Stoltz, Carrie R - DNR

From: Stehn, Andrew <AStehn@trcsolutions.com>

Sent: Thursday, July 19, 2018 3:48 PM

To: Stoltz, Carrie R - DNR

Cc: Lundquist, Greer I - DOT; O'Connell, Theodore; Haak, Daniel; TeBeest, Sharlene - DOT;

DOT Hazmat Unit; Saari, Christopher A - DNR

Subject: WisDOT - Northwoods Laundry Site (BRRTS #02-44-000517, WISDOT #0656-50-31)

Attachments: Northwoods Laundry_June 2018 Results.pdf

Carrie,

TRC was in Minocqua between June 26 and the 27th completing the second round of vapor intrusion monitoring for the Northwood's Laundry Project. The sampling event was completed per the DNR approved workplan, with two exceptions:

- 1. A sub-slab sample could not be collected from 313 Front Street due to the presence of water immediately below the slab and in the sampling port. (The property owner and tenant both noted that the basement has issues with taking on water after rain events).
- 2. An indoor air sample was not collected from 329 E Front St. This building operates as a bike rental and repair shop, and the main portion of the building contains two garage doors that remain open during business hours. Due to this observation, indoor air sample results would not have been representative of the indoor air quality. The business was closed for the winter during the March 2018 sampling event and an indoor air sample was collected at that time.

Samples were analyzed by PACE Analytical on July 3, 5, and 6, 2018. Attached are the analytical summary table and laboratory reports containing the results for each sample collected in June 2018. The results from the analyses completed on July 3 and 6 appear valid and concentrations of PCE and TCE were below the screening criteria for indoor air and/or sub-slab vapor, which indicates there is not a risk from vapor intrusion. The results from five of the samples analyzed by Pace on July 5th do not appear to be valid, and resampling is recommended at these sample locations.

The five samples in question include 515-IA, 515-SS, Outdoor 1, Outdoor 2, and DUP-01 (duplicate of 300-SS). These samples contained nearly identical concentrations for PCE (~30 ug/m³), TCE (~10 ug/m³), and cis-1,2-DCE (1 -2 ug/m³), despite differences in locations, sample type (indoor, sub-slab, outdoor), and sample date. The laboratory reviewed the results and their QA/QC process, but could not provide any further conclusions as to why the data was so similar. Because the validity of these results is in question, TRC recommends resampling these locations in order to obtain representative data for making determinations on this site.

The resampling plan is as follows:

515 Chippewa Street: Disregard data analyzed on 7/5/2018, and collect new samples from the indoor air and sub-slab vapor.

300 Front Street: Disregard data analyzed on 7/5/2018, and collect new subslab and indoor air samples from this property. No duplicate is proposed at this time.

<u>Outdoor Air Samples:</u> Disregard data analyzed on 7/5/18, and collect two outdoor air samples concurrent with the indoor air monitoring and adjacent to 515 Chippewa Street and 300 Front Street, respectively.

313 Front Street: While onsite, TRC will attempt to collect a sub-slab sample from 313 Front Street if water is not present.

TRC plans to complete the additional sampling between July 23 and 24, 2018, and will follow up with DNR with the results.

Thanks,

Andrew M Stehn, PE (WI)

Senior Project Engineer



708 Heartland Trail, Suite 3000, Madison, WI 53717 T: 608.826.3665 | F: 608.826.3941 | C: 608.807.8112

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Table 2

Indoor Air/Sub-slab Vapor Sampling Analytical Summary Table Former Northwoods Laundry (BRRTS #02-44-000517, WISDOT #0656-50-31)

Minocqua, Oneida County, Wisconsin TRC Project # 298526.0000.0000

					Leak Check	Shut-In Test ⁽⁴⁾		lelium Shroud Te	st			Vapor Results ⁽⁸⁾	(3)(12)	
Map ID	Address	Sample Type	Sample ID	Date	Water Dam ⁽³⁾	Shut-In Test`"	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
		Outdoor		3/21/18 - 3/22/2018	-	-	-	-	-	16.7	<0.39	<0.49	<0.42	<0.18
-	-	Outdoor	Outdoor - 1	6/26/2018 - 6/27/2018 (13)	-	-	-	-	-	27.7 ⁽¹³⁾	10.8(13)	2.3 ⁽¹³⁾	<0.47 ⁽¹³⁾	<0.20 ⁽¹³⁾
		Outdoor		3/22/2018 - 3/23/2018	-	-	-	-	-	<0.43	<0.40	<0.51	<0.44	<0.19
-	-	Outdoor	Outdoor - 2	6/26/2018 - 6/27/2018 (13)	-	_	-		-	28 ⁽¹³⁾	9.4 ⁽¹³⁾	1.5 ⁽¹³⁾	<0.47 ⁽¹³⁾	<0.20 ⁽¹³⁾
		<u> </u>						1					<0.47	
3	405 Front Street, Minocqua, WI 54548	Sub-Slab Sub-Slab	405-SS	3/23/2018	Pass	Pass	0	45.3	0	15.5	<0.42 <0.43	<0.54 <0.55	<0.47 4.5	<0.20 <0.20
		 		6/26/2018	Pass	Pass	0	25	0	114				
		Indoor Air	515-IA	3/21/2018 - 3/22/2018	-	-	-	-	-	<0.40	<0.38	<0.48	<0.42	<0.18
4 ⁽⁸⁾	515 Chippewa St., Minocqua, WI 54548	Indoor Air		6/26/2018 - 6/27/2018 ⁽¹³⁾	-	-	-	-	-	26.2 ⁽¹³⁾	8.9(13)	1.4 ⁽¹³⁾	<0.46 ⁽¹³⁾	<0.20 ⁽¹³⁾
		Sub-Slab	515-SS	3/22/2018	Pass	Pass	0	36.9	0	<0.48	<0.45	<0.57	<0.50	<0.21
		Sub-Slab		6/27/2018 ⁽¹³⁾	Pass	Pass	0	36	0	25.8 ⁽¹³⁾	8.2 ⁽¹³⁾	1.3 ⁽¹³⁾	<0.46 ⁽¹³⁾	<0.20 ⁽¹³⁾
		Indoor Air	329-IA	3/21/2018 - 3/22/2018	-	-	-	-	-	0.47J	<0.37	<0.47	<0.41	<0.18
5	329 E Front St., Minocqua, WI 54548	Indoor Air	323	-	-	-	-	-	-	NS ⁽¹⁰⁾	NS ⁽¹⁰⁾	NS ⁽¹⁰⁾	NS ⁽¹⁰⁾	NS ⁽¹⁰⁾
,	323 2 110112 321, 111110 204 444, 111 3 13 10	Sub-Slab	329-SS	3/22/2018	Pass	Pass	0	31.8	0	11.2	<0.42	<0.53	<0.46	<0.20
		Sub-Slab	323 00	6/27/2018	Pass	Pass	0	50	0	22.2	0.60 J	<0.57	<0.50	<0.21
		Indoor Air	321-IA	3/21/2018 - 3/22/2018	-	-	-	-	-	<0.43	<0.40	<0.51	<0.44	<0.19
7	321 E Front St., Minocqua, WI 54548	Indoor Air	321-IA	6/26/2018 - 6/27/2018	-	-	-	-	-	<0.41	<0.39	<0.49	<0.42	<0.18
,	321 2 110110 3t., Williocqua, WI 34340	Sub-Slab	321-SS	3/22/2018	Pass	Pass	0	43.2	0	8.5	<0.43	<0.55	<0.47	<0.20
		Sub-Slab	321-33	6/27/2018	Pass	Pass	0	30	0	16.1	<0.45	<0.57	<0.50	<0.21
		Indoor Air	317-IA	3/21/2018 - 3/22/2018	-	-	-	-	-	0.48J	<0.39	<0.49	<0.42	<0.18
	317 E Front St., Minocqua, WI 54548	Indoor Air	51, 11	6/26/2018 - 6/27/2018	-	-	-	-	-	<0.43	<0.40	<0.51	<0.44	<0.19
	317 E Tronc St., Williocqua, W1 34340	Sub-Slab	317-SS	3/22/2018	Pass	Pass	0	54	0	41.9	<0.49	<0.62	<0.54	<0.23
		Sub-Slab	51, 55	6/27/2018	Pass	Pass	0	40.6	0	61.0	<0.46	<0.58	<0.50	<0.22
		Indoor Air	315-IA	3/21/2018 - 3/22/2018	-	-	-	-	-	<0.43	<0.40	<0.51	<0.44	<0.19
8	315 E Front St., Minocqua, WI 54548	Indoor Air	515	6/26/2018 - 6/27/2018	-	-	-	-	-	<0.43	<0.40	<0.51	<0.44	<0.19
0	313 E 11011t 3t., Williocqua, W1 34340	Sub-Slab	315-SS	3/22/2018	Pass	Pass	0	23.1	0	2.7	<0.42	<0.54	<0.47	<0.20
		Sub-Slab	313 00	6/27/2018	Pass	Pass	0	30	0	<0.48	<0.45	<0.57	<0.50	<0.21
		Indoor Air	313-IA	3/21/2018 - 3/22/2018	-	-	-	-	-	0.93J	<0.42	<0.53	<0.46	<0.20
	313 E Front St., Minocqua, WI 54548	Indoor Air	515	6/26/2018 - 6/27/2018	-	-	-	-	-	<0.44	<0.41	<0.52	<0.45	<0.19
	313 E Tronc St., Willocqua, WT 34340	Sub-Slab	313-SS	3/22/2018	Pass	Pass	0	46.4	0	2.4	<0.43	<0.55	<0.47	<0.20
		Sub-Slab	313-33	6/27/2018	NS ⁽¹¹⁾	NS ⁽¹¹⁾	NS ⁽¹¹⁾	NS ⁽¹¹⁾	NS ⁽¹¹⁾	NS ⁽¹¹⁾	NS ⁽¹¹⁾	NS ⁽¹¹⁾	NS ⁽¹¹⁾	NS ⁽¹¹⁾
		Indoor Air	301-307-IA-C	3/21/2018 - 3/22/2018		-	-	-	-	1.9	<0.40	<0.51	<0.44	<0.19
		Indoor Air	301-307-IA-C	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
	301 -307 E Front St., Minocqua, WI 54548	Indoor Air	301-307-IA-3	6/26/2018 - 6/27/2018		-	-	-	-	11.9	<0.41	<0.52	<0.45	<0.19
9 & 10	9.	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
3 & 10	524 Oneida St., Minocqua, WI 54548	Sub-Slab	301-307-33-1	6/27/2018	Pass	Pass	0	42	0.14	24.6	<0.45	<0.57	<0.50	<0.21
	324 Offeida St., Milliocqua, Wi 34346	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	301-307-33-2	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	301-307-33-3	6/27/2018	Pass	Pass	0	38	0	515	<0.46	<0.58	<0.50	<0.22
		Indoor Air	527-IA	3/22/2018 - 3/23/2018		-	-	-	-	0.55J	<0.42	<0.53	<0.46	<0.20
11	527 Oneida St., Minocqua, WI 54548	Indoor Air	327-IA	6/26/2018 - 6/27/2018		-	-	-	-	<0.44	<0.41	<0.52	<0.45	<0.19
11	327 Offeida St., Millocqua, Wi 34346	Sub-Slab	527-SS	3/23/2018	Pass	Pass	0	37	0	9.6	<0.43	<0.55	<0.47	<0.20
		Sub-Slab	327-33	6/27/2018	Pass	Pass	0	22	0.01	13.4	<0.44	<0.56	<0.48	<0.21
		Indoor Air	300-IA	3/22/2018 - 3/23/2018	-	-	-	-	-	<0.42	<0.39	<0.50	<0.43	<0.18
		Indoor Air	SUU-IA	6/26/2018 - 6/27/2018 ⁽¹³⁾	-	-	-	-	-	0.68 J ⁽¹³⁾	<0.41(13)	<0.52 ⁽¹³⁾	<0.45 ⁽¹³⁾	< 0.19(13)
		Sub-Slab	300-SS	3/23/2018	D.	В	_	24.4	_	<0.44	<0.42	<0.53	<0.46	<0.20
13	300 E Front St., Minocqua, WI 54548	Duplicate	DUP-01	3/23/2018	Pass	Pass	0	21.1	0	<0.44	<0.42	<0.53	<0.46	<0.20
		Sub-Slab	300-SS	6/27/2018 ⁽¹³⁾	_				_	1.2(13)	<0.48 ⁽¹³⁾	<0.61(13)	<0.53 ⁽¹³⁾	<0.23 ⁽¹³⁾
		Duplicate	DUP-01	6/27/2018 ⁽¹³⁾	Pass	Pass	0	40	0	29.9(13)	9.7(13)	1.5 ⁽¹³⁾	1.8 ⁽¹³⁾	<0.22 ⁽¹³⁾
		•					/41			ī	ı			
	Resid	ential ⁽⁸⁾					or Action Level ⁽¹⁾	2)		42 1,400	2.1			1.7 57
							r Screening Level			,	70			
	Small Co.	mmercial ⁽⁹⁾					or Action Level ⁽¹⁾	2)		180	8.8			28
							r Screening Level			6,000	290			930

VSL = Vapor Screening Level

NS = No sample collected

- = not applicable

-- = no standard developed for this parameter

J = Estimated concentration at or above the laboratory limit of detection and below the laboratory limit of quantitation.

μg/m³ = micrograms per cubic meter

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

(1) VALs 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 VALs to determine the VSLs for Sub-Slab Vapor for residential/small commercial buildings.

(3) Water dam was created by pouring water around the Cox-Colvin Vapor PinTM sample port . 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 at least 5 minutes. 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.

(8) 515 Chippewa Street is a residential home currently used for storage for the adjacent business located at 329 E Front Street. This property was evaluated using the Residential VAL and VSL.

(9) Results were compared to the Small Commercial VAL and VSL, with the exception of the property at 515 Chippewa Street.

Page 1 of 1

Updated by: Alia Schroeder 7/17/2018 Checked by: P.J. Rosowski 7/17/2018





July 06, 2018

Andrew Stehn TRC 708 Heartland Trail Madison, WI 53717

RE: Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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 That

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

Enclosures

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







CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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

Maine Certification #: MN00064 Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Louisiana DW Certification #: MN00064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137

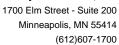
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647

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





SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10437964001	321-IA	Air	06/27/18 10:35	07/02/18 13:25
10437964002	317-IA	Air	06/27/18 09:57	07/02/18 13:25
10437964003	315-IA	Air	06/27/18 09:57	07/02/18 13:25
10437964004	313-IA	Air	06/27/18 11:27	07/02/18 13:25
10437964005	321-SS	Air	06/27/18 11:32	07/02/18 13:25
10437964006	317-SS	Air	06/27/18 11:07	07/02/18 13:25
10437964007	315-SS	Air	06/27/18 10:58	07/02/18 13:25
10437964008	Unused Can #1526	Air		07/02/18 13:25



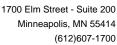


SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10437964001	321-IA	TO-15	CH1	5
10437964002	317-IA	TO-15	CH1	5
10437964003	315-IA	TO-15	CH1	5
10437964004	313-IA	TO-15	CH1	5
10437964005	321-SS	TO-15	CH1	5
10437964006	317-SS	TO-15	CH1	5
10437964007	315-SS	TO-15	CH1	5





PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Method: TO-15

Description: TO15 MSV AIR
Client: TRC-WI
Date: July 06, 2018

General Information:

7 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:

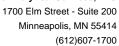
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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.





Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Date: 07/06/2018 03:10 PM

Sample: 321-IA	Lab ID: 10437964001		Collected: 06/27/18 10:35			Received: 07			
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15							
cis-1,2-Dichloroethene	<0.49	ug/m3	1.2	0.49	1.44		07/03/18 11:37	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.44		07/03/18 11:37	156-60-5	
Tetrachloroethene	<0.41	ug/m3	0.99	0.41	1.44		07/03/18 11:37	127-18-4	
Trichloroethene	< 0.39	ug/m3	0.79	0.39	1.44		07/03/18 11:37	79-01-6	
Vinyl chloride	<0.18	ug/m3	0.37	0.18	1.44		07/03/18 11:37	75-01-4	





Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

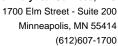
Date: 07/06/2018 03:10 PM

Sample: 317-IA	Lab ID:	Collected: 06/27/18 09:57			Received: 07				
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15							
cis-1,2-Dichloroethene	<0.51	ug/m3	1.2	0.51	1.49		07/03/18 12:49	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.49		07/03/18 12:49	156-60-5	
Tetrachloroethene	< 0.43	ug/m3	1.0	0.43	1.49		07/03/18 12:49	127-18-4	
Trichloroethene	<0.40	ug/m3	0.81	0.40	1.49		07/03/18 12:49	79-01-6	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		07/03/18 12:49	75-01-4	

07/03/18 13:25 156-60-5

07/03/18 13:25 127-18-4

07/03/18 13:25 79-01-6 07/03/18 13:25 75-01-4





ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

<0.44

<0.43

<0.40

<0.19

ug/m3

ug/m3

ug/m3

ug/m3

Pace Project No.: 10437964

trans-1,2-Dichloroethene

Date: 07/06/2018 03:10 PM

Tetrachloroethene

Trichloroethene

Vinyl chloride

Sample: 315-IA	Lab ID:	10437964003	Collecte	d: 06/27/1	8 09:57	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			i						
cis-1,2-Dichloroethene	<0.51	ug/m3	1.2	0.51	1.49		07/03/18 13:25	156-59-2	

0.44

0.43

0.40

0.19

1.49

1.49

1.49

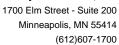
1.49

1.2

1.0

0.81

0.39



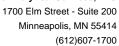


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Date: 07/06/2018 03:10 PM

Sample: 313-IA	Lab ID:	10437964004	Collected: 06/27/18 11:27			Received: 07			
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 14:01	156-59-2	
trans-1,2-Dichloroethene	<0.45	ug/m3	1.2	0.45	1.52		07/03/18 14:01	156-60-5	
Tetrachloroethene	<0.44	ug/m3	1.0	0.44	1.52		07/03/18 14:01	127-18-4	
Trichloroethene	<0.41	ug/m3	0.83	0.41	1.52		07/03/18 14:01	79-01-6	
Vinyl chloride	<0.19	ug/m3	0.40	0.19	1.52		07/03/18 14:01	75-01-4	





Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Date: 07/06/2018 03:10 PM

Sample: 321-SS

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
•									

Lab ID: 10437964005

Collected: 06/27/18 11:32 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 15:14	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.68		07/03/18 15:14	156-60-5	
Tetrachloroethene	16.1	ug/m3	1.2	0.48	1.68		07/03/18 15:14	127-18-4	
Trichloroethene	<0.45	ug/m3	0.92	0.45	1.68		07/03/18 15:14	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		07/03/18 15:14	75-01-4	

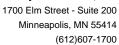


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Date: 07/06/2018 03:10 PM

Sample: 317-SS	Lab ID: 10437964006		Collected: 06/27/18 11:07			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 15:50	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.71		07/03/18 15:50	156-60-5	
Tetrachloroethene	61.0	ug/m3	1.2	0.49	1.71		07/03/18 15:50	127-18-4	
Trichloroethene	<0.46	ug/m3	0.93	0.46	1.71		07/03/18 15:50	79-01-6	
Vinyl chloride	<0.22	ug/m3	0.44	0.22	1.71		07/03/18 15:50	75-01-4	





Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Date: 07/06/2018 03:10 PM

Sample: 315-SS	Lab ID:	Collected: 06/27/18 10:58			Received: 07				
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 16:26	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.68		07/03/18 16:26	156-60-5	
Tetrachloroethene	<0.48	ug/m3	1.2	0.48	1.68		07/03/18 16:26	127-18-4	
Trichloroethene	<0.45	ug/m3	0.92	0.45	1.68		07/03/18 16:26	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		07/03/18 16:26	75-01-4	



QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Date: 07/06/2018 03:10 PM

QC Batch: 548385 Analysis Method: TO-15

QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level

Associated Lab Samples: 10437964001, 10437964002, 10437964003, 10437964004, 10437964005, 10437964006, 10437964007

METHOD BLANK: 2981010 Matrix: Air

Associated Lab Samples: 10437964001, 10437964002, 10437964003, 10437964004, 10437964005, 10437964006, 10437964007

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	
Vinvl chloride	ug/m3	<0.13	0.26	07/03/18 11:01	

LABORATORY CONTROL SAMPLE:	2981011	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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	

		10437964001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.49	<0.49		25	-
Tetrachloroethene	ug/m3	<0.41	<0.41		25	
rans-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						
		10437964004	Dup		Max	
Parameter	Units	Result	Result	RPD	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.



Minneapolis, MN 55414 (612)607-1700

QUALIFIERS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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.

Date: 07/06/2018 03:10 PM





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

Date: 07/06/2018 03:10 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10437964001	321-IA	TO-15	548385		
10437964002	317-IA	TO-15	548385		
10437964003	315-IA	TO-15	548385		
10437964004	313-IA	TO-15	548385		
10437964005	321-SS	TO-15	548385		
10437964006	317-SS	TO-15	548385		
10437964007	315-SS	TO-15	548385		



AIR: CHAIN-OF-CUSTODY / A The Chain-of-Custody is a LEGAL DOCUMENT. All relevant

WO#: 10437964

32453 Section A Section B Section C Page: of Required Project Information: Required Client Information: Invoice Information Program Theodore O'Connell 708 Heartland Trail TUST Superfund Emissions Clean Air Act Suite 3000, Modison, W 53717 letrosclutions, con Same as Section A Email To: aste kin Cotresolutions, cap Reporting Units 120030 Location of ma/m 3 Pace Project Manager/Sales Rep. PPMV ____ Sampling by State Phone 26 3665 Fax Requested Due Date/TAT: Project Number: 29 85 2 Pace Profile #: Report Level 111.___ (V.__ Canister Pressure (Initial Field - in Hg) Canister Pressure (Final Fleid - in Hg) Section D Required Client Information PID Reading (Client only) COLLECTED Method: 386 **MEDIA** CODE Tedlar Bag AIR SAMPLE ID Commant 120.78 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 Flow Summa 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Sample IDs MUST BE UNIQUE Can Control Low Volume Puff LVP MEDIA CODE 70.15 Full 1 High Volume Puff HVP Number Number COMPOSITE START ITEM TIME TIME Pace Lab ID 321-IA 001 0459 10:17 275 4 317 -IA 002 003 10:12 315-IA 004 6/27/18 10:58 305 -27-6 06 00(2 007 SS - pulled water no sample collected AES comments: Analyze for PCE, TCE, cis-12-DCE, trans-12-DCE, and VC SAMPLE CONDITIONS RELINQUISHED BY / AFFILIATION DATE ACCEPTED BY / AFFILIATION DATE TIME (A) 7-2-18- 1325 Χ Ϋ́ Ϋ́ ΧX Ϋ́ ¥ Custody Sealed Cooler Samples Intact SAMPLER NAME AND SIGNATURE Received o Temp in ° Page 16 PRINT Name of SAMPLER ORIGINAL SIGNATURE of SAMPLERS DATE Signed (MM / DD / YY)

Pace Analytical*

Document Name: Air Sample Condition Upon Receipt Document No.: F-MN-A-106-rev.15

Document Revised: 02May2018
Page 1 of 1
Issuing Authority:
Pace Minnesota Quality Office

Air Sample Condition Upon Receipt	lient Name:	C		Project	#: WO#:		3796		8
	Fed Ex	UPS	Speede	e Client	7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TRC-WI	de bave.	017 207 2	
Tracking Number:	Commercial C	LCEPH	Other:	Ax 8: \$4.00x2					
Custody Seal on Cooler/I	Box Present?	Yes	No :	Seals Intact?	Yes No	Optional: Proj	. Due Date: F	Proj. Name:	
Packing Material: Bu	ıbble Wrap	☐Bubble Bag	s A Foam	☐None ☐	Tin Can Other:		Temp Bi	lank rec:	ves XINo
Temp. (TO17 and TO13 sam			Corrected Temp	-	Thermom. Used:	77 Table 1		G87A91706	
Temp should be above free		orrection Factor	-		Date & Initials of Pers	on Examining	Contents;	287A91557	2718
Type of ice Received B		None		The state of the s			and the same of th	1	-
		<i>T</i>				Cor	nments:		
Chain of Custody Present	?		Yes	□No	1.	10			
Chain of Custody Filled O	ut?		Yes	□No	2.				
Chain of Custody Relinqu	ished?		X ves	□No	3.			W	
Sampler Name and/or Sig	gnature on COC	?	Yes	Mao □N/A	4.				
Samples Arrived within H	old Time?		X	□No	5.			4	
Short Hold Time Analysis	(<72 hr)?		Yes	₩No	6.			** ***	
Rush Turn Around Time	Requested?		Yes	∑ No	7.	1			
Sufficient Volume?			Yes	□No	8.				
Correct Containers Used	S		Yes	□No	9.				
-Pace Containers Used	?	1.277	X	□No		25		ا =عارض	
Containers Intact?			Ves	□No	10.				
Media: (Air Can	Airbag	Filter	TDT	Passive	11. Individua	Ily Certified C	ans Y N	dist which sai	mples)
Is sufficient information a to the COC?	available to rec	oncile samples	Yes	□No	12.				200.000
Samples Received: 4	imes	1-78	itting	<u> </u>		Pressure Ga	uge # 10AIR	26	
	Can	isters	/			Ca	nisters		
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	initial Pressure	Final Pressure
321	-		- 0	+5					
317			-3	11	· ·				-
312			-3	ν					
312			-5,5	$\frac{n}{n}$			<u> </u>		<u> </u>
371			6	"	-				
317-55			-6,5	γ					
315-55			- 0	И					
houseel	1526	11114	-28						
CLIENT NOTIFICATION/RI	ESOLUTION					Field Data	Required? [Yes No)
					Date/Time:				
Comments/Resol								-1.10-11	
					and district a section				
									W/I
Project Manager Review	Carol	me To	and		Date: 7/2	/18		3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

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)



Document Name: Sample Condition Upon Receipt Form Document No.:

Document Revised: 02May2018
Page 2 of 2

Document No.: F-MN-L-213-rev.23

Issuing Authority: Pace Minnesota Quality Office

SCUR Exceptions:

Workorder #:

Casania ID	
Sample ID	Container Type/#
·	:

pH Adjustment Log for Preserved Samples

ph Adjustment Log for Preserved Samples											
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				
		į									
		,					-				
					-						
	<u>!</u>			1	1	1					
	Type of	Type of pH Upon Preservative Receipt	Type of pH Upon Preservation Preservative Receipt Adjusted	Type of Preservative Receipt Date Preservation Adjusted Adjusted	Type of pH Upon Preservation Adjusted Added Type of Preservative Receipt Adjusted Adjusted Added Added Amount of Additional Preservative Adjusted Added	Type of PH Upon Preservation Preservative Adjusted Added	Type of PH Upon Receipt Adjusted Preservation Adjusted Added Added Added Added Added Added Added Adjustment				





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 That

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

Enclosures

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







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 Certification #: via MN 027-053-137

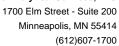
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647

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



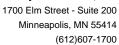


SAMPLE SUMMARY

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





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



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:

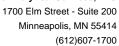
Analyte Comments:

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.



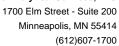


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

Date: 07/06/2018 03:11 PM

Sample: 301-307-IA-C	Lab ID:	10437968001	Collected	l: 06/27/1	8 15:57	Received: 07	7/02/18 13:25 Ma	atrix: 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	ua/m3	0.40	0.19	1.52		07/03/18 17:03	75-01-4	



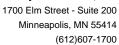


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

Date: 07/06/2018 03:11 PM

Sample: 301-307-IA-S	Lab ID: 10437968002		Collecte	Collected: 06/27/18 15:57			7 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	



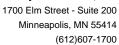


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

Date: 07/06/2018 03:11 PM

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	



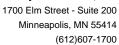


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

Date: 07/06/2018 03:11 PM

Sample: 301-307-SS-2	Lab ID:	10437968004	Collected	d: 06/27/1	8 17:06	Received: 07	7/02/18 13:25 Ma	atrix: 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	ua/m3	0.44	0.21	1.68		07/03/18 18:52	75-01-4	





Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

Date: 07/06/2018 03:11 PM

Sample: 301-307-SS-3	Lab ID:	10437968005	Collecte	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	i									
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				



QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

Date: 07/06/2018 03:11 PM

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

		Blank	Reporting		
Parameter	Units	Result	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					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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	

		10437964001	Dup		Max	
Parameter	Units	Result	Result	RPD	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						
		10437964004	Dup		Max	
Parameter	Units	Result	Result	RPD	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.

(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

Date: 07/06/2018 03:11 PM

C0 Result confirmed by second analysis.

IS The internal standard response is below criteria. Results may be biased high.





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

Date: 07/06/2018 03:11 PM

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		



AIR: CHAIN-OF-CUSTODY / An

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



	Section Requires		Section B Required Project Inform	nation:		Section	C nformation:													3	24	33	Page:	of	
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Pace Analytical*

Document Name: Air Sample Condition Upon Receipt Document No.: F-MN-A-106-rev.15

Document Revised: 02May2018
Page 1 of 1
Issuing Authority:
Pace Minnesota Quality Office

Air Sample Condition Upon Receipt	RC.		Projec	MOH	104379	68 e: 07/10/1	
Courier: Fed Ex Comme Tracking Number: Sec	□UPS ercial □Pace EXCEPTO	Speede Other:	ee Client	PM: CT1 CLIENT:		e: 01/10/	.0
Custody Seal on Cooler/Box Pre	sent? Yes	QNo -	Seals Intact?	Yes No	Optional: Proj. Due Date:	Proj. Name:	
Packing Material: Bubble W Temp. (TO17 and TO13 samples only Temp should be above freezing to 6 Type of ice Received Blue	/rap Bubble Ba y) (°C):	gs AFoan	CONTRACTOR OF THE PARTY OF THE	Tin Can Other:_ Thermom. Used:	on Exemining Contents:	g87A9170	500254
Chair of Custody Propent?	2)	Yes	□No	1.	Comments:		
Chain of Custody Present?		Yes					
Chain of Custody Filled Out?		* * 5	□No	2.			
Chain of Custody Relinquished?		X lyes	□No	3.			
Sampler Name and/or Signature		☐ Yes	Mio □N/				82
Samples Arrived within Hold Tim	****	(X)Yes	□No Man	5.			e e
Short Hold Time Analysis (<72 h		☐ Yes	X INo	6.		ii.	
Rush Turn Around Time Request	tea:	☐ Yes	X)No	7.			
Sufficient Volume?		X Yes	□No	8.	- 90		
Correct Containers Used?		Yes	□No	9.			
-Pace Containers Used?		X yes	□No .	1.60			
Containers Intact?	gurl,		No	10.	U 0 112 10 11	(2)	i v
Media: (Air Can) Airba		TDT	Passive	11. Individua	Illy Certified Cans Y	N (list which sa	mples)
Is sufficient information available to the COC?		Yes	No	12.			
Samples Received: 4 Con	es 1-73	nithmo	<i></i>		Pressure Gauge # 10/	NR26	
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Project Manager Review:	, 4	1					E 100

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)



Document Name: Sample Condition Upon Receipt Form

Document Revised: 02May2018 Page 2 of 2 Issuing Authority: Pace Minnesota Quality Office

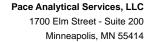
Document No.: F-MN-L-213-rev.23

SCUR Exceptions:

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

pH Adjustment Log for Preserved Samples

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					Amount of			
-			Date	Time	Additional	Lot # of		
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(612)607-1700



July 10, 2018

Andrew Stehn TRC 708 Heartland Trail Madison, WI 53717

RE: Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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 That

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

Enclosures

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







CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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 Certification #: via MN 027-053-137

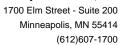
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647

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 #: 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





SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10437970001	Outdoor-1	Air	06/27/18 07:30	07/02/18 13:25
10437970002	Outdoor-2	Air	06/27/18 14:15	07/02/18 13:25
10437970003	DUP-01	Air	06/26/18 00:00	07/02/18 13:25



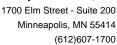


SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10437970001	Outdoor-1	TO-15	AFV	5
10437970002	Outdoor-2	TO-15	AFV	5
10437970003	DUP-01	TO-15	AFV	5





PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

Method: TO-15

Description: TO15 MSV AIR
Client: TRC-WI
Date: July 10, 2018

General Information:

3 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.



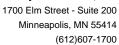


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

Date: 07/10/2018 10:17 AM

Sample: Outdoor-1	Lab ID:	10437970001	Collected	d: 06/27/1	8 07:30	Received: 07	7/02/18 13:25 Ma	atrix: Air	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15	;						
cis-1,2-Dichloroethene	2.3	ug/m3	1.3	0.55	1.61		07/05/18 18:59	156-59-2	
trans-1,2-Dichloroethene	<0.47	ug/m3	1.3	0.47	1.61		07/05/18 18:59	156-60-5	
Tetrachloroethene	27.7	ug/m3	1.1	0.46	1.61		07/05/18 18:59	127-18-4	
Trichloroethene	10.8	ug/m3	0.88	0.43	1.61		07/05/18 18:59	79-01-6	
Vinyl chloride	<0.20	ug/m3	0.42	0.20	1.61		07/05/18 18:59	75-01-4	



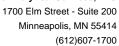


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

Date: 07/10/2018 10:17 AM

Sample: Outdoor-2	Lab ID:	10437970002	02 Collected: 06/27/18 14:15 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	1.5	ug/m3	1.3	0.54	1.58		07/05/18 20:02	156-59-2	
trans-1,2-Dichloroethene	<0.47	ug/m3	1.3	0.47	1.58		07/05/18 20:02	156-60-5	
Tetrachloroethene	28.0	ug/m3	1.1	0.45	1.58		07/05/18 20:02	127-18-4	
Trichloroethene	9.4	ug/m3	0.86	0.42	1.58		07/05/18 20:02	79-01-6	
Vinyl chloride	<0.20	ug/m3	0.41	0.20	1.58		07/05/18 20:02	75-01-4	





Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

Date: 07/10/2018 10:17 AM

Sample: DUP-01	Lab ID:	Lab ID: 10437970003		Collected: 06/26/18 00:00		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	1.5	ug/m3	1.4	0.58	1.71		07/05/18 21:05	156-59-2	
trans-1,2-Dichloroethene	1.8	ug/m3	1.4	0.50	1.71		07/05/18 21:05	156-60-5	
Tetrachloroethene	29.9	ug/m3	1.2	0.49	1.71		07/05/18 21:05	127-18-4	
Trichloroethene	9.7	ug/m3	0.93	0.46	1.71		07/05/18 21:05	79-01-6	
Vinyl chloride	<0.22	ug/m3	0.44	0.22	1.71		07/05/18 21:05	75-01-4	



QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

Date: 07/10/2018 10:17 AM

QC Batch: 548724 Analysis Method: TO-15

QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level

Associated Lab Samples: 10437970001, 10437970002, 10437970003

METHOD BLANK: 2982932 Matrix: Air

Associated Lab Samples: 10437970001, 10437970002, 10437970003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	0.42J	0.81	07/05/18 13:26	
Tetrachloroethene	ug/m3	< 0.29	0.69	07/05/18 13:26	
trans-1,2-Dichloroethene	ug/m3	< 0.30	0.81	07/05/18 13:26	
Trichloroethene	ug/m3	0.48J	0.55	07/05/18 13:26	
Vinyl chloride	ug/m3	<0.13	0.26	07/05/18 13:26	

Parameter Units Spike Conc. LCS Result LCS % Rec Limits cis-1,2-Dichloroethene ug/m3 40.3 49.7 123 70-136 Tetrachloroethene ug/m3 68.9 74.6 108 70-133	Qualifiers
cis-1,2-Dichloroethene ug/m3 40.3 49.7 123 70-136	Qualifiers
, , , , , , , , , , , , , , , , , , , ,	
Totrachloroothono ug/m3 68.0 74.6 109 70.133	
16th achilotoether dg/ff5 06.9 74.0 100 70-155	
trans-1,2-Dichloroethene ug/m3 40.3 43.7 109 70-132	
Trichloroethene ug/m3 54.6 67.8 124 70-135	
Vinyl chloride ug/m3 26 29.5 114 70-141	

		10437970001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	2.3	2.3		25	
Tetrachloroethene	ug/m3	27.7	31.4	12	25	
trans-1,2-Dichloroethene	ug/m3	< 0.47	< 0.47		25	
Trichloroethene	ug/m3	10.8	11.4	5	25	
Vinyl chloride	ug/m3	<0.20	< 0.20		25	

SAMPLE DUPLICATE: 2984088						
		10437970002	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	1.5	1.5	2	25	
Tetrachloroethene	ug/m3	28.0	30.0	7	25	
trans-1,2-Dichloroethene	ug/m3	< 0.47	< 0.47		25	
Trichloroethene	ug/m3	9.4	10	6	25	
Vinyl chloride	ug/m3	<0.20	<0.20		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.

(612)607-1700



QUALIFIERS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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.

Date: 07/10/2018 10:17 AM





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

Date: 07/10/2018 10:17 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10437970001	Outdoor-1	TO-15	548724		
10437970002	Outdoor-2	TO-15	548724		
10437970003	DUP-01	TO-15	548724		



AIR: CHAIN-OF-CUSTODY / 4

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

WO#: 10437970

32432 Section A Section B Section C of Required Client Information: Required Project Information: Invoice Information Theodore O'Connell Address: 708 Hearfland Trail Copy To Theodore O'Come II Scrite 3000, Madison, WI 53-17 to connell Otrosolutions, Chan Purchase Order No.: 1200 30 Company Name: UST Superfund Emissions Clean Air Act Voluntary Clean Up T Dry Clean T RCRA T Other same as section A estehn@tresolutions com Reporting Units _ocation of mg/m³_ PPMV __ Pace Project Manager/Sales Rep. PPRV Sampling by State No 1thwoods/WisDO Pace Profile #: Report Level Other r Pressure ield - in Hg) Section D Required Client Information COLLECTED Method: See MEDIA CODE Tedlar Bag AIR SAMPLE ID Comment Flow Summa 1 Liter Summa Can 1LC Sample IDs MUST BE UNIQUE 6 Liter Summa Can 6LC Can Control Low Volume Puff LVP High Volume Puff HVP Number Number ITEM# COMPOSITE DATE TIME Pace Lab ID 126/189:336/27/0 7:30-25-42293 21-16-15:326/27/0 14:15-25-22027 2001 Outdoor -002 0227 003 RELINQUISHED BY / AFFILIATION ACCEPTED BY / AFFILIATION DATE TIME SAMPLE CONDITIONS Analyze for PCE, TCE, cis, 1,2 DCE, trans-1,2 DCE, and VE TRC 6/28/1913:45 11 DACE 7-2-18 1325 Z S Ϋ́ Ϋ́ ž × Ķ SAMPLER NAME AND SIGNATURE Temp in ° PRINT Name of SAMPLER: Samples 8 **ORIGINAL** SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY) 12

. Pace Analytical*

Document Name: Air Sample Condition Upon Receipt Document No.: F-MN-A-106-rev.15

Document Revised: 02May2018 Page 1 of 1 Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Cl Upon Receipt	ient Name:	C		Project	#: WO# :	104	3797	0		
<u></u>	ed Ex Commercial	□UPS □Pace L	Speede	e Client	PM: CT1 CLIENT:	D TRC-WI	ue Date:	07/10/1	8	
Tracking Number: _ >	ee 9	(Cep n	ons	* *	L.			y		
Custody Seal on Cooler/B	ox Present?	□Yes	no s	Seals Intact?	Yes No	Optional: Pro	, Due Date: I	Proj. Name:		
Packing Material: Bu	bble Wrap	Bubble Bag	gs 🆄 Foam	None [Tin Can Other:_		Temp B	lank rec: 🔲	Yes X No	
Temp. (TO17 and TO13 samp	les only) (°C):		orrected Temp	o (°C):	Thermom. Used:			G87A91706		
Temp should be above freez	ing to 6°C Co	orrection Factor	·		Date & Initials of Pers	on Examining	Contents:	R87A91551	2/18	
Type of ice Received B	ue 🗌 Wet	None						4		
		1	Х.			Cor	nments:			
Chain of Custody Present?			Yes	□No	1.				450	
Chain of Custody Filled Ou	it?		Yes	□No	2.	185	35) 00			
Chain of Custody Relinqui	shed?		X) yes	□No	3.	95				
Sampler Name and/or Sig	nature on COC	?	Yes	Mo □N/A	4.					
Samples Arrived within Ho	old Time?		Xives	□No	5.					
Short Hold Time Analysis	(<72 hr)?		Yes	No	6.					
Rush Turn Around Time R	equested?		Yes	(X)No	7.					
Sufficient Volume?			Yes	□No	8.					
Correct Containers Used?	ii ii		Yes	□No	9.					
-Pace Containers Used?			Yes	□No						
Containers Intact?	· · · · · · · · · · · · · · · · · · ·		Yes	□No	10.			th.		
Media: (Air Can	Airbag	Filter	TDT	Passive	11. Individua	lly Certified C	ans Y N	(list which sar	mples)	
Is sufficient information at to the COC?	vailable to reco	oncile samples	Ves	□No	12.					
Samples Received: 4	inces	1-78	i+Hac	1	The second secon	Pressure Ga	uge # 10AIR	26		
	- Marian	sters	7		Canisters					
		Flow	Initial	Final			Flow	initial	Final	
Sample Number	Can ID	Controller	Pressure	Pressure	Sample Number	Can ID	Controller	Pressure	Pressure	
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CLIENT NOTIFICATION/RE					Data/Time		Required? [
				- 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10	Date/Time:	<u> </u>				
Comments/Resolu	ruon:					*				

	0									
Project Manager Review: Note: Whenever there is a disc	Carol	me hi	ut_			2/18				
Note: Whenever there is a disc hold, incorrect preservative, ou	repancy affect it of temp, inco	ng North Caroli rrect container:	na compliance s)	samples, a copy of	this form will be sent to	the North Car	olina DEHNR Ce	ertification Offi	ce (i.e out o	



Document Name: Sample Condition Upon Receipt Form

Document No.: F-MN-L-213-rev.23 Document Revised: 02May2018 Page 2 of 2 Issuing Authority: Pace Minnesota Quality Office

SCUR Exceptions:

Workorder#:

Issue	Sample ID	Container Type/#
7476 3008 0353		
0390	:	
03-16		
03/6 0335 0379		
0379		
0380		
0405		
0368		

pH Adjustment Log for Preserved Samples

				Preserved				
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
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		Sample ID Preservative	Sample ID Preservative Receipt .	Type of pH Upon Preservation Sample ID Preservative Receipt Adjusted	Type of PH Upon Preservation Preservation Preservation Receipt Adjusted Adjusted	Sample ID Type of Preservative Receipt Preservation Adjusted Adjusted Added Added	Sample ID Type of Preservative Sample ID Type of Preservative ID Type of Preservative Preservation Adjusted Added Sample ID Type of Preservative Receipt Adjusted Time Preservative Preservative Added Added Added Lot # of Preservative Added Add	



(612)607-1700



July 10, 2018

Andrew Stehn TRC 708 Heartland Trail Madison, WI 53717

RE: Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

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 That

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

Enclosures

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







CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

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 Certification #: via MN 027-053-137

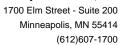
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647

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 #: T4003001
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



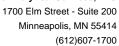


SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
10437972001	515-IA	Air	06/27/18 13:32	07/02/18 13:25	
10437972002	515-SS	Air	06/27/18 14:33	07/02/18 13:25	
10437972003	329-SS	Air	06/27/18 14:02	07/02/18 13:25	



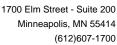


SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10437972001	515-IA	TO-15	AFV	5
10437972002	515-SS	TO-15	AFV	5
10437972003	329-SS	TO-15	AFV	5





PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

Method: TO-15

Description: TO15 MSV AIR
Client: TRC-WI
Date: July 10, 2018

General Information:

3 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:

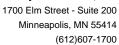
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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.



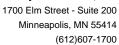


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

Date: 07/10/2018 10:17 AM

Sample: 515-IA	Lab ID:	10437972001	Collecte	d: 06/27/1	8 13:32	Received: 07	/02/18 13:25 Ma	atrix: Air	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15	;						
cis-1,2-Dichloroethene	1.4	ug/m3	1.2	0.53	1.55		07/05/18 21:37	156-59-2	
trans-1,2-Dichloroethene	<0.46	ug/m3	1.2	0.46	1.55		07/05/18 21:37	156-60-5	
Tetrachloroethene	26.2	ug/m3	1.1	0.44	1.55		07/05/18 21:37	127-18-4	
Trichloroethene	8.9	ug/m3	0.85	0.42	1.55		07/05/18 21:37	79-01-6	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		07/05/18 21:37	75-01-4	



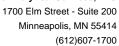


Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

Date: 07/10/2018 10:17 AM

Sample: 515-SS	Lab ID:	10437972002	Collected	d: 06/27/18	3 14:33	Received: 07	/02/18 13:25 Ma	atrix: Air	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15							
cis-1,2-Dichloroethene	1.3	ug/m3	1.2	0.53	1.55		07/05/18 22:08	156-59-2	
trans-1,2-Dichloroethene	<0.46	ug/m3	1.2	0.46	1.55		07/05/18 22:08	156-60-5	
Tetrachloroethene	25.8	ug/m3	1.1	0.44	1.55		07/05/18 22:08	127-18-4	
Trichloroethene	8.2	ug/m3	0.85	0.42	1.55		07/05/18 22:08	79-01-6	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		07/05/18 22:08	75-01-4	





Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

Date: 07/10/2018 10:17 AM

Sample: 329-SS	Lab ID:	10437972003	Collected	d: 06/27/18	3 14:02	Received: 07	/02/18 13:25 Ma	atrix: 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		07/06/18 00:15	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.68		07/06/18 00:15	156-60-5	
Tetrachloroethene	22.2	ug/m3	1.2	0.48	1.68		07/06/18 00:15	127-18-4	
Trichloroethene	0.60J	ug/m3	0.92	0.45	1.68		07/06/18 00:15	79-01-6	
Vinyl chloride	<0.21	ug/m3	0.44	0.21	1.68		07/06/18 00:15	75-01-4	



QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

Date: 07/10/2018 10:17 AM

QC Batch: 548724 Analysis Method: TO-15

QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level

Associated Lab Samples: 10437972001, 10437972002, 10437972003

METHOD BLANK: 2982932 Matrix: Air

Associated Lab Samples: 10437972001, 10437972002, 10437972003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	0.42J	0.81	07/05/18 13:26	
Tetrachloroethene	ug/m3	< 0.29	0.69	07/05/18 13:26	
trans-1,2-Dichloroethene	ug/m3	< 0.30	0.81	07/05/18 13:26	
Trichloroethene	ug/m3	0.48J	0.55	07/05/18 13:26	
Vinyl chloride	ug/m3	<0.13	0.26	07/05/18 13:26	

LABORATORY CONTROL SAMPLE:	2982933	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	40.3	49.7	123	70-136	
Tetrachloroethene	ug/m3	68.9	74.6	108	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	43.7	109	70-132	
Trichloroethene	ug/m3	54.6	67.8	124	70-135	
Vinyl chloride	ug/m3	26	29.5	114	70-141	

SAMPLE DUPLICATE: 2984087		40407070004	5			
		10437970001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	2.3	2.3	2	25	
Tetrachloroethene	ug/m3	27.7	31.4	12	25	
trans-1,2-Dichloroethene	ug/m3	< 0.47	< 0.47		25	
Trichloroethene	ug/m3	10.8	11.4	5	25	
Vinyl chloride	ug/m3	<0.20	< 0.20		25	

SAMPLE DUPLICATE: 2984088						
		10437970002	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	1.5	1.5	2	25	
Tetrachloroethene	ug/m3	28.0	30.0	7	25	
trans-1,2-Dichloroethene	ug/m3	< 0.47	< 0.47		25	
Trichloroethene	ug/m3	9.4	10	6	25	
Vinyl chloride	ug/m3	<0.20	<0.20		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.

(612)607-1700



QUALIFIERS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

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.

Date: 07/10/2018 10:17 AM





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

Date: 07/10/2018 10:17 AM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10437972001	515-IA	TO-15	548724		
10437972002	515-SS	TO-15	548724		
10437972003	329-SS	TO-15	548724		



AIR: CHAIN-OF-CUSTODY / A The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fi

WO#:10437972

Section A Section B Required Client Information: Required Project In	formation:	Section C Invoice Information:						31925	Page: of
Required Client Information: Company: TRC Address: Heartland Tail, Suite this Copy To: The Modison, WIS3717 Email To: ha Connell Purchase Order Name; To Copy To: To Copy To: The Modison WIS3717 Email To: ha Copy To: The Modison WIS3717 Project Name; To Copy To	drew stehn	Attention: TW	eadore	O'Ces	nn all			Program	
Address: Heaveland Tail, Suite & Sopy To: Thee	dore O' Cornell	Company Name:	TRC				F UST F	Superfund F Emiss	sions Clean Air Act
Medison, WI 53717 Inconnell	Stresolutions.co	Address: Sam	re as	seet	tion A		Voluntary Cl	ean Up Tory Clean	RCRA Other
astehn@trcsolutions.com	30	Pace Quote Reference	<u></u>		· mana^		Location of	WI	Reporting Units ug/m³ mg/m³ PPBV PPMV
Project Name: Requested Due Date/TAT: Standard Project Number:	1000/WISDOT 298526	Pace Project Manage	ensales Rep.	(2) (S)	_ 71.<		Sampling by S		Other
Valid Media Codes	298526	<u> </u>	<u> </u>	5000	-34S	70 <u> </u>	Report Level Method:	# # IV / / / / / /	
AIR SAMPLE ID Sample IDs MUST BE UNIQUE Low Volume Puff LVF High Volume Puff HV	CODE ading (Client of	COLLECTED RT COMPIEND/C		(Initial Field - in Hg) Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number		\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Comment
Other PM	7.0	TIME DATE	THE				7 2/2/2/2	/&/&/&/&/&	Pace Lab ID
1 515-IA 2 S15-SS	6CC 6/26/18		15:32 3	0-5	1 199	0533	3		
	6/27/18		14:33-3	30 - 5 18 -6	0738	0 / 2 -	7		003
3 329 - 55	90118	13. LD V	14,02-1	8-6	1302	1 6 6	'		003
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Comments:	RELINQUISHED BY / A		DATE 6/28/19 1 -	TIME 2:	ACCEPTED BY		<u>'</u>		AMPLE CONDITIONS
Analyze for PCE, TCE, is-1,2DCE, trans-1,2DCE	AUANUMA	eary IKS		5.75	<i>CE</i>	a pare	7-2-18	1325 -	A'N
IS-12DCE trans-1.ZDCC									N N N N N N N N N N N N N N N N N N N
3.1.10						,			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
and VC		SAMPLER	NAME AND S	GNATURE				, o	
Page		PRINT Name of	SAMPLER:					Temp in °	Received on Ice Custody Sealed Cooler Samples Intact
Page ORIGINAL ORIGINAL of		SIGNATURE of	SAMPLER;			DATE Signed (MM / DI	D/YY)	Tet Tet	Receiv los Custe Sealed (
of 14								1	

Pace Analytical

Document Name: Air Sample Condition Upon Receipt

Document Revised: 02May2018 Page 1 of 1

Issuing Authority: Document No.: Pace Minnesota Quality Office F-MN-A-106-rev.15

Air Sample Condition C Upon Receipt	lient Name:	(;		Projec	*** WO#	: 104	3797	2	
•	ed Ex	□UPS □Pace	Speede		PM: CT1 CLIENT:		ue Date:	07/10/18	
Tracking Number:	ec 6	cep H	on S		1	and the same of th		er engelse en 1970	13 V
Custody Seal on Cooler/E	lox Present?	□Yes □	Quo s	Seals Intact? [Yes No	Optional: Pro	j. Due Date:	Proj. Name:	
Packing Material: Bu	bble Wrap	Bubble Bag	s Á Foam	None [Tin CanOthe	r:	Temp B	lank rec: 🔲	Yes X No
Temp. (TO17 and TO13 samp	oles only) (°C):		orrected Temp) (°C):	Thermom, Used:		3	G87A91706	· · · · · · · · · · · · · · · · · · ·
Temp should be above freez	ing to 6°C C	orrection Factor	Wadaya	em.	Date & Initials of P	erson Examining	Contents:	P887A91551	2718
Type of ice Received B	ue	None		***************************************				1 - 1	
	1000	<i>/</i>			9	Co	mments:		
Chain of Custody Present	?		Yes	□No	1.				
Chain of Custody Filled O	ut?		Yes	□No	2.				
Chain of Custody Relinqui	shed?		Ves	□No	3.		3		
Sampler Name and/or Sig	nature on COC	77	Yes	No DN/	A 4.				
Samples Arrived within H	old Time?		Yes	□No	5.				
Short Hold Time Analysis	(<72 hr)?		Yes	No	6.				
Rush Turn Around Time I	Requested?		Yes	No	7.				***
Sufficient Volume?		**************************************	Yes	□No	8.	1099			
Correct Containers Used?			Yes	□No	9.				
-Pace Containers Used	?	a mijen digent ja	Yes	□No					
Containers Intact?			Yes	□No	10.				
Media: (Air Can)	Airbag	Filter	TDT	Passive	11. Individ	lually Certified C	ans Y N	dist which sar	mples)
Is sufficient information a to the COC?	vailable to rec	oncile samples	Yes	□No	12.				
Samples Received: 4	innes	1-75	itthuc,	;		Pressure Ga	uge # 10AIR	26	
	11.10.11.1	isters	/			Ca	nisters		
		Flow	Initial	Final			Flow	Initial	Final
Sample Number	Can ID	Controller	Pressure	Pressure	Sample Number	Can ID	Controller	Pressure	Pressure
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20			-4	h					
37935			-6	n			<u> </u>		
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CLIENT NOTIFICATION/RE Person Conta	cted:				Date/Time:			YesNo)
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		7.000							
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Project Wanager Review:	(and	me he	ut		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)

	Document Name:	Document Rev	
Place Analytical	Sample Condition Upon Receipt Form	Page	
Pace Analytical	Document No.:	lssuing A	
	F-MN-L-213-rev.23	Pace Minnesot	

Document Revised: 02May2018 Page 2 of 2 Issuing Authority: Pace Minnesota Quality Office

SCUR Exceptions:

Workorder #	V	Vo	rke	rd	er	#
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Issue	Sample ID	Container Type/#
7476 3008 0353	· · · · · · · · · · · · · · · · · · ·	
0390	:	
0346		
0346 0335		
0379		
0380		
0380 0405 0368		
0368		

pH Adjustment Log for Preserved Samples

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	
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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 That

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

Enclosures

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







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 DW Certification #: MN00064 Maine Certification #: MN00064 Maryland Certification #: 322

Louisiana DEQ Certification #: 03086

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: 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

Wyoming UST Certification #: 2926.01 via A2LA

Wisconsin Certification #: 999407970



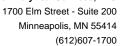


SAMPLE SUMMARY

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



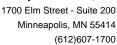


SAMPLE ANALYTE COUNT

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





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:

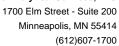
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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.





Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

Date: 07/06/2018 12:41 PM

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	5						
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	

07/03/18 16:29 156-59-2

07/03/18 16:29 156-60-5

07/03/18 16:29 127-18-4

07/03/18 16:29 79-01-6

07/03/18 16:29 75-01-4





ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

Sample: 527-SS

cis-1,2-Dichloroethene

Tetrachloroethene

Trichloroethene

Vinyl chloride

trans-1,2-Dichloroethene

Date: 07/06/2018 12:41 PM

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytica	Method: TO-1	 5					-	

0.56

0.48

0.47

0.44

0.21

1.64

1.64

1.64

1.64

1.64

1.3

1.3

1.1

0.90

0.43

Collected: 06/27/18 15:44 Received: 07/02/18 13:25 Matrix: Air

Lab ID: 10437974002

ug/m3

ug/m3

ug/m3

ug/m3

ug/m3

< 0.56

<0.48

13.4

<0.44

<0.21



QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

Date: 07/06/2018 12:41 PM

QC Batch: 548412 Analysis Method: TO-15

QC Batch 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	

2981153					
	Spike	LCS	LCS	% Rec	
Units	Conc.	Result	% Rec	Limits	Qualifiers
ug/m3	40.3	43.3	108	70-136	
ug/m3	68.9	70.7	103	70-133	
ug/m3	40.3	40.9	101	70-132	
ug/m3	54.6	59.5	109	70-135	
ug/m3	26	27.3	105	70-141	
	Units ug/m3 ug/m3 ug/m3 ug/m3 ug/m3	Units Spike Conc. ug/m3 40.3 ug/m3 68.9 ug/m3 40.3 ug/m3 54.6	Units Spike Conc. LCS Result ug/m3 40.3 43.3 ug/m3 68.9 70.7 ug/m3 40.3 40.9 ug/m3 54.6 59.5	Units Spike Conc. LCS Result LCS % Rec ug/m3 40.3 43.3 108 ug/m3 68.9 70.7 103 ug/m3 40.3 40.9 101 ug/m3 54.6 59.5 109	Units Spike Conc. LCS Result LCS % Rec Limits ug/m3 40.3 43.3 108 70-136 ug/m3 68.9 70.7 103 70-133 ug/m3 40.3 40.9 101 70-132 ug/m3 54.6 59.5 109 70-135

		10437786001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND 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						
		10437786002	Dup		Max	
Parameter	Units	Result	Result	RPD	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.

(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.

Date: 07/06/2018 12:41 PM





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

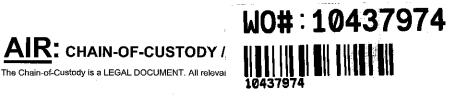
Date: 07/06/2018 12:41 PM

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		





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



; 	Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:			319	19 Page: of)
	Section A Required Client Information: Company: TRC Address: 708 Hear-Hand Trail, Suite His Madison, Wi 53717 Email To: Astehn Cetros clutions. Com Phone: 826 366 Sex Requested Due Date/TAT: Standard	Report To: Andrew Steh	Attention: The Company Name:	odore O'Con	inel	Program	n Emissions T Clean Air Act
I	Madison, WI 53717	toconnell etresolution Purchase Order No.: 1 20030	Address: Sam	e as secti	en A	Voluntary Clean Up D	ry Clean RCRA Other
Ē	astehn@trosolutions.com	Purchase Order No.: 1 20030	Pace Quote Reference:			Location of	Reporting Units ug/m² mg/m² PPBV PPMV
ρď	Requested Due Date/TAT:	Project Name: Northwoods W Project Number: 298526	Pace Profile #:	3%608	ACS 34570	Sampling by State	Other
Ì	AIR SAMPLE ID Sample IDs MUST BE UNIQUE	MEDIA	TE START COMPOSITE	r Pressure leid - in Hg) r Pressure leid - in Hg)		Method:	
	E	Other PM10 VI CL C	END/GRAB	Canist (Final	Number Number		プラグラ ダブダ Pace Lab ID
ı	527-1A	610 6/2	18 15:066/2/18 14	46-30 X	34171259 02001729		× 100
	2 527-SS	↓ 6/2	1/18 15:10 (427/18 15	:44-30-6 (12001729		1 002
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,	Analyze by PCE	TCE, RELINQUISHED	PODULTOC Cha	ATE TIME A	CCEPTED BY / AFFILIATION	7-278 1325	SAMPLE CONDITIONS
	Cis-17 DEE do no	17DC	ery in que	710 13:13	Co Mac	72-8 1723	
	and the	1/2/09					\(\lambda \) \(\la
	Cis-1,2DCE, trans- and VC						N/W N/W st
Page 11			SAMPLER NAI PRINT Name of SAM SIGNATURE of SAM		DATE Signed (MM / DD /	/YM	Temp in °C Received on Y/N Ice Custody Y/N Seatled Cooler Y/N Samples Intact Y/N
=		G.F. Salama	OF THE STATE OF SAME		Size allow fully be		Sa Sa



Document Name:

Document Revised: 02May2018 Page 1 of 1

Air Sample Condition Upon Receipt Issuing Authority: Pace Minnesota Quality Office Document No.: F-MN-A-106-rev.15

Air Sample Condition Upon Receipt	lient Name:	1		Project	#:	WO#	: 104	13797	74	
Courier:	Fed Ex	UPS	Speede	e Client		PM: CT	1 : TRC-WI	Due Date:	07/10/1	8
	Commercial	Pace	Other:_							
Tracking Number:	ree e	xcep n	ons		· .	(6)	8	a an	* * * * * * * * * * * * * * * * * * *	
Custody Seal on Cooler/	Box Present?	☐Yes [Ano s	Seals Intact?	Yes	No	Optional: Pr	oj. Due Date:	Proj. Name:	
Packing Material: Bu	abble Wrap	Bubble Ba	gs 🔊 Foam	☐None ☐]Tin Car	n Othe	r:	Temp B	lank rec: 🔲	Yes X No
Temp. (TO17 and TO13 sam	ples only) (°C):	Charles .	Corrected Temp	ı (°C):	Therm	om. Used:		1	G87A91706	2
Temp should be above free		Correction Facto	O-4	1,20-1			erson Examinin	g Contents:	E87A91551	2718
Type of ice Received B		None	Vitra -						1	1-
24		<i>T</i>					Co	mments:		
Chain of Custody Present	?		Yes	□No	1.					
Chain of Custody Filled O	ut?		Yes	□No	2.					
Chain of Custody Relinqu	ished?		▼ ves	□No	3.					ant a second
Sampler Name and/or Si	gnature on CO	C?	Yes	Mo □N/A	4.					
Samples Arrived within H	old Time?		X Yes	□No	5.					
Short Hold Time Analysis	(<72 hr)?		Yes	No	6.		1.2			
Rush Turn Around Time	Requested?		Yes	⊠ No	7.					
Sufficient Volume?			XYes	No	8.					
Correct Containers Used	,		Yes	□No	9.					2
-Pace Containers Used	?		XVes	No				-1		
Containers Intact?			Yes	□No	10.	***	9			
Media: (Air Can	Airbag	Filter		Passive	11.	Individ	dually Certified	Cans Y N	(list which sar	nples)
Is sufficient information a to the COC?	available to rec	concile samples	Ayes	□No	12.				· · · · · · · · · · · · · · · · · · ·	anto:
Samples Received: 4 (innes	1-75	itthac				Pressure G	auge # 10AIR	26	
Samples received: 1 1 8		isters	1		*******			anisters	Mary and an artist of the second	
		Flow	Initial	Final			1	Flow	Initial	Final
Sample Number	Can ID	Controller	Pressure	Pressure	Sampl	e Number	Can ID	Controller	Pressure	Pressure
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(Marie 1970) 11-344			il							
	acted:						10	Required?		
Comments/Resol	ution:				· · · · · · · · · · · · · · · · · · ·					
					·····				*****	
				· · · · · · · · · · · · · · · · · · ·						
Project Manager Review	Carlin	- Trust	>			Date:	7/2/19			

Note: Whenever there is a discrepancy at lecting 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)



Document Name: Sample Condition Upon Receipt Form Document No.: F-MN-L-213-rev.23

Document Revised: 02May2018
Page 2 of 2
Issuing Authority:
Pace Minnesota Quality Office

SCUR Exceptions:

Workorder #:

3CON Exceptions.	AA OLIKOLACI II.							
Issue	Sample ID	Container Type/#						
7476 3008 0353								
0390								
03-16								
0346								
0379								
0380								
0405								
0405 0368								

pH Adjustment Log for Preserved Samples

	Par and	ajustine	III LOS IOI	rreserveu	Janipies			
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
							:	
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!				·	i			





July 09, 2018

Andrew Stehn TRC 708 Heartland Trail Madison, WI 53717

RE: Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

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 That

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

Enclosures

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







CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

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

Maine Certification #: MN00064 Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Louisiana DW Certification #: MN00064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137

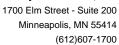
Minnesota Petrofund Certification #: 1240 Mississippi Certification #: MN00064 Montana Certification #: CERT0092 Nebraska Certification #: NE-OS-18-06 Nevada Certification #: MN00064 New Hampshire Certification #: 2081 New Jersey Certification #: MN002 New York Certification #: 11647

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



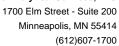


SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
10437976001	300-IA	Air	06/27/18 17:32	07/02/18 13:25	
10437976002	300-SS	Air	06/27/18 19:14	07/02/18 13:25	



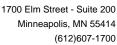


SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10437976001	300-IA	TO-15	NCK	5
10437976002	300-SS	TO-15	NCK	5





PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

Method: TO-15

Description: TO15 MSV AIR
Client: TRC-WI
Date: July 09, 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:

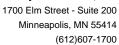
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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.





ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

Date: 07/09/2018 12:15 PM

Sample: 300-IA	Lab ID:	Lab ID: 10437976001		Collected: 06/27/18 17:32		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		07/05/18 19:02	156-59-2	
trans-1,2-Dichloroethene	<0.45	ug/m3	1.2	0.45	1.52		07/05/18 19:02	156-60-5	
Tetrachloroethene	0.68J	ug/m3	1.0	0.44	1.52		07/05/18 19:02	127-18-4	
Trichloroethene	<0.41	ug/m3	0.83	0.41	1.52		07/05/18 19:02	79-01-6	
Vinyl chloride	<0.19	ug/m3	0.40	0.19	1.52		07/05/18 19:02	75-01-4	

07/05/18 20:12 79-01-6

07/05/18 20:12 75-01-4





ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

<0.48

<0.23

ug/m3

ug/m3

Pace Project No.: 10437976

Trichloroethene

Date: 07/09/2018 12:15 PM

Vinyl chloride

Sample: 300-SS	Lab ID:	10437976002	Collected	d: 06/27/1	8 19:14	Received: 07	7/02/18 13:25 Ma	atrix: Air	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical	Method: TO-15							
cis-1,2-Dichloroethene	<0.61	ug/m3	1.4	0.61	1.79		07/05/18 20:12	156-59-2	
trans-1,2-Dichloroethene	<0.53	ug/m3	1.4	0.53	1.79		07/05/18 20:12	156-60-5	
Tetrachloroethene	1.2	ug/m3	1.2	0.51	1.79		07/05/18 20:12	127-18-4	

0.48

0.23

1.79

1.79

0.98

0.47



QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

Date: 07/09/2018 12:15 PM

QC Batch: 548709 Analysis Method: TO-15

QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level

Associated Lab Samples: 10437976001, 10437976002

METHOD BLANK: 2982821 Matrix: Air

Associated Lab Samples: 10437976001, 10437976002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.34	0.81	07/05/18 10:31	
Tetrachloroethene	ug/m3	< 0.29	0.69	07/05/18 10:31	
trans-1,2-Dichloroethene	ug/m3	< 0.30	0.81	07/05/18 10:31	
Trichloroethene	ug/m3	0.27J	0.55	07/05/18 10:31	
Vinyl chloride	ug/m3	<0.13	0.26	07/05/18 10:31	

LABORATORY CONTROL SAMPLE:	2982822				_	
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
cis-1,2-Dichloroethene	ug/m3	40.3	49.0	122	70-136	
Tetrachloroethene	ug/m3	68.9	74.0	107	70-133	
trans-1,2-Dichloroethene	ug/m3	40.3	49.9	124	70-132	
Trichloroethene	ug/m3	54.6	66.8	122	70-135	
Vinyl chloride	ug/m3	26	29.1	112	70-141	

		10437976001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.52	<0.52		25	
Tetrachloroethene	ug/m3	0.68J	0.56J		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	

SAMPLE DUPLICATE: 2983770						
Parameter	Units	10437976002 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.61	<0.61		25	
Tetrachloroethene	ug/m3	1.2	1.4	13	25	
trans-1,2-Dichloroethene	ug/m3	< 0.53	< 0.53		25	
Trichloroethene	ug/m3	<0.48	0.58J		25	
Vinyl chloride	ug/m3	< 0.23	< 0.23		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.

(612)607-1700



QUALIFIERS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

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.

Date: 07/09/2018 12:15 PM





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

Date: 07/09/2018 12:15 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10437976001	300-IA	TO-15	548709		
10437976002	300-SS	TO-15	548709		



AIR: CHAIN-OF-CUSTODY / A

WO#: 10437976

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

•	ed Client Information:	Section B Required Project Inform			Section Invoice I	ı C nformation:													31	92	20	Page:	of	
Compa	TRC TOS Hearstand Tail, Suite 31	Report To: And YU	w Ste	hu	Attention	The	reder	e 0'	Can	ne	U							_		gram				
Address	08 Heartland (rail Suite SU	Theod	pre 04	Camell	Address		RC			/\													Clean A	
	licon, w1 53717 Ehn@tycsolutions.com	Purchase Order No. 2	TY CSOL DOSO	utrous	Pace Qu	ote Refere			see	#1 & .	n H					ocatio					i	Reporti	ng Units mg/m '	
Phone C	726 3665	Project Name. Nov	hwasd	8/WID	157°	ojeci Mana	ger/Sales Re	∋р.	A	ES,	· ·	_			s	amplii	ng by	_	te	W	<u> </u>	PPBV _ Other _	PPMV_	
Reques	'Section D Required Client Information	Valid Media Codes	18576		Pace Pro					8	34	-5- T	70		#	eport l	_	п.	I	II. <u> </u>	IV	/ & /		
	AIR SAMPLE ID	MEDIA CODE Tedlar Bag TB 1 Liter Summa Can 1LC	AEDIA CODE PID Reading (Client only)		COLLI	CILD		Pressure reld - in Hg)	Canister Pressure (Final Field - in Hg)	Su	ımma		Fi	ow	- (~/ ~/		//	\$\\\ \f\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	on on o	Com	Mint
	Sample IDs MUST BE UNIQUE	6 Liter Summa Can 6LC Low Volume Puff LVP High Volume Puff HVP	CODE	COMPOSITE STAF	रा	COM	POSITE -	Canister Pr (Initial Field	ster Pr		Can mber			ntrol mber							\$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			4273
ITEM #		Other PM10		DATE	TIME	DATE	TIME								/	35.5.	#/\$ \$				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Bull of the land	Pace La	ьID
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2	300 - SS		1	6/2718	18:10	d 27/18	19:14	-27	6	15	5 8 8	340	7 9	6	7		-			-	X		000	
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Pace Analytical

Document Name: Air Sample Condition Upon Receipt Document No.: F-MN-A-106-rev.15

Document Revised: 02May2018 Page 1 of 1

Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition (Conference Upon Receipt	lient Name:	0	87	Project	# WO#	:104	3797	'6	
Ę	Fed Ex Commercial	UPS Pace CONT	Speede	e Client	PM: CT1 CLIENT:	TRC-WI	ue Date:	07/10/1	8
						Optional: Proj	. Due Date: F	roj. Name:	
Custody Seal on Cooler/I	3ox Present?	YesY	No	Seals Intact?	Yes XNo				<i>a</i>
Packing Material: Bu	abble Wrap	Bubble Bag	s X Foam	None [Tin Can Other	·	Temp 8	lank rec: 🔲	Yes 🔊 No
Temp. (TO17 and TO13 sam) Temp should be above free: Type of ice Received B	zing to 6°C Co	rrection Factor	Corrected Tem	p (°C):	Thermom. Used: Date & Initials of Po		Contents:	G87A917066	100 P. M. 120 P
Chain of Custody Present	?		Yes	ΠNo	1.	/ 001	imenes.		
Chain of Custody Filled O			Yes	□No	2.				9
Chain of Custody Relingu			5€ Nes	□No	3.	The second section of the section of			
Sampler Name and/or Sig		?	☐Yes	MA DN/A	4.			~,-	
Samples Arrived within H	No. 100 - 100		X	□No	5.				
Short Hold Time Analysis		****	☐Yes	™ No	6.				
Rush Turn Around Time I	15		Yes	ĺ ∑)No	7.				
Sufficient Volume?	roquestear		X Yes	□No	8.				
Correct Containers Used?	,		Yes	□No	9.		1		
-Pace Containers Used			Myes	□No	J.				
	I .		Vives		10.	54 to 10 10 10 to 10 10 10 10 10 10 10 10 10 10 10 10 10	***		
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Media: (Air Can)	Airbag	Filter	TDT	Passive	11. Individ	ually Certified C	ans Y N	(list which sar	npiesi
to the COC?	valiable to rece	mone samples	Yes	□No	12.				,
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Document Name: Sample Condition Upon Receipt Form Document No.: F-MN-L-213-rev.23

Document Revised: 02May2018
Page 2 of 2
Issuing Authority:
Pace Minnesota Quality Office

SCUR Exceptions:

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Issue	Sample ID	Container Type/#
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0390		
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pH Adjustment Log for Preserved Samples

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





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 That

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

Enclosures

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







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 Certification #: 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



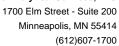


SAMPLE SUMMARY

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



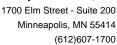


SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437978

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





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 chainof 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.





ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437978

Date: 07/06/2018 12:41 PM

Sample: 405-SS	Lab ID:	10437978001	Collecte	d: 06/26/18	3 14:48	Received: 07	/02/18 13:25 Ma	atrix: 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	



QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437978

Vinyl chloride

Date: 07/06/2018 12:41 PM

QC Batch: 548412 Analysis Method: TO-15

QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level

Associated Lab Samples: 10437978001

METHOD BLANK: 2981152 Matrix: Air

Associated Lab Samples: 10437978001

		Blank	Reporting		
Parameter	Units	Result	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	Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% 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	

		10437786001	Dup		Max	
Parameter	Units	Result	Result	RPD	RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND 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 10437786002 Dup Max Parameter Units Result Result RPD RPD Qualifiers cis-1,2-Dichloroethene ug/m3 ND < 0.58 25 1.8 25 Tetrachloroethene ug/m3 1.7 1 ND 25 trans-1,2-Dichloroethene ug/m3 < 0.50 Trichloroethene ug/m3 ND < 0.46 25

ug/m3

ND

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.

< 0.22

REPORT OF LABORATORY ANALYSIS

25

(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.

Date: 07/06/2018 12:41 PM





QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437978

Date: 07/06/2018 12:41 PM

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





WO#: 10437978 AIR: CHAIN-OF-CUSTODY / The Chain-of-Custody is a LEGAL DOCUMENT. All relevant 10437978

Comments: Analyze for PCE TCE, Cas -1,2 DCE, Tans-12ae and W Comments: Analyze for PCE TCE, Cas -1,2 DCE, Tans-12ae and W Comments: Analyze for PCE TCE, Cas -1,2 DCE, Tans-12ae and W Comments: Analyze for PCE TCE, Cas -1,2 DCE, Tans-12ae TCE, Cas -1,2 DCE, Tans-12a	Section A Required Client Information:	Section B Required Project Inform	nation:	Section C				32455	Page: of /
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Section D Required Client Information ARR SAMPLE ID Service Tips Multi BE UNIQUE Service Tips Multi	Phone: 21 (Trax:	Project Name: Na G	140030	Pace Project Manager/Sa	iles Rep.		1	ate WI	ug/m³ mg/m ³ PPBV PPMV
Section D Required Client Information ARR SAMPLE ID Service Tips Multi BE UNIQUE Service Tips Multi	Requested Due Date/TAT: Standard	Project Number: 20	18526	Pace Profile #:	345	70	Report Level II.	1II IV	
TCE, CK-1,2 DCE, trans-12nc and VC SAMPLER NAME AND SIGNATURE PROSTREE MAND SIGNATURE PROSTRE	Section D Required Client Information AIR SAMPLE ID Sample IDS MUST BE UNIQUE	MEDIA CODE	(Client only)	ART COMPOSITE	ianister Pressure nitial Field - in Hg) anister Pressure Final Field - in Hg)	Summa Flow Can Control Number Number	Method:		/ Jet Set Connent
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	ge ORIGI	NAL		SIGNATURE OF SAM	PLER:	DATE Signed (MM	1/DD/YY)	Temp	Rece Cur Sealed

Pace Analytical*

Document Name: Air Sample Condition Upon Receipt Document No.: F-MN-A-106-rev.15

Document Revised: 02May2018
Page 1 of 1
Issuing Authority:
Pace Minnesota Quality Office

Air Sample Condition Upon Receipt Client Name:	Proje	WO#:10437978
Courier: Fed Ex UPS Commercial Pace Tracking Number: See Ex Cell 10	Speedee Client Other:	PM: CT1 Due Date: 07/10/18 CLIENT: TRC-WI
	No Seals Intact?	Yes Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap Bubble Ba		☐Tin Can ☐Other: Temp Blank rec: ☐Yes 🕅
	Corrected Temp (°C):	Thermom. Used: G87A9170600254
Temp should be above freezing to 6°C Correction Factor	r:	Date & Initials of Person Examining Contents:
Type of ice Received Blue Wet None		
*		Comments:
Chain of Custody Present?	Yes No	1.
Chain of Custody Filled Out?	Yes No	2.
Chain of Custody Relinguished?	XÎ¥es □No	3.
Sampler Name and/or Signature on COC?	☐Yes 🔀 o ☐N,	/A 4.
Samples Arrived within Hold Time?	X0Yes □No	5.
Short Hold Time Analysis (<72 hr)?	Yes No	6.
Rush Turn Around Time Requested?	Yes No	7.
Sufficient Volume?	Yes No	8.
Correct Containers Used?	XYes No	9.
-Pace Containers Used?	Myes No	
Containers Intact?	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?	Yes □No	12.
Samples Received: 4 Connes 1-75	Haci	Pressure Gauge # 10AIR26
Canisters	1	Canisters
Sample Number Can ID Controller	Initial Final Pressure Pressure	Sample Number Can ID Controller Pressure Press
405	-5 45	
unusel 3426 1248	-28 -	
1575 2836	-29 -	
1785 0888		
0940 1751	-29 -	
2714 0768	-29 -	
CLIENT NOTIFICATION/RESOLUTION Person Contacted: Comments/Resolution:		Field Data Required? Yes No Date/Time:
Project: Manager Review: Carolinae Time	L	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)

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 02May2018 Page 2 of 2
Pace Analytical *	Document No.:	Issuing Authority:
	F-MN-L-213-rev.23	Pace Minnesota Quality Office

SCUR Exceptions:

Workorder #:

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

pH Adjustment Log for Preserved Samples

					1			
					Amount of			
			Date	Time	Additional	Lot # of]	
	Type of	pH Upon	Preservation	Preservation	Preservative	Preservative	pH After	
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