October 27, 2021
File No. 25221094.00

Don and Cynthia Hertrampf
127 South Dousman Street
Prairie du Chien, WI 53821

Subject: Air Sampling Results
127 South Dousman Street
Prairie du Chien, Wisconsin

Dear Mr. and Mrs. Hertrampf:

On behalf of the Prairie du Chien Redevelopment Authority (RDA), SCS Engineers (SCS) is providing results for air samples collected from your property in October 2021. The sampling included collection of one 24-hour indoor air sample from the basement and one 30-minute sub-slab air sample from a port SCS installed through the basement floor. The laboratory report is included in **Attachment A**. Sample results and Wisconsin Department of Natural Resources (WDNR) standards are summarized in **Tables 1** and **2**. Additional details are provided below.

- The chemicals detected in the indoor air sample do not exceed WDNR vapor action levels (VALs) for residential buildings.
- Tetrachloroethene (PCE) was detected in the sub-slab sample at a concentration in excess of WDNR's vapor risk screening level (VRSL) for residential buildings.

SCS recommends repeat sampling to confirm initial test results and to evaluate the need for mitigation. Vapor mitigation typically involves installing a vapor mitigation system that vents chemical vapors from beneath your home or building to the outdoors, similar to a radon mitigation system.

Additional information regarding interpretation of test results is provided in the attached WDNR guidance document. SCS will contact you to arrange for additional sampling.

Please feel free to contact Robert Langdon of SCS at (608) 212-3995 or Matt Vitale of WDNR at (715) 492-1222 if you have any questions concerning the testing.

Sincerely,

Robert Langdon
Senior Project Manger
SCS Engineers

Mark R. Huber, PE
Project Director
SCS Engineers

REL/REO/MRH

cc: Matt Vitale, Wisconsin Department of Natural Resources
Garth Frable, City of Prairie du Chien
Bob Standorf, City of Prairie du Chien Redevelopment Authority
Chad Abram, City of Prairie du Chien Redevelopment Authority

Enclosures: Table 1 – Sub-Slab Vapor Analytical Results Summary
Table 2 – Indoor Air Analytical Results Summary
Attachment A – Laboratory Report
Attachment B – WDNR Guidance Document RR-977

I:\25221094.00\Correspondence\Other\127 S. Dousman Results\211027_127 S. Dousman Sample Results_FINAL.docx

Tables

Table 1. Sub-Slab Vapor Analytical Results Summary
Blackhawk Junction / SCS Engineers Project #25221094.00
(Results are in µg/m^3)

Sample	Location	Date	Lab Notes	Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
127 S. Dousman SB	127 S. Dousman Street	10/6/2021	--	**3,210**	3.0	<0.33	<0.29	<0.15
Vapor Risk Screening Level (Residential Building)				1,400	70	NE	1,400	56
Vapor Risk Screening Level (Small Commercial Building)				5,800	290	NE	5,800	930
Vapor Risk Screening Level (Large Commercial/Industrial Building)				18,000	880	NE	18,000	2,800

Abbreviations:
µg/m^3 = micrograms per cubic meter
cis-1,2-DCE = cis-1,2-dichloroethylene
-- = Not Applicable
trans-1,2-DCE = trans-1,2-dichloroethylene
NE = Standard Not Established

Notes:
1. Sample collected in 6-liter summa canister over a 30-minute period and analyzed using the USEPA TO-15 analytical method.
2. Vapor Risk Screening Levels are from Wisconsin Department of Natural Resources Wisconsin Vapor Quick Look-Up Table dated September 2021.
3. **Bold+underlined** values meet or exceed Residential Vapor Risk Screening Levels.

Lab Notes:
none

Created by: REO Date: 10/21/2021
Last revision by: REO Date: 10/21/2021
Checked by: AJR Date: 10/21/2021
Proj Mgr QA/QC: REL Date: 10/22/2021

Table 2. Indoor Air Analytical Results Summary
Blackhawk Junction / SCS Engineers Project #25221094.00
(Results are in µg/m^3)

Sample	Location	Date	Lab Notes	Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
127 S. Dousman IA	127 S. Dousman Street	10/6/2021	--	12.1	<0.29	<0.29	0.31 J	<0.13
Indoor Air Vapor Action Level (Residential Building)				42	2.1	NE	42	1.7
Indoor Air Vapor Action Level (Commercial/Industrial)				180	8.8	NE	180	28

Abbreviations:
µg/m^3 = micrograms per cubic meter
cis-1,2-DCE = cis-1,2-dichloroethylene
-- = Not Applicable
trans-1,2-DCE = trans-1,2-dichloroethylene
NE = Standard Not Established

Notes:
1. Sample collected in 6-liter summa canister over a 24-hour period and analyzed using the USEPA TO-15 analytical method.
2. Vapor Action Levels are from Wisconsin Department of Natural Resources Wisconsin Vapor Quick Look-Up Table dated September 2021.
3. **Bold+underlined** values meet or exceed Residential Vapor Action Levels.

Lab Notes:
J - Estimated concentration at or above the limit of detection (LOD) and below the limit of quantification (LOQ).

Created by: REO Date: 10/21/2021
Last revision by: REO Date: 10/21/2021
Checked by: AJR Date: 10/21/2021
Proj Mgr QA/QC: REL Date: 10/22/2021

Attachment A

Laboratory Report

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

October 20, 2021

Rob Langdon
SCS Engineers
2830 Dairy Dr.
Madison, WI 53718

RE: Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

Dear Rob Langdon:

Enclosed are the analytical results for sample(s) received by the laboratory on October 08, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kirsten Hogberg
kirsten.hogberg@pacelabs.com
(612)607-1700
Project Manager

Enclosures

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

Pace Analytical Services, LLC - Minneapolis MN
1700 Elm Street SE, Minneapolis, MN 55414
1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab
A2LA Certification #: 2926.01*
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009*
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014*
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605*
Georgia Certification #: 959
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: AI-03086*
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064*
Maryland Certification #: 322
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Approval: via MN 027-053-137
Minnesota Petrofund Registration #: 1240*
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081*
New Jersey Certification #: MN002
New York Certification #: 11647*
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification (1700) #: CL101
Ohio VAP Certification (1800) #: CL110*
Oklahoma Certification #: 9507*
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001*
Pennsylvania Certification #: 68-00563*
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192*
Utah Certification #: MN00064*
Vermont Certification #: VT-027053137
Virginia Certification #: 460163*
Washington Certification #: C486*
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01
USDA Permit #: P330-19-00208
*Please Note: Applicable air certifications are denoted with an asterisk (*).

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10582413001	**127 S. Dousman SB**	Air	10/06/21 11:08	10/08/21 14:38
10582413002	**127 S. Dousman IA**	Air	10/06/21 10:08	10/08/21 14:38

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10582413001	**127 S. Dousman SB**	TO-15	AFV	5	PASI-M
10582413002	**127 S. Dousman IA**	TO-15	AFV	5	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10582413001	**127 S. Dousman SB**					
TO-15	Tetrachloroethene	3210	ug/m3	35.3	10/20/21 12:45	
TO-15	Trichloroethene	3.0	ug/m3	0.93	10/16/21 00:11	
10582413002	**127 S. Dousman IA**					
TO-15	trans-1,2-Dichloroethene	0.31J	ug/m3	1.2	10/15/21 23:35	
TO-15	Tetrachloroethene	12.1	ug/m3	1.0	10/15/21 23:35	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

Sample: 127 S. Dousman SB **Lab ID: 10582413001** Collected: 10/06/21 11:08 Received: 10/08/21 14:38 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis								
cis-1,2-Dichloroethene	**<0.33**	ug/m3	1.4	0.33	1.71		10/16/21 00:11	156-59-2	
trans-1,2-Dichloroethene	**<0.29**	ug/m3	1.4	0.29	1.71		10/16/21 00:11	156-60-5	
Tetrachloroethene	**3210**	ug/m3	35.3	15.0	51.3		10/20/21 12:45	127-18-4	
Trichloroethene	**3.0**	ug/m3	0.93	0.34	1.71		10/16/21 00:11	79-01-6	
Vinyl chloride	**<0.15**	ug/m3	0.44	0.15	1.71		10/16/21 00:11	75-01-4	

Sample: 127 S. Dousman IA **Lab ID: 10582413002** Collected: 10/06/21 10:08 Received: 10/08/21 14:38 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15 Pace Analytical Services - Minneapolis								
cis-1,2-Dichloroethene	**<0.29**	ug/m3	1.2	0.29	1.49		10/15/21 23:35	156-59-2	
trans-1,2-Dichloroethene	**0.31J**	ug/m3	1.2	0.25	1.49		10/15/21 23:35	156-60-5	
Tetrachloroethene	**12.1**	ug/m3	1.0	0.44	1.49		10/15/21 23:35	127-18-4	
Trichloroethene	**<0.29**	ug/m3	0.81	0.29	1.49		10/15/21 23:35	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.39	0.13	1.49		10/15/21 23:35	75-01-4	

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

QC Batch: 777250
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10582413001, 10582413002

METHOD BLANK: 4140204 Matrix: Air
Associated Lab Samples: 10582413001, 10582413002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.20	0.81	10/15/21 10:13	
Tetrachloroethene	ug/m3	<0.29	0.69	10/15/21 10:13	
trans-1,2-Dichloroethene	ug/m3	<0.17	0.81	10/15/21 10:13	
Trichloroethene	ug/m3	<0.20	0.55	10/15/21 10:13	
Vinyl chloride	ug/m3	<0.087	0.26	10/15/21 10:13	

LABORATORY CONTROL SAMPLE: 4140205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	43.4	41.7	96	70-137	
Tetrachloroethene	ug/m3	73.4	77.0	105	70-130	
trans-1,2-Dichloroethene	ug/m3	43.6	41.4	95	70-130	
Trichloroethene	ug/m3	58.4	58.8	101	70-130	
Vinyl chloride	ug/m3	28	27.7	99	70-137	

SAMPLE DUPLICATE: 4142922

Parameter	Units	10582265001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<1.3	<0.31		25	
Tetrachloroethene	ug/m3	<1.1	<0.47		25	
trans-1,2-Dichloroethene	ug/m3	<1.3	<0.27		25	
Trichloroethene	ug/m3	<0.88	<0.32		25	
Vinyl chloride	ug/m3	<0.42	<0.14		25	

SAMPLE DUPLICATE: 4142923

Parameter	Units	10582265003 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<1.2	<0.30		25	
Tetrachloroethene	ug/m3	<1.1	<0.45		25	
trans-1,2-Dichloroethene	ug/m3	<1.2	1.2J		25	
Trichloroethene	ug/m3	<0.85	<0.30		25	
Vinyl chloride	ug/m3	<0.40	<0.13		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

Pace Analytical Services, LLC
1700 Elm Street
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25221094 Blackhawk Jct.
Pace Project No.: 10582413

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10582413001	**127 S. Dousman SB**	TO-15	777250		
10582413002	**127 S. Dousman IA**	TO-15	777250		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY /

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO# : 10582413

10582413

49801

Page: 1 of 1

Section A
Required Client Information:

Company: XS Engineers
Address: 2839 Darin Dr
Madison WI 53718
Email To: Mangdon@XSengineers.com
Phone: 6082237885 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: Robert Langdon
Copy To:
Purchase Order No.:
Project Name: Blackhawk Jct.
Project Number: E 25221094

Section C
Invoice Information:

Attention: Same
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 37630

Program
☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act
☐ Voluntary Clean Up ☒ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: WI

Reporting Units
ug/m³ mg/m³
PPBV ☒ PPMV
Other

Report Level II. III. IV. Other

ITEM #	'Section D Required Client Information AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE - END/GRAB DATE	COLLECTED COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	127 S. Dousman SB	GLC45		10-6-21	1030	10-6-21	1100	-30	-8	1579	1646						X				
2	127 S. Dousman IA	GLC0		10-5-21	1105	10-6-21	1000	-30	-5	1733	1834						X				
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

Comments :

Analyze for: PCE, TCE
cis 12 DCE, Trans 12DCE
Vinyl chloride

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Robert Langdon/XS	10-6-21	1600	Pace	10/8/21	1438

SAMPLE CONDITIONS

	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice Y/N	Custody Sealed Cooler Y/N	Samples Intact Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robert Langdon
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 10-6-21

ORIGINAL

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev	Pace Analytical Services -

Air Sample Condition Upon Receipt Client Name: SCS Project #: **WO#: 10582413**

PM: KNH **Due Date: 10/15/21**

CLIENT: SCS Engineer

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Pace [ ] SpeeDee [ ] Commercial See Exception [ ]

Tracking Number: 9753 8446 2481

Custody Seal on Cooler/Box Present? [ ] Yes [X] No Seals Intact? [ ] Yes [X] No

Packing Material: [ ] Bubble Wrap [ ] Bubble Bags [X] Foam [ ] None [ ] Tin Can [ ] Other: _____ Temp Blank rec: [ ] Yes [X] No

Temp. (TO17 and TO13 samples only) (°C): — Corrected Temp (°C): —

Thermometer Used: [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C Correction Factor: —

Date & Initials of Person Examining Contents: RG 10/8/21

Type of ice Received [ ] Blue [ ] Wet [X] None

		Comments:
Chain of Custody Present?	[X] Yes [ ] No	1.
Chain of Custody Filled Out?	[X] Yes [ ] No	2.
Chain of Custody Relinquished?	[X] Yes [ ] No	3.
Sampler Name and/or Signature on COC?	[X] Yes [ ] No [ ] N/A	4.
Samples Arrived within Hold Time?	[X] Yes [ ] No	5.
Short Hold Time Analysis (<72 hr)?	[ ] Yes [X] No	6.
Rush Turn Around Time Requested?	[ ] Yes [X] No	7.
Sufficient Volume?	[X] Yes [ ] No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	[X] Yes [ ] No [X] Yes [ ] No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	[X] Yes [ ] No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	[X] Yes [ ] No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	[X] Yes [ ] No	13.

Gauge # [ ] 10AIR26 [X] 10AIR34 [ ] 10AIR35 [ ] 4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
SD	1579	16416	-6.5	+5					
FA	1733	1834	-3	"					

CLIENT NOTIFICATION/RESOLUTION Field Data Required? [ ] Yes [ ] No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Kristen Hopper Date: 10/9/2021

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10582413
Project Name: 25221094 Blackhawk Jct.

Lab Sample No: 10582413001
Client Sample ID: 127 S. Dousman SB

ProjSampleNum: 10582413001
Matrix: Air

Date Collected: 10/06/21 11:08
Date Received: 10/08/21 14:38

Air

TO-15

Parameters	Results	Units	Report Limit	DF	Analyzed		CAS No.	Qualifiers
cis-1,2-Dichloroethene	<0.082	ppbv	0.35	1.71	10/16/21 0:11	AFV	156-59-2	
Tetrachloroethene	466	ppbv	5.1	51.3	10/20/21 12:45	AFV	127-18-4	
trans-1,2-Dichloroethene	<0.072	ppbv	0.35	1.71	10/16/21 0:11	AFV	156-60-5	
Trichloroethene	0.55	ppbv	0.17	1.71	10/16/21 0:11	AFV	79-01-6	
Vinyl chloride	<0.058	ppbv	0.17	1.71	10/16/21 0:11	AFV	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10582413
Project Name: 25221094 Blackhawk Jct.

Lab Sample No: 10582413002
Client Sample ID: 127 S. Dousman IA

ProjSampleNum: 10582413002
Matrix: Air

Date Collected: 10/06/21 10:08
Date Received: 10/08/21 14:38

Air

TO-15

Parameters	Results	Units	Report Limit	DF	Analyzed		CAS No.	Qualifiers
cis-1,2-Dichloroethene	<0.072	ppbv	0.3	1.49	10/15/21 23:35	AFV	156-59-2	
Tetrachloroethene	1.8	ppbv	0.15	1.49	10/15/21 23:35	AFV	127-18-4	
trans-1,2-Dichloroethene	0.077J	ppbv	0.3	1.49	10/15/21 23:35	AFV	156-60-5	
Trichloroethene	<0.053	ppbv	0.15	1.49	10/15/21 23:35	AFV	79-01-6	
Vinyl chloride	<0.05	ppbv	0.15	1.49	10/15/21 23:35	AFV	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT
Units Conversion Request

Pace Analytical Services, LLC
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10582413
Project Name: 25221094 Blackhawk Jct.

PARAMETER FOOTNOTES

Attachment B

WDNR Guidance Document RR-977

Understanding Chemical Vapor Intrusion Testing Results

RR-977 October 2014

From the Lab to You

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

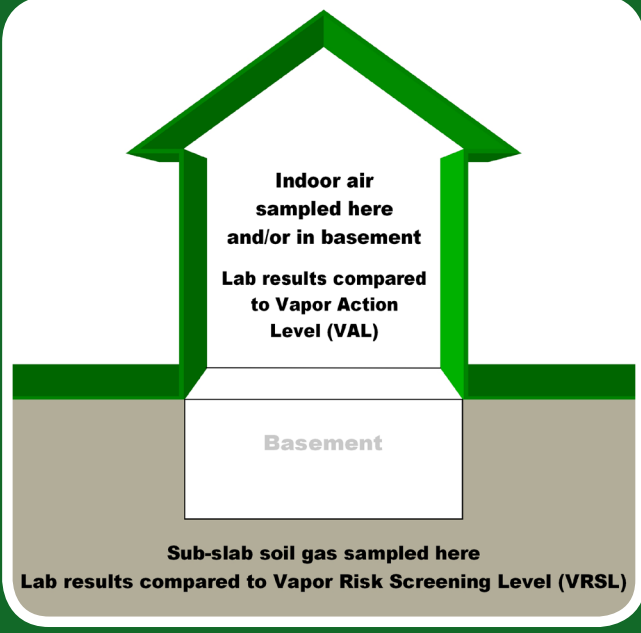
Indoor Air Testing Results

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

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

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

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



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

Sub-slab Soil Gas Testing Results

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

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

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

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

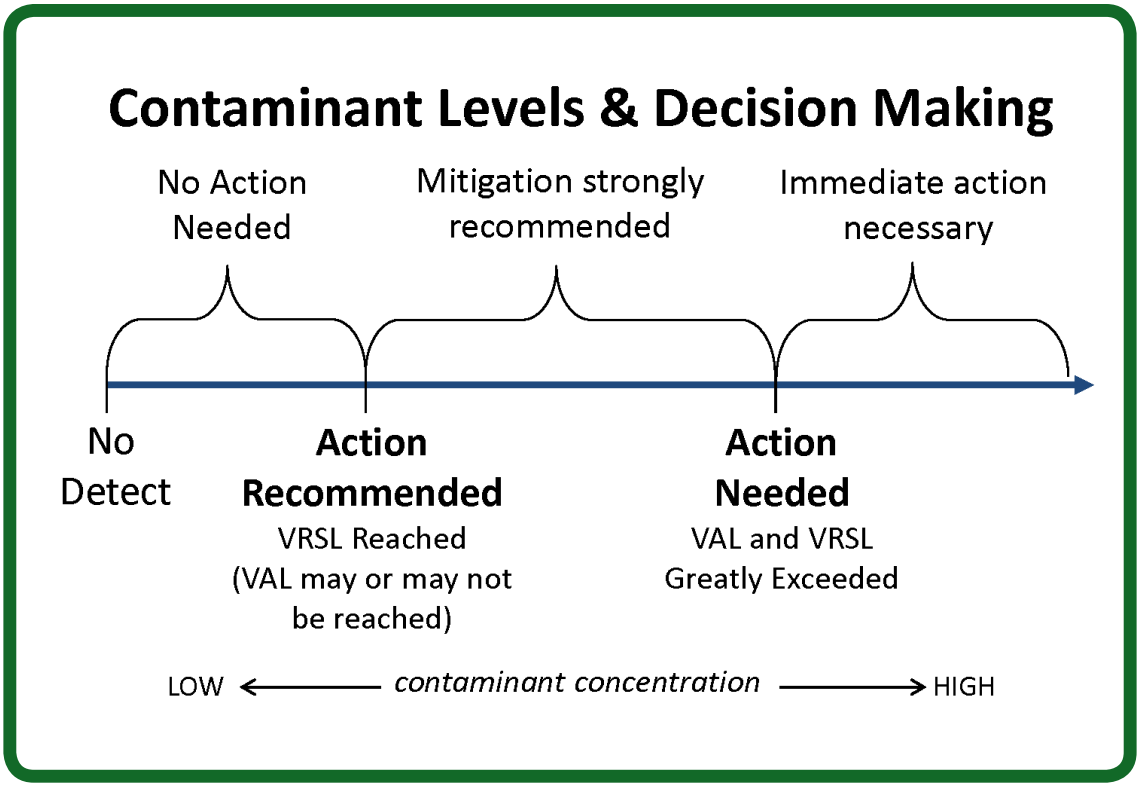
Follow-Up Actions

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

When test results show soil gas chemical concentrations above a VRSL, both DNR and the Wisconsin Department of Health Services recommend that owners take action to reduce potential exposure. This typically involves installing a vapor mitigation system that vents chemical vapors from beneath your home or building to the outdoors, similar to a radon mitigation system.

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

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



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

The concentration of gaseous pollutants in air is typically described in two different ways: 1) as units of mass per volume, where µg/m3 represents micrograms of gaseous pollutant per cubic meter of ambient air; and 2) as parts per billion by volume (ppbv), where the volume of a gaseous pollutant is compared to a set volume of ambient air. These are the numbers that are compared to the VAL and VRSL.

For more information, visit **dnr.wi.gov/topic/Brownfields/Vapor.html**