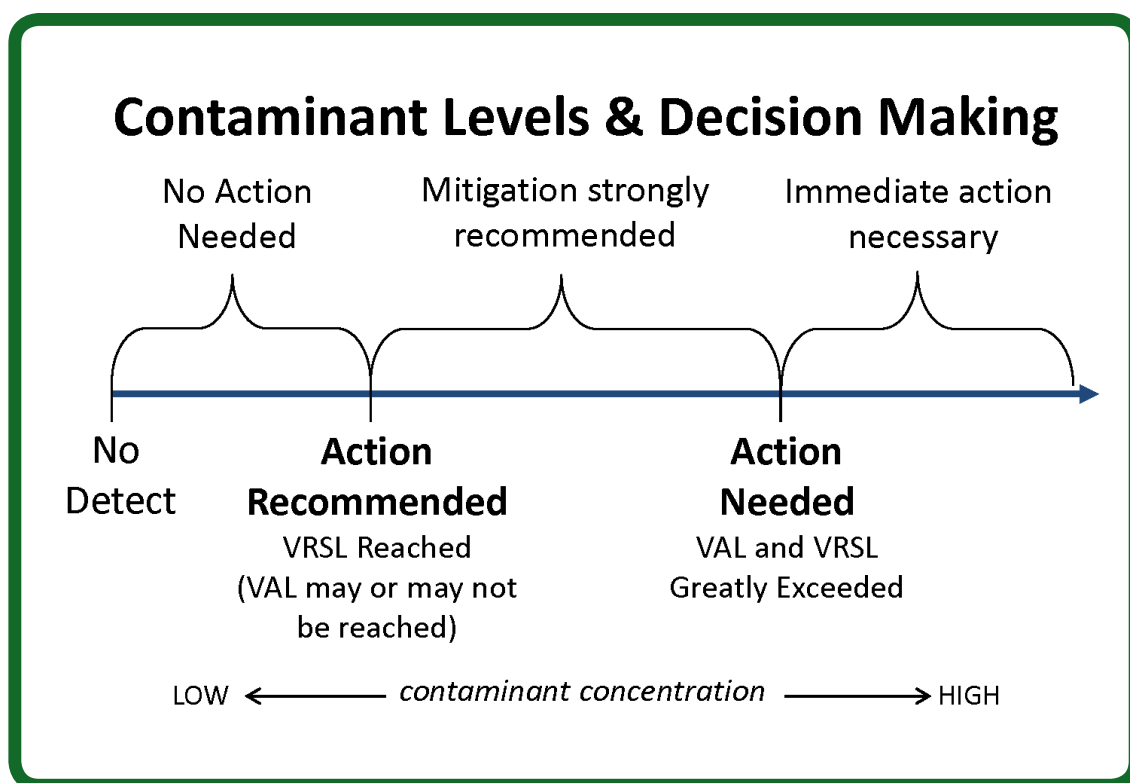
If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

When test results show soil gas chemical concentrations above a VRSL, both DNR and the Wisconsin Department of

Health Services recommend that owners take action to reduce potential exposure. This typically involves installing a vapor mitigation system that vents chemical vapors from beneath your home or building to the outdoors, similar to a radon mitigation system.

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

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



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

The concentration of gaseous pollutants in air is typically described in two different ways: 1) as units of mass per volume, where $\mu\text{g}/\text{m}^3$ 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



CIVIL & ENVIRONMENTAL
ENGINEERING, SURVEYING

March 28, 2023

Tracy Keehan
856 Mather Street
Green Bay, WI 54303



Subject: Former V&L Stripping
864 Mather Street
WDNR BRRTS #02-05-216722
Off-Site Vapor Sampling Results

Dear Ms. Keehan

Thank you for allowing REI Engineering, Inc. to access your home for vapor sampling.

As you are aware, this investigation was conducted because of the potential for contaminant vapors from the nearby V&L Stripping property, identified above, to migrate through soils, accumulate beneath the foundation of your home, and possibly enter your indoor air. The contaminant of concern at the V&L property is Tetrachloroethylene, or PCE. The history of this site and the potential concerns to neighboring residents were described in detail in the original letter sent to your home.

On April 14, August 22, 2022, and March 2, 2023 an environmental consultant hired by Ken Juza installed a sampling device into the floor of your foundation, and collected a soil vapor sample. Additional samples were collected from the ambient air. The most recent event included 7 day sampling from the ambient air. The samples were then submitted to the Synergy Laboratories, where they underwent laboratory analysis for TO-15 analysis including Tetrachloroethylene (PCE), Trichloroethylene (TCE), cis-1,2 Dichloroethylene (Cis-1,2 DCE), Trans-1,2 Dichloroethylene (Trans-1,2 DCE), and Vinyl Chloride (VC).

Your Test Results

Attached is a copy of the laboratory report for your sub slab, and ambient air samples. The results show that a small amount of PCE and TCE were detected in the samples. Although PCE and TCE were detected in soil vapors beneath your basement, the levels at which they were detected is such that it does not pose a threat to you or your family. This is called "a detection below screening level" and is explained in the enclosed fact sheet.

The highest level of PCE detected beneath your foundation at was 138 µg/m³. The DNR screening level beneath the foundation is 1,390 µg/m³. The highest level of TCE in the sub-slab sample was 2.84 µg/m³. The DNR screening level for TCE is 69.5 µg/m³. In ambient air, the highest level of



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715-675-9784 REIengineering.com

Tracy Keehan
March 28, 2023

PCE was 1.09 µg/m³ with a screening level of 41.7 µg/m³. TCE was not detected in the ambient air samples.

At this time, there is not a risk of PCE or TCE vapor entering your home from beneath the foundation. Upon DNR approval, we can remove the sample port and seal the floor.

The laboratory report also shows very low levels of volatile organic compounds (VOCs) other than PCE and TCE in indoor air. This is likely due to trace amounts of VOCs from products such as paints, adhesives, fragrances, etc. that are commonly found in the typical home or office, and unrelated to the activities that took place at V&L Stripping in the past.

Thank you for your assistance with this project. Please contact me if you have any questions about these results at (715) 675-9784 or adelforge@reiengineering.com.

Sincerely,
REI Engineering, Inc.



Andrew R. Delforge, P.G.
Senior Hydrogeologist

Enclosures

Tables
DNR-PUB RR-977 Understanding Chemical Vapor Testing Results
Site Map – Sample Locations

CC: Josie Schultz, WDNR (electronic)
Ken Juza (electronic)

TABLE 4a
AMBIENT AIR SAMPLING RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303

						<i>Sample --></i>		
						<i>Collected By--></i>		
						<i>AD</i>	<i>AD</i>	<i>AD</i>
						<i>Sample Date--></i>		
						<i>4/14/22</i>	<i>8/22/22</i>	<i>3/2-3/9/23</i>
TO-15 Detected VOC's (µg/m³)	CAS Number	carcinogen	<i>Indoor Air VAL</i>					
			Residential [R]	Small Commercial [SC]	Large Commercial/ Industrial [LC/I]			
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	<0.197	<0.197	<0.197
trans-1,2-Dichloroethene	156-60-5	c	--	--	--	<0.231	<0.231	<0.231
Tetrachloroethene (PCE)	127-18-4	n	41.7	175	175	<0.278	1.09	1.02
Trichloroethene (TCE)	79-01-6	--	2.09	8.76	8.76	<0.237	<0.237	<0.237
Vinyl chloride	75-01-4	n	1.68	27.9	27.9	<0.148	<0.148	<0.148

Notes:

VAL = Vapor Action Level

< = Concentration Below Laboratory Detection Limit

- = Not Sampled/Collected

-- = No Standard/Not Applicable

^J = Estimated concentration at or above the Limit of Detection (LOD) and below the Limit of Quantitation (LOQ)

c = carcinogen

n = non-carcinogen

Target Risk for Carcinogens = 1.00E-05

Target Hazard Quotient for Non-Carcinogens = 1

Immediate Action Criteria for Indoor Air

Carinogens (c) = 10 x VAL

Non-carinogens (n) = 3 x VAL

<i>Italics</i>	= Exceeds US EPA Residential VAL
Bold	= Exceeds US EPA Commercial VAL
<u>Underlined</u>	= Exceeds Immediate Action Criteria for Indoor Air

**TABLE 4b
SUB-SLAB AIR SAMPLING RESULTS
FORMER V&L STRIPPING
864 MATHER STREET
GREEN BAY, WI 54303**

		<i>Sample --></i>				<i>SS856M</i>		
		<i>Collected By--></i>				<i>AD</i>	<i>AD</i>	<i>AD</i>
		<i>Sample Date--></i>				<i>4/14/22</i>	<i>8/22/22</i>	<i>3/2/23</i>
WDNR Common VOC's (µg/m³)	CAS Number	carcinogen	Sub-Slab VRSL					
			Residential [R] (AF = 0.03)	Small Commercial [SC] (AF = 0.03)	Large Commercial/ Industrial [LC/I] (AF = 0.01)			
cis-1,2-Dichloroethene	156-59-2	--	--	--	--	<0.197	<0.197	<0.197
trans-1,2-Dichloroethene	156-60-5	--	--	--	--	<0.231	<0.231	<0.231
Tetrachloroethene (PCE)	127-18-4	n	1,390	5,840	17,500	64	93	138
Trichloroethene (TCE)	79-01-6	n	69.5	292	876	1.61	2.84	1.5
Vinyl chloride	75-01-4	c	55.9	929	2,790	0.256j	<0.148	<0.148

Notes:

Indoor Air Standards based on US EPA Vapor Intrusion Screening Levels (VISL) online calculator.

VISL Calculated on Date: 6/14/2019

AF = Attenuation Factor

VAL = Vapor Action Level

VRSL = Vapor Risk Screening Level

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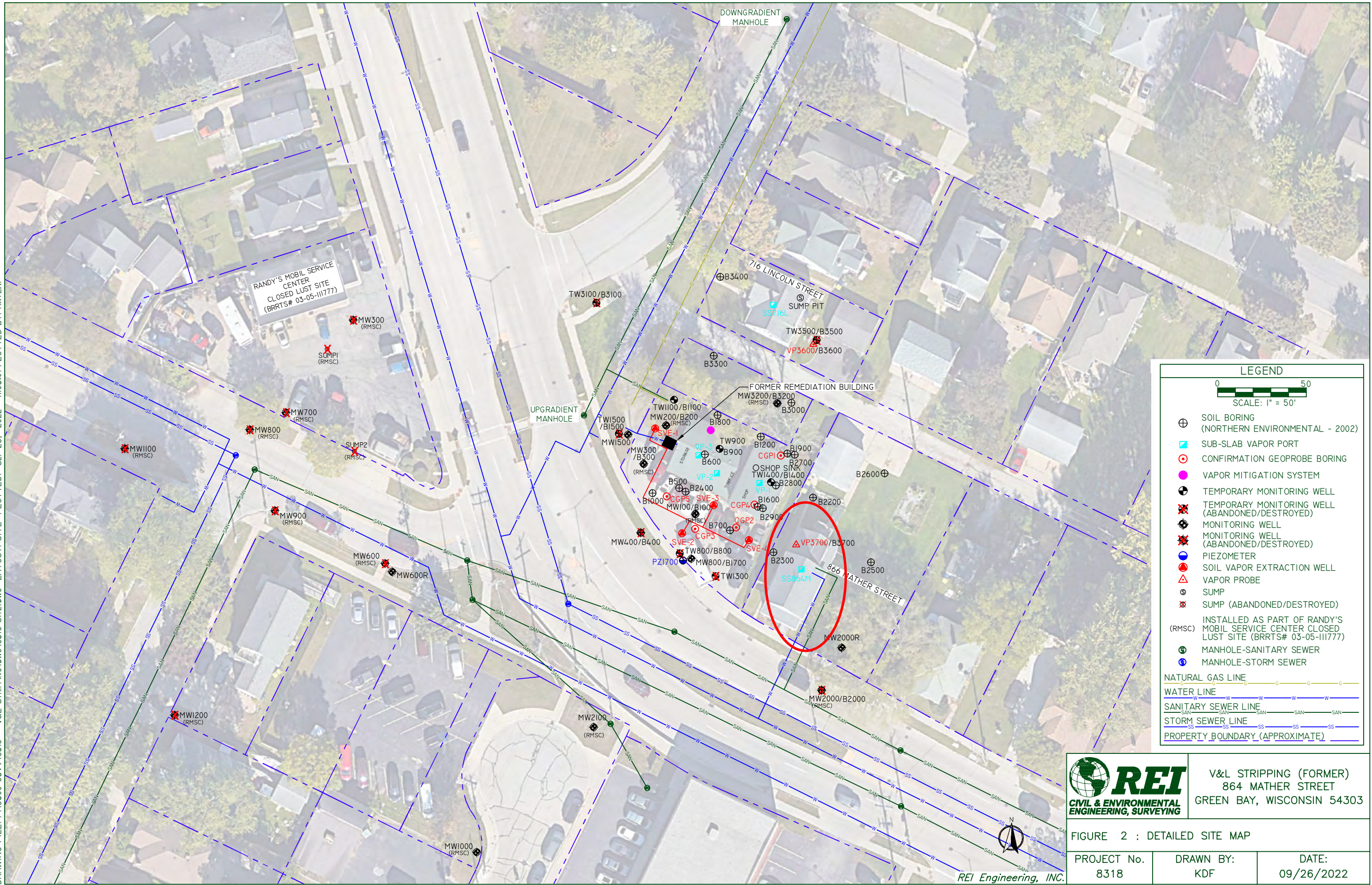
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DRAWING FILE: P:\8300-8599\8318 - V&L STRIPPING\DWG\8518-SITE-SITE.DWG LAYOUT: SITE PLOTTED: SEP 26, 2022 - 11:03AM PLOTTED BY: KAYLINF



LEGEND

0 50
SCALE: 1" = 50'

- ⊕ SOIL BORING (NORTHERN ENVIRONMENTAL - 2002)
- SUB-SLAB VAPOR PORT
- ⊙ CONFIRMATION GEOPROBE BORING
- VAPOR MITIGATION SYSTEM
- ⊕ TEMPORARY MONITORING WELL
- ⊕ TEMPORARY MONITORING WELL (ABANDONED/DESTROYED)
- ⊕ MONITORING WELL
- ⊕ MONITORING WELL (ABANDONED/DESTROYED)
- ⊕ PIEZOMETER
- ⊕ SOIL VAPOR EXTRACTION WELL
- △ VAPOR PROBE
- ⊕ SUMP
- ⊕ SUMP (ABANDONED/DESTROYED)
- (RMSC) INSTALLED AS PART OF RANDY'S MOBIL SERVICE CENTER CLOSED LUST SITE (BRRTS# 03-05-111777)
- ⊕ MANHOLE-SANITARY SEWER
- ⊕ MANHOLE-STORM SEWER

NATURAL GAS LINE
WATER LINE
SANITARY SEWER LINE
STORM SEWER LINE
PROPERTY BOUNDARY (APPROXIMATE)



V&L STRIPPING (FORMER)
864 MATHER STREET
GREEN BAY, WISCONSIN 54303

FIGURE 2 : DETAILED SITE MAP

PROJECT No. 8318	DRAWN BY: KDF	DATE: 09/26/2022
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REI Engineering, INC.



Understanding Chemical Vapor Intrusion Testing Results

RR-977

October 2014

From the Lab to You

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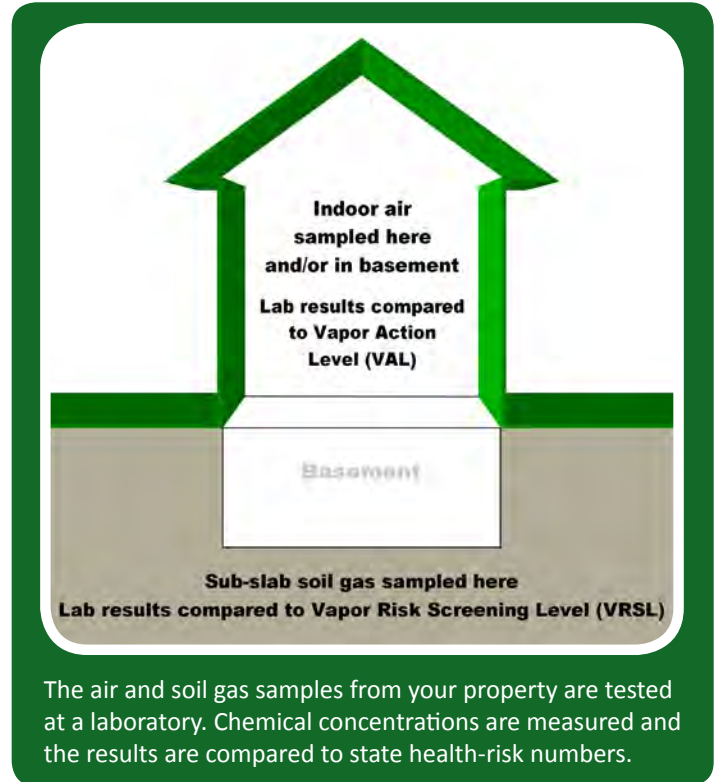
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Test results showing chemical concentrations in the air at or above the VAL prompt DNR to recommend that exposure to these chemical vapors be reduced. If test results show concentrations significantly above the VAL, or more than one type of chemical 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.

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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

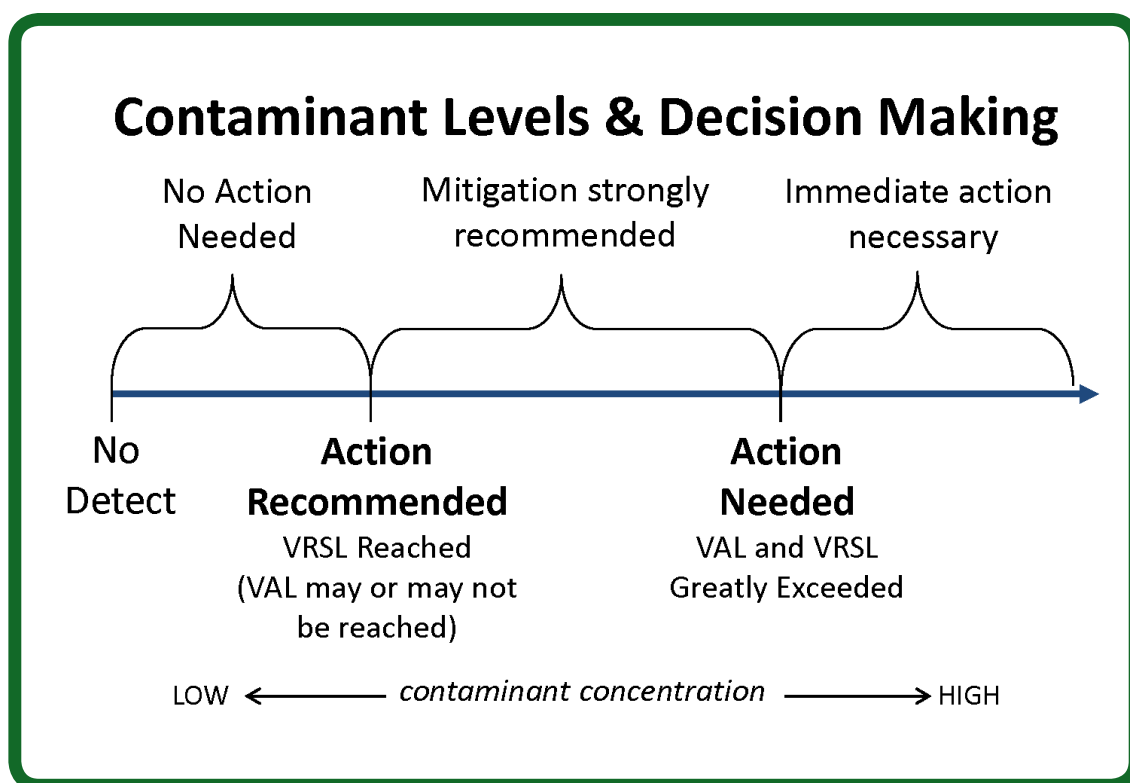
If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

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