



January 19, 2024

Four D Investments, LLC
Deb Smith
505 Grand Ave
Little Chute, WI 54140

SUBJECT: Air Sampling Results for 505 Grand Avenue, Little Chute, WI -
Contaminants Detected Below DNR Action Levels
DNR Site Name: Sandies Dry Cleaners & Laundry (Former), 513 Grand Avenue, Little Chute, WI
DNR BRRTS #02-45-552222

Dear Ms. Smith:

Included are the findings of a recent investigation on your property by the Department of Natural Resources (DNR). This letter is a follow-up to my email on January 18, 2024.

Summary

Two chemicals were detected in indoor air in the basement at levels that do not pose a health risk to building occupants. No further air sampling is planned at this time.

Sampling Effort

As you are aware, this investigation was conducted because of the potential for chemical vapors from the nearby Sandies Dry Cleaners & Laundry (Former) site identified above to migrate through soil and groundwater, accumulate next to and/or beneath the foundation of your building, and possibly enter your indoor air. The chemicals of concern for the investigation are the dry cleaning solvent, tetrachloroethene (PCE), and its breakdown products trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride.

On December 8, 2023, DNR deployed passive air sampling devices in the basement of your business for the collection of indoor air samples and outside for collection of an outdoor air sample. On December 20, 2023, the sample devices were retrieved then submitted to the Wisconsin State Lab of Hygiene – Occupational Health Lab, where they underwent laboratory analysis for PCE, TCE, 1,2-DCE (total) and vinyl chloride.

Test Results

The results of the air samples are summarized and compared to DNR standards on the table below. A copy of the laboratory report for the indoor and outdoor air samples is also attached.

There were detections of PCE and TCE in both indoor air samples but below the Residential Vapor Action Levels (VALs). This is called “a detection below screening level” and is explained in the enclosed fact sheet, *Understanding Chemical Vapor Testing Results*, RR-977. While there were detections in the indoor air, the concentrations do not pose a health risk to the building occupants. Data is compared to Residential VALs (verses Commercial VALs) due to the second-floor apartment at this location. No other chemicals of concern were detected.

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Air Sampling Results from 505 Grand Avenue, Little Chute, WI

DNR Site Name: Sandies Dry Cleaners & Laundry (Former), 513 Grand Avenue, Little Chute, WI

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Next Steps

No further air sampling is planned at this time.

Thank you for your cooperation with this sampling effort. Please contact me with any questions regarding the environmental investigation or an update on progress. Please direct any health-related questions to Curtis Hedman, Department of Health Services, at (608) 287-4152.

Sincerely,



Jennifer Borski
Hydrogeologist
Remediation & Redevelopment Program
920-360-0853
jennifer.borski@wisconsin.gov.

Copy: Deb Smith – debatbakersoutlet@gmail.com
Curtis Hedman, Wisconsin Dept of Health Services, , dhsdphoperations@dhs.wisconsin.gov
Natalie Vandeveld, Outagamie County Health, Natalie.Vandeveld@outagamie.org
Rob Kondreck, Kondreck.Robert@epa.gov

Attachments:

Laboratory Analytical Report
Understanding Chemical Vapor Testing Results (DNR PUB-RR-977)

Air Sampling Results from 505 Grand Avenue, Little Chute, WI

DNR Site Name: Sandies Dry Cleaners & Laundry (Former), 513 Grand Avenue, Little Chute, WI

DNR BRRTS # 02-45-552222

Table: Air Data (Indoor and Outdoor) for Chemicals Sampled at 505 Grand Avenue, Little Chute, WI

All data units in $\mu\text{g}/\text{m}^3$	Air Concentrations 10/19/2023 - 10/24/2023	Air Concentrations 12/8/2023 – 12/20/2023	Comparison Vapor Action Level (Residential)
Contaminant			
	Sample ID: 01A_IAB01_20231024 (Basement beneath the vapor abatement system in north room)	Sample ID: 01A_IAB01_20231220 (Basement beneath the vapor abatement system in north room)	
PCE	1.4	8.5	42
TCE	No Detect	0.46	2.1
1,2-DCE (Total)	No Detect	No Detect	42
Vinyl Chloride	No Detect	No Detect	1.7
	Sample ID: 01A_IAB02_20231024 (Basement center of north room)	Sample ID: 01A_IAB02_20231220 (Basement center of north room)	
PCE	0.77	11	42
TCE	0.52	0.61	2.1
1,2-DCE (Total)	No Detect	No Detect	42
Vinyl Chloride	No Detect	No Detect	1.7
	Sample ID: 01A_OA01_20231024 (Outdoor air to northwest)		
PCE	0.77		42
TCE	No Detect		2.1
1,2-DCE (Total)	No Detect		42
Vinyl Chloride	No Detect		1.7
		Sample ID: 01A_OA02_20231220 (Outdoor air to west)	
PCE		No Detect	42
TCE		No Detect	2.1
1,2-DCE (Total)		No Detect	42
Vinyl Chloride		No Detect	1.7
	Key		
	$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter		
	Below Vapor Action Level or Not Detected		
	Above Vapor Action Level (results bolded)		



**Wisconsin Occupational
Health Laboratory**

WISCONSIN STATE LABORATORY OF HYGIENE
UNIVERSITY OF WISCONSIN-MADISON

2601 Agriculture Drive
Madison, WI 53718
Phone: (800) 446-0403
Web: wohl-lab.org
AIHA LAP, LLC Laboratory ID: LAP-101070

JENNY BORSKI
VAPOR INTRUSION INVESTIGATION
625 E. CTY RD Y
STE 700
OSHKOSH, WI 54901-9731

Lab Workorder ID 715763
Visit/Project ID SANDIES DRY CLEANERS
PO BRRTS #02-45-552222
Received December 21, 2023
Reported January 17, 2024
Report ID 11516058

Previous Report IDs

Dear JENNY BORSKI:

Enclosed are the analytical results for sample(s) received by the laboratory on December 21, 2023. All samples/specimens received by the laboratory were acceptable for testing. Sample results were not blank corrected, and all quality control met laboratory standards unless otherwise noted in the report narrative. All results apply to the samples as received and reported concentrations were calculated with information supplied by the sample submitter.

Please contact the lab if you have any questions concerning this report.

Sincerely,

Steve Strebel, Laboratory Director

Analyst - SARAH OEMIG



Final Report

Lab ID: 715763001	Sample ID: 01A_IAB01_20231220	Media: 3M 3501+ or Assay 525 OVM
Sampling Date:	Matrix: Air	Sampled Time: 17545 M

Cis-1,2-Dichloroethene was not detected in Samples 715763001 - 715763003.

Analyte	Method	Analysis Date	Air Volume	Reporting Limit	RESULTS			TWA
					Front	Rear	Total	
1,2-Dichloroethene(Total)	OSHA 1001, 1002, 1004, 1005	1/12/2024	1070 L	4.6 ug			<4.6 ug	<0.0043 mg/m3 <0.0011 ppm
Tetrachloroethene		1/12/2024	1160 L	0.32 ug			9.9 ug	0.0085 mg/m3 0.0013 ppm
Trichloroethene		1/12/2024	1280 L	0.29 ug			0.59 ug	0.00046 mg/m3 0.000086 ppm
Vinyl chloride		1/12/2024	1310 L	3.8 ug			<3.8 ug	<0.0029 mg/m3 <0.0011 ppm

Lab ID: 715763002	Sample ID: 01A_IAB02_20231220	Media: 3M 3501+ or Assay 525 OVM
Sampling Date:	Matrix: Air	Sampled Time: 17546 M

Analyte	Method	Analysis Date	Air Volume	Reporting Limit	RESULTS			TWA
					Front	Rear	Total	
1,2-Dichloroethene(Total)	OSHA 1001, 1002, 1004, 1005	1/13/2024	1070 L	4.6 ug			<4.6 ug	<0.0043 mg/m3 <0.0011 ppm
Tetrachloroethene		1/13/2024	1170 L	0.32 ug			13 ug	0.011 mg/m3 0.0016 ppm
Trichloroethene		1/13/2024	1280 L	0.29 ug			0.78 ug	0.00061 mg/m3 0.00011 ppm
Vinyl chloride		1/13/2024	1310 L	3.8 ug			<3.8 ug	<0.0029 mg/m3 <0.0011 ppm



Final Report

Lab ID: 715763003	Sample ID: 01A_OA02_20231220	Media: 3M 3501+ or Assay 525 OVM
Sampling Date:	Matrix: Air	Sampled Time: 17535 M

Analyte	Method	Analysis Date	Air Volume	Reporting Limit	RESULTS			TWA
					Front	Rear	Total	
1,2-Dichloroethene(Total)	OSHA 1001, 1002, 1004, 1005	1/13/2024	1070 L	4.6 ug			<4.6 ug	<0.0043 mg/m3 <0.0011 ppm
Tetrachloroethene		1/13/2024	1160 L	0.32 ug			<0.32 ug	<0.00027 mg/m3 <0.000041 ppm
Trichloroethene		1/13/2024	1280 L	0.29 ug			<0.29 ug	<0.00023 mg/m3 <0.000042 ppm
Vinyl chloride		1/13/2024	1300 L	3.8 ug			<3.8 ug	<0.0029 mg/m3 <0.0011 ppm

Abbreviations:
 mg = milligrams ppm or ppmv = parts per million /m3 = per cubic meter
 ug = micrograms ppb or ppbv = parts per billion ng = nanograms
 < Less Than. The analyte, if present, is at a level too low to be accurately quantitated by the method used

Displayed values on report have been rounded to 2 significant figures. Please contact the laboratory if you have any questions regarding our result calculation or rounding. All samples were received by the laboratory in acceptable condition unless otherwise noted.

The results in this report apply only to the samples, specifically listed above, and tested at the Wisconsin Occupational Health Laboratory

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End of Analytical Report



Understanding Chemical Vapor Intrusion Testing Results

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.

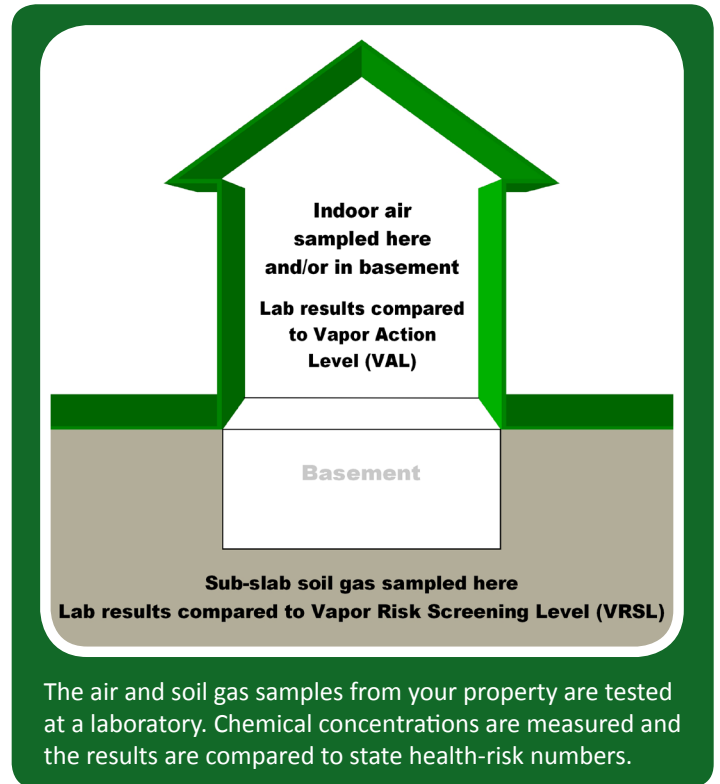
Indoor Air Testing Results

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

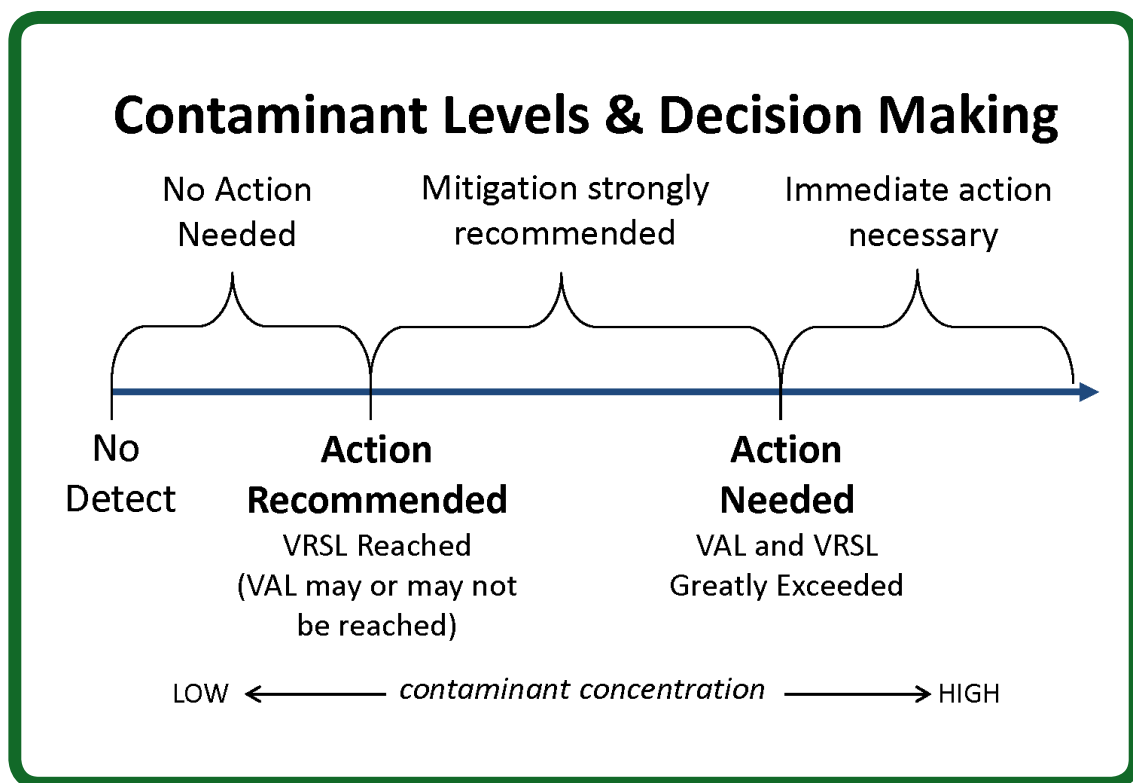
If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

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.



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