



March 5, 2014

Dennis Leonard
3618 North 11th St.
Milwaukee, WI 53206

FID # 341148720
BRRTS # 02-41-549867

Subject: Vapor Assessment Results
3618 North 11th St., Milwaukee, WI

Dear Mr. Leonard,

Thank you for your recent participation in our ongoing efforts to address the impacts of trichloroethylene, or "TCE," which was discovered in the groundwater in your neighborhood. This letter is to update you on the results of testing performed at your home to evaluate the potential presence of TCE vapor.

TCE vapors can be released from groundwater, move up through soils and accumulate under buildings. If these vapors reach a certain concentration, they can also move up through basement floors and enter indoor air in a way very similar to radon gas.

The results of sub-slab testing from the basement showed vapor levels above the Department of Natural Resources (DNR) and the Department of Health Services (DHS) action level. The test result showed levels of 150 parts per billion by volume (ppbv) in the basement near the furnace. Since this test is above the DNR's action level of 3.9 ppbv, the DNR recommends that your home have a mitigation system installed. I have included a copy of the consultant's report which documents the sampling and results.

The DNR uses very conservative action levels designed to protect all residents. This includes children, the elderly and pregnant women, who are typically most sensitive to the effects of toxic chemicals. Although the level of TCE found in your indoor air was below the level at which we would expect any health effects to occur, the levels inside one's home can vary quite a bit over time. Thus, due to the levels of TCE that were detected beneath your home, we recommend installation of a mitigation system until the contamination is removed, to prevent exposure to unsafe levels of TCE in the future. Please contact Lindor Schmidt, City of Milwaukee Health Department, or Ryan Wozniak, Wisconsin Department of Health Services, if you have health-related questions or concerns about the TCE level found in your home.


DNR has agreed to pay for the installation of an appropriate DNR-recommended mitigation system at no cost to you. The system, similar to what is commonly used to mitigate naturally-occurring radon gas, vents the soil around your home to prevent accumulation of TCE vapors and halt such vapors from entering your home. DNR is currently working out funding issues and will be in touch with you to discuss next steps and schedule system installation.

It is also important to note that levels of TCE in the groundwater and resulting vapors are expected to continue decreasing over time through natural effects.

The DNR and DHS remain committed to the elimination of impacts to residents of the TCE-impacted groundwater in the area. We will continue to work together with homeowners to monitor and assess the effectiveness of our mitigation efforts. Please feel free to reach out to any of the contacts listed below at any time should you have a question now or in the future. We are happy to share information.

Thank you again for your time and participation.

Sincerely,



Mark Drews, Hydrogeologist
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources

Enclosures: "Vapor Assessment Sampling Results for Clare Central Project", by SCS Engineers
Chemical Fact Sheet Trichloroethylene "TCE", by Wis. Department of Health Services

Contacts:

Health Questions

Lindor Schmidt
Milw. Health Dept.
(414) 286-2359

Health Questions

Ryan Wozniak
Dept. of Health Services
(608) 267-3227

DNR Questions

Terry Evanson – Statewide Vapor Expert
Dept. of Natural Resources
(608) 266-0941

Mark Drews – Project Manager
Dept. of Natural Resources
(262) 574-2146

SCS ENGINEERS

February 21, 2014
File No. 25213180.04

Ms. Margaret Brunette
Wisconsin Department of Natural Resources
2300 N. Dr. Martin Luther King Jr. Drive
Milwaukee, WI 53212

Subject: Vapor Assessment Sampling Results for Clare Central Project
3618 North 11th Street, Milwaukee, Wisconsin
BRRTS #02-41-549867
WDNR Purchase Order #NMD00000584

2014 FEB 26 PM 5:00
DEPARTMENT OF
NATURAL RESOURCES
MILWAUKEE SERVICE CENTER

Dear Ms. Brunette:

SCS Engineers (SCS) is providing the following report summarizing vapor assessment sampling for the home at 3618 North 11th Street, Milwaukee, Wisconsin. Our work was performed under the Vapor Intrusion Zone Contract (VIZC) and above-noted purchase order.

METHODS

Vapor assessment sampling was performed consistent with the VIZC specifications. Ambient air and sub-slab samples were collected by SCS on February 5-6, 2014. Sample canisters and controllers were supplied by the Wisconsin State Laboratory of Hygiene (WSLH).

Ambient air samples were collected using 6-liter Summa canisters and 24-hour flow controllers. The sub-slab sample was collected using a 6-liter Summa canister and 30-minute flow controller. Sub-slab water dam and shut-in leak testing was performed prior to sampling. The sub-slab probe was installed flush with the basement floor and left in place. Sample locations are shown on Figures 1 and 2.

All samples were transported to WSLH for analysis of volatile organic compounds (VOCs). Samples were analyzed for tetrachloroethylene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride per method TO-15. Analytical results are summarized in Tables 1 and 2. Laboratory analytical reports and field forms are included in Attachment A. Sample location photos are included in Attachment B.

FINDINGS

TCE was detected in the indoor air sample collected from the basement, but the concentration does not exceed the residential indoor air Vapor Action Level. No other VOCs were detected in the indoor air or outdoor air (background) samples.



Ms. Brunette
February 21, 2014
Page 2

TCE and cis-1,2-DCE were detected in the basement sub-slab sample. The TCE concentration exceeds the residential Vapor Risk Screening Level (VRSL). There is not a VRSL for cis-1,2-DCE. No other VOCs were detected in the sub-slab sample.

Please feel free to contact me at 608-216-7329 if you have any questions.

Sincerely,



Robert Langdon
Senior Project Manager
SCS ENGINEERS

REL/lmh/TK

Enclosures: Table 1 – Ambient Air Analytical Results Summary – Residential
Table 2 – Sub-Slab Vapor Analytical Results Summary – Residential
Figure 1 – Site Plan
Figure 2 – Basement Layout and Sample Locations
Attachment A – Laboratory Analytical Reports and Field Forms
Attachment B – Sample Location Photos

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TABLES

- 1 Ambient Air Analytical Results Summary – Residential**
- 2 Sub-Slab Vapor Analytical Results Summary – Residential**

**Table 1. Ambient Air Analytical Results Summary - Residential
Clare Central, Milwaukee, Wisconsin / SCS Engineers Project #25213180.04**
(Results are in ppbv)

Sample	Location	Date	Lab Notes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
3618 Basement	3618 N. 11th Street	2/6/2014	--	<0.085	0.33 *	<0.085	<0.085	<0.085
3618 Outside	3618 N. 11th Street	2/6/2014	--	<0.085	<0.085	<0.085	<0.085	<0.085
Indoor Air Vapor Action Level (Residential)				6.2	0.39	NE	16	0.62

Abbreviations:

ppbv = parts per billion by volume
cis-1,2-DCE = cis-1,2-dichloroethene

PCE = tetrachloroethene
trans-1,2-DCE = trans-1,2-dichloroethene

TCE = trichloroethene
NE = not established

Notes:

1. Samples were collected in 6-liter summa canisters over a 24-hour period and analyzed using the USEPA TO-15 analytical method.
2. Indoor Air Vapor Action Levels are Target Indoor Air Concentrations from the USEPA November 2013 Regional Screening Level Summary Table with a target risk of 1.00E-05 for carcinogens.
3. **Bold+underlined** values meet or exceed Indoor Air Vapor Action Levels for Residential settings.

Lab Notes:

* QC limit for precision exceeded

Created by: JSN
Last revision by: JSN
Checked by: REL

Date: 2/19/2014
Date: 2/19/2014
Date: 2/19/2014

I:\25213180\25213180.04\Tables\[Clare Central_Off-Site_Ambient_Air_Results_Residential.xls]Ambient Air Results

**Table 2. Sub-Slab Vapor Analytical Results Summary - Residential
Clare Central, Milwaukee, Wisconsin / SCS Engineers Project #25213180.04
(Results are in ppbv)**

Sample	Location	Date	Lab Notes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
3618 Sub-Slab	3618 N. 11th Street	2/6/2014	--	<4.3	<u>150</u> *	21	<4.3	<4.3
Vapor Risk Screening Level (Residential)				62	3.9	NE	160	6.2

Abbreviations:

ppbv = parts per billion by volume
 cis-1,2-DCE = cis-1,2-dichloroethene
 -- = not applicable

PCE = tetrachloroethene
 trans-1,2-DCE = trans-1,2-dichloroethene

TCE = trichloroethene
 NE = not established

Notes:

1. Samples were collected in 6-liter summa canisters over a 30-minute period and analyzed using the USEPA TO-15 analytical method.
2. Vapor Risk Screening Levels are Target Indoor Air Concentrations from the USEPA November 2013 Regional Screening Level Summary Table divided by Attenuation Factor of 0.1 for residential settings.
3. Target Indoor Air Concentrations assume a target risk of 1.00E-05 for carcinogens.
4. **Bold+underlined** values meet or exceed Vapor Risk Screening Levels for Residential settings.

Lab Notes:

* QC limit for precision exceeded

I:\25213180\25213180.04\Tables\[Clare Central_Off-Site_Sub-Slab_Results_Residential (2).xls]Sub-Slab Results

Created by: JSN
 Last revision by: JSN
 Checked by: REL

Date: 2/19/2014
 Date: 2/19/2014
 Date: 2/19/2014

FIGURES

- 1 Site Plan**
- 2 Basement Layout and Sample Locations**

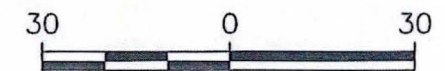


LEGEND



- ▲ AMBIENT AIR SAMPLE
- ⊠ SUB-SLAB SAMPLE

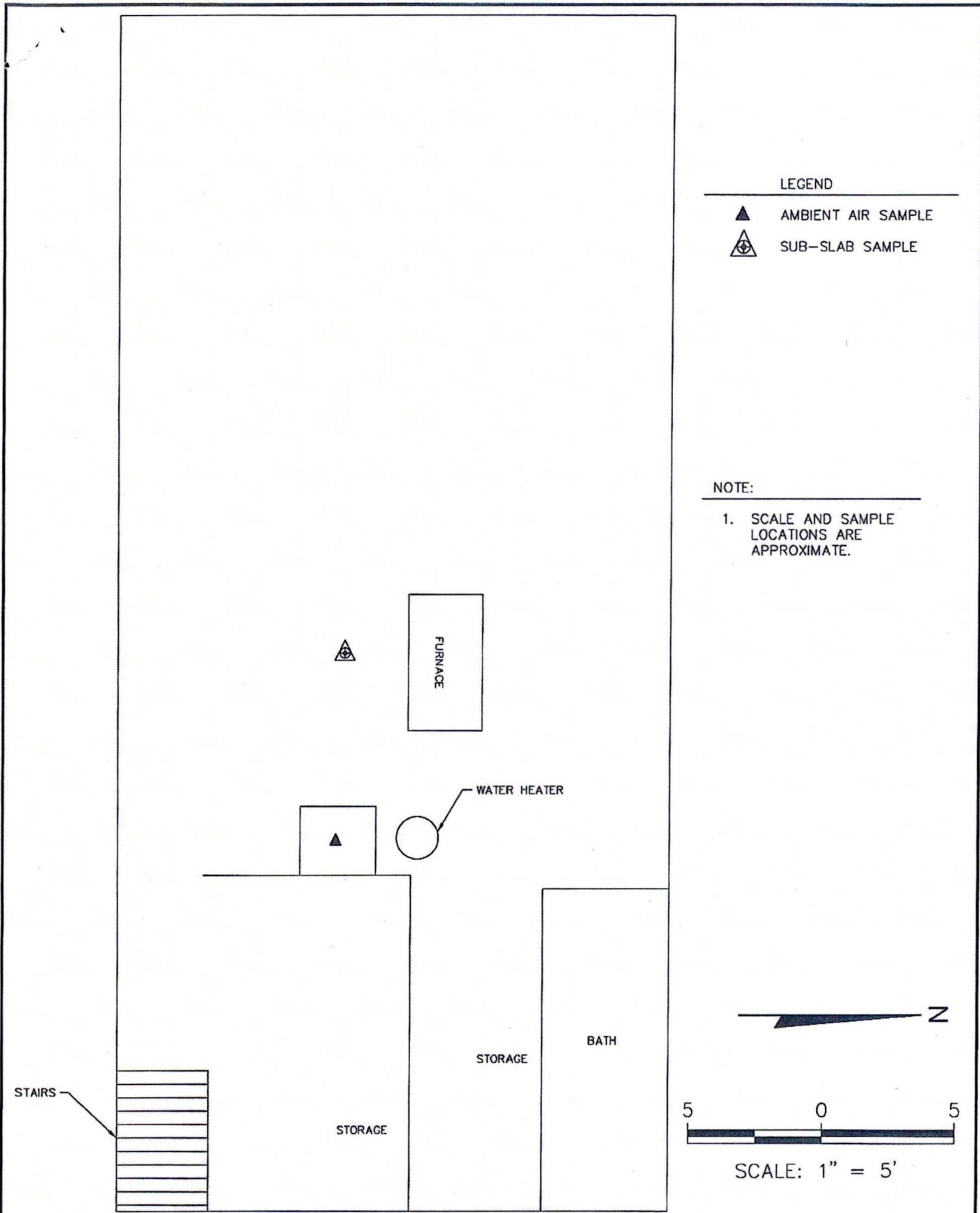
NOTE:



1. SCALE AND SAMPLE LOCATIONS ARE APPROXIMATE.



SCALE: 1" = 30'

PROJECT NO. 25213180.04	DRAWN BY: AHB	 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	 WISCONSIN DEPARTMENT OF NATURAL RESOURCES	3618 N. 11TH STREET MILWAUKEE, WISCONSIN	SITE PLAN	FIGURE
DRAWN: 02/21/14	CHECKED BY: REL					1
REVISED: 02/21/14	APPROVED BY:					



CLIENT	 WISCONSIN DEPARTMENT OF NATURAL RESOURCES		SIS	BASEMENT OF 3618 N. 11TH STREET MILWAUKEE, WISCONSIN		BASEMENT LAYOUT AND SAMPLE LOCATIONS		
	PROJECT NO.	25213180.04		DRAWN BY:	AHB	 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	FIGURE	2
	DRAWN:	02/21/14		CHECKED BY:	REL			
REVISED:	02/21/14	APPROVED BY:						

ATTACHMENT A

Laboratory Analytical Reports and Field Forms



Wisconsin State Laboratory of Hygiene
 2601 Agriculture Drive, PO Box 7996
 Madison, WI 53707-7996
 (800)442-4618 - FAX (608)224-6213
 http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Charles D. Brokopp, Dr.P.H., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007 WI DATCP ID: 105-415

WSLH Sample: 118832001

Report To:
 R LANGDON - SCS
 SCS ENGINEERS
 2830 DAIRY DRIVE
 MADISON, WI 53718

Invoice To:
 RON ARNESON
 WISCONSIN DEPARTMENT OF NATURAL
 RESOURCES

Customer ID: RR043

Field #: 3618 BASEMENT
 Project No: CLARE CENTRAL
 Collection End: 2/6/2014 2:06:00 PM
 Collection Start:
 Collected By: STEVE SMITH
 Date Received: 2/7/2014
 Date Reported: 2/18/2014
 Sample Reason:

ID#:
 Sample Location:
 Sample Description:
 Sample Type: AI-INDOOR AIR
 Waterbody:
 Point or Outfall:
 Sample Depth:
 Program Code:
 Region Code:
 County:

Sample Comments

RE-REPORTED TO FIX FIELD ID ON 002

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 02/11/14 Analysis Date 02/11/14					
Vinyl chloride	EPA TO-15	ND	ppbv	0.085	0.28
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
cis-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Trichloroethene	EPA TO-15	0.33	ppbv	0.085	0.28
QC limit for precision exceeded.					
Tetrachloroethene	EPA TO-15	ND	ppbv	0.085	0.28



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Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
<http://www.slh.wisc.edu>

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Charles D. Brokopp, Dr.P.H., Director

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 118832001

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.

List of Abbreviations:

LOD = Level of detection

LOQ = Level of quantification

ND = None detected. Results are less than the LOD

F next to result = Result is between LOD and LOQ

Z next to result = Result is between 0 (zero) and LOD

if LOD=LOQ, Limits were not statistically derived

*Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes see <http://www.slh.edu/nelap/>

Previous Reports

This sample was previously reported under the following report ID(s): 1226501,1226960

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262

Inorganic Chemistry: Tracy Hanke, Lab Manager, 608-224-6270

Metals: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282

Organic Chemistry: Steve Geis, Lab Manager, 608-224-6269

Emergency Chemical Response: Noel Stanton, Lab Manager, 608-224-6251



Wisconsin State Laboratory of Hygiene
 2601 Agriculture Drive, PO Box 7996
 Madison, WI 53707-7996
 (800)442-4618 - FAX (608)224-6213
 http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Charles D. Brokopp, Dr.P.H., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007 WI DATCP ID: 105-415

WSLH Sample: 118832002

Report To:
 R LANGDON - SCS
 SCS ENGINEERS
 2830 DAIRY DRIVE
 MADISON, WI 53718

Invoice To:
 RON ARNESON
 WISCONSIN DEPARTMENT OF NATURAL
 RESOURCES

Customer ID: RR043

Field #: 3618 OUTSIDE
 Project No: CLARE CENTRAL
 Collection End: 2/6/2014 1:40:00 PM
 Collection Start:
 Collected By: STEVE SMITH
 Date Received: 2/7/2014
 Date Reported: 2/18/2014
 Sample Reason:

ID#:
 Sample Location:
 Sample Description:
 Sample Type: AR-AIR
 Waterbody:
 Point or Outfall:
 Sample Depth:
 Program Code:
 Region Code:
 County:

Sample Comments

RE-REPORTED TO FIX FIELD ID ON 002

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 02/11/14 Analysis Date 02/11/14					
Vinyl chloride	EPA TO-15	ND	ppbv	0.085	0.28
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
cis-1,2-Dichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
Trichloroethene	EPA TO-15	ND	ppbv	0.085	0.28
QC limit for precision exceeded.					
Tetrachloroethene	EPA TO-15	ND	ppbv	0.085	0.28



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Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
<http://www.slh.wisc.edu>

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Charles D. Brokopp, Dr.P.H., Director

Environmental Health Division

WDNR LAB ID: 113133790

NELAP LAB ID: E37658

EPA LAB ID: WI00007

WI DATCP ID: 105-415

WSLH Sample: 118832002

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.

List of Abbreviations:

LOD = Level of detection

LOQ = Level of quantification

ND = None detected. Results are less than the LOD

F next to result = Result is between LOD and LOQ

Z next to result = Result is between 0 (zero) and LOD

if LOD=LOQ, Limits were not statistically derived

*Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes see <http://www.slh.edu/nelap/>

Previous Reports

This sample was previously reported under the following report ID(s): 1226502,1226961

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262

Inorganic Chemistry: Tracy Hanke, Lab Manager, 608-224-6270

Metals: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282

Organic Chemistry: Steve Geis, Lab Manager, 608-224-6269

Emergency Chemical Response: Noel Stanton, Lab Manager, 608-224-6251



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 2601 Agriculture Drive, PO Box 7996
 Madison, WI 53707-7996
 (800)442-4618 - FAX (608)224-6213
 http://www.slh.wisc.edu

Laboratory Report

D.F. Kurtycz, M.D., Medical Director - Charles D. Brokopp, Dr.P.H., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007 WI DATCP ID: 105-415

WSLH Sample: 118832003

Report To:
 R LANGDON - SCS
 SCS ENGINEERS
 2830 DAIRY DRIVE
 MADISON, WI 53718

Invoice To:
 RON ARNESON
 WISCONSIN DEPARTMENT OF NATURAL
 RESOURCES

Customer ID: RR043

Field #: 3618 SUB-SLAB BASEMENT
 Project No: CLARE CENTRAL
 Collection End: 2/6/2014 3:05:00 PM
 Collection Start:
 Collected By: STEVE SMITH
 Date Received: 2/7/2014
 Date Reported: 2/18/2014
 Sample Reason:

ID#:
 Sample Location:
 Sample Description:
 Sample Type: AI-INDOOR AIR
 Waterbody:
 Point or Outfall:
 Sample Depth:
 Program Code:
 Region Code:
 County:

Sample Comments

SUB-SLAB SAMPLE FROM BASEMENT
 RE-REPORTED TO FIX FIELD ID ON 002

OC-Volatiles

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date 02/11/14 Analysis Date 02/11/14					
Vinyl chloride	EPA TO-15	ND	ppbv	4.3	14
trans-1,2-Dichloroethene	EPA TO-15	ND	ppbv	4.3	14
cis-1,2-Dichloroethene	EPA TO-15	21	ppbv	4.3	14
Trichloroethene	EPA TO-15	150	ppbv	4.3	14
QC limit for precision exceeded.					
Tetrachloroethene	EPA TO-15	ND	ppbv	4.3	14



Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
<http://www.slh.wisc.edu>

Laboratory Report

D.F. Kurtzyz, M.D., Medical Director - Charles D. Brokopp, Dr.P.H., Director

Environmental Health Division

WDNR LAB ID: 113133790 NELAP LAB ID: E37658 EPA LAB ID: WI00007 WI DATCP ID: 105-415

WSLH Sample: 118832003

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.

List of Abbreviations:

LOD = Level of detection

LOQ = Level of quantification

ND = None detected. Results are less than the LOD

F next to result = Result is between LOD and LOQ

Z next to result = Result is between 0 (zero) and LOD

if LOD=LOQ, Limits were not statistically derived

*Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes see <http://www.slh.edu/nelap/>

Previous Reports

This sample was previously reported under the following report ID(s): 1226503,1226962

Responsible Party

Microbiology: Sharon Kluender, Lab Manager, 608-224-6262

Inorganic Chemistry: Tracy Hanke, Lab Manager, 608-224-6270

Metals: DeWayne Kennedy-Parker, Lab Manager, 608-224-6282

Organic Chemistry: Steve Geis, Lab Manager, 608-224-6269

Emergency Chemical Response: Noel Stanton, Lab Manager, 608-224-6251

Bill To Margaret Brunette
WDR
2300 N. Dr. Max Little Ky Dr.
Acad. # R2040 milw. WI 5322
414-263-8557

Report To Strom Smith / Rob Longdr
SIS Engineers
2830 Dairy Dr
Madison WI 53718

Phone # 608-229-2870
 FAX # 608-229-2899

Collected By S.Smith
 Date Sampled 2/5-2/6/14

Project Clare Center
 P.O. # 25213180.04

Email stromsmith@sisesengineers.com
 Address(s) RLongdr@sisesengineers.com

Tracer used (Y/N) N
 Which Tracer?

Sample Type: AR - Outdoor Air
 AI - Indoor Air
 SS - Sub-Slab

SPECIAL INSTRUCTIONS:
 TO-15 SLGA LNA → PCE, TCE,
 CID and trace 1,2-DCE, vinyl chloride

LAB USE ONLY	WSLH SAMPLE #	CUSTOMER FIELD #	SAMPLE TYPE (AR, AI, SS)	SAMPLE DATE	TIME ON	TIME OFF	INITIAL PRESSURE	FINAL PRESSURE	CANISTER NUMBER	PID READING	SAMPLER NUMBER
	3618	Basement	AI	2/5-2/6/14	1406	1406	-2.9	-2	ESS-6028	0	5345
	3618	Outside	AR	2/5-2/6/14	1414	1340	-27.5	-3	ESS-6026	0	5343
	3618	Sub-Slab Basement	SS	2/6/14	1435	1505	-25	-1.5	ESS-6029	2709	2235

chain of custody: Relinquished

Rob Longdr Date: 2/7/14 Received: Kathleen Dax-Klein

Vapor Assessment Sample Collection Log

PROJECT: VIZC- Clare Central	SAMPLE ID: 3618 Basement	TYPE (Circle One)*: SS <input checked="" type="radio"/> IA <input type="radio"/> OA
PROJECT #: 25212180.04	SAMPLE INTAKE HEIGHT: ~3'	NA for SS
LOCATION: Milwaukee, WI	APPROX PURGE VOLUME: NA	NA for IA and OA
SAMPLER: S. Smith	APPROX SAMPLING DEPTH: NA	NA for IA and OA
EQUIPMENT: Summa can, 2 liter flow controller, ppb RAE PID		

Instrument/Weather Readings

Date	Time	Canister Vacuum (" of Hg)	Temp (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (" of Hg)	PID Reading (ppm/ppb)
2/5/19	1406	-29	19.0	65	12.7	30.32	0
2/6/19	1406	-2	7.0	58	16.1	30.36	—

Summa Canister Information:

Canister Size:	1L	<input checked="" type="radio"/> 6L
Canister ID#	ES3-6024	
Flow Controller ID#	5345	

Sub-Slab Water Dam Test:

Test Passed:	Yes	No
<input checked="" type="radio"/> NA - FOR AMBIENT AIR SAMPLES		

General Notes/Observations:

Abbreviations:

NA = Not Applicable
 SS = Sub-Slab
 IA = Indoor Air
 OA = Outdoor Air

Vapor Assessment Sample Collection Log

PROJECT: <u>VIZC - Clare Central</u>	SAMPLE ID: <u>3618 outside</u>	TYPE (Circle One)*: SS IA <input checked="" type="radio"/> OA
PROJECT #: <u>25213180-04</u>	SAMPLE INTAKE HEIGHT: <u>~3"</u>	NA for SS
LOCATION: <u>Milwaukee, WI</u>	APPROX PURGE VOLUME: <u>NA</u>	NA for IA and OA
SAMPLER: <u>S. Smith</u>	APPROX SAMPLING DEPTH: <u>NA</u>	NA for IA and OA
EQUIPMENT: <u>Summa cany 24hr flow controller, ppb RAE PID</u>		

Instrument/Weather Readings

Date	Time	Canister Vacuum (" of Hg)	Temp (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (" of Hg)	PID Reading (ppm(ppb))
<u>2/5/14</u>	<u>1414</u>	<u>-27.5</u>	<u>19.0</u>	<u>65</u>	<u>12.7</u>	<u>30.32</u>	<u>0</u>
<u>2/6/14</u>	<u>1340</u>	<u>-3</u>	<u>70</u>	<u>58</u>	<u>16.1</u>	<u>30.36</u>	<u>—</u>

Summa Canister Information:

Canister Size:	1L <input checked="" type="radio"/> 6L
Canister ID#	<u>ESS-6020</u>
Flow Controller ID#	<u>5343</u>

Sub-Slab Water Dam Test:

Test Passed:	Yes	No
<input checked="" type="radio"/> NA - FOR AMBIENT AIR SAMPLES		

General Notes/Observations:

Summa can sample collection stopped before full 24hrs. to keep some vacuum in the can.

Abbreviations:

- NA = Not Applicable
- SS = Sub-Slab
- IA = Indoor Air
- OA = Outdoor Air

Vapor Assessment Sample Collection Log

PROJECT: <u>VJZC - Clare Central</u>	SAMPLE ID: _____ TYPE (Circle One)*: <u>SS</u> IA OA
PROJECT #: <u>25213180.04</u>	SAMPLE INTAKE HEIGHT: <u>NA</u> NA for SS
LOCATION: <u>milwaukee, WI</u>	APPROX PURGE VOLUME: <u>3.5 L</u> NA for IA and OA
SAMPLER: <u>S. Smith</u>	APPROX SAMPLING DEPTH: <u>10"</u> NA for IA and OA
EQUIPMENT: <u>Summa can, flow controller, ppBRAE PID, subslab manifold, misc tubing</u>	

Instrument/Weather Readings

Date	Time	Canister Vacuum (" of Hg)	Temp (°F)	Relative Humidity (%)	Air Speed (mph)	Barometric Pressure (" of Hg)	PID Reading (ppm/ppb)
<u>2/6/14</u>	<u>1435</u>	<u>-25</u>	<u>7.0</u>	<u>58</u>	<u>16.1</u>	<u>30.36</u>	<u>2709</u>
<u>2/6/14</u>	<u>1505</u>	<u>-1.5</u>	<u>7.0</u>	<u>55</u>	<u>10.4</u>	<u>30.36</u>	<u>—</u>

Summa Canister Information:

Canister Size:	1L <u>(6L)</u>
Canister ID#	<u>ESS-6054</u>
Flow Controller ID#	<u>2235</u>

Sub-Slab Water Dam Test:

Test Passed:	Yes <u>(Yes)</u> No
<u>NA - FOR AMBIENT AIR SAMPLES</u>	

General Notes/Observations:

Abbreviations:

NA = Not Applicable
 SS = Sub-Slab
 IA = Indoor Air
 OA = Outdoor Air

ATTACHMENT B
Sample Location Photos

Clare Central
3618 North 11th Street, Milwaukee, Wisconsin
SCS Engineers Project #25213180.04

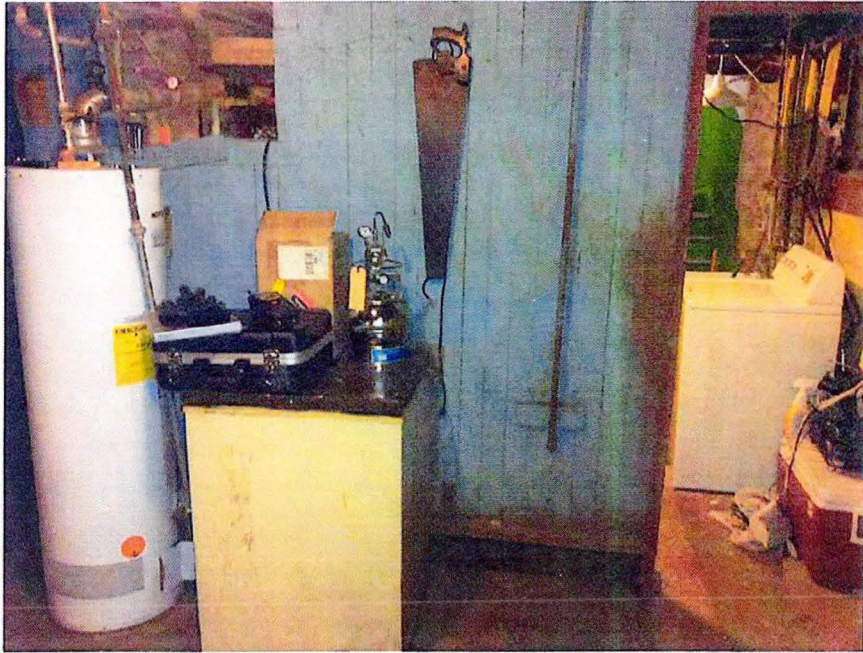


Photo 1: 2/5/2014 –Indoor air sample in basement of home.

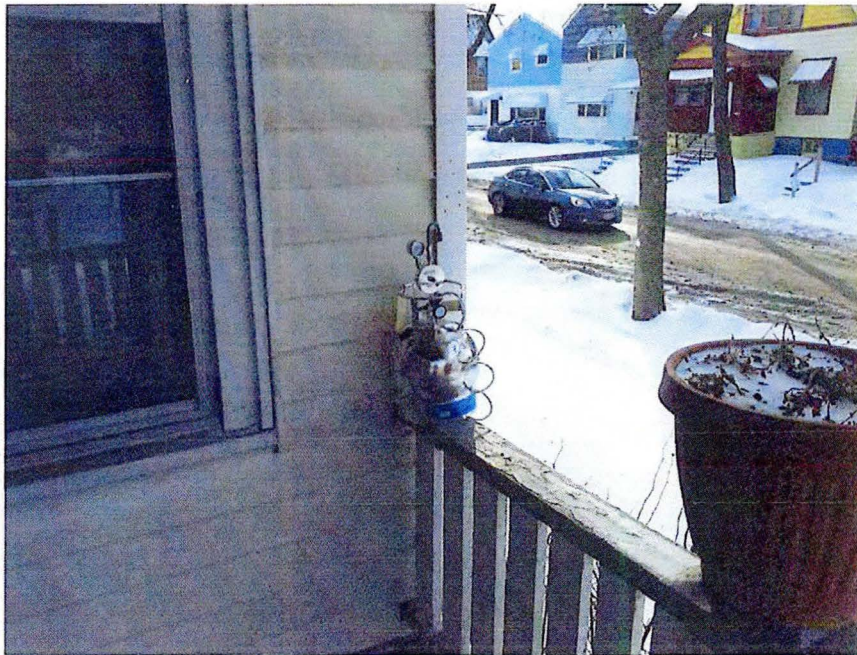


Photo 2: 2/5/2014 –Outdoor air sample on front porch of home.

Clare Central
3618 North 11th Street, Milwaukee, Wisconsin
SCS Engineers Project #25213180.04

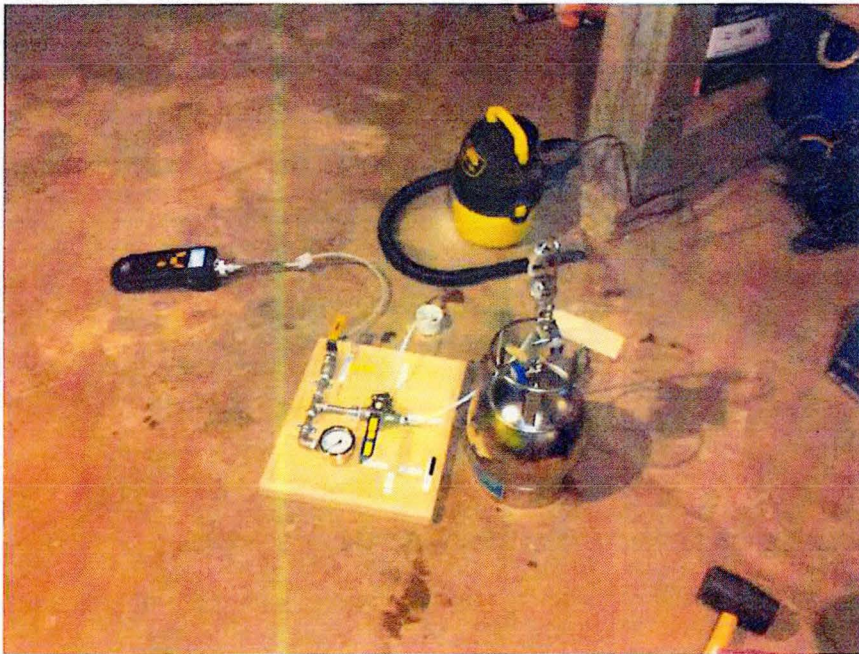


Photo 3: 2/6/2014 – Set-up for water dam and shut-in test on sub-slab vapor probe in basement of home.

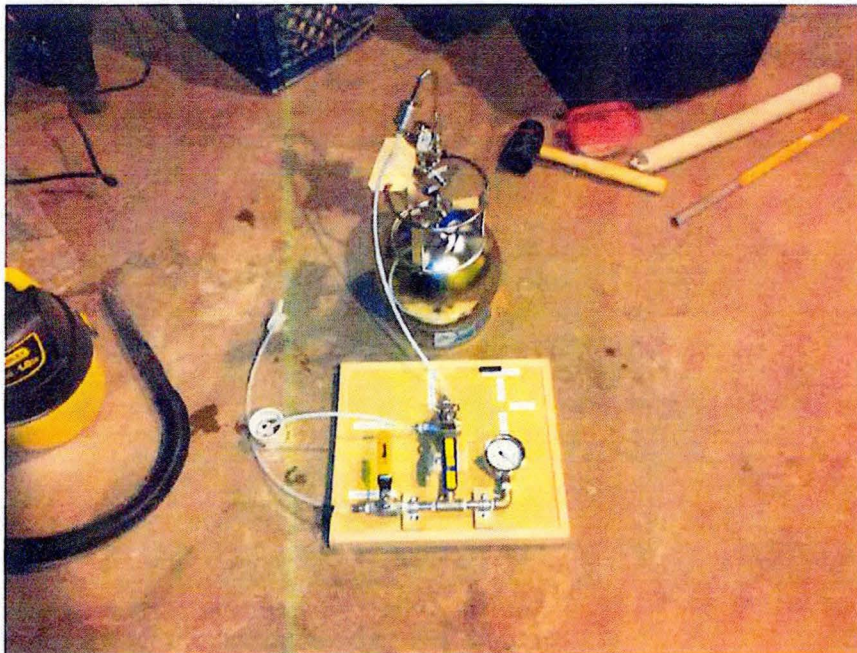


Photo 4: 2/6/2014 – Sample collection from sub-slab in basement of home.

Clare Central
3618 North 11th Street, Milwaukee, Wisconsin
SCS Engineers Project #25213180.04



Photo 5: 2/6/2014 – Photograph of capped sub-slab vapor probe in basement of home.



CHEMICAL FACT SHEET

TRICHLOROETHYLENE (TCE)

WHAT IS TRICHLOROETHYLENE?

Trichloroethylene (TCE) is a manufactured chemical. TCE does not occur naturally in the environment. It's a pale blue nonflammable liquid that evaporates easily and has a sweet smell. TCE is commonly used as a metal degreaser. In homes, TCE may be found in typewriter correction fluid, paint, spot removers, carpet-cleaning fluids, metal cleaners, and varnishes. TCE does not easily break down or degrade in soils and groundwater. Therefore, TCE contamination can stay in the environment for a long time.

Most TCE in air comes from metal degreasing activities associated with tool and automobile production. TCE can also enter ground water and surface water from industrial discharges or from improper disposal. TCE has been found in many drinking water supplies in the United States, including Wisconsin.

HOW ARE PEOPLE EXPOSED TO TRICHLOROETHYLENE?

Breathing: Workers in degreasing operations have the highest risk of exposure to TCE. People who live near factories that use TCE may also be exposed to low TCE levels in the air. In homes, people who use TCE as a solvent (such as typewriter correction fluid or paint remover) have exposure; however, the extent of the actual exposure depends on the length of time and the amount of the product used. Showering in water highly contaminated with TCE can also be a source of exposure.

Touching: TCE can be absorbed through the skin. Therefore, people who use the compound without solvent-resistant gloves may be exposed.

Drinking/Eating: TCE released onto soil can enter groundwater. Therefore, people who drink water from wells located near TCE disposal sites may be exposed. The amount of TCE in commercial products is much more concentrated than in contaminated drinking water. Plants grown on contaminated soil do not accumulate TCE. TCE has been detected at very low levels in many processed foods as a result of its use in equipment-cleaning.

DO STANDARDS EXIST FOR REGULATING TRICHLOROETHYLENE?

Water: The state and federal drinking water standards for TCE are both set at 5 parts per billion (ppb). Municipal wells, which are regulated, are regularly tested for the presence of TCE. Water from unregulated private residential wells is sometimes contaminated with TCE from industry or old landfills. When groundwater in an area is found to have TCE, private well owners may be advised to stop drinking water containing more than the standard. In rare cases where levels of TCE are found to be very high in water you may be advised to avoid washing, bathing, or using the water for purposes other than toilet flushing.

Air: The Wisconsin Department of Natural Resources (DNR) regulates the amount of TCE that can be released into outdoor ambient air by industries.

The DNR has set a residential indoor air action level for TCE at 0.39 parts per billion by volume (ppbV). The action level is considered to be protective of public health. If TCE concentrations in air are above the action level, we recommend taking an action to halt exposure even if the levels are not high enough to cause immediate harm.

If TCE-containing products are being used around you, you may be able to smell the chemical. If you can smell the chemical, the level is too high to be safe for exposure over long periods of time. Therefore, TCE-containing products should either be used briefly in small amounts, or should be used in well-ventilated areas.

WILL EXPOSURE TO TRICHLOROETHYLENE RESULT IN HARMFUL HEALTH EFFECTS?

In general, a chemical will affect the same organ systems in all people who are exposed. However, the seriousness of the effects may vary from person to person. A person's reaction depends on several things, including individual health, heredity, previous exposure to chemicals including medicines, and personal habits such as smoking or drinking.

It's also important to consider the length of exposure to the chemical, the amount of chemical exposure, and whether the chemical was inhaled, touched, or eaten.

The following health effects may occur immediately or shortly after inhaling air that contains very high levels of TCE (more than 50,000 ppbV):

- Heart problems including cardiac arrhythmias;
- Nausea and vomiting;
- Serious liver injury;
- Dizziness, headache, neurological problems; and
- Eye, nose and throat irritation.

Exposures of this degree would usually only be found in occupational settings.

Developmental Effects: Animal studies indicate there may be an association between maternal exposure to TCE and specific heart defects in the offspring. There is some evidence that human exposure to TCE while pregnant may be associated with similar effects. Pregnant women should avoid exposure to TCE.

The following health effects can occur after several years of exposure to TCE:

Cancer: There is growing evidence in studies of animals and people who handle pure TCE (very high levels) of increased rates of cancers of the kidney, liver, and non-Hodgkins lymphoma. The U.S. Environmental Protection Agency (EPA) currently characterizes TCE as "carcinogenic to humans" by all routes of exposure.

Other Effects: In lab animals, inhaling TCE vapors or drinking TCE-contaminated water can cause effects in the kidney, liver and lung, and in the immune system. In order to protect the most sensitive people in the general public from TCE-related health effects, the Wisconsin Department of Health Services (DHS) and DNR screening values are set far below the concentrations known to cause effects.

CAN A MEDICAL TEST DETERMINE EXPOSURE TO TRICHLOROETHYLENE?

There are tests to detect TCE in the breath, urine, and blood of people exposed to high levels of the compound within the previous 24 hours. TCE cannot be measured in people when it results from long-term, low-level exposure. Those suspecting TCE exposure over a long period of time should contact their physician. Blood chemistry analyses, which include liver and kidney function tests, may be helpful.

Seek medical advice if you have any symptoms that you think may be related to chemical exposure.

This fact sheet summarizes information about this chemical and is not a complete listing of all possible effects. It does not refer to work exposure or emergency situations.

For more information, contact:

- Your local health department: <http://www.dhs.wisconsin.gov/localhealth/>
- Division of Public Health, Bureau of Environmental and Occupational Health, (608) 266-1120: <http://www.dhs.wisconsin.gov/eh/>

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