

February 25, 2020
File No. 25219095.00

Mr. Jeff Ackerman
Wisconsin Department of Natural Resources
3911 Fish Hatchery Rd.
Fitchburg, WI 53711-5367

Subject: Summary of Vapor Sampling
WDNR Rimrock Road Investigation
200 Deer Valley Road, Town of Madison (Property)
BRRTS No. 02-13-248222

Dear Mr. Ackerman:

SCS Engineers (SCS) is providing the following summary of vapor sampling work performed for the above-noted apartment building Property (**Figure 1**). The work was performed for the Wisconsin Department of Natural Resources (WDNR) to evaluate for the presence of chlorinated volatile organic compounds (CVOCs) in soil gas, building sub-slab vapor, and indoor air. CVOCs were previously detected in soil, soil gas, and groundwater in the vicinity of the Property. SCS performed initial soil gas sampling of locations V-1 through V-4 in April 2019. The suspected source of the CVOCs is a sanitary sewer line, which is located to the northeast of the Property.

The sampling results indicate CVOCs are present at the Property in soil gas and in the building sub-slab at concentrations in excess of WDNR standards. SCS recommends additional sampling to further evaluate the potential vapor intrusion risk or installation of a vapor mitigation system to address the potential for migration of CVOC vapor into the building.

METHODS

SCS performed field sampling activities on January 28 and 29, 2020. Sample locations are shown on **Figure 1**. Photographs of the sampling work are included in **Attachment A**. Field forms are included in **Attachment B**. All samples were transported to Pace Analytical (Pace) under chain of custody for analysis via U.S. Environmental Protection Agency (USEPA) Method TO-15. The samples were analyzed for tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), and vinyl chloride.

Soil Gas Borings

Soil gas samples were collected from locations V-5 and V-6 using a Geoprobe™ direct push drill rig and post run tubing (PRT) equipment operated by On-Site Environmental Services, Inc. of Sun Prairie, Wisconsin.

At each sample location a 1.5-inch-diameter steel drive casing, equipped with a drive point holder and expendable drive point, was advanced to a depth of approximately 10.5 feet below ground surface (bgs) and then retracted to approximately 10 feet bgs to release the drive point and expose approximately 0.5 feet of borehole. Clean 1/4-inch-diameter Teflon® tubing, equipped with a



threaded PRT tip, was lowered into the drive casing and threaded into the PRT adapter to create a seal with the 10 to 10.5 foot interval of the soil boring.

At the ground surface, SCS connected the PRT tubing to a manifold and a summa canister for purging and sampling. Prior to sampling, the manifold and sampling lines were tested for leaks by conducting a vacuum shut-in test. The drive casing surface seal was then tested for leaks using a helium shroud. For this test, the helium shroud was placed over the drive casing and filled with helium. Approximately 1 liter of air was then purged from the PRT using a miniRAE photo-ionization detector (PID). A Gascheck™ helium meter was used to check for the presence of helium in the PID exhaust, which would indicate a leak in the drive casing seal. No equipment or drive casing seal leaks were detected at the sample locations. After the leak checks and purging were completed, a soil gas sample was collected from the PRT using a laboratory-supplied vacuum summa canister equipped with a 30-minute flow controller. Following sampling, the drive casing and PRT system were retracted from each location and the borehole was sealed with bentonite granules.

Building Vapor Intrusion Assessment

Sub-slab vapor samples were collected from Vapor Pin® (vapor pin) locations VP-1 and VP-2. The vapor pins were installed through the basement slab of the 200 Deer Valley Road building. Sub-slab sample VP-1 was collected from the north end of the basement, closest to the sanitary sewer, and sample VP-2 was collected from the south end of the basement furthest from the sewer. Vapor samples were collected using SCS's sampling manifold, tubing, and fittings. SCS tested the vapor pin seals and sampling equipment prior to collection of each sub-slab sample. No leaks were detected.

After leak checks and purging were completed, a sub-slab vapor sample was collected from each vapor pin using SCS's sampling manifold and a laboratory-supplied summa canister equipped with a 30-minute flow controller. The vapor pins were left in place for additional sampling if needed.

Outdoor and indoor air samples were collected from locations OA-1 and IA-1 using laboratory-supplied summa canisters equipped with 24-hour flow controllers. Each summa canister was placed on a step ladder approximately 3.5 feet above the ground, near the breathing zone. The outdoor air sample, OA-1, was collected approximately 50 feet from the north corner of the 200 Deer Valley Road apartment building. The indoor air sample, IA-1, was collected near the middle of the 200 Deer Valley Road basement.

FINDINGS

Soil gas and building vapor intrusion assessment sample results are summarized in **Tables 1** through **3**. The laboratory report is included in **Attachment C**.

Soil Gas Borings

Sampling results are summarized below:

- PCE and TCE were detected in the two soil gas samples V-5 and V-6.
- Cis-1,2-DCE was detected in soil gas sample V-6.

- PCE concentrations for samples V-5 and V-6 exceed the WDNR's deep soil vapor risk screening levels (VRSLs) for residential buildings.
- TCE and cis-1,2-DCE sample concentrations do not exceed residential deep soil gas VRSLs.

Building Vapor Intrusion Assessment

Vapor intrusion assessment sampling results are summarized below:

- PCE and TCE were detected in sub-slab samples VP-1 and VP-2.
- Cis-1,2-DCE was detected in sub-slab sample VP-1.
- The VP-1 PCE concentration exceeds the WDNR's sub-slab VRSL for residential buildings.
- TCE and cis-1,2-DCE sample concentrations do not exceed sub-slab VRSLs for residential buildings.
- PCE was detected in the indoor (OA-1) and outdoor (IA-1) air samples at concentrations which do not exceed the WDNR's indoor air vapor action level (VAL). PCE was also detected in the laboratory method blank associated with the OA-1 and IA-1 samples, however, the laboratory confirmed that the indoor and outdoor air sample PCE detections were true and not a result of laboratory background/contamination.

SUMMARY AND RECOMMENDATIONS

SCS completed sampling work to evaluate for the presence of CVOCs in soil gas, indoor air, outdoor air, and sub-slab vapor at the 200 Deer Valley Road property. CVOCs were detected in the soil gas and sub-slab vapor at concentrations exceeding WDNR's VRSLs. CVOCs were not detected in indoor air or outdoor air at concentrations exceeding WDNR's VALs.

While CVOCs were not detected in indoor air in January 2020, the soil gas and sub-slab sampling results indicate there is a potential for vapors to migrate into the building at concentrations which may result in a risk to the occupants.

The indoor air and sub-slab samples were collected from the basement of the apartment building, which is located under the center of the building as shown on **Figure 1**. Slab-on-grade areas of the building were not tested and may exhibit different results than observed for the basement.

Based on investigation findings for the Property, SCS recommends additional sampling to further evaluate building indoor air and sub-slab vapor concentrations, or installation of a sub-slab depressurization vapor mitigation system to reduce the potential for CVOC vapors to migrate into the building.

Mr. Jeff Ackerman
February 25, 2020
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Please contact Robert Langdon at 608-216-7329 if you have any questions regarding this letter.

Sincerely,



Jackie Rennebohm
Staff Geologist
SCS Engineers



Robert Langdon
Project Manager
SCS Engineers

JR/AJR/REL/MRH

Attachments Table 1 – Soil Gas Analytical Results Summary
 Table 2 – Sub-Slab Analytical Results Summary
 Table 3 – Indoor and Outdoor Air Analytical Results Summary
 Figure 1 – Site Plan
 Attachment A – Photos
 Attachment B – Field Forms
 Attachment C – Laboratory Report

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Tables

- 1 Soil Gas Analytical Results Summary
- 2 Sub-Slab Analytical Results Summary
- 3 Indoor and Outdoor Air Analytical Results Summary

Table 1. Soil Gas Analytical Results Summary
WDNR Rimrock Road/Southdale Park / SCS Engineers Project #25219095.00
 (Results are in ppbV)

Sample	Location	Date	Lab Notes	Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
V-1	Southdale Park	4/5/2019	--	9.2	<0.079	<0.092	<0.12	<0.081
V-2	Southdale Park	4/5/2019	--	16.7	<0.082	<0.094	<0.12	<0.085
V-3	Southdale Park	4/5/2019	--	<u>1,810</u>	0.24	<0.094	<0.12	<0.085
V-4	Southdale Park	4/5/2019	--	<u>518</u>	0.53	<0.094	<0.12	<0.085
V-5	200 Deer Valley Road	1/28/2020	--	<u>1,990</u>	1.48	<0.0389	<0.0464	<0.0457
V-6	200 Deer Valley Road	1/28/2020	--	<u>2,540</u>	4.64	8.16	<0.0464	<0.0457
Deep Soil Gas Vapor Risk Screening Level (Residential Building)				620	39	NE	NE	65

Abbreviations:

ppbV = parts per billion by volume

trans-1,2-DCE = trans-1,2-dichloroethylene

cis-1,2-DCE = cis-1,2-dichloroethylene

NE = Standard Not Established

-- = Not Applicable

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 from Wisconsin Department of Natural Resources WI Vapor Quick Look-Up Table, which is based on November 2017 USEPA Regional Screening Level Tables.
3. **Bold+underlined** values meet or exceed Vapor Risk Screening Levels.

Lab Notes:

none

Created by: AJR
 Last revision by: JSN
 Checked by: AJR
 Proj Mgr QA/QC: REL

Date: 4/25/2019
 Date: 2/6/2020
 Date: 2/7/2020
 Date: 2/7/2020

I:\25219095.00\Data and Calculations\Tables\[Table 1_Soil Gas Analytical Results Summary.xlsx]Results

Table 2. Sub-Slab Analytical Results Summary
WDNR Rimrock Road/Southdale Park / SCS Engineers Project #25219095.00
 (Results are in ppbV)

Sample	Location	Date	Lab Notes	Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
VP-1	Basement, 200 Deer Valley Road	1/29/2020	--	<u>471</u>	2.79	0.130	<0.0464	<0.0457
VP-2	Basement, 200 Deer Valley Road	1/29/2020	--	34.4	0.632	<0.0389	<0.0464	<0.0457
Sub-Slab Vapor Risk Screening Level (Residential Building)				210	13	NE	NE	22

Abbreviations:

ppbV = parts per billion by volume

trans-1,2-DCE = trans-1,2-dichloroethylene

cis-1,2-DCE = cis-1,2-dichloroethylene

NE = Standard Not Established

-- = Not Applicable

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 from Wisconsin Department of Natural Resources WI Vapor Quick Look-Up Table, which is based on November 2017 USEPA Regional Screening Level Tables.
3. **Bold+underlined** values meet or exceed Vapor Risk Screening Levels.

Lab Notes:

none

Created by: <u>JSN</u>	Date: <u>2/6/2020</u>
Last revision by: <u>JSN</u>	Date: <u>2/6/2020</u>
Checked by: <u>AJR</u>	Date: <u>2/7/2020</u>
Proj Mgr QA/QC: <u>REL</u>	Date: <u>2/7/2020</u>

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Table 3. Indoor and Outdoor Air Analytical Results Summary
WDNR Rimrock Road/Southdale Park / SCS Engineers Project #25219095.00
 (Results are in ppbV)

Sample	Location	Date	Lab Notes	Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
IA-1	Basement, 200 Deer Valley Road	1/28/2020	--	0.320 B	<0.0545	<0.0389	<0.0464	<0.0457
OA-1	Outside, 200 Deer Valley Road	1/28/2020	--	0.391 B	<0.0545	<0.0389	<0.0464	<0.0457
Indoor air Vapor Action Level (Residential Building)				6.2	0.39	NE	NE	0.65

Abbreviations:

ppbV = parts per billion by volume

trans-1,2-DCE = trans-1,2-dichloroethylene

cis-1,2-DCE = cis-1,2-dichloroethylene

NE = Standard Not Established

-- = Not Applicable

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. Vapor Action Levels are from Wisconsin Department of Natural Resources' WI Vapor Quick Look-Up Table, which is based on November 2017 USEPA Regional Screening Level Tables.
3. **Bold+underlined** values meet or exceed Vapor Action Levels.

Lab Notes:

B = Analyte was detected in the associated method blank.

Created by: JSN

Date: 2/6/2020

Last revision by: JSN

Date: 2/6/2020

Checked by: AJR

Date: 2/7/2020

Proj Mgr QA/QC: REL

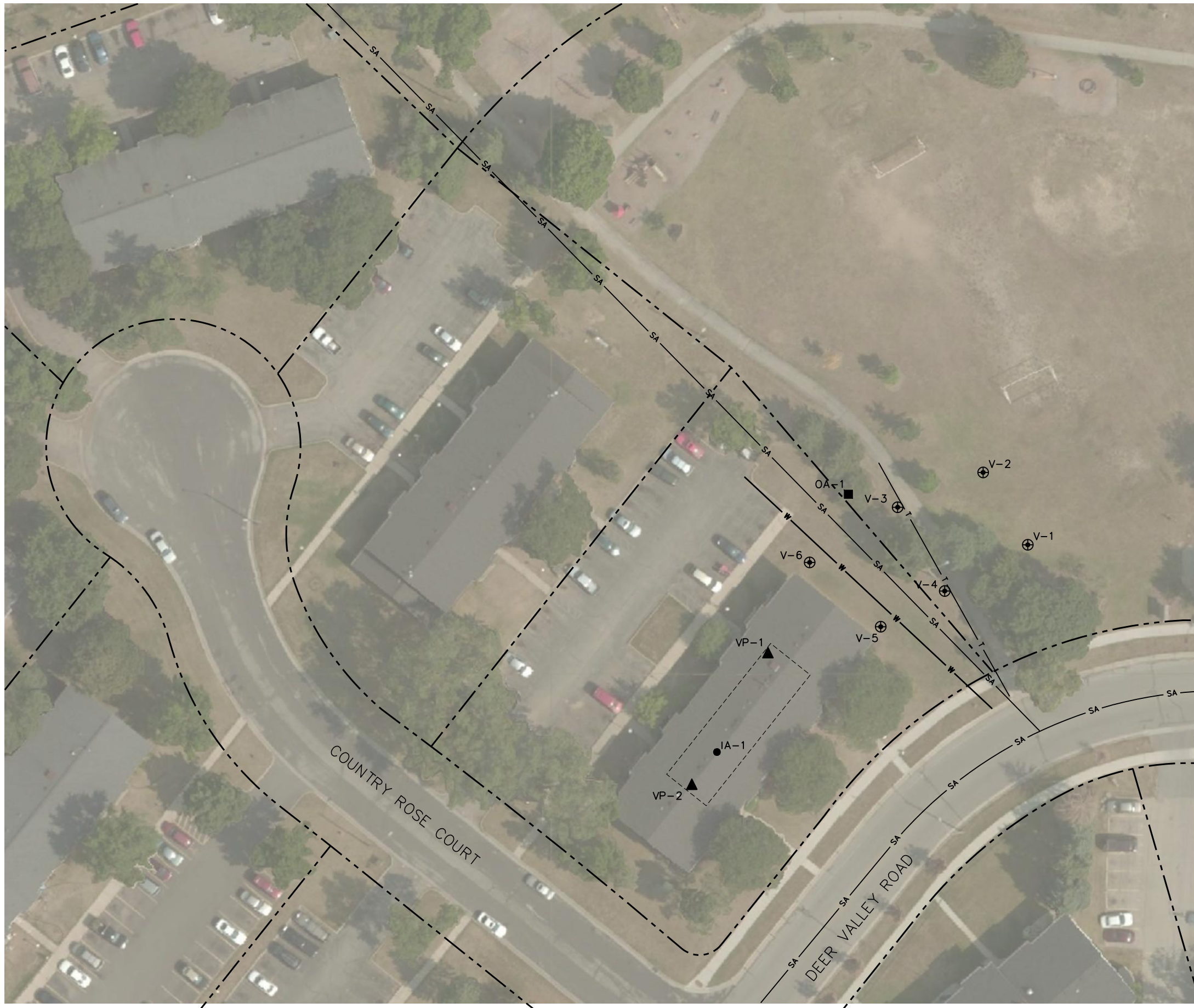
Date: 2/7/2020

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Figure 1

Site Plan

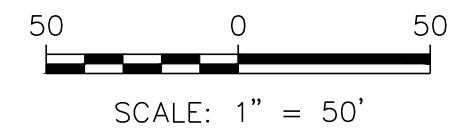
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LEGEND

	SUB-SLAB VAPOR SAMPLE LOCATION
	SOIL GAS SAMPLE LOCATION
	OUTDOOR AIR SAMPLE LOCATION
	INDOOR AIR SAMPLE LOCATION
	SANITARY SEWER
	WATER MAIN
	BURIED TELEPHONE
	APPROXIMATE BASEMENT AREA
	APPROXIMATE PROPERTY LINE

NOTES:
 1. ALL UTILITY AND SAMPLE LOCATIONS ARE APPROXIMATE.



 WISCONSIN Department of Natural Resources	PROJECT NO. 25219095.00 DRAWN: 02/13/2020 REVISED: 02/25/2020	CLIENT WDNR 3911 FISH HATCHERY ROAD MADISON, WISCONSIN	SITE 200 DEER VALLEY ROAD MADISON, WISCONSIN	ENGINEER KP REL REL 02/25/2020	FIGURE 1
	SCS ENGINEERS 2830 DAIRY DRIVE, MADISON, WI 53718-6751 PHONE: (608) 224-2830			SITE PLAN	

Attachment A

Photos

Soil Gas and Building Vapor Intrusion Assessment Sampling, WDNR Rimrock Road Project
200 Deer Valley Road, Madison, Wisconsin
SCS Engineers Project #25219095.00



Photo 1: Looking northwest at direct push rig over boring V-5. 1/28/20.



Photo 2: Soil gas sampling at boring V-5. 1/28/20.

**Soil Gas and Building Vapor Intrusion Assessment Sampling, WDNR Rimrock Road Project
200 Deer Valley Road, Madison, Wisconsin
SCS Engineers Project #25219095.00**



Photo 3: Looking northwest at direct push rig over boring V-6. 1/28/20.



Photo 4: Soil gas sampling at boring V-6. 1/28/20.

Soil Gas and Building Vapor Intrusion Assessment Sampling, WDNR Rimrock Road Project
200 Deer Valley Road, Madison, Wisconsin
SCS Engineers Project #25219095.00



Photo 5: Looking south at outdoor air sample OA-1. 1/28/20.



Photo 6: Looking southwest in basement at indoor air sample IA-1. 1/28/20.

**Soil Gas and Building Vapor Intrusion Assessment Sampling, WDNR Rimrock Road Project
200 Deer Valley Road, Madison, Wisconsin
SCS Engineers Project #25219095.00**



Photo 7: Looking northeast in basement from indoor air sample location IA-1. 1/28/20.



Photo 8: Looking northeast at sumps and water heaters in mechanical room. 1/28/20.

**Soil Gas and Building Vapor Intrusion Assessment Sampling, WDNR Rimrock Road Project
200 Deer Valley Road, Madison, Wisconsin
SCS Engineers Project #25219095.00**



Photo 9: Looking northeast in basement at sub-slab sample location VP-1.
1/29/20.

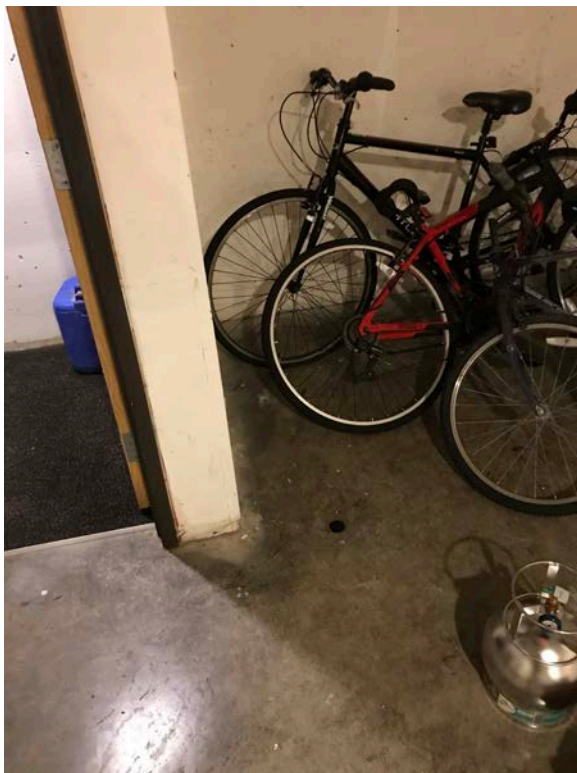


Photo 10: Looking southeast in basement at sub-slab sample location VP-2.
1/29/20.

Attachment B

Field Forms

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to DNR Bureau:

- Drinking Water Watershed/Wastewater Remediation/Redevelopment
 Waste Management Other: _____

1. Well Location Information **2. Facility / Owner Information**

County Dane	WI Unique Well # of Removed Well	Hicap #
Latitude / Longitude (see instructions) _____ N _____ W	Format Code <input type="checkbox"/> DD <input type="checkbox"/> DDM	Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001
1/4 NE 1/4 SE or Gov't Lot #	Section 35	Township 7 N
Well Street Address 146 Deer Valley Road (Southdale Park)	Range 9	Range <input checked="" type="checkbox"/> E <input type="checkbox"/> W
Well City, Village or Town Town of Madison	Well ZIP Code 53713	
Subdivision Name	Lot #	

Facility Name BRRTS # 02-13-248222 Rimrock Road/Southdale Park		
Facility ID (FID or PWS)		
License/Permit/Monitoring #		
Original Well Owner Wisconsin Department of Natural Resources		
Present Well Owner Same		
Mailing Address of Present Owner 3911 Fish Hatchery Road		
City of Present Owner Fitchburg	State WI	ZIP Code 53711

Reason for Removal from Service Temporary soil gas boring	WI Unique Well # of Replacement Well
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3. Filled & Sealed Well / Drillhole / Borehole Information

<input type="checkbox"/> Monitoring Well	Original Construction Date (mm/dd/yyyy) 1/28/2020
<input type="checkbox"/> Water Well	
<input checked="" type="checkbox"/> Borehole / Drillhole	If a Well Construction Report is available, please attach.

Construction Type:
<input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug
<input checked="" type="checkbox"/> Other (specify): <u>Direct push</u>

Formation Type:
<input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock

Total Well Depth From Ground Surface (ft.) 10.5	Casing Diameter (in.) 1.5
---	-------------------------------------

Lower Drillhole Diameter (in.) 1.5	Casing Depth (ft.) N/A
--	----------------------------------

Was well annular space grouted?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown

If yes, to what depth (feet)?	Depth to Water (feet) Unknown
-------------------------------	---

5. Material Used to Fill Well / Drillhole

	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Granular Bentonite	Surface	10.5	10#	

6. Comments

V-5

7. Supervision of Work **DNR Use Only**

Name of Person or Firm Doing Filling & Sealing Tony Kapugi, On-site Environmental Services, Inc.	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) 1/28/2020	Date Received	Noted By
Street or Route P.O. Box 280	Telephone Number (608) 837-8992	Comments		
City Sun Prairie	State WI	ZIP Code 53590	Signature of Person Doing Work <i>Anthony R. Kapugi</i>	Date Signed 2/10/2020

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and chs. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Verification Only of Fill and Seal

Route to DNR Bureau:

- Drinking Water Watershed/Wastewater Remediation/Redevelopment
 Waste Management Other: _____

1. Well Location Information **2. Facility / Owner Information**

County Dane	WI Unique Well # of Removed Well	Hicap #
Latitude / Longitude (see instructions) _____ N _____ W	Format Code <input type="checkbox"/> DD <input type="checkbox"/> DDM	Method Code <input type="checkbox"/> GPS008 <input type="checkbox"/> SCR002 <input type="checkbox"/> OTH001
1/4 NE or Gov't Lot #	1/4 SE	Section 35
Township 7 N		Range 9
Well Street Address 146 Deer Valley Road (Southdale Park)		Well ZIP Code 53713
Well City, Village or Town Town of Madison		Well Lot #
Subdivision Name		Lot #

Facility Name BRRTS # 02-13-248222 Rimrock Road/Southdale Park
Facility ID (FID or PWS)
License/Permit/Monitoring #
Original Well Owner Wisconsin Department of Natural Resources
Present Well Owner Same
Mailing Address of Present Owner 3911 Fish Hatchery Road
City of Present Owner Fitchburg
State WI
ZIP Code 53711

Reason for Removal from Service Temporary soil gas boring	WI Unique Well # of Replacement Well
--	--------------------------------------

3. Filled & Sealed Well / Drillhole / Borehole Information

<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Borehole / Drillhole	Original Construction Date (mm/dd/yyyy) 1/28/2020 If a Well Construction Report is available, please attach.
---	--

Construction Type:
<input type="checkbox"/> Drilled <input type="checkbox"/> Driven (Sandpoint) <input type="checkbox"/> Dug <input checked="" type="checkbox"/> Other (specify): <u>Direct push</u>

Formation Type:
<input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock

Total Well Depth From Ground Surface (ft.) 10.5	Casing Diameter (in.) 1.5
--	------------------------------

Lower Drillhole Diameter (in.) 1.5	Casing Depth (ft.) N/A
---------------------------------------	---------------------------

Was well annular space grouted?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown

If yes, to what depth (feet)?	Depth to Water (feet)
	Unknown

5. Material Used to Fill Well / Drillhole

Material	From (ft.)	To (ft.)	No. Yards, Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Granular Bentonite	Surface	10.5	10#	

6. Comments

V-6

7. Supervision of Work **DNR Use Only**

Name of Person or Firm Doing Filling & Sealing Tony Kapugi, On-site Environmental Services, Inc.	License #	Date of Filling & Sealing or Verification (mm/dd/yyyy) 1/28/2020	Date Received	Noted By
Street or Route P.O. Box 280	City Sun Prairie	State WI	ZIP Code 53590	Telephone Number (608) 837-8992
Signature of Person Doing Work <i>Anthony R. Kapugi</i>			Date Signed 2/10/2020	

Vapor Assessment Sample Collection Log

Project: WDNR Rimrock Road Project	Sample ID: OA-1	Type (Circle One)*: SB AI AR
Project #: 25219095.00	Sample Intake Height: ~3'	NA for SB
Location: 200 Deer Valley Rd., Madison, WI	Approx. Purge Volume:	NA for AI and AR
Sampler: Robert Langdon	Approx. Sampling Depth:	NA for AI and AR
Sub-Slab Sample Kit #: NA		NA for AI and AR
Sub-Slab Sample Manifold #: NA		NA for AI and AR
PID #: ppB Rae		

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (ppm/ppb)
1/28/20	1030	27.5	0
1/29/20	950	0	—

Summa Canister Information:

Canister Size:	1L	64
Canister ID#	9652	
Flow Controller ID#	010040	

Sub-Slab Tests Passed?

Water Dam:	Yes	No
Shut-In:	Yes	No

NA

General Notes/Observations:

Abbreviations:

NA = Not Applicable SB = Sub-Slab
 AI = Indoor Air AR = Outdoor Air

Vapor Assessment Sample Collection Log

Project: WDNR Rimrock Road Project	Sample ID: IA-1	Type (Circle One)*: SB <input checked="" type="radio"/> AI <input type="radio"/> AR
Project #: 25219095.00	Sample Intake Height: ~3'	NA for SB
Location: 200 Deer Valley Rd., Madison, WI	Approx. Purge Volume:	<input checked="" type="radio"/> NA for AI and AR
Sampler: Robert Langdon	Approx. Sampling Depth:	<input checked="" type="radio"/> NA for AI and AR
Sub-Slab Sample Kit #: —		NA for AI and AR
Sub-Slab Sample Manifold #: —		NA for AI and AR
PID #: ppB Rae		

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (ppm/ppb)
1/28/20	1033	27.5	—
1-29-2020	0956	2.5	0

Summa Canister Information:

Canister Size:	1L	<input checked="" type="radio"/> 6L
Canister ID#	6615	
Flow Controller ID#	011396	

Sub-Slab Tests Passed? *NA*

Water Dam:	Yes	No
Shut-In:	Yes	No

General Notes/Observations:

Abbreviations:

NA = Not Applicable SB = Sub-Slab
AI = Indoor Air AR = Outdoor Air

Vapor Assessment Sample Collection Log

Project: WDNR Rimrock Road Project	Sample ID: V-5	Type (Circle One)*: SB AI AR
Project #: 25219095.00	Sample Intake Height: 10-10.5'	NA for SB
Location: 200 Deer Valley Rd., Madison, WI	Approx. Purge Volume: ~ 11 ft ³	NA for AI and AR
Sampler: Robert Langdon	Approx. Sampling Depth: 10.5-10	NA for AI and AR
Sub-Slab Sample Kit #: 2		NA for AI and AR
Sub-Slab Sample Manifold #: 2		NA for AI and AR
PID #: ppB Rae		

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (ppm, <u>ppb</u>)
1/28/20	1215	27	1758
1/28/20	1245	3	—

Summa Canister Information:

Canister Size:	1L	(6L)
Canister ID#	011842	
Flow Controller ID#	011758	

Sub-Slab Tests Passed?

Water Dam:	Yes	No
Shut-In:	(Yes)	No

NA

General Notes/Observations:

passed shut in and below ground tests

Abbreviations:

NA = Not Applicable SB = Sub-Slab
AI = Indoor Air AR = Outdoor Air

Vapor Assessment Sample Collection Log

Project: WDNR Rimrock Road Project	Sample ID: V-6	Type (Circle One)*: SB AI AR
Project #: 25219095.00	Sample Intake Height:	NA for SB
Location: 200 Deer Valley Rd., Madison, WI	Approx. Purge Volume: 10-10.5 ^{REL} 1L	NA for AI and AR
Sampler: Robert Langdon	Approx. Sampling Depth: 10-10.5	NA for AI and AR
Sub-Slab Sample Kit #:		NA for AI and AR
Sub-Slab Sample Manifold #:		NA for AI and AR
PID #: ppB Rae		

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (ppm/ppb)
1/28/20	1235	31	5500
1/29/20	1305	18	—

Summa Canister Information:

Canister Size: 1L	6L
Canister ID# 009149	
Flow Controller ID# 006004	

Sub-Slab Tests Passed?

N/A

Water Dam:	Yes	No
Shut-In:	Yes	No

General Notes/Observations:

Passed shut in and helium shroud tests

Abbreviations:

NA = Not Applicable SB = Sub-Slab
AI = Indoor Air AR = Outdoor Air

Vapor Assessment Sample Collection Log

Project: WDNR Rimrock Road Project	Sample ID: <u>VA-1</u>	Type (Circle One)*: <u>SB</u> AI AR
Project #: 25219095.00	Sample Intake Height:	<u>NA</u> for SB
Location: 200 Deer Valley Rd., Madison, WI	Approx. Purge Volume: <u>20 L/min</u>	NA for AI and AR
Sampler: Robert Langdon	Approx. Sampling Depth: <u>6"</u>	NA for AI and AR
Sub-Slab Sample Kit #: <u>2</u>		NA for AI and AR
Sub-Slab Sample Manifold #: <u>1</u>		NA for AI and AR
PID #: ppB Rae		

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (<u>ppm</u> /ppb)
<u>1/29/20</u>	<u>11:20</u>	<u>2.6</u>	<u>W/100</u>
<u>↓</u>	<u>12:00</u>	<u>0.5</u>	<u>-</u>

Summa Canister Information:

Canister Size:	1L	<u>6L</u>
Canister ID#	<u>008492</u>	
Flow Controller ID#	<u>006715</u>	

Sub-Slab Tests Passed?

Water Dam:	<u>Yes</u>	No
Shut-In:	<u>Yes</u>	No

General Notes/Observations:

Abbreviations:

NA = Not Applicable SB = Sub-Slab
AI = Indoor Air AR = Outdoor Air

Vapor Assessment Sample Collection Log

Project: WDNR Rimrock Road Project	Sample ID: VP-2	Type (Circle One)*: SB AI AR
Project #: 25219095.00	Sample Intake Height:	NA for SB
Location: 200 Deer Valley Rd., Madison, WI	Approx. Purge Volume: 11L	NA for AI and AR
Sampler: Robert Langdon	Approx. Sampling Depth: ~ 6"	NA for AI and AR
Sub-Slab Sample Kit #: 2		NA for AI and AR
Sub-Slab Sample Manifold #: 2		NA for AI and AR
PID #: ppB Rae		

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (ppm/ppb)
1/21/20	11:51	26.5	~ 30
↓	12:20	1.5	—

Summa Canister Information:

Canister Size:	1L	6L
Canister ID#	11826	
Flow Controller ID#	011826	

Sub-Slab Tests Passed?

Water Dam:	Yes	No
Shut-In:	Yes	No

General Notes/Observations:

Abbreviations:

NA = Not Applicable SB = Sub-Slab
AI = Indoor Air AR = Outdoor Air

Attachment C
Laboratory Report

February 18, 2020

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

RE: Project: 25219095.00 SCS 200 Deer Valle-Revised Report
Pace Project No.: 10506917

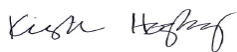
Dear Rob Langdon:

Enclosed are the analytical results for sample(s) received by the laboratory on January 30, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised February 18, 2020, to change the project name.

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 25219095.00 SCS 200 Deer Valle-Revised Report

Pace Project No.: 10506917

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Certification #: T 104704245-17-14

Texas Mold Certification #: LAB0152

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Virginia Certification #: VT2006

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 9980939910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 25219095.00 SCS 200 Deer Valle-Revised Report
Pace Project No.: 10506917

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10506917001	V-5	Air	01/28/20 12:45	01/30/20 08:30
10506917002	V-6	Air	01/28/20 13:05	01/30/20 08:30
10506917003	OA-1	Air	01/28/20 09:50	01/30/20 08:30
10506917004	IA-1	Air	01/28/20 09:58	01/30/20 08:30
10506917005	VP-1	Air	01/29/20 12:00	01/30/20 08:30
10506917006	VP-2	Air	01/29/20 12:20	01/30/20 08:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 25219095.00 SCS 200 Deer Valle-Revised Report
Pace Project No.: 10506917

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10506917001	V-5	TO-15	AMH, CAW	6	PAN
10506917002	V-6	TO-15	AMH, CAW	6	PAN
10506917003	OA-1	TO-15	AMH, MBF	6	PAN
10506917004	IA-1	TO-15	AMH, MBF	6	PAN
10506917005	VP-1	TO-15	DAH, MBF	6	PAN
10506917006	VP-2	TO-15	DAH	6	PAN

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: 25219095.00 SCS 200 Deer Valle-Revised Report

Pace Project No.: 10506917

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10506917001	V-5					
TO-15	Tetrachloroethene	1990	ppbv	3.32	02/01/20 22:33	
TO-15	Trichloroethene	1.48	ppbv	0.182	01/31/20 10:31	
10506917002	V-6					
TO-15	cis-1,2-Dichloroethene	8.16	ppbv	0.130	01/31/20 11:16	
TO-15	Tetrachloroethene	2540	ppbv	16.6	02/01/20 23:13	
TO-15	Trichloroethene	4.64	ppbv	0.182	01/31/20 11:16	
10506917003	OA-1					
TO-15	Tetrachloroethene	0.391	ppbv	0.166	02/01/20 22:56	B
10506917004	IA-1					
TO-15	Tetrachloroethene	0.320	ppbv	0.166	02/01/20 23:40	B
10506917005	VP-1					
TO-15	cis-1,2-Dichloroethene	0.130	ppbv	0.130	01/31/20 16:30	
TO-15	Tetrachloroethene	471	ppbv	0.830	02/02/20 00:22	
TO-15	Trichloroethene	2.79	ppbv	0.182	01/31/20 16:30	
10506917006	VP-2					
TO-15	Tetrachloroethene	34.4	ppbv	0.166	01/31/20 17:14	
TO-15	Trichloroethene	0.632	ppbv	0.182	01/31/20 17:14	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25219095.00 SCS 200 Deer Valle-Revised Report

Pace Project No.: 10506917

Sample: V-5 **Lab ID: 10506917001** Collected: 01/28/20 12:45 Received: 01/30/20 08:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
VOA (MS) TO-15 Analytical Method: TO-15 Preparation Method: TO-15									
cis-1,2-Dichloroethene	<0.0389	ppbv	0.130	0.0389	1	01/31/20 10:31	01/31/20 10:31	156-59-2	
trans-1,2-Dichloroethene	<0.0464	ppbv	0.155	0.0464	1	01/31/20 10:31	01/31/20 10:31	156-60-5	
Tetrachloroethene	1990	ppbv	3.32	0.994	20	02/01/20 22:33	02/01/20 22:33	127-18-4	
Trichloroethene	1.48	ppbv	0.182	0.0545	1	01/31/20 10:31	01/31/20 10:31	79-01-6	
Vinyl chloride	<0.0457	ppbv	0.152	0.0457	1	01/31/20 10:31	01/31/20 10:31	75-01-4	
Surrogates									
1,4-Dichlorobenzene-d4 (IS)	99.3	%	60.0-140		1	01/31/20 10:31	01/31/20 10:31	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	93.9	%	60.0-140		20	02/01/20 22:33	02/01/20 22:33	3855-82-1	

Sample: V-6 **Lab ID: 10506917002** Collected: 01/28/20 13:05 Received: 01/30/20 08:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
VOA (MS) TO-15 Analytical Method: TO-15 Preparation Method: TO-15									
cis-1,2-Dichloroethene	8.16	ppbv	0.130	0.0389	1	01/31/20 11:16	01/31/20 11:16	156-59-2	
trans-1,2-Dichloroethene	<0.0464	ppbv	0.155	0.0464	1	01/31/20 11:16	01/31/20 11:16	156-60-5	
Tetrachloroethene	2540	ppbv	16.6	4.97	100	02/01/20 23:13	02/01/20 23:13	127-18-4	
Trichloroethene	4.64	ppbv	0.182	0.0545	1	01/31/20 11:16	01/31/20 11:16	79-01-6	
Vinyl chloride	<0.0457	ppbv	0.152	0.0457	1	01/31/20 11:16	01/31/20 11:16	75-01-4	
Surrogates									
1,4-Dichlorobenzene-d4 (IS)	98.9	%	60.0-140		1	01/31/20 11:16	01/31/20 11:16	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	96.0	%	60.0-140		100	02/01/20 23:13	02/01/20 23:13	3855-82-1	

Sample: OA-1 **Lab ID: 10506917003** Collected: 01/28/20 09:50 Received: 01/30/20 08:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
VOA (MS) TO-15 Analytical Method: TO-15 Preparation Method: TO-15									
cis-1,2-Dichloroethene	<0.0389	ppbv	0.130	0.0389	1	01/31/20 11:59	01/31/20 11:59	156-59-2	
trans-1,2-Dichloroethene	<0.0464	ppbv	0.155	0.0464	1	01/31/20 11:59	01/31/20 11:59	156-60-5	
Tetrachloroethene	0.391	ppbv	0.166	0.0497	1	02/01/20 22:56	02/01/20 22:56	127-18-4	B
Trichloroethene	<0.0545	ppbv	0.182	0.0545	1	01/31/20 11:59	01/31/20 11:59	79-01-6	
Vinyl chloride	<0.0457	ppbv	0.152	0.0457	1	01/31/20 11:59	01/31/20 11:59	75-01-4	
Surrogates									
1,4-Dichlorobenzene-d4 (IS)	94.5	%	60.0-140		1	01/31/20 11:59	01/31/20 11:59	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	96.4	%	60.0-140		1	02/01/20 22:56	02/01/20 22:56	3855-82-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 25219095.00 SCS 200 Deer Valle-Revised Report

Pace Project No.: 10506917

Sample: IA-1 Lab ID: 10506917004 Collected: 01/28/20 09:58 Received: 01/30/20 08:30 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
VOA (MS) TO-15 Analytical Method: TO-15 Preparation Method: TO-15									
cis-1,2-Dichloroethene	<0.0389	ppbv	0.130	0.0389	1	01/31/20 12:43	01/31/20 12:43	156-59-2	
trans-1,2-Dichloroethene	<0.0464	ppbv	0.155	0.0464	1	01/31/20 12:43	01/31/20 12:43	156-60-5	
Tetrachloroethene	0.320	ppbv	0.166	0.0497	1	02/01/20 23:40	02/01/20 23:40	127-18-4	B
Trichloroethene	<0.0545	ppbv	0.182	0.0545	1	01/31/20 12:43	01/31/20 12:43	79-01-6	
Vinyl chloride	<0.0457	ppbv	0.152	0.0457	1	01/31/20 12:43	01/31/20 12:43	75-01-4	
Surrogates									
1,4-Dichlorobenzene-d4 (IS)	94.6	%	60.0-140		1	01/31/20 12:43	01/31/20 12:43	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	94.5	%	60.0-140		1	02/01/20 23:40	02/01/20 23:40	3855-82-1	

Sample: VP-1 Lab ID: 10506917005 Collected: 01/29/20 12:00 Received: 01/30/20 08:30 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
VOA (MS) TO-15 Analytical Method: TO-15 Preparation Method: TO-15									
cis-1,2-Dichloroethene	0.130	ppbv	0.130	0.0389	1	01/31/20 16:30	01/31/20 16:30	156-59-2	
trans-1,2-Dichloroethene	<0.0464	ppbv	0.155	0.0464	1	01/31/20 16:30	01/31/20 16:30	156-60-5	
Tetrachloroethene	471	ppbv	0.830	0.249	5	02/02/20 00:22	02/02/20 00:22	127-18-4	
Trichloroethene	2.79	ppbv	0.182	0.0545	1	01/31/20 16:30	01/31/20 16:30	79-01-6	
Vinyl chloride	<0.0457	ppbv	0.152	0.0457	1	01/31/20 16:30	01/31/20 16:30	75-01-4	
Surrogates									
1,4-Dichlorobenzene-d4 (IS)	96.8	%	60.0-140		1	01/31/20 16:30	01/31/20 16:30	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	95.2	%	60.0-140		5	02/02/20 00:22	02/02/20 00:22	3855-82-1	

Sample: VP-2 Lab ID: 10506917006 Collected: 01/29/20 12:20 Received: 01/30/20 08:30 Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
VOA (MS) TO-15 Analytical Method: TO-15 Preparation Method: TO-15									
cis-1,2-Dichloroethene	<0.0389	ppbv	0.130	0.0389	1	01/31/20 17:14	01/31/20 17:14	156-59-2	
trans-1,2-Dichloroethene	<0.0464	ppbv	0.155	0.0464	1	01/31/20 17:14	01/31/20 17:14	156-60-5	
Tetrachloroethene	34.4	ppbv	0.166	0.0497	1	01/31/20 17:14	01/31/20 17:14	127-18-4	
Trichloroethene	0.632	ppbv	0.182	0.0545	1	01/31/20 17:14	01/31/20 17:14	79-01-6	
Vinyl chloride	<0.0457	ppbv	0.152	0.0457	1	01/31/20 17:14	01/31/20 17:14	75-01-4	
Surrogates									
1,4-Dichlorobenzene-d4 (IS)	96.7	%	60.0-140		1	01/31/20 17:14	01/31/20 17:14	3855-82-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 25219095.00 SCS 200 Deer Valle-Revised Report

Pace Project No.: 10506917

QC Batch: 1420303 Analysis Method: TO-15
 QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15
 Associated Lab Samples: 10506917001, 10506917002, 10506917003, 10506917004, 10506917005, 10506917006

METHOD BLANK: R3495903-3 Matrix: Air
 Associated Lab Samples: 10506917001, 10506917002, 10506917003, 10506917004, 10506917005, 10506917006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ppbv	<0.0389	0.130	01/31/20 07:40	
trans-1,2-Dichloroethene	ppbv	<0.0464	0.155	01/31/20 07:40	
Tetrachloroethene	ppbv	<0.0497	0.166	01/31/20 07:40	
Trichloroethene	ppbv	<0.0545	0.182	01/31/20 07:40	
Vinyl chloride	ppbv	<0.0457	0.152	01/31/20 07:40	
1,4-Dichlorobenzene-d4 (IS)	%	93.1	60.0-140	01/31/20 07:40	

Parameter	Units	R3495903-1		R3495903-2		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec				
Vinyl chloride	ppbv	3.75	4.09	4.03	109	107	70.0-130	1.48	25
trans-1,2-Dichloroethene	ppbv	3.75	3.83	3.82	102	102	70.0-130	0.261	25
cis-1,2-Dichloroethene	ppbv	3.75	3.82	3.87	102	103	70.0-130	1.30	25
Trichloroethene	ppbv	3.75	3.92	3.96	105	106	70.0-130	1.02	25
Tetrachloroethene	ppbv	3.75	4.05	4.05	108	108	70.0-130	0.00	25
1,4-Dichlorobenzene-d4 (IS)	%				98.6	98.3	60.0-140		

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

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QUALITY CONTROL DATA

Project: 25219095.00 SCS 200 Deer Valle-Revised Report
Pace Project No.: 10506917

QC Batch: 1420825 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15
Associated Lab Samples: 10506917001, 10506917002

METHOD BLANK: R3496133-3 Matrix: Air
Associated Lab Samples: 10506917001, 10506917002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Tetrachloroethene	ppbv	<0.0497	0.166	02/01/20 07:35	
1,4-Dichlorobenzene-d4 (IS)	%	97.3	60.0-140	02/01/20 07:35	

Parameter	Units	R3496133-1		R3496133-2		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec				
Tetrachloroethene	ppbv	3.75	4.30	4.35	115	116	70.0-130	1.16	25
1,4-Dichlorobenzene-d4 (IS)	%				95.9	99.3	60.0-140		

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

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QUALITY CONTROL DATA

Project: 25219095.00 SCS 200 Deer Valle-Revised Report
Pace Project No.: 10506917

QC Batch: 1420880 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15
Associated Lab Samples: 10506917003, 10506917004, 10506917005

METHOD BLANK: R3496275-3 Matrix: Air
Associated Lab Samples: 10506917003, 10506917004, 10506917005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Tetrachloroethene	ppbv	0.0809J	0.166	02/01/20 07:46	J
1,4-Dichlorobenzene-d4 (IS)	%	92.6	60.0-140	02/01/20 07:46	

Parameter	Units	R3496275-1		R3496275-2		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec				
Tetrachloroethene	ppbv	3.75	4.22	4.22	113	113	70.0-130	0.00	25
1,4-Dichlorobenzene-d4 (IS)	%				98.0	98.0	60.0-140		

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

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QUALIFIERS

Project: 25219095.00 SCS 200 Deer Valle-Revised Report

Pace Project No.: 10506917

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.

LABORATORIES

PAN Pace Analytical National

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25219095.00 SCS 200 Deer Valle-Revised Report

Pace Project No.: 10506917

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10506917001	V-5	TO-15	1420303	TO-15	1420303
10506917001	V-5	TO-15	1420825	TO-15	1420825
10506917002	V-6	TO-15	1420303	TO-15	1420303
10506917002	V-6	TO-15	1420825	TO-15	1420825
10506917003	OA-1	TO-15	1420303	TO-15	1420303
10506917003	OA-1	TO-15	1420880	TO-15	1420880
10506917004	IA-1	TO-15	1420303	TO-15	1420303
10506917004	IA-1	TO-15	1420880	TO-15	1420880
10506917005	VP-1	TO-15	1420303	TO-15	1420303
10506917005	VP-1	TO-15	1420880	TO-15	1420880
10506917006	VP-2	TO-15	1420303	TO-15	1420303

REPORT OF LABORATORY ANALYSIS

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Pace Analytical - Minnesota

1700 Elm Street Suite 200
Minneapolis, MN 55414

Billing Information:
Accounts Payable
1700 Elm St., Ste. 200
Minneapolis, MN 55414

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



SDG # L1184354
H029

Acctnum: **PACEMN**
Template: **T161873**

Prelogin: **P751760**
PM: **464 - Nancy McLain**

PB: LSG 01/22/20

Shipped Via: **FedEX Ground**

Remarks Sample # (lab only)

Remarks	Sample # (lab only)
<u>VAC</u>	
KL 1/29/20	-01
KL 1/29/20	-02
KL 1/29/20	-03
	-04
	-05
	-06

Report to:
Kirsten Hogberg

Email To: kirsten.hogberg@pacelabs.com

Project Description: SLC 200 Deer Valley Rd

City/State Collected: WI

Please Circle:
PT MT CT ET

Phone: **612-607-1700**

Client Project #

Lab Project #

Fax:

25219095.00

PACEMN-SCSENGAIR

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Quote #

___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day 10 Day (Rad Only)
___ Three Day

Date Results Needed

Immediately Packed on Ice N ___ Y ___

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
V-5	<u>Grab</u>	Air		1/28/20	12:15-12:45	1
V-6		Air		1/28/20	12:35-1:05	1
OA-1		Air		1/28/20	10:30/1:50	1
IA-1		Air		1/28/20	10:33/1:18	1
VP-1		Air		1/29/20	11:50-1:20	1
VP-2		Air		1/29/20	11:57-1:22	1

TO-15 Summa

* Matrix: AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: Analyz for PCB, TCPE, CIS 12 DCE, Trans 12 DCE and Vinyl chloride
pH ___ Temp ___
Flow ___ Other ___

Sample Receipt Checklist
COC Seal Present/Intact: NP X N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Samples returned via: UPS FedEx Courier
Tracking # 1411 1751 2421

Relinquished by: (Signature) <u>R. Hogberg</u>	Date: <u>1/29/20</u>	Time: <u>1700</u>	Received by: (Signature)	Trip Blank Received: Yes/No HCL / MeOH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: <u>6</u>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (signature) <u>[Signature]</u>	Date: <u>01/30/20</u> Time: <u>0830</u>

Condition:
NCF OK
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