October 31, 2018 Reference No. 003978

D&J Rentals LLC
200 E. Wausau Avenue
Wausau, Wisconsin 54403

Dear Sir/Madam,

Re: Request for Access for Sampling for Potential Vapor Intrusion

As part of the ongoing investigation of environmental contamination at the Wausau Water Supply Superfund Site, we are requesting permission to test your building for vapor intrusion. Vapor intrusion is the movement of vapors from chemicals in groundwater into the indoor air of a building. It is very similar to the way that radon gas can move into a home or office. This testing is part of an ongoing investigation and cleanup of chlorinated volatile organic compounds (VOCs) being conducted by GHD at the direction of a group of Responsible Parties (RPs), including the Wausau Chemical Corporation (WCC), related to an accidental release of tetrachloroethene (aka perchloroethene or PERC) at the WCC facility on N. River Drive.

The contaminated groundwater flows to one of the City of Wausau's water supply wells, CW3, located north of East Wausau Avenue and west of 3rd Street (west of the baseball field). The groundwater extracted from CW3 is pumped to the City's treatment plant where the contaminants are removed from the water.

Over the past 25 years, the RPs have worked with the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (U.S. EPA) to reduce concentrations of chlorinated VOCs in the groundwater. Soil and groundwater cleanup activities have been performed and concentrations in groundwater have been reduced significantly. However, remnants of contamination near the source area may still exist.

As part of a routine five-year review of the cleanup progress, the WDNR and U.S. EPA requested a vapor intrusion evaluation because of the potential for contaminant vapors from the groundwater to migrate through soils, accumulate beneath a building and possibly enter the indoor air. Due to your proximity to the contaminated groundwater, your property was selected to participate in the vapor intrusion evaluation. This vapor intrusion evaluation will help us determine whether groundwater-related vapors are present in your building.

The RPs have agreed to conduct the vapor intrusion evaluation and, as the RPs agent, GHD would like to collect an air sample from the soil beneath your building foundation and from inside your building to determine whether vapors from chemicals in the groundwater are present and, if so, at what levels. These air sampling tests will be paid for by the RPs.

In order to complete the site investigation, we will need to receive your signed access agreement (enclosed) by November 21, 2018. Please return the signed agreement in the self-addressed envelope

provided with this letter, or fax it to Chuck Ahrens [651-639-0923]. You can also send a scanned PDF copy to me at charles.ahrens@ghd.com. Lastly, please do not modify the access agreement in any way, as it may void the agreement.

Please give this request your prompt consideration. By taking action now to address potential chemical vapor intrusion in your business, you may avoid possible health and property liability issues in the future.

The Project Managers for U.S. EPA and WDNR are Sheri Bianchin and Mae Willkom, respectively. Ms. Bianchin can be reached at bianchin.sheri@epa.gov or (312) 886-4745. Ms. Willkom can be reached at mae.willkom@wisconsin.gov or (715) 839-3748.

If you have questions or concerns about the wording of the agreement or any other aspect of this request, or the testing, please call me at (651) 639-0913.

Sincerely,

GHD

Chuck Ahrens

CA/sb/8

email: charles.ahrens@ghd.com
phone: (651) 639-0913

Encl. Fact Sheets and Access Agreement Form
Vapor Intrusion Questions – WDNR - (715) 839-3748
Vapor Intrusion Questions – USEPA - (312) 886-4745

Consent for Access to Property

Property Owner's Name: _____

Property
Address:_____

_____

OWNER Contact Information:

Owner's Mailing Address (if different from Property Address above):

_____

Phone: _____ Email: _____

The access permission is for the purpose of allowing GHD to screen the home/business for vapor intrusion of chlorinated volatile organic compounds in groundwater located near your property.

I consent to employees and authorized representatives of GHD Services Inc. (GHD) entering and having continued access to this property at reasonable times for the following purposes:

- Install and maintain sub-slab vapor probe(s) into the foundation (ground floor or basement) of the home or business.
- Conduct sub-slab soil vapor sampling from the sub-slab probes on two separate occasions at different times of the year during 2018-2019.
- Conduct 24-hour indoor air sampling on the lowest regularly occupied level of the home or business on two separate occasions (concurrent with sub-slab sampling) during 2018-2019.
- Abandon the vapor probe(s) when no longer needed.

I understand that GHD will provide a minimum of three days notice to the owner/occupant prior to conducting the sub-slab and indoor air sampling.

I realize that the sampling activities conducted by GHD are undertaken in accordance with a Work Plan, which was approved by the U.S. EPA and the Wisconsin Department of Natural Resources (WDNR).

The permission that is granted shall remain in effect until December 31, 2019, when the vapor screening work is expected to be complete. If an extension is necessary to complete the work, GHD will inform you in writing.

The property owner agrees not to damage or interfere with the use of any sub-slab probe installed as permitted herein.

GHD
1801 Old Highway 8 Northwest Suite 114 St Paul Minnesota 55112 USA
T 651 639 0913 **F** 651 639 0923 **W** www.ghd.com

This written permission is given by me voluntarily, on behalf of myself and all other co-owners or lessees of these properties, with knowledge of the right to refuse and without threats or promises of any kind.

PROPERTY OWNER

Signature:_____Date:_____

TENANT(S) / LESSEE(S) by UNIT NUMBER, ETC. (if applicable)

_____

Name of Tenant(s)/Lessee(s)

_____

Tenant(s) phone number

_____

Tenant(s) email address

Please return to:

Chuck Ahrens
GHD Services Inc.
1801 Old Highway 8 NW, Suite 114
St. Paul, MN 55112

PUB-RR-892
Feb 2014

Wisconsin DNR vapor intrusion quick facts

What is Vapor Intrusion?

Chemicals used in commercial or industrial activities – dry cleaning chemicals, chemical degreasers and petroleum products such as gasoline – are sometimes spilled and leak into nearby soil or groundwater. When this happens, these chemicals may release gases or vapors, which travel from the contaminated groundwater or soil and move into nearby homes or businesses. This is called vapor intrusion.

The process when chemical vapors from contaminated soil or groundwater enter a home or other structure is called vapor intrusion.

Why are these chemical vapors a problem?

The chemicals that cause vapor intrusion are known as volatile organic compounds, or VOCs. Even when spilled into soil or water, these chemicals easily evaporate. They don't cause human health problems when they evaporate into the outside air, but when their vapors move into homes or businesses, they may cause long-term health problems for the people who live or work in those buildings. These vapors are usually odorless and colorless and undetectable without special testing equipment.

Why is vapor intrusion a concern?

Exposure to some chemical gases or vapors can cause an increased risk of adverse health effects. Whether or not a person experiences any health effects depends on several factors, including the amount and length of exposure, the toxicity of the chemical, and the individual's sensitivity to the chemical. When harmful chemical vapor intrusion is the result of environmental contamination, the Wisconsin Department of Natural Resources (DNR) requires that steps be taken to reduce or eliminate exposures which could be harmful to human health.

What should I expect if vapor intrusion is suspected near my home or business?

For businesses or other locations where VOC contamination has been found, the DNR requires that the potential for vapor intrusion be investigated. If you live near a site being cleaned up, you may be contacted by the site owner or others working on the cleanup. Your cooperation and consent will be requested before any testing or sampling is conducted on your property. Ask the person contacting you any questions you have about the work being done, or contact the DNR for more information (see DNR contact information on reverse). For more information about testing for vapor intrusion, see DNR-Pub-RR-954, "What to Expect During Vapor Intrusion Sampling."

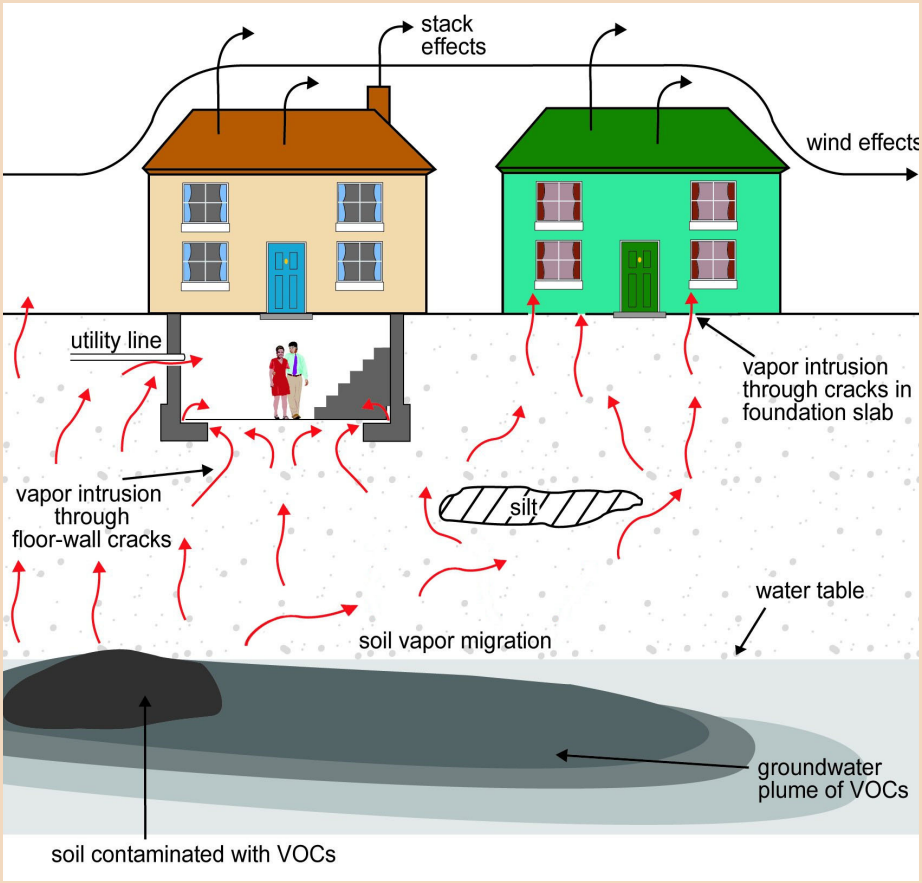
WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

How Vapors Enter a Building

If you live near a commercial or industrial facility or landfill where VOCs have entered either the soil or groundwater, there may be a potential for those chemicals to travel as vapors into your home or business. Vapors can enter buildings in various ways, including through cracks in the foundation and openings for utility lines. Building ventilation and weather can influence the extent of vapor intrusion.



Adapted from U.S. Environmental Protection Agency (EPA) graphic.
www.epa.gov/oswer/vaporintrusion/basic.html

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-953
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

Why Test for Vapor Intrusion?

Vapor intrusion is likely an unfamiliar term to you, and hearing that your property should be tested for possible chemical vapor intrusion may cause you some concern. That is understandable, and this information sheet is designed to answer basic questions many people have. Please refer to DNR PUB-RR-892, "What is Vapor Intrusion?" for a summary discussion of the term "vapor intrusion."

Most cases of vapor intrusion will pose no immediate threat to your health and safety. However, when other neighborhood properties are contaminated, it is wise to get your home or building tested to determine if there is any cause for concern. If potentially harmful chemical vapors are detected inside your home or building, the Department of Natural Resources (DNR), working in collaboration with other health and environmental professionals, will help you come up with a solution to protect you and your family.

Please consider the following factors when deciding whether to allow access for sampling:

Peace of mind

If there's a chance that chemical vapor or soil gas is seeping into your home or business, testing can determine whether it really is and to what extent. If testing reveals a problem, then steps can be taken to resolve it, making the indoor air you breathe safer for you and your family. Like radon gas, vapors from nearby soil or groundwater contamination can be diverted from beneath your home or office building and safely expelled into the outdoors, thus improving air quality inside your home or building.

The goal of sampling a residence or business is to eliminate as many of the unknowns as possible and safely address any concerns.

Who pays for testing?

You didn't cause this problem, so you don't have to pay for testing just as long as you allow reasonable and timely access to have testing done. The cost of sampling at potentially impacted residences or workplaces, like yours, is covered by the responsible party (the person or business legally obligated to investigate and clean up the contamination). In some cases, it's paid for directly by DNR, the Department of Health Services (DHS), or some other agency. Vapor sampling will be performed by a professional, and samples will be sent to a specialized lab for analysis.

Trained professionals and experts oversee the process

Multiple state and local agencies often work together to determine if vapor intrusion is a potential health risk in an area. The DNR, DHS, local health officials, the responsible party and environmental consultants are working together to ensure that quality samples are taken and that all results are given extensive review. It is important to gather the information in order to adequately understand if or where there may be a risk of vapor intrusion in your neighborhood.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

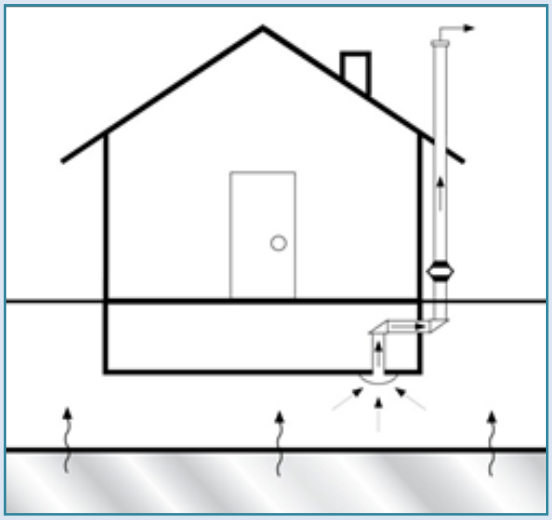
Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

A simple, cost effective solution exists

If vapor intrusion is a problem in a house or building, it can generally be solved by installing a vapor mitigation system. These sub-slab depressurizing systems are similar to those used to eliminate radon gas underneath homes, and have been used for years in a safe and effective manner. If the source of the vapor is tied to a responsible party, they will often pay to have a system installed at your home. The annual upkeep and operation of a typical system is generally less than $100 per year, mostly for electricity. These annual costs are typically the responsibility of the homeowner.

How will I know if the vapors have been eliminated?

After a vapor mitigation system is installed, follow-up testing of indoor air typically takes place three to six months later. The systems are usually considered permanent fixtures of the building. In cases where the source of the vapor is completely eliminated, the systems should no longer be needed.



If potentially harmful chemical vapor intrusion is detected in a home or business, the most common solution is to install a sub-slab depressurization system. This system captures and redirects soil vapors from below the building foundation before they enter the indoor air. Vapors are vented outside of the building where they disperse into the air and are rendered harmless.

Sub-slab depressurization systems also prevent radon from entering homes, which is an added health benefit in radon-prone areas.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-954
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

What to Expect During Vapor Intrusion Sampling

The sampling procedure for vapor intrusion is performed by health and environmental professionals. It involves drilling one or more small holes into the basement or lowest level of your building, collecting a vapor sample from those holes - also called ports - and then sending the sample to a specialized lab for analysis. This is called sub-slab sampling. Sampling professionals try to minimize any inconveniences to you by informing you up front on what to expect and working with your schedule on the days of sampling.

Vapor sampling provides information about the extent of potential contamination in your neighborhood.

Should I be on site for the sampling?

It's up to you. Sampling professionals will need to be let in to install the testing equipment and collect the samples. The arrangements you make are completely dependent on your availability and comfort level with others on your property.

How many times will sampling professionals enter my property, and how is sampling done?

In general, you should plan on two or three visits over two or three days. While the actual sampling procedure and schedule may vary, the following provides a typical approach:

Day 1: The first day includes locating suitable locations for port installation, then drilling and installing the ports. This usually takes about an hour or two.

Day 2: The second day involves attaching the collection canister to the port to begin collecting the samples. A 24-hour indoor air sampling kit may also be set up. This visit will also take an hour or two.

Day 3: The third day is a shorter visit to gather all of the sampling equipment and seal off the ports. Sometimes the port site is left in place in case samples may need to be collected in the future.

Why not take indoor air samples instead of sub-slab samples?

Indoor air quality often changes from day to day, creating misleading assumptions about long-term indoor air quality. Indoor air quality may be affected by vapors given off by household or commercial products including paints, glues, fuels, cleaners, cigarette smoke, aerosol sprays, new carpeting or furniture. Also, any outdoor air that enters the inside of your house may also contain vapors which can alter test results. By itself, indoor air testing will not necessarily confirm that the vapors in the indoor air are entering a building from underground sources. However, indoor air samples are usually collected at the same time as the sub-slab samples for comparison purposes.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Cleanup Redevelopment Partnership

What if there is a crawl space instead of a basement?

If there is a crawl space or a basement with a dirt floor, it is not possible to install a port. In these cases, a sample of air is collected from the crawl space or basement over a 24 hour period. Sometimes a port can be installed in the side wall of the foundation.

Who pays for testing, and when will I get the results?

In many cases, the responsible party (the person or business legally obligated to investigate and clean up the environmental contamination) pays for the testing. The responsible party may also pay for the installation of a mitigation system if it is necessary. Sometimes, other parties such as DNR or the Dept. of Health may pay for testing. As long as the property owner provides reasonable and timely access for testing, rarely would they be responsible for the cost.

The laboratory results are usually available in two to four weeks and will be shared with you through a state or local health agency, the Wisconsin DNR, the responsible party or a hired consultant. An explanation of the findings and additional steps to be taken, if any, will also be provided.

A sub-slab vapor sampling system is usually in place for a day or two during the sampling process. The metal canisters (foreground) collect the vapor sample from the port (smaller canister in back of photo). The same canisters can be used to collect indoor air samples.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

October 31, 2018 Reference No. 003978

Elizabeth Hauser
or Current Resident
2106 N. 3rd St.
Wausau, Wisconsin 54403

Dear Ms. Hauser,

Re: Request for Access for Sampling for Potential Vapor Intrusion

As part of the ongoing investigation of environmental contamination at the Wausau Water Supply Superfund Site, we are requesting permission to test your home for vapor intrusion. Vapor intrusion is the movement of vapors from chemicals in groundwater into the indoor air of a building. It is very similar to the way that radon gas can move into a home or office. This testing is part of an ongoing investigation and cleanup of chlorinated volatile organic compounds (VOCs) being conducted by GHD at the direction of a group of Responsible Parties (RPs), including the Wausau Chemical Corporation (WCC), related to an accidental release of tetrachloroethene (aka perchloroethene or PERC) at the WCC facility on N. River Drive.

The contaminated groundwater flows to one of the City of Wausau's water supply wells, CW3, located north of East Wausau Avenue and west of 3rd Street (west of the baseball field). The groundwater extracted from CW3 is pumped to the City's treatment plant where the contaminants are removed from the water.

Over the past 25 years, the RPs have worked with the WDNR and U.S. EPA to reduce concentrations of chlorinated VOCs in the groundwater. Soil and groundwater cleanup activities have been performed and concentrations in groundwater have been reduced significantly. However, remnants of contamination near the source area may still exist.

As part of a routine five-year review of the cleanup progress, the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (U.S. EPA) requested a vapor intrusion evaluation because of the potential for contaminant vapors from the groundwater to migrate through soils, accumulate beneath a building and possibly enter the indoor air. Due to your proximity to the contaminated groundwater, your property was selected to participate in the vapor intrusion evaluation. This vapor intrusion evaluation will help us determine whether groundwater-related vapors are present in your house.

The RPs have agreed to conduct the vapor intrusion evaluation and, as the RPs agent, GHD would like to collect an air sample from the soil beneath your house foundation and from inside your house to determine whether vapors from chemicals in the groundwater are present and, if so, at what levels. These air sampling tests will be paid for by the RPs.

GHD
1801 Old Highway 8 Northwest Suite 114 St Paul Minnesota 55112 USA
T 651 639 0913 **F** 651 639 0923 **W** www.ghd.com

In order to complete the site investigation, we will need to receive your signed access agreement (enclosed) by November 21, 2018. Please return the signed agreement in the self-addressed envelope provided with this letter, or fax it to Chuck Ahrens [651-639-0923]. You can also send a scanned PDF copy to me at charles.ahrens@ghd.com. Lastly, please do not modify the access agreement in any way, as it may void the agreement.

Please give this request your prompt consideration. By taking action now to address potential chemical vapor intrusion in your home, you may avoid possible health and property liability issues in the future.

The Project Managers for U.S. EPA and WDNR are Sheri Bianchin and Mae Willkom, respectively. Ms. Bianchin can be reached at bianchin.sheri@epa.gov or (312) 886-4745. Ms. Willkom can be reached at mae.willkom@wisconsin.gov or (715) 839-3748.

If you have questions or concerns about the wording of the agreement or any other aspect of this request, or the testing, please call me at (651) 639-0913.

Sincerely,

GHD

Chuck Ahrens

CA/sb/8

email: charles.ahrens@ghd.com
phone: (651) 639-0913

Encl. Fact Sheets and Access Agreement Form
Vapor Intrusion Questions – WDNR - (715) 839-3748
Vapor Intrusion Questions – USEPA - (312) 886-4745

Consent for Access to Property

Property Owner's Name: _____

Property
Address:_____

_____

OWNER Contact Information:

Owner's Mailing Address (if different from Property Address above):

_____

Phone: _____ Email: _____

The access permission is for the purpose of allowing GHD to screen the home/business for vapor intrusion of chlorinated volatile organic compounds in groundwater located near your property.

I consent to employees and authorized representatives of GHD Services Inc. (GHD) entering and having continued access to this property at reasonable times for the following purposes:

- Install and maintain sub-slab vapor probe(s) into the foundation (ground floor or basement) of the home or business.
- Conduct sub-slab soil vapor sampling from the sub-slab probes on two separate occasions at different times of the year during 2018-2019.
- Conduct 24-hour indoor air sampling on the lowest regularly occupied level of the home or business on two separate occasions (concurrent with sub-slab sampling) during 2018-2019.
- Abandon the vapor probe(s) when no longer needed.

I understand that GHD will provide a minimum of three days notice to the owner/occupant prior to conducting the sub-slab and indoor air sampling.

I realize that the sampling activities conducted by GHD are undertaken in accordance with a Work Plan, which was approved by the U.S. EPA and the Wisconsin Department of Natural Resources (WDNR).

The permission that is granted shall remain in effect until December 31, 2019, when the vapor screening work is expected to be complete. If an extension is necessary to complete the work, GHD will inform you in writing.

The property owner agrees not to damage or interfere with the use of any sub-slab probe installed as permitted herein.

GHD
1801 Old Highway 8 Northwest Suite 114 St Paul Minnesota 55112 USA
T 651 639 0913 **F** 651 639 0923 **W** www.ghd.com

This written permission is given by me voluntarily, on behalf of myself and all other co-owners or lessees of these properties, with knowledge of the right to refuse and without threats or promises of any kind.

PROPERTY OWNER

Signature:_____Date:_____

TENANT(S) / LESSEE(S) by UNIT NUMBER, ETC. (if applicable)

_____

Name of Tenant(s)/Lessee(s)

_____

Tenant(s) phone number

_____

Tenant(s) email address

Please return to:

Chuck Ahrens
GHD Services Inc.
1801 Old Highway 8 NW, Suite 114
St. Paul, MN 55112

PUB-RR-892
Feb 2014

Wisconsin DNR vapor intrusion quick facts

What is Vapor Intrusion?

Chemicals used in commercial or industrial activities – dry cleaning chemicals, chemical degreasers and petroleum products such as gasoline – are sometimes spilled and leak into nearby soil or groundwater. When this happens, these chemicals may release gases or vapors, which travel from the contaminated groundwater or soil and move into nearby homes or businesses. This is called vapor intrusion.

The process when chemical vapors from contaminated soil or groundwater enter a home or other structure is called vapor intrusion.

Why are these chemical vapors a problem?

The chemicals that cause vapor intrusion are known as volatile organic compounds, or VOCs. Even when spilled into soil or water, these chemicals easily evaporate. They don't cause human health problems when they evaporate into the outside air, but when their vapors move into homes or businesses, they may cause long-term health problems for the people who live or work in those buildings. These vapors are usually odorless and colorless and undetectable without special testing equipment.

Why is vapor intrusion a concern?

Exposure to some chemical gases or vapors can cause an increased risk of adverse health effects. Whether or not a person experiences any health effects depends on several factors, including the amount and length of exposure, the toxicity of the chemical, and the individual's sensitivity to the chemical. When harmful chemical vapor intrusion is the result of environmental contamination, the Wisconsin Department of Natural Resources (DNR) requires that steps be taken to reduce or eliminate exposures which could be harmful to human health.

What should I expect if vapor intrusion is suspected near my home or business?

For businesses or other locations where VOC contamination has been found, the DNR requires that the potential for vapor intrusion be investigated. If you live near a site being cleaned up, you may be contacted by the site owner or others working on the cleanup. Your cooperation and consent will be requested before any testing or sampling is conducted on your property. Ask the person contacting you any questions you have about the work being done, or contact the DNR for more information (see DNR contact information on reverse). For more information about testing for vapor intrusion, see DNR-Pub-RR-954, "What to Expect During Vapor Intrusion Sampling."

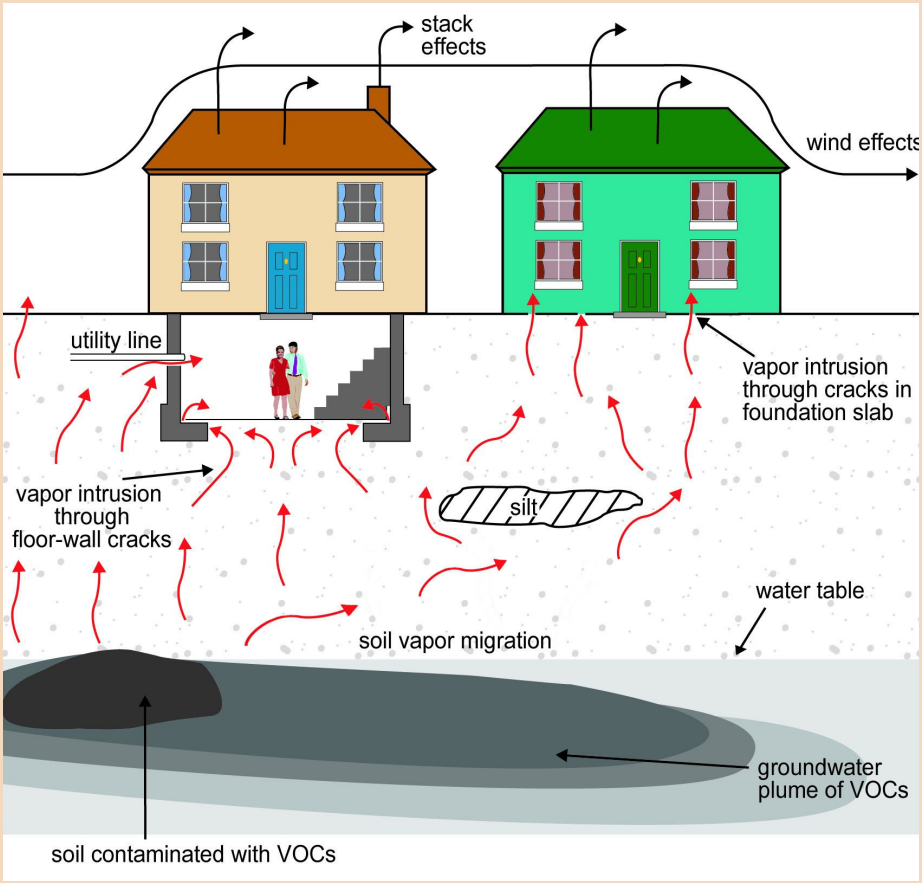
WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

How Vapors Enter a Building

If you live near a commercial or industrial facility or landfill where VOCs have entered either the soil or groundwater, there may be a potential for those chemicals to travel as vapors into your home or business. Vapors can enter buildings in various ways, including through cracks in the foundation and openings for utility lines. Building ventilation and weather can influence the extent of vapor intrusion.



Adapted from U.S. Environmental Protection Agency (EPA) graphic.
www.epa.gov/oswer/vaporintrusion/basic.html

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-953
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

Why Test for Vapor Intrusion?

Vapor intrusion is likely an unfamiliar term to you, and hearing that your property should be tested for possible chemical vapor intrusion may cause you some concern. That is understandable, and this information sheet is designed to answer basic questions many people have. Please refer to DNR PUB-RR-892, "What is Vapor Intrusion?" for a summary discussion of the term "vapor intrusion."

Most cases of vapor intrusion will pose no immediate threat to your health and safety. However, when other neighborhood properties are contaminated, it is wise to get your home or building tested to determine if there is any cause for concern. If potentially harmful chemical vapors are detected inside your home or building, the Department of Natural Resources (DNR), working in collaboration with other health and environmental professionals, will help you come up with a solution to protect you and your family.

Please consider the following factors when deciding whether to allow access for sampling:

Peace of mind

If there's a chance that chemical vapor or soil gas is seeping into your home or business, testing can determine whether it really is and to what extent. If testing reveals a problem, then steps can be taken to resolve it, making the indoor air you breathe safer for you and your family. Like radon gas, vapors from nearby soil or groundwater contamination can be diverted from beneath your home or office building and safely expelled into the outdoors, thus improving air quality inside your home or building.

The goal of sampling a residence or business is to eliminate as many of the unknowns as possible and safely address any concerns.

Who pays for testing?

You didn't cause this problem, so you don't have to pay for testing just as long as you allow reasonable and timely access to have testing done. The cost of sampling at potentially impacted residences or workplaces, like yours, is covered by the responsible party (the person or business legally obligated to investigate and clean up the contamination). In some cases, it's paid for directly by DNR, the Department of Health Services (DHS), or some other agency. Vapor sampling will be performed by a professional, and samples will be sent to a specialized lab for analysis.

Trained professionals and experts oversee the process

Multiple state and local agencies often work together to determine if vapor intrusion is a potential health risk in an area. The DNR, DHS, local health officials, the responsible party and environmental consultants are working together to ensure that quality samples are taken and that all results are given extensive review. It is important to gather the information in order to adequately understand if or where there may be a risk of vapor intrusion in your neighborhood.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

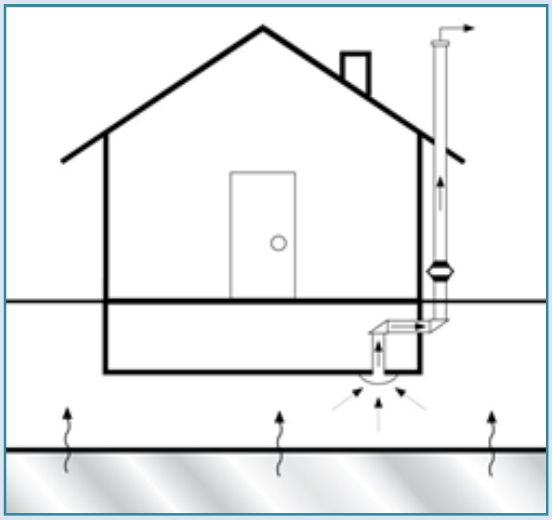
Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

A simple, cost effective solution exists

If vapor intrusion is a problem in a house or building, it can generally be solved by installing a vapor mitigation system. These sub-slab depressurizing systems are similar to those used to eliminate radon gas underneath homes, and have been used for years in a safe and effective manner. If the source of the vapor is tied to a responsible party, they will often pay to have a system installed at your home. The annual upkeep and operation of a typical system is generally less than $100 per year, mostly for electricity. These annual costs are typically the responsibility of the homeowner.

How will I know if the vapors have been eliminated?

After a vapor mitigation system is installed, follow-up testing of indoor air typically takes place three to six months later. The systems are usually considered permanent fixtures of the building. In cases where the source of the vapor is completely eliminated, the systems should no longer be needed.



If potentially harmful chemical vapor intrusion is detected in a home or business, the most common solution is to install a sub-slab depressurization system. This system captures and redirects soil vapors from below the building foundation before they enter the indoor air. Vapors are vented outside of the building where they disperse into the air and are rendered harmless.

Sub-slab depressurization systems also prevent radon from entering homes, which is an added health benefit in radon-prone areas.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-954
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

What to Expect During Vapor Intrusion Sampling

The sampling procedure for vapor intrusion is performed by health and environmental professionals. It involves drilling one or more small holes into the basement or lowest level of your building, collecting a vapor sample from those holes - also called ports - and then sending the sample to a specialized lab for analysis. This is called sub-slab sampling. Sampling professionals try to minimize any inconveniences to you by informing you up front on what to expect and working with your schedule on the days of sampling.

Vapor sampling provides information about the extent of potential contamination in your neighborhood.

Should I be on site for the sampling?

It's up to you. Sampling professionals will need to be let in to install the testing equipment and collect the samples. The arrangements you make are completely dependent on your availability and comfort level with others on your property.

How many times will sampling professionals enter my property, and how is sampling done?

In general, you should plan on two or three visits over two or three days. While the actual sampling procedure and schedule may vary, the following provides a typical approach:

Day 1: The first day includes locating suitable locations for port installation, then drilling and installing the ports. This usually takes about an hour or two.

Day 2: The second day involves attaching the collection canister to the port to begin collecting the samples. A 24-hour indoor air sampling kit may also be set up. This visit will also take an hour or two.

Day 3: The third day is a shorter visit to gather all of the sampling equipment and seal off the ports. Sometimes the port site is left in place in case samples may need to be collected in the future.

Why not take indoor air samples instead of sub-slab samples?

Indoor air quality often changes from day to day, creating misleading assumptions about long-term indoor air quality. Indoor air quality may be affected by vapors given off by household or commercial products including paints, glues, fuels, cleaners, cigarette smoke, aerosol sprays, new carpeting or furniture. Also, any outdoor air that enters the inside of your house may also contain vapors which can alter test results. By itself, indoor air testing will not necessarily confirm that the vapors in the indoor air are entering a building from underground sources. However, indoor air samples are usually collected at the same time as the sub-slab samples for comparison purposes.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Cleanup Redevelopment Partnership

What if there is a crawl space instead of a basement?

If there is a crawl space or a basement with a dirt floor, it is not possible to install a port. In these cases, a sample of air is collected from the crawl space or basement over a 24 hour period. Sometimes a port can be installed in the side wall of the foundation.

Who pays for testing, and when will I get the results?

In many cases, the responsible party (the person or business legally obligated to investigate and clean up the environmental contamination) pays for the testing. The responsible party may also pay for the installation of a mitigation system if it is necessary. Sometimes, other parties such as DNR or the Dept. of Health may pay for testing. As long as the property owner provides reasonable and timely access for testing, rarely would they be responsible for the cost.

The laboratory results are usually available in two to four weeks and will be shared with you through a state or local health agency, the Wisconsin DNR, the responsible party or a hired consultant. An explanation of the findings and additional steps to be taken, if any, will also be provided.

A sub-slab vapor sampling system is usually in place for a day or two during the sampling process. The metal canisters (foreground) collect the vapor sample from the port (smaller canister in back of photo). The same canisters can be used to collect indoor air samples.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

October 31, 2018 Reference No. 003978

Helke LLC
2103 N. 3rd Street
Wausau, Wisconsin 54403

Dear Sir/Madam,

Re: Request for Access for Sampling for Potential Vapor Intrusion

As part of the ongoing investigation of environmental contamination at the Wausau Water Supply Superfund Site, we are requesting permission to test your house/office for vapor intrusion. Vapor intrusion is the movement of vapors from chemicals in groundwater into the indoor air of a building. It is very similar to the way that radon gas can move into a home or office. This testing is part of an ongoing investigation and cleanup of chlorinated volatile organic compounds (VOCs) being conducted by GHD at the direction of a group of Responsible Parties (RPs), including the Wausau Chemical Corporation (WCC), related to an accidental release of tetrachloroethene (aka perchloroethene or PERC) at the WCC facility on N. River Drive.

The contaminated groundwater flows to one of the City of Wausau's water supply wells, CW3, located north of East Wausau Avenue and west of 3rd Street (west of the baseball field). The groundwater extracted from CW3 is pumped to the City's treatment plant where the contaminants are removed from the water.

Over the past 25 years, the RPs have worked with the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (U.S. EPA) to reduce concentrations of chlorinated VOCs in the groundwater. Soil and groundwater cleanup activities have been performed and concentrations in groundwater have been reduced significantly. However, remnants of contamination near the source area may still exist.

As part of a routine five-year review of the cleanup progress, the WDNR and U.S. EPA requested a vapor intrusion evaluation because of the potential for contaminant vapors from the groundwater to migrate through soils, accumulate beneath a building and possibly enter the indoor air. Due to your proximity to the contaminated groundwater, your property was selected to participate in the vapor intrusion evaluation. This vapor intrusion evaluation will help us determine whether groundwater-related vapors are present in your building.

The RPs have agreed to conduct the vapor intrusion evaluation and, as the RPs agent, GHD would like to collect an air sample from the soil beneath your building foundation and from inside your building to determine whether vapors from chemicals in the groundwater are present and, if so, at what levels. These air sampling tests will be paid for by the RPs.

In order to complete the site investigation, we will need to receive your signed access agreement (enclosed) by November 21, 2018. Please return the signed agreement in the self-addressed envelope

provided with this letter, or fax it to Chuck Ahrens [651-639-0923]. You can also send a scanned PDF copy to me at charles.ahrens@ghd.com. Lastly, please do not modify the access agreement in any way, as it may void the agreement.

Please give this request your prompt consideration. By taking action now to address potential chemical vapor intrusion in your home, you may avoid possible health and property liability issues in the future.

The Project Managers for U.S. EPA and WDNR are Sheri Bianchin and Mae Willkom, respectively. Ms. Bianchin can be reached at bianchin.sheri@epa.gov or (312) 886-4745. Ms. Willkom can be reached at mae.willkom@wisconsin.gov or (715) 839-3748.

If you have questions or concerns about the wording of the agreement or any other aspect of this request, or the testing, please call me at (651) 639-0913.

Sincerely,

GHD

Chuck Ahrens

CA/sb/8

email: charles.ahrens@ghd.com
phone: (651) 639-0913

Encl. Fact Sheets and Access Agreement Form
Vapor Intrusion Questions – WDNR - (715) 839-3748
Vapor Intrusion Questions – USEPA - (312) 886-4745

Consent for Access to Property

Property Owner's Name: _____

Property
Address:_____

_____

OWNER Contact Information:

Owner's Mailing Address (if different from Property Address above):

_____

Phone: _____ Email: _____

The access permission is for the purpose of allowing GHD to screen the home/business for vapor intrusion of chlorinated volatile organic compounds in groundwater located near your property.

I consent to employees and authorized representatives of GHD Services Inc. (GHD) entering and having continued access to this property at reasonable times for the following purposes:

- Install and maintain sub-slab vapor probe(s) into the foundation (ground floor or basement) of the home or business.
- Conduct sub-slab soil vapor sampling from the sub-slab probes on two separate occasions at different times of the year during 2018-2019.
- Conduct 24-hour indoor air sampling on the lowest regularly occupied level of the home or business on two separate occasions (concurrent with sub-slab sampling) during 2018-2019.
- Abandon the vapor probe(s) when no longer needed.

I understand that GHD will provide a minimum of three days notice to the owner/occupant prior to conducting the sub-slab and indoor air sampling.

I realize that the sampling activities conducted by GHD are undertaken in accordance with a Work Plan, which was approved by the U.S. EPA and the Wisconsin Department of Natural Resources (WDNR).

The permission that is granted shall remain in effect until December 31, 2019, when the vapor screening work is expected to be complete. If an extension is necessary to complete the work, GHD will inform you in writing.

The property owner agrees not to damage or interfere with the use of any sub-slab probe installed as permitted herein.

GHD
1801 Old Highway 8 Northwest Suite 114 St Paul Minnesota 55112 USA
T 651 639 0913 **F** 651 639 0923 **W** www.ghd.com

This written permission is given by me voluntarily, on behalf of myself and all other co-owners or lessees of these properties, with knowledge of the right to refuse and without threats or promises of any kind.

PROPERTY OWNER

Signature:_____Date:_____

TENANT(S) / LESSEE(S) by UNIT NUMBER, ETC. (if applicable)

_____

Name of Tenant(s)/Lessee(s)

_____

Tenant(s) phone number

_____

Tenant(s) email address

Please return to:

Chuck Ahrens
GHD Services Inc.
1801 Old Highway 8 NW, Suite 114
St. Paul, MN 55112

PUB-RR-892
Feb 2014

Wisconsin DNR vapor intrusion quick facts

What is Vapor Intrusion?

Chemicals used in commercial or industrial activities – dry cleaning chemicals, chemical degreasers and petroleum products such as gasoline – are sometimes spilled and leak into nearby soil or groundwater. When this happens, these chemicals may release gases or vapors, which travel from the contaminated groundwater or soil and move into nearby homes or businesses. This is called vapor intrusion.

The process when chemical vapors from contaminated soil or groundwater enter a home or other structure is called vapor intrusion.

Why are these chemical vapors a problem?

The chemicals that cause vapor intrusion are known as volatile organic compounds, or VOCs. Even when spilled into soil or water, these chemicals easily evaporate. They don't cause human health problems when they evaporate into the outside air, but when their vapors move into homes or businesses, they may cause long-term health problems for the people who live or work in those buildings. These vapors are usually odorless and colorless and undetectable without special testing equipment.

Why is vapor intrusion a concern?

Exposure to some chemical gases or vapors can cause an increased risk of adverse health effects. Whether or not a person experiences any health effects depends on several factors, including the amount and length of exposure, the toxicity of the chemical, and the individual's sensitivity to the chemical. When harmful chemical vapor intrusion is the result of environmental contamination, the Wisconsin Department of Natural Resources (DNR) requires that steps be taken to reduce or eliminate exposures which could be harmful to human health.

What should I expect if vapor intrusion is suspected near my home or business?

For businesses or other locations where VOC contamination has been found, the DNR requires that the potential for vapor intrusion be investigated. If you live near a site being cleaned up, you may be contacted by the site owner or others working on the cleanup. Your cooperation and consent will be requested before any testing or sampling is conducted on your property. Ask the person contacting you any questions you have about the work being done, or contact the DNR for more information (see DNR contact information on reverse). For more information about testing for vapor intrusion, see DNR-Pub-RR-954, "What to Expect During Vapor Intrusion Sampling."

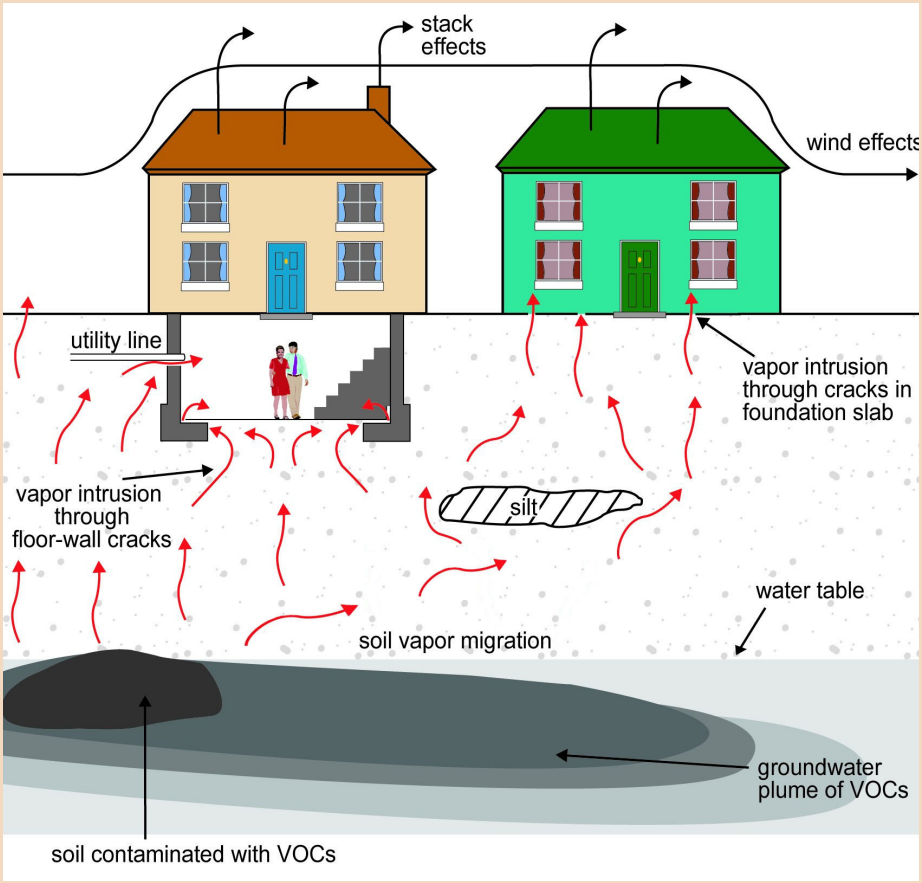
WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

How Vapors Enter a Building

If you live near a commercial or industrial facility or landfill where VOCs have entered either the soil or groundwater, there may be a potential for those chemicals to travel as vapors into your home or business. Vapors can enter buildings in various ways, including through cracks in the foundation and openings for utility lines. Building ventilation and weather can influence the extent of vapor intrusion.



Adapted from U.S. Environmental Protection Agency (EPA) graphic.
www.epa.gov/oswer/vaporintrusion/basic.html

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-953
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

Why Test for Vapor Intrusion?

Vapor intrusion is likely an unfamiliar term to you, and hearing that your property should be tested for possible chemical vapor intrusion may cause you some concern. That is understandable, and this information sheet is designed to answer basic questions many people have. Please refer to DNR PUB-RR-892, "What is Vapor Intrusion?" for a summary discussion of the term "vapor intrusion."

Most cases of vapor intrusion will pose no immediate threat to your health and safety. However, when other neighborhood properties are contaminated, it is wise to get your home or building tested to determine if there is any cause for concern. If potentially harmful chemical vapors are detected inside your home or building, the Department of Natural Resources (DNR), working in collaboration with other health and environmental professionals, will help you come up with a solution to protect you and your family.

Please consider the following factors when deciding whether to allow access for sampling:

Peace of mind

If there's a chance that chemical vapor or soil gas is seeping into your home or business, testing can determine whether it really is and to what extent. If testing reveals a problem, then steps can be taken to resolve it, making the indoor air you breathe safer for you and your family. Like radon gas, vapors from nearby soil or groundwater contamination can be diverted from beneath your home or office building and safely expelled into the outdoors, thus improving air quality inside your home or building.

The goal of sampling a residence or business is to eliminate as many of the unknowns as possible and safely address any concerns.

Who pays for testing?

You didn't cause this problem, so you don't have to pay for testing just as long as you allow reasonable and timely access to have testing done. The cost of sampling at potentially impacted residences or workplaces, like yours, is covered by the responsible party (the person or business legally obligated to investigate and clean up the contamination). In some cases, it's paid for directly by DNR, the Department of Health Services (DHS), or some other agency. Vapor sampling will be performed by a professional, and samples will be sent to a specialized lab for analysis.

Trained professionals and experts oversee the process

Multiple state and local agencies often work together to determine if vapor intrusion is a potential health risk in an area. The DNR, DHS, local health officials, the responsible party and environmental consultants are working together to ensure that quality samples are taken and that all results are given extensive review. It is important to gather the information in order to adequately understand if or where there may be a risk of vapor intrusion in your neighborhood.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

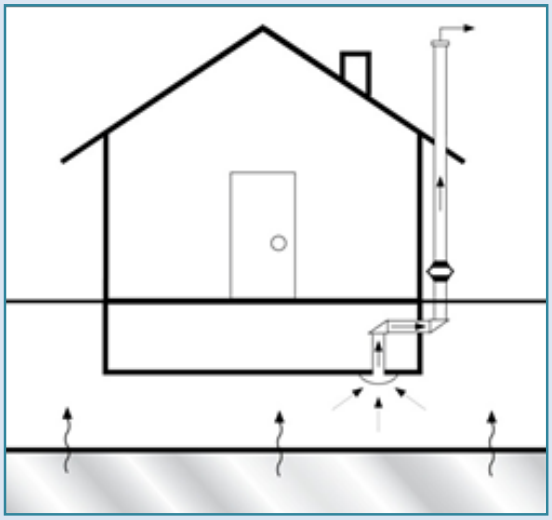
Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

A simple, cost effective solution exists

If vapor intrusion is a problem in a house or building, it can generally be solved by installing a vapor mitigation system. These sub-slab depressurizing systems are similar to those used to eliminate radon gas underneath homes, and have been used for years in a safe and effective manner. If the source of the vapor is tied to a responsible party, they will often pay to have a system installed at your home. The annual upkeep and operation of a typical system is generally less than $100 per year, mostly for electricity. These annual costs are typically the responsibility of the homeowner.

How will I know if the vapors have been eliminated?

After a vapor mitigation system is installed, follow-up testing of indoor air typically takes place three to six months later. The systems are usually considered permanent fixtures of the building. In cases where the source of the vapor is completely eliminated, the systems should no longer be needed.



If potentially harmful chemical vapor intrusion is detected in a home or business, the most common solution is to install a sub-slab depressurization system. This system captures and redirects soil vapors from below the building foundation before they enter the indoor air. Vapors are vented outside of the building where they disperse into the air and are rendered harmless.

Sub-slab depressurization systems also prevent radon from entering homes, which is an added health benefit in radon-prone areas.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-954
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

What to Expect During Vapor Intrusion Sampling

The sampling procedure for vapor intrusion is performed by health and environmental professionals. It involves drilling one or more small holes into the basement or lowest level of your building, collecting a vapor sample from those holes - also called ports - and then sending the sample to a specialized lab for analysis. This is called sub-slab sampling. Sampling professionals try to minimize any inconveniences to you by informing you up front on what to expect and working with your schedule on the days of sampling.

Vapor sampling provides information about the extent of potential contamination in your neighborhood.

Should I be on site for the sampling?

It's up to you. Sampling professionals will need to be let in to install the testing equipment and collect the samples. The arrangements you make are completely dependent on your availability and comfort level with others on your property.

How many times will sampling professionals enter my property, and how is sampling done?

In general, you should plan on two or three visits over two or three days. While the actual sampling procedure and schedule may vary, the following provides a typical approach:

Day 1: The first day includes locating suitable locations for port installation, then drilling and installing the ports. This usually takes about an hour or two.

Day 2: The second day involves attaching the collection canister to the port to begin collecting the samples. A 24-hour indoor air sampling kit may also be set up. This visit will also take an hour or two.

Day 3: The third day is a shorter visit to gather all of the sampling equipment and seal off the ports. Sometimes the port site is left in place in case samples may need to be collected in the future.

Why not take indoor air samples instead of sub-slab samples?

Indoor air quality often changes from day to day, creating misleading assumptions about long-term indoor air quality. Indoor air quality may be affected by vapors given off by household or commercial products including paints, glues, fuels, cleaners, cigarette smoke, aerosol sprays, new carpeting or furniture. Also, any outdoor air that enters the inside of your house may also contain vapors which can alter test results. By itself, indoor air testing will not necessarily confirm that the vapors in the indoor air are entering a building from underground sources. However, indoor air samples are usually collected at the same time as the sub-slab samples for comparison purposes.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Cleanup Redevelopment Partnership

What if there is a crawl space instead of a basement?

If there is a crawl space or a basement with a dirt floor, it is not possible to install a port. In these cases, a sample of air is collected from the crawl space or basement over a 24 hour period. Sometimes a port can be installed in the side wall of the foundation.

Who pays for testing, and when will I get the results?

In many cases, the responsible party (the person or business legally obligated to investigate and clean up the environmental contamination) pays for the testing. The responsible party may also pay for the installation of a mitigation system if it is necessary. Sometimes, other parties such as DNR or the Dept. of Health may pay for testing. As long as the property owner provides reasonable and timely access for testing, rarely would they be responsible for the cost.

The laboratory results are usually available in two to four weeks and will be shared with you through a state or local health agency, the Wisconsin DNR, the responsible party or a hired consultant. An explanation of the findings and additional steps to be taken, if any, will also be provided.

A sub-slab vapor sampling system is usually in place for a day or two during the sampling process. The metal canisters (foreground) collect the vapor sample from the port (smaller canister in back of photo). The same canisters can be used to collect indoor air samples.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

October 31, 2018 Reference No. 003978

Thrive Properties LLC
2105 N. 2nd St.
Wausau, Wisconsin 54403

Dear Sir/Madam,

Re: Request for Access for Sampling for Potential Vapor Intrusion

As part of the ongoing investigation of environmental contamination at the Wausau Water Supply Superfund Site, we are requesting permission to test your building for vapor intrusion. Vapor intrusion is the movement of vapors from chemicals in groundwater into the indoor air of a building. It is very similar to the way that radon gas can move into a home or office. This testing is part of an ongoing investigation and cleanup of chlorinated volatile organic compounds (VOCs) being conducted by GHD at the direction of a group of Responsible Parties (RPs), including the Wausau Chemical Corporation (WCC), related to an accidental release of tetrachloroethene (aka perchloroethene or PERC) at the WCC facility on N. River Drive.

The contaminated groundwater flows to one of the City of Wausau's water supply wells, CW3, located north of East Wausau Avenue and west of 3rd Street (west of the baseball field). The groundwater extracted from CW3 is pumped to the City's treatment plant where the contaminants are removed from the water.

Over the past 25 years, the RPs have worked with the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (U.S. EPA) to reduce concentrations of chlorinated VOCs in the groundwater. Soil and groundwater cleanup activities have been performed and concentrations in groundwater have been reduced significantly. However, remnants of contamination near the source area may still exist.

As part of a routine five-year review of the cleanup progress, the WDNR and U.S. EPA requested a vapor intrusion evaluation because of the potential for contaminant vapors from the groundwater to migrate through soils, accumulate beneath a building and possibly enter the indoor air. Due to your proximity to the contaminated groundwater, your property was selected to participate in the vapor intrusion evaluation. This vapor intrusion evaluation will help us determine whether groundwater-related vapors are present in your building.

The RPs have agreed to conduct the vapor intrusion evaluation and, as the RPs agent, GHD would like to collect an air sample from the soil beneath your building foundation and from inside your building to determine whether vapors from chemicals in the groundwater are present and, if so, at what levels. These air sampling tests will be paid for by the RPs.

In order to complete the site investigation, we will need to receive your signed access agreement (enclosed) by November 21, 2018. Please return the signed agreement in the self-addressed envelope

GHD
1801 Old Highway 8 Northwest Suite 114 St Paul Minnesota 55112 USA
T 651 639 0913 **F** 651 639 0923 **W** www.ghd.com

provided with this letter, or fax it to Chuck Ahrens [651-639-0923]. You can also send a scanned PDF copy to me at charles.ahrens@ghd.com. Lastly, please do not modify the access agreement in any way, as it may void the agreement.

Please give this request your prompt consideration. By taking action now to address potential chemical vapor intrusion in your building, you may avoid possible health and property liability issues in the future.

The Project Managers for U.S. EPA and WDNR are Sheri Bianchin and Mae Willkom, respectively. Ms. Bianchin can be reached at bianchin.sheri@epa.gov or (312) 886-4745. Ms. Willkom can be reached at mae.willkom@wisconsin.gov or (715) 839-3748.

If you have questions or concerns about the wording of the agreement or any other aspect of this request, or the testing, please call me at (651) 639-0913.

Sincerely,

GHD

Chuck Ahrens

CA/sb/8

email: charles.ahrens@ghd.com
phone: (651) 639-0913

Encl. Fact Sheets and Access Agreement Form
Vapor Intrusion Questions – WDNR - (715) 839-3748
Vapor Intrusion Questions – USEPA - (312) 886-4745

Consent for Access to Property

Property Owner's Name: _____

Property
Address:_____

_____

OWNER Contact Information:

Owner's Mailing Address (if different from Property Address above):

_____

Phone: _____ Email: _____

The access permission is for the purpose of allowing GHD to screen the home/business for vapor intrusion of chlorinated volatile organic compounds in groundwater located near your property.

I consent to employees and authorized representatives of GHD Services Inc. (GHD) entering and having continued access to this property at reasonable times for the following purposes:

- Install and maintain sub-slab vapor probe(s) into the foundation (ground floor or basement) of the home or business.
- Conduct sub-slab soil vapor sampling from the sub-slab probes on two separate occasions at different times of the year during 2018-2019.
- Conduct 24-hour indoor air sampling on the lowest regularly occupied level of the home or business on two separate occasions (concurrent with sub-slab sampling) during 2018-2019.
- Abandon the vapor probe(s) when no longer needed.

I understand that GHD will provide a minimum of three days notice to the owner/occupant prior to conducting the sub-slab and indoor air sampling.

I realize that the sampling activities conducted by GHD are undertaken in accordance with a Work Plan, which was approved by the U.S. EPA and the Wisconsin Department of Natural Resources (WDNR).

The permission that is granted shall remain in effect until December 31, 2019, when the vapor screening work is expected to be complete. If an extension is necessary to complete the work, GHD will inform you in writing.

The property owner agrees not to damage or interfere with the use of any sub-slab probe installed as permitted herein.

GHD
1801 Old Highway 8 Northwest Suite 114 St Paul Minnesota 55112 USA
T 651 639 0913 **F** 651 639 0923 **W** www.ghd.com

This written permission is given by me voluntarily, on behalf of myself and all other co-owners or lessees of these properties, with knowledge of the right to refuse and without threats or promises of any kind.

PROPERTY OWNER

Signature:_____Date:_____

TENANT(S) / LESSEE(S) by UNIT NUMBER, ETC. (if applicable)

_____

Name of Tenant(s)/Lessee(s)

_____

Tenant(s) phone number

_____

Tenant(s) email address

Please return to:

Chuck Ahrens
GHD Services Inc.
1801 Old Highway 8 NW, Suite 114
St. Paul, MN 55112

PUB-RR-892
Feb 2014

Wisconsin DNR vapor intrusion quick facts

What is Vapor Intrusion?

Chemicals used in commercial or industrial activities – dry cleaning chemicals, chemical degreasers and petroleum products such as gasoline – are sometimes spilled and leak into nearby soil or groundwater. When this happens, these chemicals may release gases or vapors, which travel from the contaminated groundwater or soil and move into nearby homes or businesses. This is called vapor intrusion.

The process when chemical vapors from contaminated soil or groundwater enter a home or other structure is called vapor intrusion.

Why are these chemical vapors a problem?

The chemicals that cause vapor intrusion are known as volatile organic compounds, or VOCs. Even when spilled into soil or water, these chemicals easily evaporate. They don't cause human health problems when they evaporate into the outside air, but when their vapors move into homes or businesses, they may cause long-term health problems for the people who live or work in those buildings. These vapors are usually odorless and colorless and undetectable without special testing equipment.

Why is vapor intrusion a concern?

Exposure to some chemical gases or vapors can cause an increased risk of adverse health effects. Whether or not a person experiences any health effects depends on several factors, including the amount and length of exposure, the toxicity of the chemical, and the individual's sensitivity to the chemical. When harmful chemical vapor intrusion is the result of environmental contamination, the Wisconsin Department of Natural Resources (DNR) requires that steps be taken to reduce or eliminate exposures which could be harmful to human health.

What should I expect if vapor intrusion is suspected near my home or business?

For businesses or other locations where VOC contamination has been found, the DNR requires that the potential for vapor intrusion be investigated. If you live near a site being cleaned up, you may be contacted by the site owner or others working on the cleanup. Your cooperation and consent will be requested before any testing or sampling is conducted on your property. Ask the person contacting you any questions you have about the work being done, or contact the DNR for more information (see DNR contact information on reverse). For more information about testing for vapor intrusion, see DNR-Pub-RR-954, "What to Expect During Vapor Intrusion Sampling."

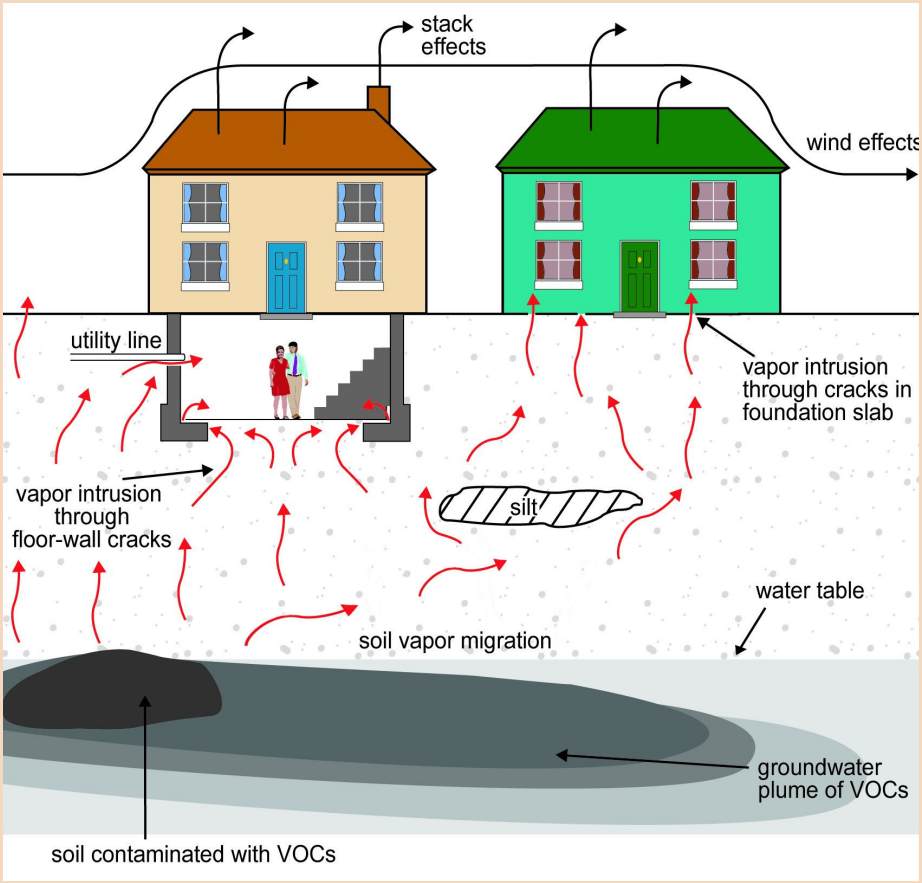
WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

How Vapors Enter a Building

If you live near a commercial or industrial facility or landfill where VOCs have entered either the soil or groundwater, there may be a potential for those chemicals to travel as vapors into your home or business. Vapors can enter buildings in various ways, including through cracks in the foundation and openings for utility lines. Building ventilation and weather can influence the extent of vapor intrusion.



Adapted from U.S. Environmental Protection Agency (EPA) graphic.
www.epa.gov/oswer/vaporintrusion/basic.html

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-953
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

Why Test for Vapor Intrusion?

Vapor intrusion is likely an unfamiliar term to you, and hearing that your property should be tested for possible chemical vapor intrusion may cause you some concern. That is understandable, and this information sheet is designed to answer basic questions many people have. Please refer to DNR PUB-RR-892, "What is Vapor Intrusion?" for a summary discussion of the term "vapor intrusion."

Most cases of vapor intrusion will pose no immediate threat to your health and safety. However, when other neighborhood properties are contaminated, it is wise to get your home or building tested to determine if there is any cause for concern. If potentially harmful chemical vapors are detected inside your home or building, the Department of Natural Resources (DNR), working in collaboration with other health and environmental professionals, will help you come up with a solution to protect you and your family.

Please consider the following factors when deciding whether to allow access for sampling:

Peace of mind

If there's a chance that chemical vapor or soil gas is seeping into your home or business, testing can determine whether it really is and to what extent. If testing reveals a problem, then steps can be taken to resolve it, making the indoor air you breathe safer for you and your family. Like radon gas, vapors from nearby soil or groundwater contamination can be diverted from beneath your home or office building and safely expelled into the outdoors, thus improving air quality inside your home or building.

The goal of sampling a residence or business is to eliminate as many of the unknowns as possible and safely address any concerns.

Who pays for testing?

You didn't cause this problem, so you don't have to pay for testing just as long as you allow reasonable and timely access to have testing done. The cost of sampling at potentially impacted residences or workplaces, like yours, is covered by the responsible party (the person or business legally obligated to investigate and clean up the contamination). In some cases, it's paid for directly by DNR, the Department of Health Services (DHS), or some other agency. Vapor sampling will be performed by a professional, and samples will be sent to a specialized lab for analysis.

Trained professionals and experts oversee the process

Multiple state and local agencies often work together to determine if vapor intrusion is a potential health risk in an area. The DNR, DHS, local health officials, the responsible party and environmental consultants are working together to ensure that quality samples are taken and that all results are given extensive review. It is important to gather the information in order to adequately understand if or where there may be a risk of vapor intrusion in your neighborhood.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

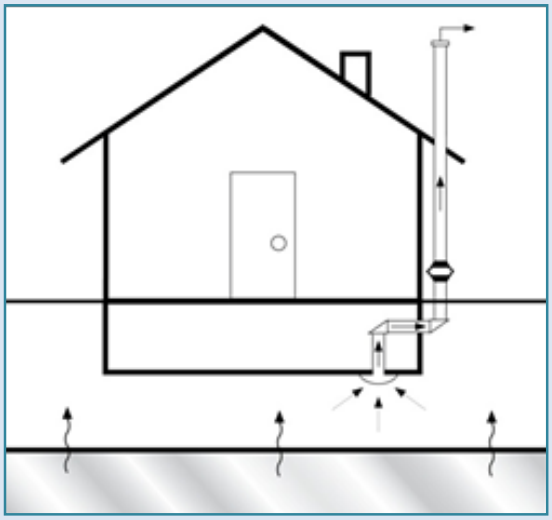
Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

A simple, cost effective solution exists

If vapor intrusion is a problem in a house or building, it can generally be solved by installing a vapor mitigation system. These sub-slab depressurizing systems are similar to those used to eliminate radon gas underneath homes, and have been used for years in a safe and effective manner. If the source of the vapor is tied to a responsible party, they will often pay to have a system installed at your home. The annual upkeep and operation of a typical system is generally less than $100 per year, mostly for electricity. These annual costs are typically the responsibility of the homeowner.

How will I know if the vapors have been eliminated?

After a vapor mitigation system is installed, follow-up testing of indoor air typically takes place three to six months later. The systems are usually considered permanent fixtures of the building. In cases where the source of the vapor is completely eliminated, the systems should no longer be needed.



If potentially harmful chemical vapor intrusion is detected in a home or business, the most common solution is to install a sub-slab depressurization system. This system captures and redirects soil vapors from below the building foundation before they enter the indoor air. Vapors are vented outside of the building where they disperse into the air and are rendered harmless.

Sub-slab depressurization systems also prevent radon from entering homes, which is an added health benefit in radon-prone areas.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-954
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

What to Expect During Vapor Intrusion Sampling

The sampling procedure for vapor intrusion is performed by health and environmental professionals. It involves drilling one or more small holes into the basement or lowest level of your building, collecting a vapor sample from those holes - also called ports - and then sending the sample to a specialized lab for analysis. This is called sub-slab sampling. Sampling professionals try to minimize any inconveniences to you by informing you up front on what to expect and working with your schedule on the days of sampling.

Vapor sampling provides information about the extent of potential contamination in your neighborhood.

Should I be on site for the sampling?

It's up to you. Sampling professionals will need to be let in to install the testing equipment and collect the samples. The arrangements you make are completely dependent on your availability and comfort level with others on your property.

How many times will sampling professionals enter my property, and how is sampling done?

In general, you should plan on two or three visits over two or three days. While the actual sampling procedure and schedule may vary, the following provides a typical approach:

Day 1: The first day includes locating suitable locations for port installation, then drilling and installing the ports. This usually takes about an hour or two.

Day 2: The second day involves attaching the collection canister to the port to begin collecting the samples. A 24-hour indoor air sampling kit may also be set up. This visit will also take an hour or two.

Day 3: The third day is a shorter visit to gather all of the sampling equipment and seal off the ports. Sometimes the port site is left in place in case samples may need to be collected in the future.

Why not take indoor air samples instead of sub-slab samples?

Indoor air quality often changes from day to day, creating misleading assumptions about long-term indoor air quality. Indoor air quality may be affected by vapors given off by household or commercial products including paints, glues, fuels, cleaners, cigarette smoke, aerosol sprays, new carpeting or furniture. Also, any outdoor air that enters the inside of your house may also contain vapors which can alter test results. By itself, indoor air testing will not necessarily confirm that the vapors in the indoor air are entering a building from underground sources. However, indoor air samples are usually collected at the same time as the sub-slab samples for comparison purposes.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Cleanup Redevelopment Partnership

What if there is a crawl space instead of a basement?

If there is a crawl space or a basement with a dirt floor, it is not possible to install a port. In these cases, a sample of air is collected from the crawl space or basement over a 24 hour period. Sometimes a port can be installed in the side wall of the foundation.

Who pays for testing, and when will I get the results?

In many cases, the responsible party (the person or business legally obligated to investigate and clean up the environmental contamination) pays for the testing. The responsible party may also pay for the installation of a mitigation system if it is necessary. Sometimes, other parties such as DNR or the Dept. of Health may pay for testing. As long as the property owner provides reasonable and timely access for testing, rarely would they be responsible for the cost.

The laboratory results are usually available in two to four weeks and will be shared with you through a state or local health agency, the Wisconsin DNR, the responsible party or a hired consultant. An explanation of the findings and additional steps to be taken, if any, will also be provided.

A sub-slab vapor sampling system is usually in place for a day or two during the sampling process. The metal canisters (foreground) collect the vapor sample from the port (smaller canister in back of photo). The same canisters can be used to collect indoor air samples.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

October 31, 2018 Reference No. 003978

Xiong Yang and Shoua Yang
or Current Resident
2105 N. 3rd St.
Wausau, Wisconsin 54403

Dear Sir/Madam,

Re: Request for Access for Sampling for Potential Vapor Intrusion

As part of the ongoing investigation of environmental contamination at the Wausau Water Supply Superfund Site, we are requesting permission to test your home for vapor intrusion. Vapor intrusion is the movement of vapors from chemicals in groundwater into the indoor air of a building. It is very similar to the way that radon gas can move into a home or office. This testing is part of an ongoing investigation and cleanup of chlorinated volatile organic compounds (VOCs) being conducted by GHD at the direction of a group of Responsible Parties (RPs), including the Wausau Chemical Corporation (WCC), related to an accidental release of tetrachloroethene (aka perchloroethene or PERC) at the WCC facility on N. River Drive.

The contaminated groundwater flows to one of the City of Wausau's water supply wells, CW3, located north of East Wausau Avenue and west of 3rd Street (west of the baseball field). The groundwater extracted from CW3 is pumped to the City's treatment plant where the contaminants are removed from the water.

Over the past 25 years, the RPs have worked with the WDNR and U.S. EPA to reduce concentrations of chlorinated VOCs in the groundwater. Soil and groundwater cleanup activities have been performed and concentrations in groundwater have been reduced significantly. However, remnants of contamination near the source area may still exist.

As part of a routine five-year review of the cleanup progress, the Wisconsin Department of Natural Resources (WDNR) and the United States Environmental Protection Agency (U.S. EPA) requested a vapor intrusion evaluation because of the potential for contaminant vapors from the groundwater to migrate through soils, accumulate beneath a building and possibly enter the indoor air. Due to your proximity to the contaminated groundwater, your property was selected to participate in the vapor intrusion evaluation. This vapor intrusion evaluation will help us determine whether groundwater-related vapors are present in your house.

The RPs have agreed to conduct the vapor intrusion evaluation and, as the RPs agent, GHD would like to collect an air sample from the soil beneath your house foundation and from inside your house to determine whether vapors from chemicals in the groundwater are present and, if so, at what levels. These air sampling tests will be paid for by the RPs.

GHD
1801 Old Highway 8 Northwest Suite 114 St Paul Minnesota 55112 USA
T 651 639 0913 **F** 651 639 0923 **W** www.ghd.com

In order to complete the site investigation, we will need to receive your signed access agreement (enclosed) by November 21, 2018. Please return the signed agreement in the self-addressed envelope provided with this letter, or fax it to Chuck Ahrens [651-639-0923]. You can also send a scanned PDF copy to me at charles.ahrens@ghd.com. Lastly, please do not modify the access agreement in any way, as it may void the agreement.

Please give this request your prompt consideration. By taking action now to address potential chemical vapor intrusion in your home, you may avoid possible health and property liability issues in the future.

The Project Managers for U.S. EPA and WDNR are Sheri Bianchin and Mae Willkom, respectively. Ms. Bianchin can be reached at bianchin.sheri@epa.gov or (312) 886-4745. Ms. Willkom can be reached at mae.willkom@wisconsin.gov or (715) 839-3748.

If you have questions or concerns about the wording of the agreement or any other aspect of this request, or the testing, please call me at (651) 639-0913.

Sincerely,

GHD

Chuck Ahrens

CA/sb/8

email: charles.ahrens@ghd.com
phone: (651) 639-0913

Encl. Fact Sheets and Access Agreement Form
Vapor Intrusion Questions – WDNR - (715) 839-3748
Vapor Intrusion Questions – USEPA - (312) 886-4745

Consent for Access to Property

Property Owner's Name: _____

Property
Address:_____

_____

OWNER Contact Information:

Owner's Mailing Address (if different from Property Address above):

_____

Phone: _____ Email: _____

The access permission is for the purpose of allowing GHD to screen the home/business for vapor intrusion of chlorinated volatile organic compounds in groundwater located near your property.

I consent to employees and authorized representatives of GHD Services Inc. (GHD) entering and having continued access to this property at reasonable times for the following purposes:

- Install and maintain sub-slab vapor probe(s) into the foundation (ground floor or basement) of the home or business.
- Conduct sub-slab soil vapor sampling from the sub-slab probes on two separate occasions at different times of the year during 2018-2019.
- Conduct 24-hour indoor air sampling on the lowest regularly occupied level of the home or business on two separate occasions (concurrent with sub-slab sampling) during 2018-2019.
- Abandon the vapor probe(s) when no longer needed.

I understand that GHD will provide a minimum of three days notice to the owner/occupant prior to conducting the sub-slab and indoor air sampling.

I realize that the sampling activities conducted by GHD are undertaken in accordance with a Work Plan, which was approved by the U.S. EPA and the Wisconsin Department of Natural Resources (WDNR).

The permission that is granted shall remain in effect until December 31, 2019, when the vapor screening work is expected to be complete. If an extension is necessary to complete the work, GHD will inform you in writing.

The property owner agrees not to damage or interfere with the use of any sub-slab probe installed as permitted herein.

GHD
1801 Old Highway 8 Northwest Suite 114 St Paul Minnesota 55112 USA
T 651 639 0913 **F** 651 639 0923 **W** www.ghd.com

This written permission is given by me voluntarily, on behalf of myself and all other co-owners or lessees of these properties, with knowledge of the right to refuse and without threats or promises of any kind.

PROPERTY OWNER

Signature:_____Date:_____

TENANT(S) / LESSEE(S) by UNIT NUMBER, ETC. (if applicable)

_____

Name of Tenant(s)/Lessee(s)

_____

Tenant(s) phone number

_____

Tenant(s) email address

Please return to:

Chuck Ahrens
GHD Services Inc.
1801 Old Highway 8 NW, Suite 114
St. Paul, MN 55112

PUB-RR-892
Feb 2014

Wisconsin DNR vapor intrusion quick facts

What is Vapor Intrusion?

Chemicals used in commercial or industrial activities – dry cleaning chemicals, chemical degreasers and petroleum products such as gasoline – are sometimes spilled and leak into nearby soil or groundwater. When this happens, these chemicals may release gases or vapors, which travel from the contaminated groundwater or soil and move into nearby homes or businesses. This is called vapor intrusion.

The process when chemical vapors from contaminated soil or groundwater enter a home or other structure is called vapor intrusion.

Why are these chemical vapors a problem?

The chemicals that cause vapor intrusion are known as volatile organic compounds, or VOCs. Even when spilled into soil or water, these chemicals easily evaporate. They don't cause human health problems when they evaporate into the outside air, but when their vapors move into homes or businesses, they may cause long-term health problems for the people who live or work in those buildings. These vapors are usually odorless and colorless and undetectable without special testing equipment.

Why is vapor intrusion a concern?

Exposure to some chemical gases or vapors can cause an increased risk of adverse health effects. Whether or not a person experiences any health effects depends on several factors, including the amount and length of exposure, the toxicity of the chemical, and the individual's sensitivity to the chemical. When harmful chemical vapor intrusion is the result of environmental contamination, the Wisconsin Department of Natural Resources (DNR) requires that steps be taken to reduce or eliminate exposures which could be harmful to human health.

What should I expect if vapor intrusion is suspected near my home or business?

For businesses or other locations where VOC contamination has been found, the DNR requires that the potential for vapor intrusion be investigated. If you live near a site being cleaned up, you may be contacted by the site owner or others working on the cleanup. Your cooperation and consent will be requested before any testing or sampling is conducted on your property. Ask the person contacting you any questions you have about the work being done, or contact the DNR for more information (see DNR contact information on reverse). For more information about testing for vapor intrusion, see DNR-Pub-RR-954, "What to Expect During Vapor Intrusion Sampling."

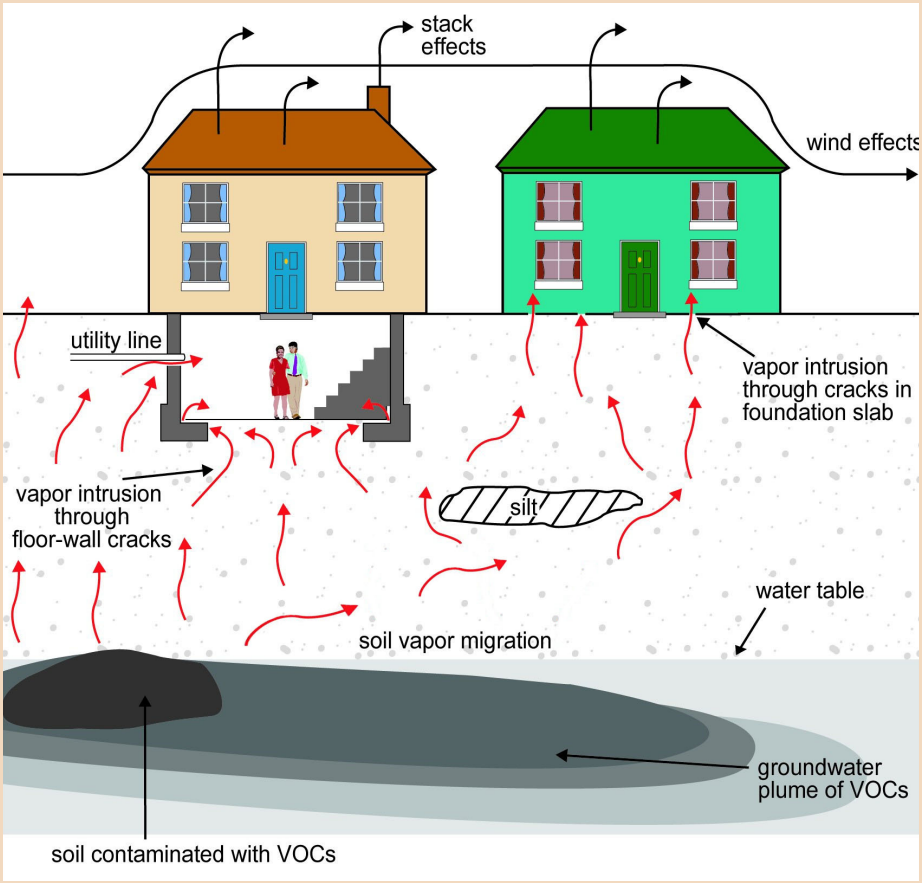
WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

How Vapors Enter a Building

If you live near a commercial or industrial facility or landfill where VOCs have entered either the soil or groundwater, there may be a potential for those chemicals to travel as vapors into your home or business. Vapors can enter buildings in various ways, including through cracks in the foundation and openings for utility lines. Building ventilation and weather can influence the extent of vapor intrusion.



Adapted from U.S. Environmental Protection Agency (EPA) graphic.
www.epa.gov/oswer/vaporintrusion/basic.html

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-953
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

Why Test for Vapor Intrusion?

Vapor intrusion is likely an unfamiliar term to you, and hearing that your property should be tested for possible chemical vapor intrusion may cause you some concern. That is understandable, and this information sheet is designed to answer basic questions many people have. Please refer to DNR PUB-RR-892, "What is Vapor Intrusion?" for a summary discussion of the term "vapor intrusion."

Most cases of vapor intrusion will pose no immediate threat to your health and safety. However, when other neighborhood properties are contaminated, it is wise to get your home or building tested to determine if there is any cause for concern. If potentially harmful chemical vapors are detected inside your home or building, the Department of Natural Resources (DNR), working in collaboration with other health and environmental professionals, will help you come up with a solution to protect you and your family.

Please consider the following factors when deciding whether to allow access for sampling:

Peace of mind

If there's a chance that chemical vapor or soil gas is seeping into your home or business, testing can determine whether it really is and to what extent. If testing reveals a problem, then steps can be taken to resolve it, making the indoor air you breathe safer for you and your family. Like radon gas, vapors from nearby soil or groundwater contamination can be diverted from beneath your home or office building and safely expelled into the outdoors, thus improving air quality inside your home or building.

The goal of sampling a residence or business is to eliminate as many of the unknowns as possible and safely address any concerns.

Who pays for testing?

You didn't cause this problem, so you don't have to pay for testing just as long as you allow reasonable and timely access to have testing done. The cost of sampling at potentially impacted residences or workplaces, like yours, is covered by the responsible party (the person or business legally obligated to investigate and clean up the contamination). In some cases, it's paid for directly by DNR, the Department of Health Services (DHS), or some other agency. Vapor sampling will be performed by a professional, and samples will be sent to a specialized lab for analysis.

Trained professionals and experts oversee the process

Multiple state and local agencies often work together to determine if vapor intrusion is a potential health risk in an area. The DNR, DHS, local health officials, the responsible party and environmental consultants are working together to ensure that quality samples are taken and that all results are given extensive review. It is important to gather the information in order to adequately understand if or where there may be a risk of vapor intrusion in your neighborhood.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

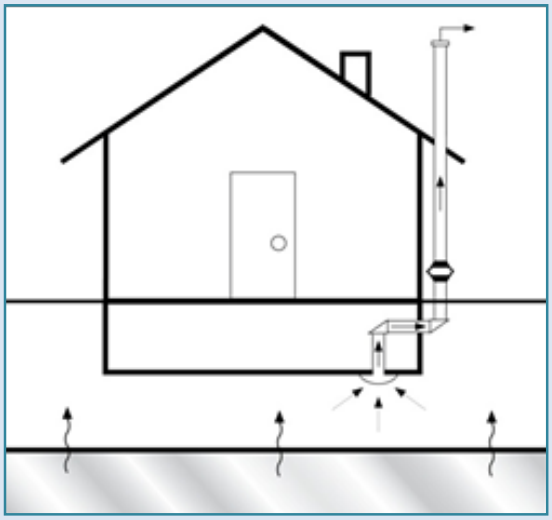
Environment Remediation and Redevelopment Program Redevelopment Partnership Cleanup

A simple, cost effective solution exists

If vapor intrusion is a problem in a house or building, it can generally be solved by installing a vapor mitigation system. These sub-slab depressurizing systems are similar to those used to eliminate radon gas underneath homes, and have been used for years in a safe and effective manner. If the source of the vapor is tied to a responsible party, they will often pay to have a system installed at your home. The annual upkeep and operation of a typical system is generally less than $100 per year, mostly for electricity. These annual costs are typically the responsibility of the homeowner.

How will I know if the vapors have been eliminated?

After a vapor mitigation system is installed, follow-up testing of indoor air typically takes place three to six months later. The systems are usually considered permanent fixtures of the building. In cases where the source of the vapor is completely eliminated, the systems should no longer be needed.



If potentially harmful chemical vapor intrusion is detected in a home or business, the most common solution is to install a sub-slab depressurization system. This system captures and redirects soil vapors from below the building foundation before they enter the indoor air. Vapors are vented outside of the building where they disperse into the air and are rendered harmless.

Sub-slab depressurization systems also prevent radon from entering homes, which is an added health benefit in radon-prone areas.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.

PUB-RR-954
Feb 2014

Wisconsin DNR vapor intrusion **quick facts**

What to Expect During Vapor Intrusion Sampling

The sampling procedure for vapor intrusion is performed by health and environmental professionals. It involves drilling one or more small holes into the basement or lowest level of your building, collecting a vapor sample from those holes - also called ports - and then sending the sample to a specialized lab for analysis. This is called sub-slab sampling. Sampling professionals try to minimize any inconveniences to you by informing you up front on what to expect and working with your schedule on the days of sampling.

Vapor sampling provides information about the extent of potential contamination in your neighborhood.

Should I be on site for the sampling?

It's up to you. Sampling professionals will need to be let in to install the testing equipment and collect the samples. The arrangements you make are completely dependent on your availability and comfort level with others on your property.

How many times will sampling professionals enter my property, and how is sampling done?

In general, you should plan on two or three visits over two or three days. While the actual sampling procedure and schedule may vary, the following provides a typical approach:

Day 1: The first day includes locating suitable locations for port installation, then drilling and installing the ports. This usually takes about an hour or two.

Day 2: The second day involves attaching the collection canister to the port to begin collecting the samples. A 24-hour indoor air sampling kit may also be set up. This visit will also take an hour or two.

Day 3: The third day is a shorter visit to gather all of the sampling equipment and seal off the ports. Sometimes the port site is left in place in case samples may need to be collected in the future.

Why not take indoor air samples instead of sub-slab samples?

Indoor air quality often changes from day to day, creating misleading assumptions about long-term indoor air quality. Indoor air quality may be affected by vapors given off by household or commercial products including paints, glues, fuels, cleaners, cigarette smoke, aerosol sprays, new carpeting or furniture. Also, any outdoor air that enters the inside of your house may also contain vapors which can alter test results. By itself, indoor air testing will not necessarily confirm that the vapors in the indoor air are entering a building from underground sources. However, indoor air samples are usually collected at the same time as the sub-slab samples for comparison purposes.

WISCONSIN DEPT. OF NATURAL RESOURCES

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

Environment Remediation and Redevelopment Program Cleanup Redevelopment Partnership

What if there is a crawl space instead of a basement?

If there is a crawl space or a basement with a dirt floor, it is not possible to install a port. In these cases, a sample of air is collected from the crawl space or basement over a 24 hour period. Sometimes a port can be installed in the side wall of the foundation.

Who pays for testing, and when will I get the results?

In many cases, the responsible party (the person or business legally obligated to investigate and clean up the environmental contamination) pays for the testing. The responsible party may also pay for the installation of a mitigation system if it is necessary. Sometimes, other parties such as DNR or the Dept. of Health may pay for testing. As long as the property owner provides reasonable and timely access for testing, rarely would they be responsible for the cost.

The laboratory results are usually available in two to four weeks and will be shared with you through a state or local health agency, the Wisconsin DNR, the responsible party or a hired consultant. An explanation of the findings and additional steps to be taken, if any, will also be provided.

A sub-slab vapor sampling system is usually in place for a day or two during the sampling process. The metal canisters (foreground) collect the vapor sample from the port (smaller canister in back of photo). The same canisters can be used to collect indoor air samples.

Where can I find more information?

Health and vapor-related information can be found at the Wisconsin Department of Health Services (DHS) website at **dhs.wisconsin.gov** , search "Vapor." For other health-related questions, please contact your local health department: **www.dhs.wisconsin.gov/localhealth**.

For more DNR information, please visit the DNR's Remediation and Redevelopment (RR) Program's Vapor Intrusion page at **dnr.wi.gov/topic/Brownfields/Vapor.html**.

Additional information can be obtained through the DNR field office in your region. To find the correct office, visit the RR Program Staff Contacts page at **dnr.wi.gov/topic/Brownfields/Contact.html** or call the RR Program at (608) 266-2111.