Stoltz, Carrie R - DNR

From: Voit, Angela <AVoit@trcsolutions.com>
Sent: Tuesday, July 31, 2018 4:12 PM
To: DOT Hazmat Unit; Stoltz, Carrie R - DNR; Saari, Christopher A - DNR
Cc: O'Connell, Theodore; Stehn, Andrew; Schroeder, Alia
Subject: RE: WisDOT 0656-50-31_BRRTS 02-44-000517_Vapor Intrusion Results 2nd Sampling Event_527 Oneida St_Bassett
Attachments: WisDOT 0656-50-31_BRRTS 02-44-000517_Vapor Results 2nd Sampling Event_527 Oneida St_Bassett.pdf

I apologize, my initial email had the wrong attachment.

Attached are the results from the 2nd sampling event.

Angie Voit
Senior Project Coordinator

TRC Results you can rely on

708 Heartland Trail, Suite 3000, Madison, WI 53717
T: 608.444.3509 | avoit@trcsolutions.com

LinkedIn | Twitter | Blog | www.trcsolutions.com

From: Voit, Angela
Sent: Monday, July 30, 2018 9:41 AM
To: DOT Hazmat Unit (DOTHazmatUnit@dot.wi.gov) <DOTHazmatUnit@dot.wi.gov>; 'carrie.stoltz@wisconsin.gov' <carrie.stoltz@wisconsin.gov>; 'Christopher.Saari@wisconsin.gov' <Christopher.Saari@wisconsin.gov>
Cc: O'Connell, Theodore <TOConnell@trcsolutions.com>; Stehn, Andrew <AStehn@trcsolutions.com>; Schroeder, Alia <ASchroeder@trcsolutions.com>
Subject: WisDOT 0656-50-31_BRRTS 02-44-000517_Vapor Intrusion Results 2nd Sampling Event_527 Oneida St_Bassett

Attached are the vapor monitoring results for the 2nd sampling event for 527 Oneida St in Minocqua. This letter is being mailed to the property owner today.

Please contact Ted with any questions.

Angie Voit
Senior Project Coordinator

TRC Results you can rely on

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T: 608.444.3509 | avoit@trcsolutions.com

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TRC
Results you can rely on

708 Heartland Trail
Suite 3000
Madison, WI 53717

608-826-3600 PHONE
608-826-3941 FAX

www.TRCsolutions.com

July 30, 2018

Scot J. and Susan P. Bassett
P.O. Box 629
Minocqua, WI 54548

Subject: Vapor Monitoring Results – Second Sampling Event
527 Oneida Street, Minocqua, WI 54548
WisDOT ID #0656-50-31
WDNR BRRTS #02-44-000517

Dear Mr. and Mrs. Bassett:

Our client, the Wisconsin Department of Transportation (WisDOT), has been cooperating with the Wisconsin Department of Natural Resources (WDNR) to evaluate and, if necessary, to remediate residual compounds in the groundwater potentially originating from the former Northwoods Laundry property (405 Front Street, Minocqua, WI). Historic dry cleaning activities at the former Northwoods Laundry property contaminated site soil and groundwater with chlorinated volatile organic compounds, primarily trichloroethene and tetrachloroethene. Information about this site is available in the WDNR's Bureau for Remediation and Redevelopment Tracking System (BRRTS) online, as site #02-44-000517. The WisDOT became responsible for the environmental liability at the property when it acquired a portion of the site for USH 51 construction activities. TRC sent you a letter on November 22, 2017, which contained additional background information and contained an access agreement that you completed prior to the January 31, 2018 property walk-through. TRC performed the first round of sampling at your property on March 22 and 23, 2018, and the results were provided to you in a letter dated April 23, 2018.

Pursuant to a WDNR-approved Work Plan and on behalf of the WisDOT, TRC collected samples of air from beneath the building slab and from indoor air within the lower level of your building located at 527 Oneida Street. The purpose of this sampling is to determine whether vapors from the identified groundwater contaminants are present beneath and/or inside of your building and, if so, at what levels. Data from the air samples and groundwater quality in the area is being used to assess your property's risk of vapor intrusion.

None of the indoor air or sub-slab vapor samples collected at your property on June 26 and 27, 2018, exceeded WDNR indoor vapor action levels or sub-slab vapor screening levels, respectively. It is important to understand that detections in the indoor air may not necessarily originate from the groundwater impacts and could be caused by items stored in the building and/or the outdoor air quality.

The attached Figure 1 indicates the location of each air sample collected at your property. The laboratory analytical reports are included in Attachment 1 for your records, and the analytical data are summarized and compared to WDNR screening levels in Table 1.

Based on the analytical results from the March and June vapor sampling events, the WDNR will determine if a third sampling event is required. At that point, TRC will contact you to coordinate either a third sampling event or abandonment of the onsite sampling equipment. If you have any questions, please feel free to contact Ted O'Connell with TRC at (608) 826-3648, Carrie Stoltz (715) 365-8942 or Carrie Stoltz (715) 365-8942 or Chris Saari (715) 685-2920 with the WDNR, or Sharlene TeBeest with the WisDOT at (608) 266-1476 or 4822 Madison Yards Way, Madison, WI 53705.

Sincerely,

TRC Environmental Corporation

Ted O'Connell
Project Manager

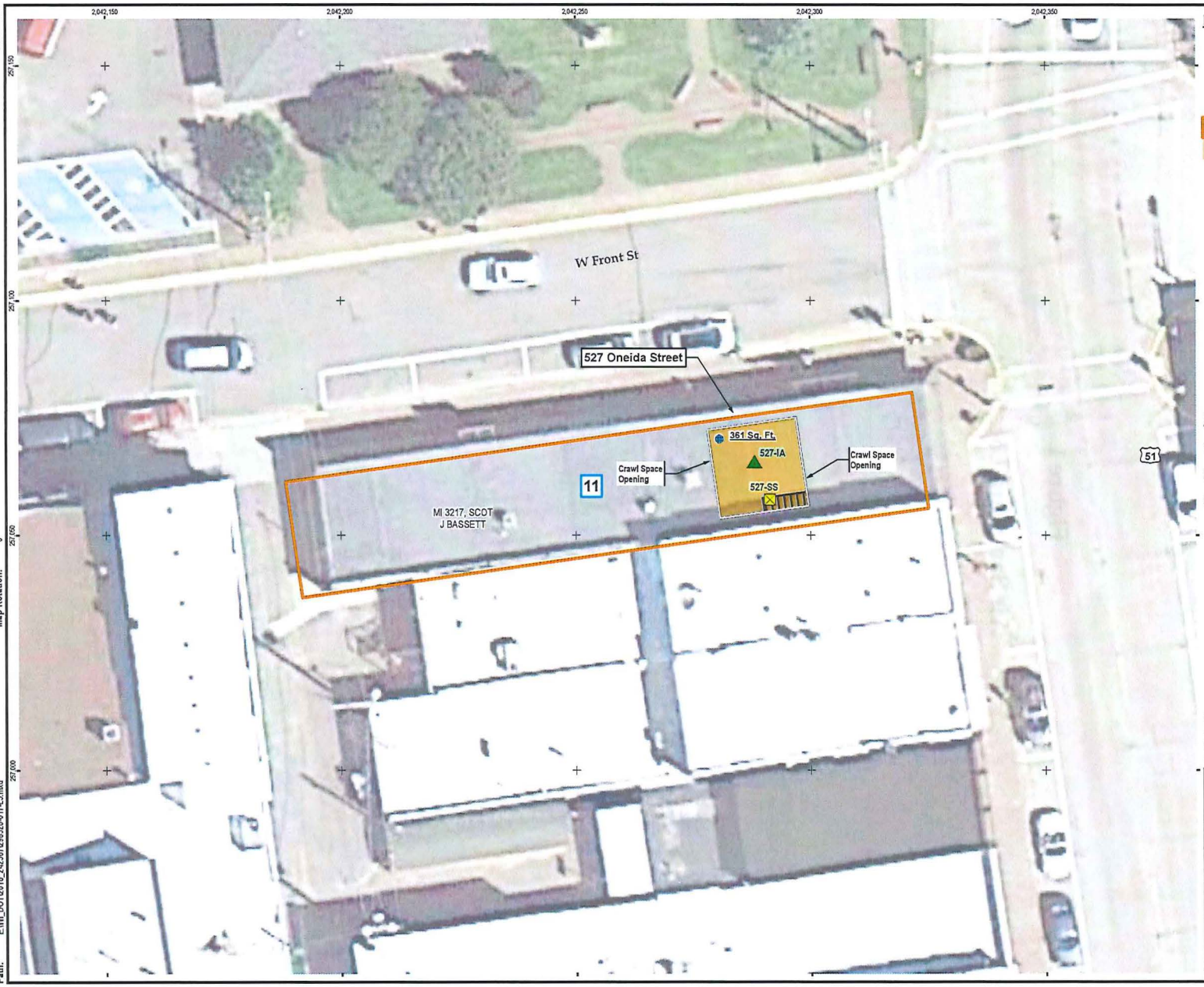
Andrew M. Stehn
Project Engineer, PE

cc: Sharlene TeBeest, WisDOT
Carrie Stoltz, WDNR
Chris Saari, WDNR

Attachments: Figure 1 – Air Sampling Locations
Table 1 – Air Sampling Results Table
Attachment 1 – Laboratory Report

Figure 1

Air Sampling Locations



LEGEND

- 1 — TRC PROPERTY ID
- INDOOR AIR SAMPLE
- SUB-SLAB SAMPLE
- APPROXIMATE LOCATION OF SUMP CROCK
- APPROXIMATE BUILDING EXTENT
- APPROXIMATE LOWER LEVEL CONCRETE FLOOR
- APPROXIMATE PARCEL BOUNDARY

NOTES

1. BASEMAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, JULY 2015.
2. MAP ROJECTION AND GRID COORDINATES ARE NAD83 STATE PLANE WISCONSIN-NORTH (US SURVEY FEET).
3. ALL MAP FEATURE LOCATIONS AND SIZES ARE APPROXIMATE.

0 20 40 Feet

1 " = 20 '

1:240

N

PROJECT:

WISDOT ID# 0656-50-31
FORMER NORTHWOODS LAUNDRY
MINOCQUA, ONEIDA COUNTY, WISCONSIN

TITLE:

PROPERTY LAYOUT WITH SAMPLE LOCATIONS

DRAWN BY:	R. SUEMNICHT	PROJ NO.:	298526
CHECKED BY:	A. SCHROEDER		
APPROVED BY:	T. O'CONNELL		**FIGURE 1**
DATE:	APRIL 2018		

TRC
708 Heartland Trail, Suite 3000
Madison, WI 53717
Phone: 608.826.3600
www.trcsolutions.com

FILE NO.: 298526-017-L5.mxd

Plot Date: 4/20/2018, 15:36:20 PM by RSUEMNICHT – LAYOUT: ANSI B(11"x17")
Path: E:\WI_DOT\2016_2426\298526-017-L5.mxd

Coordinate System: NAD 1983 StatePlane Wisconsin North FIPS 4801 Feet (Foot US)
Map Rotation: 0

TRC - GIS

Table 1

Air Sampling Results Table

Table 1
Vapor Sampling Results
Former Northwoods Laundry - Minocqua, Oneida County, WI
BRRTS #02-44-000517, WisDOT #0656-50-31

Map ID	Address	Sample Type	Sample ID	Date	Leak Check	Shut-In Test[4]	Helium Shroud Test			Vapor Sampling				
					Water Dam[3]		Background[5]	Inside Shroud[6]	Sample Port[7]	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chlorine
					-	-	%	%	%	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
11	527 Oneida St., Minocqua, WI 54548	Indoor Air	527-IA	3/22/2018 - 3/23/2018	-	-	-	-	-	0.55J	<0.42	<0.53	<0.46	<0.20
		Indoor Air		6/26/2018 - 6/27/2018	-	-	-	-	-	<0.44	<0.41	<0.52	<0.45	<0.19
		Sub-Slab	527-SS	3/23/2018	Pass	Pass	0	37	0	9.6	<0.43	<0.55	<0.47	<0.20
		Sub-Slab		6/27/2018	Pass	Pass	0	22	0.01	13.4	<0.44	<0.56	<0.48	<0.21
Small Commercial					Indoor Vapor Action Level[1]					180	8.8	--	--	28
					Sub-Slab Vapor Screening Level[2]					6,000	290	--	--	930

Notes:
VAL = Vapor Action Level
VSL - Vapor Screening Level
- = not applicable
-- = no standard developed for this parameter
Bold text indicates an exceedance of an Indoor Vapor Action Level or Sub-Slab Vapor Screening Level

Prepared by: T. Perkins 3/31/2018
Checked by: A. Schroeder 4/4/2018
Updated by: A. Stehn 4/16/2018
Checked by: A. Schroeder 4/16/2018
Updated by: A. Schroeder 7/17/2018
Checked by: P. Rosowski 7/17/2018

Footnotes:
(1) Vapor Action Levels for Indoor Air from Regional Screening Tables: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017. Uses a 1-in-100,000 excess lifetime cancer risk and HI=1 for screening indoor air.
(2) An attenuation factor of 0.03 (dilution factor of 33) is applied to the Indoor Vapor Action Levels to determine the Vapor Screening Levels for Sub-Slab Vapor for residential/small commercial buildings.
(3) Water dam was created by pouring water around the Cox-Colvin Vapor Pin™ sample port following installation. If water maintained constant head, then tight seal was verified at the port.
(4) A vacuum was applied to the sample train and allowed to sit for 6 minutes based on the use of 6-L Summa canisters. If there was no noticeable change in the vacuum, the shut-in test passed.
(5) A helium meter was connected to the vapor probe and the sub-slab vapors were tested to obtain a background concentration prior to the helium test being completed.
(6) A shroud was installed around the vapor pin and filled with helium at a concentration between 20% and 50% by volume.
(7) While helium at a concentration between 20% and 50% by volume was maintained in the shroud, sub-slab vapors were retested using the helium meter. If the concentration was less than 5% by volume, the helium test passed and a sample was collected.

Attachment 1

Laboratory Report

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

July 06, 2018

Andrew Stehn
TRC
708 Heartland Trail
Madison, WI 53717

RE: Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

Dear Andrew Stehn:
Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2018. 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.

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

Sincerely,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
1(612)607-6351
Project Manager

Enclosures

cc: Theodore O'Connell, TRC
Peggy Popp, TRC Solutions

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

CERTIFICATIONS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
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
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
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 #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
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
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 NwTPH 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
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970
Wyoming UST Certification #: 2926.01 via A2LA

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

SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10437974001	**527-IA**	Air	06/27/18 14:46	07/02/18 13:25
10437974002	**527-SS**	Air	06/27/18 15:44	07/02/18 13:25

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10437974001	**527-IA**	TO-15	AFV	5
10437974002	**527-SS**	TO-15	AFV	5

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

PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

Method: **TO-15**
Description: TO15 MSV AIR
Client: TRC-WI
Date: July 06, 2018

General Information:
2 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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

ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

Sample: 527-IA **Lab ID: 10437974001** Collected: 06/27/18 14:46 Received: 07/02/18 13:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.52**	ug/m3	1.2	0.52	1.52		07/03/18 15:27	156-59-2	
trans-1,2-Dichloroethene	**<0.45**	ug/m3	1.2	0.45	1.52		07/03/18 15:27	156-60-5	
Tetrachloroethene	**<0.44**	ug/m3	1.0	0.44	1.52		07/03/18 15:27	127-18-4	
Trichloroethene	**<0.41**	ug/m3	0.83	0.41	1.52		07/03/18 15:27	79-01-6	
Vinyl chloride	**<0.19**	ug/m3	0.40	0.19	1.52		07/03/18 15:27	75-01-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

Sample: 527-SS **Lab ID: 10437974002** Collected: 06/27/18 15:44 Received: 07/02/18 13:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.56**	ug/m3	1.3	0.56	1.64		07/03/18 16:29	156-59-2	
trans-1,2-Dichloroethene	**<0.48**	ug/m3	1.3	0.48	1.64		07/03/18 16:29	156-60-5	
Tetrachloroethene	**13.4**	ug/m3	1.1	0.47	1.64		07/03/18 16:29	127-18-4	
Trichloroethene	**<0.44**	ug/m3	0.90	0.44	1.64		07/03/18 16:29	79-01-6	
Vinyl chloride	**<0.21**	ug/m3	0.43	0.21	1.64		07/03/18 16:29	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: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

QC Batch: 548412
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10437974001, 10437974002

METHOD BLANK: 2981152 Matrix: Air
Associated Lab Samples: 10437974001, 10437974002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.34	0.81	07/03/18 09:26	
Tetrachloroethene	ug/m3	<0.29	0.69	07/03/18 09:26	
trans-1,2-Dichloroethene	ug/m3	<0.30	0.81	07/03/18 09:26	
Trichloroethene	ug/m3	<0.27	0.55	07/03/18 09:26	
Vinyl chloride	ug/m3	<0.13	0.26	07/03/18 09:26	

LABORATORY CONTROL SAMPLE: 2981153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	40.3	43.3	108	70-136	
Tetrachloroethene	ug/m3	68.9	70.7	103	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	40.9	101	70-132	
Trichloroethene	ug/m3	54.6	59.5	109	70-135	
Vinyl chloride	ug/m3	26	27.3	105	70-141	

SAMPLE DUPLICATE: 2981491

Parameter	Units	10437786001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.55		25	
Tetrachloroethene	ug/m3	1.9	1.8	5	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.47		25	
Trichloroethene	ug/m3	ND	<0.43		25	
Vinyl chloride	ug/m3	ND	<0.20		25	

SAMPLE DUPLICATE: 2981495

Parameter	Units	10437786002 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.58		25	
Tetrachloroethene	ug/m3	1.8	1.7	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.50		25	
Trichloroethene	ug/m3	ND	<0.46		25	
Vinyl chloride	ug/m3	ND	<0.22		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: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

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 and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

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 - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437974

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10437974001	**527-IA**	TO-15	548412		
10437974002	**527-SS**	TO-15	548412		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY /

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

WO# : 10437974

10437974

31919 Page: of 1

Section A Required Client Information:

Company: TRC
Address: 708 Heartland Trail, Suite 3000
Madison, WI 53717
Email To: astehn@trcsolutions.com
Phone: 608 826 3665 Fax:
Requested Due Date/TAT: Standard

Section B Required Project Information:

Report To: Andrew Stehn
Copy To: Theodore O'Connell
toconnell@trcsolutions.com
Purchase Order No.: 120030
Project Name: Northwoods/WisDOT
Project Number: 298526

Section C Invoice Information:

Attention: Theodore O'Connell
Company Name: TRC
Address: Same as section A
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: ~~37608~~ AES 34570

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

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

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 -3.5 AES	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)	See Comment	Pace Lab ID
1	527-1A	6LC		6/26/18	15:06	6/27/18	14:46	-30	~~-4~~	3412712599											X	001
2	527-SS	↓		6/27/18	15:10	6/27/18	15:44	-30	-6	0200172929											↓	002
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Comments: Analyze for PCE, TCE, cis-1,2DCE, trans-1,2DCE, and VC

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
~~AES~~ / TRC	6/28/18	13:45	GRACE	7-2-18	1325

SAMPLE CONDITIONS

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

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

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 02May2018 Page 1 of 1
	Document No.: F-MN-A-106-rev.15	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: TRC

Project #: **WO#: 10437974**

PM: CT1 **Due Date: 07/10/18**

CLIENT: TRC-WI

Courier: [X] Fed Ex [ ] UPS [ ] Speedee [ ] Client [ ] Commercial [ ] Pace [ ] Other:

Tracking Number: See Exceptions

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

Optional: Proj. Due Date: Proj. Name:

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):** **Thermom. Used:** [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** **Date & Initials of Person Examining Contents:** RG 7/2/18

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?	[ ] Yes	[X] 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?	[X] Yes	[ ] No	9.
-Pace Containers Used?	[X] Yes	[ ] No	
Containers Intact?	[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.

Samples Received: 4 Cannes 1-TO Fitting Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
IA			-3.5	+5					
SS			-5.5	+1					

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

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Carolyne Trust **Date:** 7/2/18

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)

SCUR Exceptions: **Workorder #:**

Issue	Sample ID	Container Type/#
7476 3008 0353		
0390		
0346		
0335		
0379		
0380		
0405		
0368		

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH Upon Receipt	Date Preservation Adjusted	Time Preservation Adjusted	Amount of Additional Preservative Added	Lot # of Preservative Added	pH After Adjustment	Initials

Stoltz, Carrie R - DNR

From: Voit, Angela <AVoit@trcsolutions.com>
Sent: Monday, July 30, 2018 9:39 AM
To: DOT Hazmat Unit; Stoltz, Carrie R - DNR; Saari, Christopher A - DNR
Cc: O'Connell, Theodore; Stehn, Andrew; Schroeder, Alia
Subject: WisDOT 0656-50-31_BRRTS 02-44-000517_Vapor Intrusion Results 2nd Sampling Event_405 Front St_Schmitz
Attachments: WisDOT 0656-50-31_BRRTS 02-44-000517_Vapor Results 2nd Sampling Event_405 Front St_Schmitz.pdf

Attached are the vapor monitoring results for the 2nd sampling event for 405 Front St in Minocqua. This letter is being mailed to the property owner today.

Please contact Ted with any questions.

Angie Voit
Senior Project Coordinator

TRC
Results you can rely on

708 Heartland Trail, Suite 3000, Madison, WI 53717
T: 608.444.3509 | avoit@trcsolutions.com

LinkedIn | Twitter | Blog | Flickr | www.trcsolutions.com

708 Heartland Trail
Suite 3000
Madison, WI 53717

608-826-3600 PHONE
608-826-3941 FAX

www.TRCsolutions.com

July 30, 2018

William R. Schmitz
N95 W26740 Hwy Q
Colgate, WI 53017

Subject: Vapor Monitoring Results – Second Sampling Event
405 Front Street, Minocqua, WI 54548
WisDOT ID #0656-50-31
WDNR BRRTS #02-44-000517

Dear Mr. Schmitz:

Our client, the Wisconsin Department of Transportation (WisDOT), has been cooperating with the Wisconsin Department of Natural Resources (WDNR) to evaluate and, if necessary, to remediate residual compounds in the groundwater potentially originating from the former Northwoods Laundry property (405 Front Street, Minocqua, WI). Historic dry cleaning activities at the former Northwoods Laundry property contaminated site soil and groundwater with chlorinated volatile organic compounds, primarily trichloroethene and tetrachloroethene. Information about this site is available in the WDNR's Bureau for Remediation and Redevelopment Tracking System (BRRTS) online, as site #02-44-000517. The WisDOT became responsible for the environmental liability at the property when it acquired a portion of the site for USH 51 construction activities. TRC sent you a letter on November 22, 2017, which contained additional background information and contained an access agreement that you completed prior to the January 31, 2018 property walk-through. TRC performed the first round of sampling at your property on March 23, 2018, and the results were provided to you in a letter dated April 23, 2018.

Pursuant to a WDNR-approved Work Plan and on behalf of the WisDOT, TRC collected a sample of air from beneath the slab of your building located at 405 Front Street. The purpose of this sampling is to determine whether vapors from the identified groundwater contaminants are present beneath your building and, if so, at what levels. Data from the air samples and groundwater quality in the area is being used to assess your property's risk of vapor intrusion.

The sub-slab vapor sample collected at your property on June 26, 2018, did not exceed the WDNR sub-slab vapor screening levels for the contaminants of concern. The attached Figure 1 indicates the location of the air sample collected at your property. The laboratory analytical reports are included in Attachment 1 for your records, and the analytical data are summarized and compared to WDNR screening levels in Table 1.

Based on the analytical results from the March and June vapor sampling events, the WDNR will determine if a third sampling event is required. At that point, TRC will contact you to coordinate either a third sampling event or abandonment of the onsite sampling equipment. If you have any questions, please feel free to contact Ted O'Connell with TRC at (608) 826-3648, Carrie Stoltz (715) 365-8942 or Carrie Stoltz (715) 365-8942 or Chris Saari (715) 685-2920 with the WDNR, or Sharlene TeBeest with the WisDOT at (608) 266-1476 or 4822 Madison Yards Way, Madison, WI 53705.

Sincerely,

TRC Environmental Corporation

Ted O'Connell
Project Manager

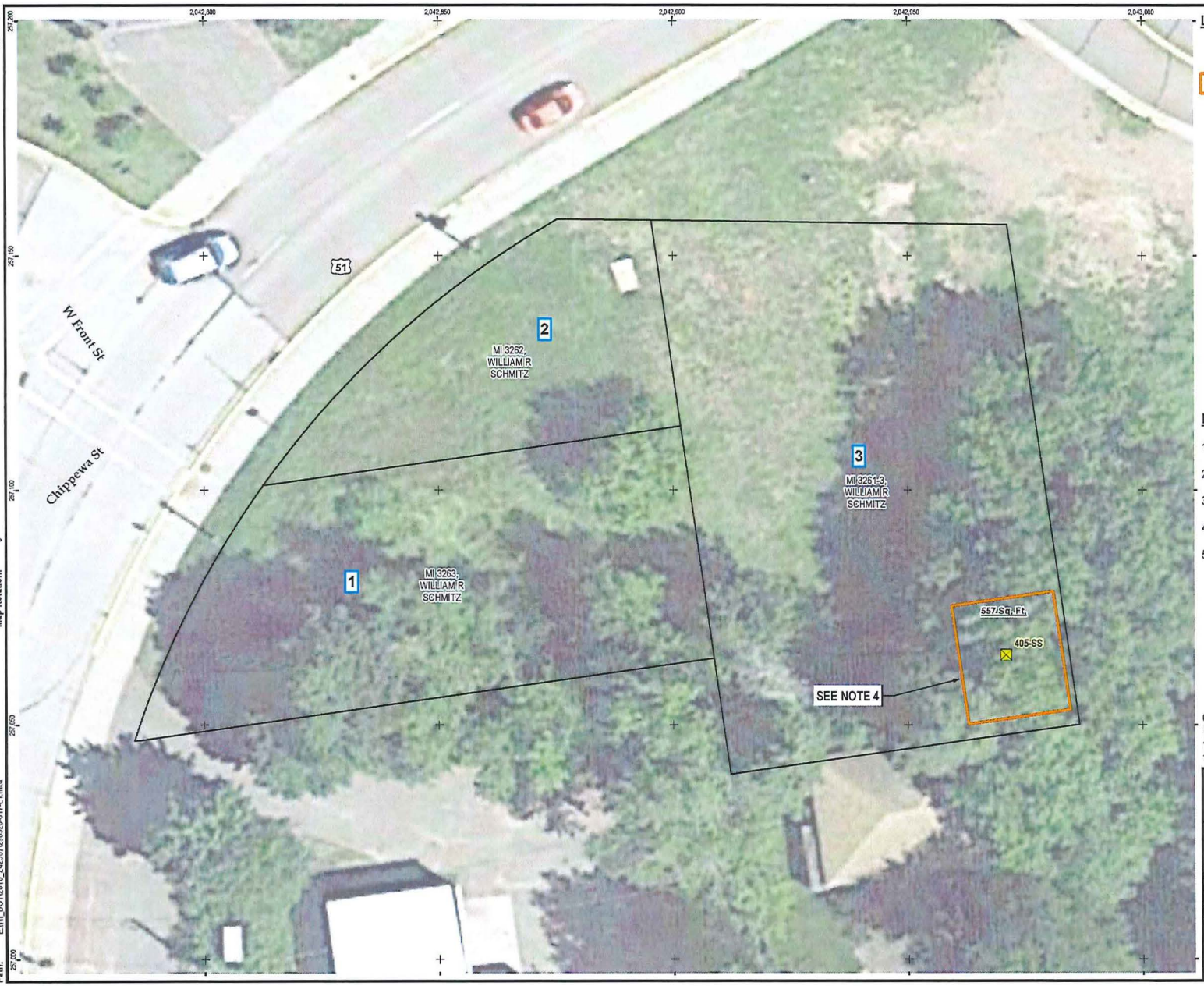
Andrew M. Stehn
Project Engineer, PE

cc: Sharlene TeBeest, WisDOT
Carrie Stoltz, WDNR
Chris Saari, WDNR

Attachments: Figure 1 – Air Sampling Locations
Table 1 – Air Sampling Results Table
Attachment 1 – Laboratory Report

Figure 1

Air Sampling Locations



LEGEND

- 1 — TRC PROPERTY ID
- SUB-SLAB SAMPLE
- APPROXIMATE BUILDING EXTENT
- APPROXIMATE PARCEL BOUNDARY

NOTES

1. BASEMAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, JULY 2015.
2. MAP ROJECTION AND GRID COORDINATES ARE NAD83 STATE PLANE WISCONSIN-NORTH (US SURVEY FEET).
3. ALL MAP FEATURE LOCATIONS AND SIZES ARE APPROXIMATE.
4. BUILDING CONTAINS A SLAB CONSTRUCTED ON GRADE, NO LOWER LEVEL PRESENT.
5. NO INDOOR AIR SAMPLE WAS INSTALLED BASED ON THE BUILDING CONDITION.

0 20 40 Feet

1 " = 20 '
1:240

N

PROJECT:
WISDOT ID# 0656-50-31
FORMER NORTHWOODS LAUNDRY
MINOCQUA, ONEIDA COUNTY, WISCONSIN

TITLE:
PROPERTY LAYOUT
WITH SAMPLE LOCATIONS

DRAWN BY:	R. SUEMNICHT	PROJ NO.:	298526
CHECKED BY:	A. SCHROEDER		
APPROVED BY:	T. O'CONNELL		
DATE:	APRIL 2018		

FIGURE 1

TRC
708 Heartland Trail, Suite 3000
Madison, WI 53717
Phone: 608.826.3600
www.trcsolutions.com

FILE NO.: 298526-017-L1.mxd

Plot Date: 4/20/2018, 15:32:35 PM by RSUEMNICHT – LAYOUT: ANSI B(11"x17")
Path: E:\WI_DOT\2016_2425\7\298526-017-L1.mxd
Coordinate System: NAD 1983 StatePlane Wisconsin North FIPS 4801 Feet (Foot US)
Map Rotation: 0
TRC – GIS

Table 1

Air Sampling Results Table

Table 1
Vapor Sampling Results
Former Northwoods Laundry - Minocqua, Oneida County, WI
BRRTS #02-44-000517, WisDOT #0656-50-31

Map ID	Address	Sample Type	Sample ID	Date	Leak Check	Shut-In Test[4]	Helium Shroud Test			Vapor Sampling				
					Water Dam[3]		Background[5]	Inside Shroud[6]	Sample Port[7]	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chlorine
					-	-	%	%	%	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
3	405 Front Street, Minocqua, WI 54548	Sub-Slab	405-SS	3/23/2018	Pass	Pass	0	45.3	0	15.5	<0.42	<0.54	<0.47	<0.20
		Sub-Slab		6/26/2018	Pass	Pass	0	25	0	114	<0.43	<0.55	4.5	<0.20
Small Commercial					Indoor Vapor Action Level[1]					180	8.8	--	--	28
					Sub-Slab Vapor Screening Level[2]					6,000	290	--	--	930

Notes:

VAL = Vapor Action Level

VSL - Vapor Screening Level

- = not applicable

-- = no standard developed for this parameter

Bold text indicates an exceedance of an Indoor Vapor Action Level or Sub-Slab Vapor Screening Level

Prepared by: T. Perkins 3/31/2018
Checked by: A. Schroeder 4/4/2018
Updated by: A. Stehn 4/16/2018
Checked by: A. Schroeder 4/16/2018
Updated by: A. Schroeder 7/17/2018
Checked by: P. Rosowski 7/17/2018

Footnotes:

(1) Vapor Action Levels for Indoor Air from Regional Screening Tables: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017. Uses a 1-in-100,000 excess lifetime cancer risk and HI=1 for screening indoor air.

(2) An attenuation factor of 0.03 (dilution factor of 33) is applied to the Indoor Vapor Action Levels to determine the Vapor Screening Levels for Sub-Slab Vapor for residential/small commercial buildings.

(3) Water dam was created by pouring water around the Cox-Colvin Vapor Pin™ sample port following installation. If water maintained constant head, then tight seal was verified at the port.

(4) A vacuum was applied to the sample train and allowed to sit for 6 minutes based on the use of 6-L Summa canisters. If there was no noticeable change in the vacuum, the shut-in test passed.

(5) A helium meter was connected to the vapor probe and the sub-slab vapors were tested to obtain a background concentration prior to the helium test being completed.

(6) A shroud was installed around the vapor pin and filled with helium at a concentration between 20% and 50% by volume.

(7) While helium at a concentration between 20% and 50% by volume was maintained in the shroud, sub-slab vapors were retested using the helium meter. If the concentration was less than 5% by volume, the helium test passed and a sample was collected.

Attachment 1

Laboratory Report

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

July 06, 2018

Andrew Stehn
TRC
708 Heartland Trail
Madison, WI 53717

RE: Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

Dear Andrew Stehn:
Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2018. 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.

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

Sincerely,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
1(612)607-6351
Project Manager

Enclosures

cc: Theodore O'Connell, TRC
Peggy Popp, TRC Solutions

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

CERTIFICATIONS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
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
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
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 #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
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
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 NwTPH 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
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970
Wyoming UST Certification #: 2926.01 via A2LA

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

SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10437978001	**405-SS**	Air	06/26/18 14:48	07/02/18 13:25
10437978002	**Unused Can #3426**	Air		07/02/18 13:25
10437978003	**Unused Can #1575**	Air		07/02/18 13:25
10437978004	**Unused Can #1285**	Air		07/02/18 13:25
10437978005	**Unused Can #0940**	Air		07/02/18 13:25
10437978006	**Unused Can #2714**	Air		07/02/18 13:25

REPORT OF LABORATORY ANALYSIS

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

SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10437978001	**405-SS**	TO-15	AFV	5

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

Method: **TO-15**
Description: TO15 MSV AIR
Client: TRC-WI
Date: July 06, 2018

General Information:
1 sample was analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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

ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

Sample: 405-SS **Lab ID: 10437978001** Collected: 06/26/18 14:48 Received: 07/02/18 13:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.55**	ug/m3	1.3	0.55	1.61		07/03/18 15:58	156-59-2	
trans-1,2-Dichloroethene	**4.5**	ug/m3	1.3	0.47	1.61		07/03/18 15:58	156-60-5	
Tetrachloroethene	**114**	ug/m3	1.1	0.46	1.61		07/03/18 15:58	127-18-4	
Trichloroethene	**<0.43**	ug/m3	0.88	0.43	1.61		07/03/18 15:58	79-01-6	
Vinyl chloride	**<0.20**	ug/m3	0.42	0.20	1.61		07/03/18 15:58	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: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

QC Batch: 548412
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10437978001

METHOD BLANK: 2981152 Matrix: Air
Associated Lab Samples: 10437978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.34	0.81	07/03/18 09:26	
Tetrachloroethene	ug/m3	<0.29	0.69	07/03/18 09:26	
trans-1,2-Dichloroethene	ug/m3	<0.30	0.81	07/03/18 09:26	
Trichloroethene	ug/m3	<0.27	0.55	07/03/18 09:26	
Vinyl chloride	ug/m3	<0.13	0.26	07/03/18 09:26	

LABORATORY CONTROL SAMPLE: 2981153

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	40.3	43.3	108	70-136	
Tetrachloroethene	ug/m3	68.9	70.7	103	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	40.9	101	70-132	
Trichloroethene	ug/m3	54.6	59.5	109	70-135	
Vinyl chloride	ug/m3	26	27.3	105	70-141	

SAMPLE DUPLICATE: 2981491

Parameter	Units	10437786001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.55		25	
Tetrachloroethene	ug/m3	1.9	1.8	5	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.47		25	
Trichloroethene	ug/m3	ND	<0.43		25	
Vinyl chloride	ug/m3	ND	<0.20		25	

SAMPLE DUPLICATE: 2981495

Parameter	Units	10437786002 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.58		25	
Tetrachloroethene	ug/m3	1.8	1.7	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.50		25	
Trichloroethene	ug/m3	ND	<0.46		25	
Vinyl chloride	ug/m3	ND	<0.22		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: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

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 and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

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 - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437978

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10437978001	**405-SS**	TO-15	548412		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY /

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

WO# : 10437978

10437978

32455 | Page: 1 of 1

Section A Required Client Information:

Company: TRC
Address: 708 Heartland Trail, Suite 3000
Madison, WI 53717
Email To: astehn@trcsolutions.com
Phone: 608-826-3465 Fax:
Requested Due Date/TAT: standard

Section B Required Project Information:

Report To: Andrew Stehn
Copy To: Theodore O'Connell
toconnell@trcsolutions.com
Purchase Order No.: 120030
Project Name: Northwoods/WisDOT
Project Number: 298526

Section C Invoice Information:

Attention: Theodore O'Connell
Company Name: TRC
Address: same as section A
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 34570

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

Valid Media Codes: Tedlar Bag TB; 1 Liter Summa Can 1LC; 6 Liter Summa Can 6LC; Low Volume Puff LVP; High Volume Puff HVP; Other PM10

ITEM #	Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	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: 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	405-SS	6LC		6/26/18	14:17	6/26/18	14:48	-25	-5	01466	1110							X			
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Method: see Comment

Comments: Analyze for PCE, TCE, cis-1,2 DCE, trans-1,2 DCE, and VC

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Alex Schuett / TRC	6/28/18	13:45	[illegible] PACE	7-2-18	1325

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY)

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 02May2018 Page 1 of 1
	Document No.: F-MN-A-106-rev.15	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: TRC

Project #: **WO#: 10437978**

PM: CT1 Due Date: 07/10/18

CLIENT: TRC-WI

Courier: [X] Fed Ex [ ] UPS [ ] Speedee [ ] Client [ ] Commercial [ ] Pace [ ] Other:

Tracking Number: See exceptions

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

Optional: Proj. Due Date: Proj. Name:

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): — Thermom. Used: [ ] G87A9170600254 [X] G87A9155100842

Temp should be above freezing to 6°C Correction Factor: Date & Initials of Person Examining Contents: RG 7/2/18

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?	[ ] Yes	[X] 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?	[X] Yes	[ ] No	9.
-Pace Containers Used?	[X] Yes	[ ] No	
Containers Intact?	[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.

Samples Received: 14 Cans | 1-TS; Hing

Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
405			-5	+5					
Unused	3426	1248	-28	—					
	1575	2836	-29	—					
	1285	0888	-29	—					
	0940	1751	-29	—					
	2714	0768	-29	—					

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

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Carolyne Trust Date: 7/2/18

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)

SCUR Exceptions: **Workorder #:**

Issue	Sample ID	Container Type/#
7476 3008 0353		
0390		
0346		
0335		
0379		
0380		
0405		
0368		

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH Upon Receipt	Date Preservation Adjusted	Time Preservation Adjusted	Amount of Additional Preservative Added	Lot # of Preservative Added	pH After Adjustment	Initials

Stoltz, Carrie R - DNR

From: Voit, Angela <AVoit@trcsolutions.com>
Sent: Monday, July 30, 2018 9:38 AM
To: DOT Hazmat Unit; Stoltz, Carrie R - DNR; Saari, Christopher A - DNR
Cc: O'Connell, Theodore; Stehn, Andrew; Schroeder, Alia
Subject: WisDOT 0656-50-31_BRRTS 02-44-000517_Vapor Intrusion Results 2nd Sampling Event_524 Oneida St and 301-307 E. Front St_Teichmiller
Attachments: WisDOT 0656-50-31_BRRTS 02-44-000517_Vapor Results 2nd Sampling Event_524 Oneida St and 301-307 E. Front St_Teichmiller.pdf

Attached are the vapor monitoring results for the 2nd sampling event for 524 Oneida St and 301-307 E. Front St in Minocqua. This letter is being mailed to the property owner today.

Please contact Ted with any questions.

Angie Voit
Senior Project Coordinator

TRC Results you can rely on

708 Heartland Trail, Suite 3000, Madison, WI 53717
T: 608.444.3509 | avoit@trcsolutions.com

LinkedIn | Twitter | Blog | Flickr | www.trcsolutions.com

708 Heartland Trail
Suite 3000
Madison, WI 53717

608-826-3600 PHONE
608-826-3941 FAX

www.TRCsolutions.com

July 30, 2018

Teichmiller Enterprises Inc.
PO Box 876
Minocqua, WI 54548

Subject: Vapor Monitoring Results – Second Sampling Event
524 Oneida Street and 301-307 E Front Street, Minocqua, WI 54548
WisDOT ID #0656-50-31
WDNR BRRTS #02-44-000517

Dear Teichmiller Enterprises Inc.:

Our client, the Wisconsin Department of Transportation (WisDOT), has been cooperating with the Wisconsin Department of Natural Resources (WDNR) to evaluate and, if necessary, to remediate residual compounds in the groundwater potentially originating from the former Northwoods Laundry property (405 Front Street, Minocqua, WI). Historic dry cleaning activities at the former Northwoods Laundry property contaminated site soil and groundwater with chlorinated volatile organic compounds, primarily trichloroethene and tetrachloroethene. Information about this site is available in the WDNR's Bureau for Remediation and Redevelopment Tracking System (BRRTS) online, as site #02-44-000517. The WisDOT became responsible for the environmental liability at the property when it acquired a portion of the site for USH 51 construction activities. TRC sent you a letter on November 22, 2017, which contained additional background information and contained an access agreement that you completed prior to the January 31, 2018 property walk-through. TRC performed the first round of sampling at your property on March 21 and 22, 2018, and the results were provided to you in a letter dated April 23, 2018.

Pursuant to a WDNR-approved Work Plan and on behalf of the WisDOT, TRC collected samples of air from beneath the building slab and from indoor air within the lower level of your building located at 524 Oneida Street and 301-307 E Front Street. The purpose of this sampling is to determine whether vapors from the identified groundwater contaminants are present beneath and/or inside of your building and, if so, at what levels. Data from the air samples and groundwater quality in the area is being used to assess your property's risk of vapor intrusion.

None of the indoor air or sub-slab vapor samples collected at your property on June 26 and 27, 2018, exceeded WDNR indoor vapor action levels or sub-slab vapor screening levels, respectively. It is important to understand that detections in the indoor air may not necessarily originate from the groundwater impacts and could be caused by items stored in the building and/or the outdoor air quality.

The attached Figure 1 indicates the location of each air sample collected at your property. The laboratory analytical reports are included in Attachment 1 for your records, and the analytical data are summarized and compared to WDNR screening levels in Table 1.

Based on the analytical results from the March and June vapor sampling events, the WDNR will determine if a third sampling event is required. At that point, TRC will contact you to coordinate either a third sampling event or abandonment of the onsite sampling equipment.

If you have any questions, please feel free to contact Ted O'Connell with TRC at (608) 826-3648, Carrie Stoltz (715) 365-8942 or Carrie Stoltz (715) 365-8942 or Chris Saari (715) 685-2920 with the WDNR, or Sharlene TeBeest with the WisDOT at (608) 266-1476 or 4822 Madison Yards Way, Madison, WI 53705.

Sincerely,

TRC Environmental Corporation

Ted O'Connell
Project Manager

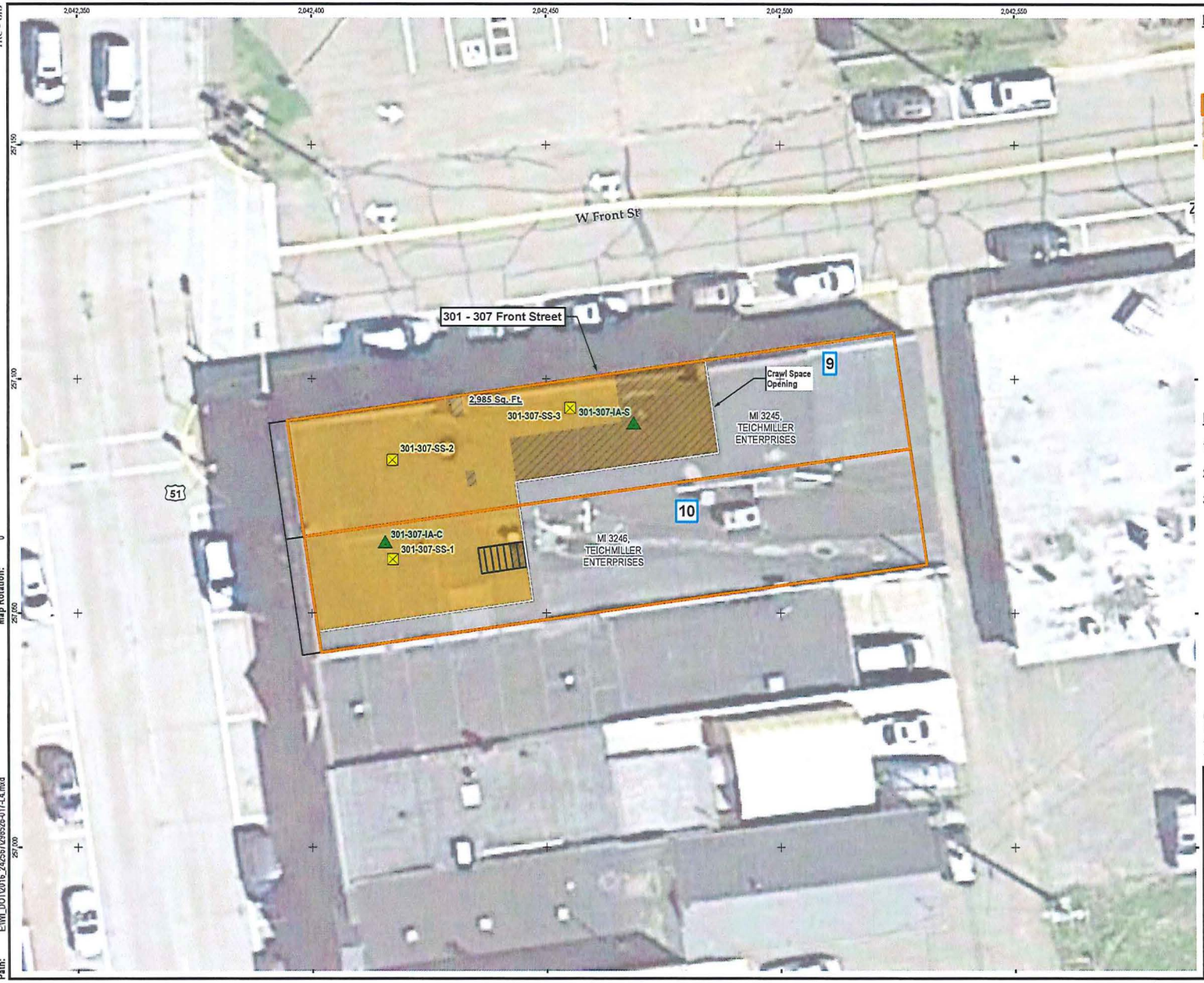
Andrew M. Stehn
Project Engineer, PE

cc: Sharlene TeBeest, WisDOT
Carrie Stoltz, WDNR
Chris Saari, WDNR

Attachments: Figure 1 – Air Sampling Locations
Table 1 – Air Sampling Results Table
Attachment 1 – Laboratory Report

Figure 1

Air Sampling Locations



LEGEND

- 1 — TRC PROPERTY ID
- INDOOR AIR SAMPLE
- SUB-SLAB SAMPLE
- APPROXIMATE BUILDING EXTENT
- APPROXIMATE LOWER LEVEL DIRT FLOOR
- APPROXIMATE LOWER LEVEL CONCRETE FLOOR
- APPROXIMATE PARCEL BOUNDARY

NOTES

1. BASEMAP IMAGERY FROM GOOGLE EARTH PRO & PARTNERS, JULY 2015.
2. MAP ROJECTION AND GRID COORDINATES ARE NAD83 STATE PLANE WISCONSIN-NORTH (US SURVEY FEET).
3. ALL MAP FEATURE LOCATIONS AND SIZES ARE APPROXIMATE.

0 20 40 Feet

1 " = 20 '
1:240

N

PROJECT:
WISDOT ID# 0656-50-31
FORMER NORTHWOODS LAUNDRY
MINOCQUA, ONEIDA COUNTY, WISCONSIN

TITLE:
PROPERTY LAYOUT
WITH SAMPLE LOCATIONS

DRAWN BY:	R. SUEMNICHT	PROJ NO.:	298526
CHECKED BY:	A. SCHROEDER		
APPROVED BY:	T. O'CONNELL		FIGURE 1
DATE:	APRIL 2018		

TRC
708 Heartland Trail, Suite 3000
Madison, WI 53717
Phone: 608.826.3600
www.trcsolutions.com

FILE NO.: 298526-017-L4.mxd

Plot Date: 4/20/2018, 15:35:30 PM by RSUEMNICHT – LAYOUT ANSI B(11x17)
Path: E:\WI_DOT\2016_24256\298526-017-L4.mxd
Coordinate System: NAD 1983 StatePlane Wisconsin North FIPS 4801 Feet (Foot US)
Map Rotation: 0
TRC - GIS

Table 1

Air Sampling Results Table

Table 1
Vapor Sampling Results
Former Northwoods Laundry - Minocqua, Oneida County, WI
BRRTS #02-44-000517, WisDOT #0656-50-31

Map ID	Address	Sample Type	Sample ID	Date	Leak Check	Shut-In Test[4]	Helium Shroud Test			Vapor Sampling				
					Water Dam[3]		Background[5]	Inside Shroud[6]	Sample Port[7]	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chlorine
					-	-	%	%	%	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3
9 & 10	301 -307 E Front St., Minocqua, WI 54548 & 524 Oneida St., Minocqua, WI 54548	Indoor Air	301-307-IA-C	3/21/2018 - 3/22/2018	-	-	-	-	-	1.9	<0.40	<0.51	<0.44	<0.19
		Indoor Air		6/26/2018 - 6/27/2018	-	-	-	-	-	10.6	<0.41	<0.52	<0.45	<0.19
		Indoor Air	301-307-IA-S	3/21/2018 - 3/22/2018	-	-	-	-	-	1.4	<0.53	<0.67	<0.58	<0.25
		Indoor Air		6/26/2018 - 6/27/2018	-	-	-	-	-	11.9	<0.41	<0.52	<0.45	<0.19
		Sub-Slab	301-307-SS-1	3/22/2018	Pass	Pass	0	46.1	0.12	4.2	<0.43	<0.55	<0.47	<0.20
		Sub-Slab		6/27/2018	Pass	Pass	0	42	0.14	24.6	<0.45	<0.57	<0.50	<0.21
		Sub-Slab	301-307-SS-2	3/22/2018	Pass	Pass	0	46.2	0	10.9	3.4	2.1	1.8	1.8
		Sub-Slab		6/27/2018	Pass	Pass	0	49	0.05	29.3	<0.45	<0.57	<0.50	<0.21
		Sub-Slab	301-307-SS-3	3/22/2018	Pass	Pass	0	42.4	0	308	<0.60	<0.77	<0.66	<0.28
		Sub-Slab		6/27/2018	Pass	Pass	0	38	0	515	<0.46	<0.58	<0.50	<0.22
Small Commercial					Indoor Vapor Action Level[1]					180	8.8	--	--	28
					Sub-Slab Vapor Screening Level[2]					6,000	290	--	--	930

Notes:
VAL = Vapor Action Level
VSL - Vapor Screening Level
- = not applicable
-- = no standard developed for this parameter
Bold text indicates an exceedance of an Indoor Vapor Action Level or Sub-Slab Vapor Screening Level

Prepared by: T. Perkins 3/31/2018
Checked by: A. Schroeder 4/4/2018
Updated by: A. Stehn 4/16/2018
Checked by: A. Schroeder 4/16/2018
Updated by: A. Schroeder 7/17/2018
Checked by: P. Rosowski 7/17/2018

Footnotes:
(1) Vapor Action Levels for Indoor Air from Regional Screening Tables: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables-november-2017. Uses a 1-in-100,000 excess lifetime cancer risk and HI=1 for screening indoor air.
(2) An attenuation factor of 0.03 (dilution factor of 33) is applied to the Indoor Vapor Action Levels to determine the Vapor Screening Levels for Sub-Slab Vapor for residential/small commercial buildings.
(3) Water dam was created by pouring water around the Cox-Colvin Vapor Pin™ sample port following installation. If water maintained constant head, then tight seal was verified at the port.
(4) A vacuum was applied to the sample train and allowed to sit for 6 minutes based on the use of 6-L Summa canisters. If there was no noticeable change in the vacuum, the shut-in test passed.
(5) A helium meter was connected to the vapor probe and the sub-slab vapors were tested to obtain a background concentration prior to the helium test being completed.
(6) A shroud was installed around the vapor pin and filled with helium at a concentration between 20% and 50% by volume.
(7) While helium at a concentration between 20% and 50% by volume was maintained in the shroud, sub-slab vapors were retested using the helium meter. If the concentration was less than 5% by volume, the helium test passed and a sample was collected.

Attachment 1

Laboratory Report

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

July 06, 2018

Andrew Stehn
TRC
708 Heartland Trail
Madison, WI 53717

RE: Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Dear Andrew Stehn:
Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2018. 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.

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

Sincerely,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
1(612)607-6351
Project Manager

Enclosures

cc: Theodore O'Connell, TRC
Peggy Popp, TRC Solutions

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

CERTIFICATIONS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485
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
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
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 #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
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
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 NwTPH 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
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970
Wyoming UST Certification #: 2926.01 via A2LA

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

SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10437968001	**301-307-IA-C**	Air	06/27/18 15:57	07/02/18 13:25
10437968002	**301-307-IA-S**	Air	06/27/18 15:57	07/02/18 13:25
10437968003	**301-307-SS-1**	Air	06/27/18 17:14	07/02/18 13:25
10437968004	**301-307-SS-2**	Air	06/27/18 17:06	07/02/18 13:25
10437968005	**301-307-SS-3**	Air	06/27/18 17:21	07/02/18 13:25

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10437968001	301-307-IA-C	TO-15	CH1	5
10437968002	301-307-IA-S	TO-15	CH1	5
10437968003	301-307-SS-1	TO-15	CH1	5
10437968004	301-307-SS-2	TO-15	CH1	5
10437968005	301-307-SS-3	TO-15	CH1	5

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

PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Method: **TO-15**
Description: TO15 MSV AIR
Client: TRC-WI
Date: July 06, 2018

General Information:
5 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

QC Batch: 548385

IS: The internal standard response is below criteria. Results may be biased high.
- 301-307-SS-3 (Lab ID: 10437968005)
  - Tetrachloroethene

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 548385

C0: Result confirmed by second analysis.
- 301-307-SS-3 (Lab ID: 10437968005)
  - Tetrachloroethene

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Sample: 301-307-IA-C **Lab ID: 10437968001** Collected: 06/27/18 15:57 Received: 07/02/18 13:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.52**	ug/m3	1.2	0.52	1.52		07/03/18 17:03	156-59-2	
trans-1,2-Dichloroethene	**<0.45**	ug/m3	1.2	0.45	1.52		07/03/18 17:03	156-60-5	
Tetrachloroethene	**10.6**	ug/m3	1.0	0.44	1.52		07/03/18 17:03	127-18-4	
Trichloroethene	**<0.41**	ug/m3	0.83	0.41	1.52		07/03/18 17:03	79-01-6	
Vinyl chloride	**<0.19**	ug/m3	0.40	0.19	1.52		07/03/18 17:03	75-01-4	

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

ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Sample: 301-307-IA-S **Lab ID: 10437968002** Collected: 06/27/18 15:57 Received: 07/02/18 13:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.52**	ug/m3	1.2	0.52	1.52		07/03/18 17:39	156-59-2	
trans-1,2-Dichloroethene	**<0.45**	ug/m3	1.2	0.45	1.52		07/03/18 17:39	156-60-5	
Tetrachloroethene	**11.9**	ug/m3	1.0	0.44	1.52		07/03/18 17:39	127-18-4	
Trichloroethene	**<0.41**	ug/m3	0.83	0.41	1.52		07/03/18 17:39	79-01-6	
Vinyl chloride	**<0.19**	ug/m3	0.40	0.19	1.52		07/03/18 17:39	75-01-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Sample: 301-307-SS-1 **Lab ID: 10437968003** Collected: 06/27/18 17:14 Received: 07/02/18 13:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.57**	ug/m3	1.4	0.57	1.68		07/03/18 18:16	156-59-2	
trans-1,2-Dichloroethene	**<0.50**	ug/m3	1.4	0.50	1.68		07/03/18 18:16	156-60-5	
Tetrachloroethene	**24.6**	ug/m3	1.2	0.48	1.68		07/03/18 18:16	127-18-4	
Trichloroethene	**<0.45**	ug/m3	0.92	0.45	1.68		07/03/18 18:16	79-01-6	
Vinyl chloride	**<0.21**	ug/m3	0.44	0.21	1.68		07/03/18 18:16	75-01-4	

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

ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Sample: 301-307-SS-2 **Lab ID: 10437968004** Collected: 06/27/18 17:06 Received: 07/02/18 13:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.57**	ug/m3	1.4	0.57	1.68		07/03/18 18:52	156-59-2	
trans-1,2-Dichloroethene	**<0.50**	ug/m3	1.4	0.50	1.68		07/03/18 18:52	156-60-5	
Tetrachloroethene	**29.3**	ug/m3	1.2	0.48	1.68		07/03/18 18:52	127-18-4	
Trichloroethene	**<0.45**	ug/m3	0.92	0.45	1.68		07/03/18 18:52	79-01-6	
Vinyl chloride	**<0.21**	ug/m3	0.44	0.21	1.68		07/03/18 18:52	75-01-4	

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

ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Sample: 301-307-SS-3 **Lab ID: 10437968005** Collected: 06/27/18 17:21 Received: 07/02/18 13:25 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.58**	ug/m3	1.4	0.58	1.71		07/03/18 19:28	156-59-2	
trans-1,2-Dichloroethene	**<0.50**	ug/m3	1.4	0.50	1.71		07/03/18 19:28	156-60-5	
Tetrachloroethene	**515**	ug/m3	23.6	9.8	34.2		07/05/18 17:06	127-18-4	C0,IS
Trichloroethene	**<0.46**	ug/m3	0.93	0.46	1.71		07/03/18 19:28	79-01-6	
Vinyl chloride	**<0.22**	ug/m3	0.44	0.22	1.71		07/03/18 19:28	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: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

QC Batch: 548385 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10437968001, 10437968002, 10437968003, 10437968004, 10437968005

METHOD BLANK: 2981010 Matrix: Air
Associated Lab Samples: 10437968001, 10437968002, 10437968003, 10437968004, 10437968005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.34	0.81	07/03/18 11:01	
Tetrachloroethene	ug/m3	<0.29	0.69	07/03/18 11:01	
trans-1,2-Dichloroethene	ug/m3	<0.30	0.81	07/03/18 11:01	
Trichloroethene	ug/m3	<0.27	0.55	07/03/18 11:01	
Vinyl chloride	ug/m3	<0.13	0.26	07/03/18 11:01	

LABORATORY CONTROL SAMPLE: 2981011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	40.3	40.1	100	70-136	
Tetrachloroethene	ug/m3	68.9	67.7	98	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	39.3	97	70-132	
Trichloroethene	ug/m3	54.6	49.7	91	70-135	
Vinyl chloride	ug/m3	26	22.9	88	70-141	

SAMPLE DUPLICATE: 2982377

Parameter	Units	10437964001 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.49	<0.49		25	
Tetrachloroethene	ug/m3	<0.41	<0.41		25	
trans-1,2-Dichloroethene	ug/m3	<0.42	<0.42		25	
Trichloroethene	ug/m3	<0.39	<0.39		25	
Vinyl chloride	ug/m3	<0.18	<0.18		25	

SAMPLE DUPLICATE: 2982379

Parameter	Units	10437964004 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.52	<0.52		25	
Tetrachloroethene	ug/m3	<0.44	<0.44		25	
trans-1,2-Dichloroethene	ug/m3	<0.45	<0.45		25	
Trichloroethene	ug/m3	<0.41	<0.41		25	
Vinyl chloride	ug/m3	<0.19	<0.19		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: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

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 and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

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.

ANALYTE QUALIFIERS

C0	Result confirmed by second analysis.
IS	The internal standard response is below criteria. Results may be biased high.

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT
Pace Project No.: 10437968

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10437968001	**301-307-IA-C**	TO-15	548385		
10437968002	**301-307-IA-S**	TO-15	548385		
10437968003	**301-307-SS-1**	TO-15	548385		
10437968004	**301-307-SS-2**	TO-15	548385		
10437968005	**301-307-SS-3**	TO-15	548385		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Ar

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

WO# : 10437968

10437968

32433 | Page: 1 of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: TRC	Report To: Andrew Siehn	Attention: Theadore O'Connell
Address: 708 Heartland Trail, Suite 3000 Madison, WI 53717	Copy To: Theodore O'Connell toconnell@trcsolutions.com	Company Name: TRC Address: same as section A
Email To: asiehn@trcsolutions.com	Purchase Order No.: 120030	Pace Quote Reference:
Phone: 608 826 3665 Fax:	Project Name: Northwoods/WisDOT	Pace Project Manager/Sales Rep.
Requested Due Date/TAT: standard	Project Number: 298526	Pace Profile #: 34570

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 ___

'Section D Required Client Information

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

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	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: 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	301-307-1A-C	6LC		6/26/18	16:07	6/27/18	15:57	-26	-4	0957	0599							X			001
2	301-307-1A-S	↓		↓	16:05		15:57	-27	-3	2767	0102							↓			002
3	301-307-SS-1			6/27/18	16:40		17:14	-28	-6	2808	0711										003
4	301-307-SS-2				16:32		17:06	-29	-6	0796	1811										004
5	301-307-SS-3	↓		↓	16:48	↓	17:21	-27	-6	0282	1562										005
6																					
7																					
8																					
9																					
10																					
11																					
12																					

see comment

Comments: Analyze for PCE, TCE, cis-1,2 DCE, trans-1,2 DCE, and VC

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Alex Schlueter/TRC	6/28/18	13:45	AG/PACE	7-2-18	1325

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:

SIGNATURE of SAMPLER: | DATE Signed (MM / DD / YY)

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 02May2018 Page 1 of 1
	Document No.: F-MN-A-106-rev.15	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: TRC

Project #: **WO#: 10437968**

PM: CT1 **Due Date: 07/10/18**

CLIENT: TRC-WI

Courier: [X] Fed Ex [ ] UPS [ ] Speedee [ ] Client [ ] Commercial [ ] Pace [ ] Other:

Tracking Number: see exceptions

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

Optional: Proj. Due Date: Proj. Name:

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):** ____ **Thermom. Used:** [ ] G87A9170600254 [ ] G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** ____ **Date & Initials of Person Examining Contents:** RG 7/2/18

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?	[ ] Yes	[X] 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?	[X] Yes	[ ] No	9.
-Pace Containers Used?	[X] Yes	[ ] No	
Containers Intact?	[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.

Samples Received: 4 Cans 1-TS; Hg Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
C			-3.5	+5					
S			-3.5	"					
1			-6	"					
2			-6	"					
3			-6.5	"					

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

Person Contacted: ____ Date/Time: ____

Comments/Resolution: ____

Project Manager Review: Carolyne Trout **Date:** 7/2/18

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)

SCUR Exceptions: **Workorder #:**

Issue	Sample ID	Container Type/#
7476 3008 0353		
0390		
0346		
0335		
0379		
0380		
0405		
0368		

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH Upon Receipt	Date Preservation Adjusted	Time Preservation Adjusted	Amount of Additional Preservative Added	Lot # of Preservative Added	pH After Adjustment	Initials