November 30, 2020
File No. 25220120.00

Ms. Cindy Koepke
Wisconsin Department of Natural Resources
3911 Fish Hatchery Rd.
Fitchburg, WI 53711-5367

Subject: Vapor Intrusion Assessment
4010 Monona Drive, Madison, Wisconsin
Classic Cleaners Project
BRRTS No. 02-53-550524

Dear Ms. Koepke:

SCS Engineers (SCS) is providing the following summary for a vapor intrusion assessment performed for the above-noted residence (site shown on **Figure B.1.b**). The work was performed as required by the Wisconsin Department of Natural Resources (WDNR) to evaluate for the presence of chlorinated volatile organic compounds (CVOCs) in the home.

The assessment findings indicate CVOCs are not present at concentrations in excess of WDNR vapor action levels. No further assessment is proposed.

METHODS

Sampling

SCS acquired access to the home and performed field sampling activities on November 2nd and 3rd, 2020. Sample locations are shown on **Figure B.1.b**. Photographs of the sampling work are included in **Attachment A**. Field forms are included in **Attachment B**.

Indoor and Outdoor Air Sampling

Indoor and outdoor air samples were collected using laboratory-supplied summa canisters equipped with 24-hour flow controllers. Each summa canister was placed approximately 3 to 5 feet above the ground, near the breathing zone.

Sub-Slab Vapor Sampling

A sub-slab vapor sample was collected by installing a stainless steel Vapor Pin® (vapor pin) through the basement floor slab. A hand-held hammer drill was used to drill a hole through the slab. The vapor pin was then inserted into the hole with a silicone sleeve to form a seal between the vapor pin and the floor slab. A sub-slab vapor sample was collected using SCS's sampling manifold, tubing, and fittings. SCS tested the vapor pin seal and sampling equipment prior to collection of the sample. No leaks were detected.

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

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.

FINDINGS

The laboratory report is included in **Attachment C**. Sample results for the 4010 Monona Drive samples and other previously reported sample results are provided in **Tables A.4.a** and **A.4.b**. Sampling results for 4010 Monona Drive are also summarized below:

- PCE was detected in the sub-slab vapor sample at a concentration of 25.1 parts per billion by volume (ppbv). This concentration does not exceed the WDNR's PCE sub-slab vapor risk screening level (VRSL) for residential buildings, which is 210 ppbv.

- CVOCs were not detected in the indoor air or outdoor air samples.

SUMMARY AND RECOMMENDATIONS

SCS completed sampling work to evaluate for the presence of CVOCs in the home at 4010 Monona Drive, Madison, Wisconsin. CVOCs were not detected in indoor or outdoor air samples. PCE was detected in the sub-slab sample, but the concentration did not exceed the applicable VRSL. The findings do not indicate an indoor air health risk to the occupants. No further assessment is proposed for the home.

Please contact Robert Langdon at (608) 212-3995 if you have any questions regarding this letter.

Sincerely,

Robert Langdon
Senior Project Manager
SCS Engineers

Mark R. Huber, PE
Project Director
SCS Engineers

REL/jsn/MRH

Attachments: Table A.4.a –Vapor Analytical Table – Sub-Slab Sample Results
Table A.4.b – Vapor Analytical Table – Indoor Air Sample Results
. Figure B.1.b – Detailed Site Map
Attachment A – Photos
Attachment B – Field Forms
Attachment C – Laboratory Report

Tables

A.4.a Vapor Analytical Table - Sub-Slab Sample Results
3918 Monona Drive / SCS Engineers Project #25211232.51
(Results are in ppbv)

Sample	Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
3916 Monona Drive*	7/11/2013	**2,010**	<800 *D	<800 *D	<800 *D	<800 *D
3918 Monona Drive*	11/18/2008	**253** A3	9.7	2.2	NA	<1.0
	7/11/2013	**2,180**	<800 *D	<800 *D	<800 *D	<800 *D
3920 Monona Drive*	11/18/2008	**7,660** A3, R1	**37.9**	9.4	NA	3.0
104 Davidson Street No. 1	7/9/2009	137	<0.80	<0.80	NA	<0.79
	7/11/2013	67	<33 *D	<33 *D	<33 *D	<33 *D
104 Davidson Street No. 2	7/11/2013	33	<20	<20	<20	<20
3900 Monona Drive	7/9/2009	43.5	<0.80	<0.80	NA	<0.79
3939 Monona Drive	7/11/2013	33	<20	<20	<20	<20
4001 Monona Drive* No. 1	7/9/2009	**276**	<0.74	<0.74	NA	<0.73
	7/11/2013	**641**	<200 *D	<200 *D	<200 *D	<200 *D
4001 Monona Drive* No. 2	7/11/2013	**324**	<200 *D	<200 *D	<200 *D	<200 *D
4002 Monona Drive SS-01	11/19/2018	28	<0.24	<0.47	<0.47	<0.24
4002 Monona Drive SS-02	11/19/2018	37	<0.18	<0.35	<0.35	<0.18
4002 Monona Drive SS-03	11/19/2018	100	<0.18	<0.35	<0.35	<0.18
4002 Monona Drive SS-04	11/19/2018	**1,396**	7.38	<0.37	<0.37	<0.18
4002 Monona Drive SS-05	11/19/2018	**778**	1.55	<0.35	<0.38	<0.18
4010 Monona Drive	11/3/2020	25.1	<0.06	<0.06	<0.072	<0.058
Vapor Risk Screening Level (Residential)		210	13	NE	NE	22
Vapor Risk Screening Level (Small Commercial)		900	53	NE	NE	370

Abbreviations:
ppbv = parts per billion by volume
cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE = trans-1,2-dichloroethene
NE = not established
PCE = tetrachloroethene
TCE = trichloroethene

Notes:
*Vapor mitigation systems were installed subsequent to sampling.
1. Samples were collected in 6L summa canisters over a 30-minute period and analyzed using the USEPA TO-15 analytical method.
2. Vapor Action Levels or Vapor Risk Screening Levels are from Wisconsin Department of Natural Resources Quick Look-Up Table, which is based on November 2017 USEPA Regional Screening Level Tables.
3. Bold values meet or exceed Vapor Risk Screening Levels for residential buildings. Bold and underlined values meet or exceed Vapor Risk Screening Levels for small commercial buildings.
4. November 11, 2018 results from True North Consultants' Table 1 Summary of Air Sample Analytical Results, Sub-Slab Vapor Short List.

Laboratory Notes/Qualifiers:
A3 = The sample was analyzed by serial dilution.
*D = Limit of detection not achievable due to dilution.
R1 = Duplicate result for this parameter was 1,070 ppbv, relative percent difference value was outside control limits.

Created by:	SMS	Date:	12/9/2008
Last revision by:	JSN	Date:	11/20/2020
Checked by:	AJR	Date:	11/23/2020
Proj Mgr QA/QC:	REL	Date:	11/23/2020

I:\2325\Tables-General\[A.4.a Vapor Analytical Table -Sub-Slab Sample Results.xls]VOCs

A.4.b Vapor Analytical Table - Indoor Air Sample Results
3918 Monona Drive, Madison, WI / SCS Engineers Project #25211232.51
(Results are in ppbv)

Sample	Location	Date	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride
IA-101	4001 Monona Drive	7/15/2015	0.29	<0.085	<0.085	0.19 F	<0.085
IA-102	4001 Monona Drive	7/15/2015	0.74	<0.085	<0.085	<0.085	<0.085
IA-103	4001 Monona Drive	7/15/2015	0.23 F	<0.17	<0.17	<0.17	<0.17
IA-104	4001 Monona Drive	7/15/2015	0.24 F	<0.085	<0.085	1.0	<0.085
4010 IA	4010 Monona Drive	11/3/2020	<0.049	<0.055	<0.055	<0.065	<0.05
4010 OA	4010 Monona Drive	11/3/2020	<0.046	<0.051	<0.052	<0.062	<0.05
Indoor Air Vapor Action Level (Residential)			6.2	0.39	NE	NE	0.65

Abbreviations:
ppbv = parts per billion by volume
PCE = tetrachloroethylene
TCE = trichloroethylene
cis-1,2-DCE = cis-1,2-dichloroethylene
trans-1,2-DCE = trans-1,2-dichloroethylene
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. Vapor Action Levels are from Wisconsin Department of Natural Resources Quick Look-Up Table, which is based on November 2017 USEPA Regional Screening Level Tables.
3. **Bold** & **underlined** values exceed Indoor Air Vapor Action Levels.

Lab Notes:
F next to result = Result is in between LOD and LOQ

Created by:	LMH	Date:	7/27/2015
Last revision by:	JSN	Date:	11/20/2020
Checked by:	AJR	Date:	11/23/2020
Proj Mgr QA/QC:	REL	Date:	11/23/2020

I:\2325\Tables-General\[A.4.b Vapor Analytical Table-Indoor Air Sample Results.xls]Results

Figure

B.1.b Detailed Site Map

COTTAGE GROVE ROAD

MONONA DRIVE

LAKE MONONA

DAVIDSON STREET

3905 MONONA DRIVE

PARKING STRUCTURE

3909 MONONA DRIVE

PARKING LOT

3939 MONONA DRIVE

PARKING STRUCTURE

PARKING LOT

4001 MONONA DRIVE

PARKING STRUCTURE

4007 MONONA DRIVE

107/109 COTTAGE GROVE ROAD

3900 MONONA DRIVE

195–209 COTTAGE GROVE ROAD

3916/3918 MONONA DRIVE

GARAGE

3920 MONONA DRIVE

104 DAVIDSON STREET

4002 MONONA DRIVE

PARKING LOT

105 DAVIDSON STREET

GARAGE

4010 MONONA DRIVE

GB1 GB2 GB3 GB4 GB5 GB6 GB7 GB8 GB9 GB10 GB11 GB12 GB13 GB14 GB15 GB16 GB17 GB18 GB19 GB20 GB21 GB22

MW1 MW1P MW2 MW3 MW4 MW4P MW5 MW6

SS-01 SS-02 SS-03 SS-04 SS-05

IA-101 IA-102 IA-103 IA-104

LEGEND

- APPROXIMATE PROPERTY LINE
- UTILITY POLE
- MANHOLE
- UNDERGROUND ELECTRIC
- GAS MAIN
- OVERHEAD UTILITY
- SANITARY SEWER
- STORM SEWER
- WATER
- SUB–SLAB VAPOR SAMPLING POINT
- INDOOR AIR SAMPLE
- OUTDOOR AIR SAMPLE
- VAPOR MITIGATION SYSTEM
- SOIL BORING
- MONITORING WELL

N

NOTES:

1. ALL SAMPLE LOCATIONS ARE APPROXIMATE.
2. RIGHT OF WAY UTILITY INFORMATION PROVIDED BY CITY OF MADISON.
3. ALL UTILITY LOCATIONS ARE APPROXIMATE AND SHOULD NOT BE USED FOR UTILITY LOCATING PURPOSES.

70 0 70

SCALE: 1" = 70'

PROJECT NO.	25211232.51	DRAWN BY:	KP/JMO
DRAWN:	01/06/04	CHECKED BY:	REL
REVISED:	11/24/20	APPROVED BY:	REL 11/30/2020

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718–6751
PHONE: (608) 224–2830

CLIENT: RALPH STINSON
4218 GREEN AVENUE
MADISON, WI 53704

SITE: CLASSIC CLEANERS
3918 MONONA DRIVE
MADISON, WI

DETAILED SITE MAP

FIGURE B.1.b

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Attachment A

Photos

Classic Cleaners
4010 Monona Drive, Monona, Wisconsin
SCS Engineers Project #25211232.51

Photo 1: Looking north at indoor air sample in basement laundry room; November 2, 2020.

Photo 2: Looking northwest at outdoor air sample on east side of home; November 2, 2020.

Classic Cleaners
4010 Monona Drive, Monona, Wisconsin
SCS Engineers Project #25211232.51

Photo 3: Looking west at sub-slab sample in basement laundry room; November 3, 2020.

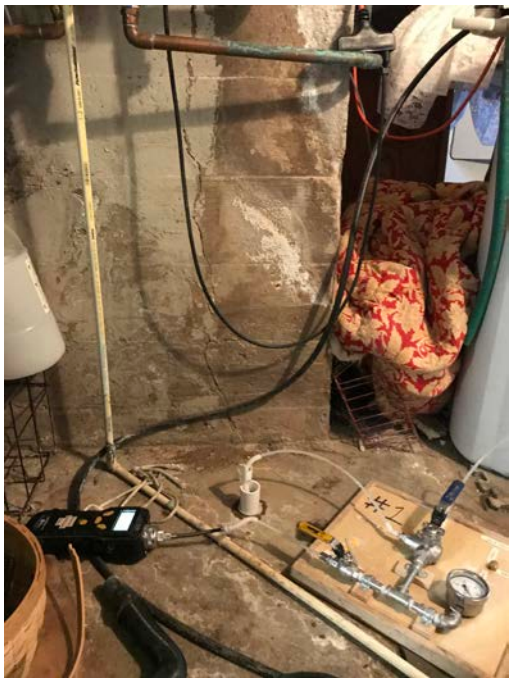

Photo 4: Looking north at sub-slab sample in basement laundry room; November 3, 2020.

Attachment B

Field Forms

Vapor Assessment
Sample Collection Log

Project: Classic Cleaners	**Sample ID:** 4010 IA	**Type** (Circle One)*: SB (AI) AR	
Project #: 25211232.51	**Sample Intake Height:** 4'		**NA for SB**
Location: 4010 Monona Dr.	**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 #: ppbRAE			

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (ppm/ppb)
11/2/20	1010	-30	23
11/3/20	916	-6	—

Summa Canister Information:

Canister Size:	1L	(6L)
Canister ID#	2374	
Flow Controller ID#	0739	

Sub-Slab Tests Passed?

Water Dam:	NA	**Yes**	**No**
Shut-In:	NA	**Yes**	**No**

General Notes/Observations:

Set canister in Northeast corner of basement on table top in laundry room

Abbreviations:

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

Vapor Assessment
Sample Collection Log

Project: Classic Cleaners	**Sample ID:** 4010 SS	**Type** (Circle One)*: (SB) AI AR	
Project #: 25211232.51	**Sample Intake Height:**	(NA for SB)	
Location: 4010 Monona Dr.	**Approx. Purge Volume:** 1 Liter		NA for AI and AR
Sampler: Robert Langdon	**Approx. Sampling Depth:** 6"		NA for AI and AR
Sub-Slab Sample Kit #: 1			NA for AI and AR
Sub-Slab Sample Manifold #: 1			NA for AI and AR
PID #: ppbRAE			

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (ppm/(ppb))
11/3/20	0940	-30	321
11/3/20	1019	-8	—

Summa Canister Information:

Canister Size:	1L	(6L)
Canister ID#	3487	
Flow Controller ID#	1212	

Sub-Slab Tests Passed?

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

General Notes/Observations:

Had to set pin as stick up as Slab too thin for flush install.

Abbreviations:

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

Vapor Assessment
Sample Collection Log

Project:	Classic Cleaners	**Sample ID:** 4010 OA	**Type** (Circle One)*: **SB** **AI** (**AR**)
Project #:	25211232.51	**Sample Intake Height:** 4'	**NA for SB**
Location:	4010 Monona Dr.	**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 #:	ppbRAE		

Instrument Readings:

Date	Time	Canister Vacuum (" of Hg)	PID Reading (ppm/ppb)
11/2/20	1020	-30	0
11/3/20	0914	-2.5	—

Summa Canister Information:

Canister Size:	1L	(6L)
Canister ID#	3549	
Flow Controller ID#	2130	

Sub-Slab Tests Passed?

Water Dam:	NA	**Yes**	**No**
Shut-In:	NA	**Yes**	**No**

General Notes/Observations:

Canister set at bottom of railing next to stairs outside east side of home

Abbreviations:

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

Attachment C

Laboratory Report

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

November 18, 2020

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

RE: Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

Dear Rob Langdon:

Enclosed are the analytical results for sample(s) received by the laboratory on November 04, 2020. 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 - Suite 200
Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

Pace Analytical Services - 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+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
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137*
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 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 #: CL101
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 - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE SUMMARY

Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10538037001	**4010 IA**	Air	11/03/20 09:16	11/04/20 11:35
10538037002	**4010 OA**	Air	11/03/20 09:14	11/04/20 11:35
10538037003	**4010 SS**	Air	11/03/20 10:19	11/04/20 11:35

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10538037001	**4010 IA**	TO-15	MJL	5	PASI-M
10538037002	**4010 OA**	TO-15	MJL	5	PASI-M
10538037003	**4010 SS**	TO-15	MJL	5	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SUMMARY OF DETECTION

Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10538037003	**4010 SS**					
TO-15	Tetrachloroethene	173	ug/m3	1.2	11/17/20 13:10	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

Sample: 4010 IA **Lab ID: 10538037001** Collected: 11/03/20 09:16 Received: 11/04/20 11:35 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	**<0.22**	ug/m3	1.2	0.22	1.55		11/17/20 12:41	156-59-2	
trans-1,2-Dichloroethene	**<0.26**	ug/m3	1.2	0.26	1.55		11/17/20 12:41	156-60-5	
Tetrachloroethene	**<0.34**	ug/m3	1.1	0.34	1.55		11/17/20 12:41	127-18-4	
Trichloroethene	**<0.30**	ug/m3	0.85	0.30	1.55		11/17/20 12:41	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.40	0.13	1.55		11/17/20 12:41	75-01-4	

Sample: 4010 OA **Lab ID: 10538037002** Collected: 11/03/20 09:14 Received: 11/04/20 11:35 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	**<0.21**	ug/m3	1.2	0.21	1.49		11/17/20 11:43	156-59-2	
trans-1,2-Dichloroethene	**<0.25**	ug/m3	1.2	0.25	1.49		11/17/20 11:43	156-60-5	
Tetrachloroethene	**<0.32**	ug/m3	1.0	0.32	1.49		11/17/20 11:43	127-18-4	
Trichloroethene	**<0.28**	ug/m3	0.81	0.28	1.49		11/17/20 11:43	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.39	0.13	1.49		11/17/20 11:43	75-01-4	

Sample: 4010 SS **Lab ID: 10538037003** Collected: 11/03/20 10:19 Received: 11/04/20 11:35 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	**<0.24**	ug/m3	1.4	0.24	1.71		11/17/20 13:10	156-59-2	
trans-1,2-Dichloroethene	**<0.29**	ug/m3	1.4	0.29	1.71		11/17/20 13:10	156-60-5	
Tetrachloroethene	**173**	ug/m3	1.2	0.37	1.71		11/17/20 13:10	127-18-4	
Trichloroethene	**<0.33**	ug/m3	0.93	0.33	1.71		11/17/20 13:10	79-01-6	
Vinyl chloride	**<0.15**	ug/m3	0.44	0.15	1.71		11/17/20 13:10	75-01-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

QC Batch: 711358
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Laboratory: Pace Analytical Services - Minneapolis
Associated Lab Samples: 10538037001, 10538037002, 10538037003

METHOD BLANK: 3798660 Matrix: Air
Associated Lab Samples: 10538037001, 10538037002, 10538037003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.070	0.40	11/17/20 08:43	
Tetrachloroethene	ug/m3	<0.11	0.34	11/17/20 08:43	
trans-1,2-Dichloroethene	ug/m3	<0.085	0.40	11/17/20 08:43	
Trichloroethene	ug/m3	<0.096	0.27	11/17/20 08:43	
Vinyl chloride	ug/m3	<0.043	0.13	11/17/20 08:43	

LABORATORY CONTROL SAMPLE: 3798661

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	41.6	47.0	113	70-132	
Tetrachloroethene	ug/m3	71	72.7	102	70-136	
trans-1,2-Dichloroethene	ug/m3	42.2	46.5	110	70-132	
Trichloroethene	ug/m3	56.3	59.7	106	70-132	
Vinyl chloride	ug/m3	26.7	29.4	110	68-141	

SAMPLE DUPLICATE: 3799268

Parameter	Units	10538037002 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.21	<0.21		25	
Tetrachloroethene	ug/m3	<0.32	<0.32		25	
trans-1,2-Dichloroethene	ug/m3	<0.25	<0.25		25	
Trichloroethene	ug/m3	<0.28	<0.28		25	
Vinyl chloride	ug/m3	<0.13	<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 - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

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
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 25211232.51 Classic Cleaners
Pace Project No.: 10538037

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10538037001	**4010 IA**	TO-15	711358		
10538037002	**4010 OA**	TO-15	711358		
10538037003	**4010 SS**	TO-15	711358		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

40678

Page: 1 of 1

Section A
Required Client Information:

Company: SCS Engineers
Address: 2830 Dairy Dr
Madison, WI 53718
Email To: rlangdon@scsengineers.com
Phone: 608 224 2830 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: Robert Langdon
Copy To:
Purchase Order No.:
Project Name: Classic Cleaners
Project Number: 25211232.51

Section C
Invoice Information:

Attention: Robert Langdon
Company Name: Same as Section A
Address: –
Pace Quote Reference: –
Pace Project Manager/Sales Rep. –
Pace Profile #: 32630

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 X PPMV
Other

Report Level II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

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

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)

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method	Pace Lab ID
1	4010 IA	6LC	23	11/2/20	1010	11/3/20	916	-30	-6	23749	7139	X	001
2	4010 OA		0	11/2/20	1020	11/3/20	914	-30	-25	3549	2130	X	002
3	4010 SS	↓	23	11/3/20	948	11/3/20	1019	-30	-8	3487	1212	X	003
4													
5													
6													
7													
8													
9													
10													
11													
12													

Comments:
* Analyze for PCE, TCE, cis 1,2 DCE, Trans 1,2 DCE, and Vinyl chloride

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Robert Langdon/SCS	11/3/20	1200	Matt/Pace	11/4/20	11:35

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Robert Langdon
SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

WO#: 10538037
10538037

1700 Elm Street S ... 2.607.6386

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) - Air	Document Revised: 24Mar2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0113 Rev.00	Pace Analytical Services - Minn...

Air Sample Condition Upon Receipt

Client Name: SCS Eng. **Project #:**

WO#: 10538037
PM: KNH Due Date: 11/11/20
CLIENT: SCS Engineer

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

Tracking Number: 1723 2546 7049

Custody Seal on Cooler/Box Present? [ ] Yes [X] No **Seals Intact?** [ ] Yes [ ] 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:** 11/4/20 MT

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
IA	2374	739	-4	+5					
OA	3549	2130	-3	↓					
SS	3487	1212	-6.5	↓					

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Kirsten Hoffberg **Date:** 11/5/2020

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: 10538037
Project Name: 25211232.51 Classic Cleaners

Lab Sample No: 10538037001
Client Sample ID: 4010 IA

ProjSampleNum: 10538037001
Matrix: Air

Date Collected: 11/03/20 9:16
Date Received: 11/04/20 11:35

Air

TO-15

Parameters	Results	Units	Report Limit	DF	Analyzed		CAS No.	Qualifiers
cis-1,2-Dichloroethene	<0.055	ppbv	0.3	1.55	11/17/20 12:41	MJL	156-59-2	
Tetrachloroethene	<0.049	ppbv	0.16	1.55	11/17/20 12:41	MJL	127-18-4	
trans-1,2-Dichloroethene	<0.065	ppbv	0.3	1.55	11/17/20 12:41	MJL	156-60-5	
Trichloroethene	<0.055	ppbv	0.16	1.55	11/17/20 12:41	MJL	79-01-6	
Vinyl chloride	<0.05	ppbv	0.15	1.55	11/17/20 12:41	MJL	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: 10538037
Project Name: 25211232.51 Classic Cleaners

Lab Sample No: 10538037002
Client Sample ID: 4010 OA

ProjSampleNum: 10538037002
Matrix: Air

Date Collected: 11/03/20 9:14
Date Received: 11/04/20 11:35

Air

TO-15

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
cis-1,2-Dichloroethene	<0.052	ppbv	0.3	1.49	11/17/20 11:43 MJL	156-59-2	
Tetrachloroethene	<0.046	ppbv	0.15	1.49	11/17/20 11:43 MJL	127-18-4	
trans-1,2-Dichloroethene	<0.062	ppbv	0.3	1.49	11/17/20 11:43 MJL	156-60-5	
Trichloroethene	<0.051	ppbv	0.15	1.49	11/17/20 11:43 MJL	79-01-6	
Vinyl chloride	<0.05	ppbv	0.15	1.49	11/17/20 11:43 MJL	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.

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Minneapolis, MN 55414
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Fax: 612.607.6444

ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10538037
Project Name: 25211232.51 Classic Cleaners

Lab Sample No: 10538037003
Client Sample ID: 4010 SS

ProjSampleNum: 10538037003
Matrix: Air

Date Collected: 11/03/20 10:19
Date Received: 11/04/20 11:35

Air

TO-15

Parameters	Results	Units	Report Limit	DF	Analyzed		CAS No.	Qualifiers
cis-1,2-Dichloroethene	<0.06	ppbv	0.35	1.71	11/17/20 13:10	MJL	156-59-2	
Tetrachloroethene	25.1	ppbv	0.17	1.71	11/17/20 13:10	MJL	127-18-4	
trans-1,2-Dichloroethene	<0.072	ppbv	0.35	1.71	11/17/20 13:10	MJL	156-60-5	
Trichloroethene	<0.06	ppbv	0.17	1.71	11/17/20 13:10	MJL	79-01-6	
Vinyl chloride	<0.058	ppbv	0.17	1.71	11/17/20 13:10	MJL	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.

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ANALYTICAL RESULTS

Client: SCS Engineers
Phone: 843.746.8525

Lab Project Number: 10538037
Project Name: 25211232.51 Classic Cleaners

PARAMETER FOOTNOTES