

## Stoltz, Carrie R - DNR

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**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 27<sup>th</sup> 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 5<sup>th</sup> 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/m<sup>3</sup>), TCE (~10 ug/m<sup>3</sup>), and cis-1,2-DCE (1 -2 ug/m<sup>3</sup>), 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.

**Outdoor Air Samples:** 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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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 Trout*

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

Enclosures

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



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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### 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

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## REPORT OF LABORATORY ANALYSIS

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## 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

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### 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

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## PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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**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.

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

**Sample: 321-IA**      **Lab ID: 10437964001**      Collected: 06/27/18 10:35      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		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	

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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**Sample: 317-IA**      **Lab ID: 10437964002**      Collected: 06/27/18 09:57      Received: 07/02/18 13:25      Matrix: Air

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		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	

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

**Sample: 315-IA**      **Lab ID: 10437964003**      Collected: 06/27/18 09:57      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<0.51	ug/m3	1.2	0.51	1.49		07/03/18 13:25	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.49		07/03/18 13:25	156-60-5	
Tetrachloroethene	<0.43	ug/m3	1.0	0.43	1.49		07/03/18 13:25	127-18-4	
Trichloroethene	<0.40	ug/m3	0.81	0.40	1.49		07/03/18 13:25	79-01-6	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		07/03/18 13:25	75-01-4	

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

**Sample: 313-IA**      **Lab ID: 10437964004**      Collected: 06/27/18 11:27      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		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	

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

**Sample: 321-SS**      **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
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>&lt;0.57</b>	ug/m3	1.4	0.57	1.68		07/03/18 15:14	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.50</b>	ug/m3	1.4	0.50	1.68		07/03/18 15:14	156-60-5	
Tetrachloroethene	<b>16.1</b>	ug/m3	1.2	0.48	1.68		07/03/18 15:14	127-18-4	
Trichloroethene	<b>&lt;0.45</b>	ug/m3	0.92	0.45	1.68		07/03/18 15:14	79-01-6	
Vinyl chloride	<b>&lt;0.21</b>	ug/m3	0.44	0.21	1.68		07/03/18 15:14	75-01-4	

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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**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
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>&lt;0.58</b>	ug/m3	1.4	0.58	1.71		07/03/18 15:50	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.50</b>	ug/m3	1.4	0.50	1.71		07/03/18 15:50	156-60-5	
Tetrachloroethene	<b>61.0</b>	ug/m3	1.2	0.49	1.71		07/03/18 15:50	127-18-4	
Trichloroethene	<b>&lt;0.46</b>	ug/m3	0.93	0.46	1.71		07/03/18 15:50	79-01-6	
Vinyl chloride	<b>&lt;0.22</b>	ug/m3	0.44	0.22	1.71		07/03/18 15:50	75-01-4	

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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**Sample: 315-SS**      **Lab ID: 10437964007**      Collected: 06/27/18 10:58      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		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	

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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

LABORATORY CONTROL SAMPLE: 2981011

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

SAMPLE DUPLICATE: 2982377

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

SAMPLE DUPLICATE: 2982379

Parameter	Units	10437964004 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.52	<0.52		25	
Tetrachloroethene	ug/m3	<0.44	<0.44		25	
trans-1,2-Dichloroethene	ug/m3	<0.45	<0.45		25	
Trichloroethene	ug/m3	<0.41	<0.41		25	
Vinyl chloride	ug/m3	<0.19	<0.19		25	

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

**REPORT OF LABORATORY ANALYSIS**

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## QUALIFIERS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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### 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.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437964

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		

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# AIR: CHAIN-OF-CUSTODY

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

WO#: 10437964



Section A Required Client Information: Section B Required Project Information: Section C Invoice Information: 32453 Page: 1 of 1

Company: <b>TRC</b>	Report To: <b>Andrew Stehn</b>	Attention: <b>Theodore O'Connell</b>
Address: <b>708 Heartland Trail</b>	Copy To: <b>Theodore O'Connell</b>	Company Name: <b>TRC</b>
Suite <b>300, Madison, WI 53717</b>	Email To: <b>theoconnell@trcsolutions.com</b>	Address: <b>same as section A</b>
Phone: <b>826 3665</b>	Purchase Order No.: <b>120030</b>	Pace Quote Reference:
Requested Due Date/TAT: <b>Standard</b>	Project Name: <b>Northwoods/WisDOT</b>	Pace Project Manager/Sales Rep.
	Project Number: <b>298526</b>	Pace Profile #: <b>34570</b>

Program

UST  Superfund  Emissions  Clean Air Act

Voluntary Clean Up  Dry Clean  RCRA  Other

Location of Sampling by State: **WI**

Report Level:    II    III    IV    Other   

Reporting Units: ug/m<sup>3</sup> mg/m<sup>3</sup> PPBV PPMV Other

ITEM #	'Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE Tedlar Bag TB 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method:								Pace Lab ID
					COMPOSITE START		COMPOSITE - END/GRAB						PM10	3C - Filtered Gas (%)	TO-5 BTEX	TO-5M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	
					DATE	TIME	DATE	TIME													
1	321-IA		6LC		6/26/18	9:45	6/27/18	10:35	-32	-1	3320	1052								X	001
2	317-IA					10:12		9:57	-30	-4	2754	0459									002
3	315-IA					10:12		9:57	-27	-3	3347	0450									003
4	313-IA					11:38		11:27	-27	-4	2688	1028									004
5	321-SS				6/27/18	10:58		11:32	-28	-6	0183	1245									005
6	<del>317-IA</del> 317-SS					10:34		11:07	-27	-6	0637	1550									006
7	315-SS					10:25		10:58	-27	-5	0310	1600									007
8	<del>313-SS</del> ← pulled water, no sample collected					12:00			-28		1526	1114									
9	AES					10:25															AES

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
APN Sevelle/TRC	6/28/18	13:45	W. Pace	7-2-18	1325	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

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

ORIGINAL

**Air Sample Condition Upon Receipt** Client Name: TRC Project #: **WO#: 10437964**  
 Courier:  Fed Ex  UPS  Speedee  Client  
 Commercial  Pace  Other: \_\_\_\_\_  
 Tracking Number: see exceptions  
 PM: CT1 Due Date: 07/10/18  
 CLIENT: TRC-WI

Custody Seal on Cooler/Box Present?  Yes  No Seals Intact?  Yes  No  
 Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Tin Can  Other: \_\_\_\_\_ Temp Blank rec:  Yes  No  
 Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermom. Used:  G87A9170600254  
 G87A9155100842  
 Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_ Date & Initials of Person Examining Contents: RC 7/2/18  
 Type of ice Received  Blue  Wet  None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: 4 Canses 1-PSitting Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
321			-2	+5					
317			-3	"					
315			-3	"					
313			-3.5	"					
321			-6	"					
317-SS			-6.5	"					
315-SS			-6	"					
<u>Wmuseel</u>	<u>1526</u>	<u>1114</u>	<u>-28</u>	<u>-</u>					

CLIENT NOTIFICATION/RESOLUTION Field Data Required?  Yes  No  
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/Resolution: \_\_\_\_\_

Project Manager Review: Carolynne Hunt Date: 7/2/18  
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



**SCUR Exceptions:**

**Workorder #:**

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

**pH Adjustment Log for Preserved Samples**

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

July 06, 2018

Andrew Stehn  
TRC  
708 Heartland Trail  
Madison, WI 53717

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

Dear Andrew Stehn:

Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

*Carolynne Trout*

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

Enclosures

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



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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### 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

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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

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### SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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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

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## PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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**Method:** TO-15

**Description:** TO15 MSV AIR

**Client:** TRC-WI

**Date:** July 06, 2018

**General Information:**

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

**Hold Time:**

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

**Initial Calibrations (including MS Tune as applicable):**

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

**Continuing Calibration:**

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

**Internal Standards:**

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

QC Batch: 548385

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

- 301-307-SS-3 (Lab ID: 10437968005)
- Tetrachloroethene

**Method Blank:**

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

**Laboratory Control Spike:**

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

**Duplicate Sample:**

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

**Additional Comments:**

Analyte Comments:

QC Batch: 548385

C0: Result confirmed by second analysis.

- 301-307-SS-3 (Lab ID: 10437968005)
- Tetrachloroethene

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

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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

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

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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

---

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		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	

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		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	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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

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

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<0.58	ug/m3	1.4	0.58	1.71		07/03/18 19:28	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.71		07/03/18 19:28	156-60-5	
Tetrachloroethene	515	ug/m3	23.6	9.8	34.2		07/05/18 17:06	127-18-4	C0,IS
Trichloroethene	<0.46	ug/m3	0.93	0.46	1.71		07/03/18 19:28	79-01-6	
Vinyl chloride	<0.22	ug/m3	0.44	0.22	1.71		07/03/18 19:28	75-01-4	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

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

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

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

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

LABORATORY CONTROL SAMPLE: 2981011

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

SAMPLE DUPLICATE: 2982377

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

SAMPLE DUPLICATE: 2982379

Parameter	Units	10437964004 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.52	<0.52		25	
Tetrachloroethene	ug/m3	<0.44	<0.44		25	
trans-1,2-Dichloroethene	ug/m3	<0.45	<0.45		25	
Trichloroethene	ug/m3	<0.41	<0.41		25	
Vinyl chloride	ug/m3	<0.19	<0.19		25	

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

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## QUALIFIERS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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### DEFINITIONS

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

ND - Not Detected at or above LOD.

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

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

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

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

C0 Result confirmed by second analysis.

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

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437968

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

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

WO#: 10437968



<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	32433	Page: <u>1</u> of <u>1</u>
Company: <b>TRC</b>	Report To: <b>Andrew Stehn</b>	Attention: <b>Theodore O'Connell</b>	Program	
Address: <b>702 Heartland Trail, Suite 300 Madison, WI 53717</b>	Copy To: <b>Theodore O'Connell</b>	Company Name: <b>TRC</b>	<input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Email To: <b>astehn@trcsolutions.com</b>	Purchase Order No.: <b>120030</b>	Address: <b>same as section A</b>	Location of Sampling by State: <b>WI</b>	
Phone: <b>608 826 3665</b>	Project Name: <b>Northwoods/WisDOT</b>	Pace Quote Reference:	Reporting Units ug/m <sup>3</sup> _____ mg/m <sup>3</sup> _____ PPBV _____ PPMV _____ Other _____	
Requested Due Date/TAT: <b>standard</b>	Project Number: <b>298526</b>	Pace Project Manager/Sales Rep.	Report Level: <u>II</u> <u>III</u> <u>IV</u> Other _____	
		Pace Profile #: <b>34570</b>		

ITEM #	'Section D Required Client Information <b>AIR SAMPLE ID</b> Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE Tedlar Bag TB 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method:								see comment	Page Lab ID		
					COMPOSITE START		COMPOSITE - END/GRAV						PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated			TO-15 Short List (Other)	
					DATE	TIME	DATE	TIME																
1	301-307-1A-C		6LC		6/26/18	16:07	6/27/18	15:57	-26	-40	957	0599										X	001	
2	301-307-1A-S					16:05		15:57	-27	-3	276	70102												002
3	301-307-SS-1				6/27/18	16:40		17:14	-28	-6	280	80711												003
4	301-307-SS-2					16:32		17:06	-29	-6	079	61811												004
5	301-307-SS-3					16:48		17:21	-27	-6	028	21562												005

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

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Andrew Stehn/TRC	6/28/18	13:45	Ullmaier	7-2-18	1325	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N
						Y/N	Y/N	Y/N	Y/N

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

ORIGINAL

**Air Sample Condition Upon Receipt** Client Name: TRC Project #: **WO#: 10437968**  
 Courier:  Fed Ex  UPS  Speedee  Client  
 Commercial  Pace  Other: \_\_\_\_\_  
 Tracking Number: see exceptions  
 PM: CT1 Due Date: 07/10/18  
 CLIENT: TRC-WI

Custody Seal on Cooler/Box Present?  Yes  No Seals Intact?  Yes  No  
 Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Tin Can  Other: \_\_\_\_\_ Temp Blank rec:  Yes  No  
 Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermom. Used:  G87A9170600254  
 G87A9155100842  
 Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_ Date & Initials of Person Examining Contents: RG 7/2/18  
 Type of ice Received  Blue  Wet  None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: 4 Cans 1 - PSitting Pressure Gauge # 10AIR26

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

CLIENT NOTIFICATION/RESOLUTION Field Data Required?  Yes  No  
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/Resolution: \_\_\_\_\_

Project Manager Review: Carolynne Hunt Date: 7/2/18  
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



**SCUR Exceptions:**

**Workorder #:**

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

**pH Adjustment Log for Preserved Samples**

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

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

Enclosures

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



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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### 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

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## REPORT OF LABORATORY ANALYSIS

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## 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

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### SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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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

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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**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.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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**Sample: Outdoor-1**      **Lab ID: 10437970001**      Collected: 06/27/18 07:30      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>2.3</b>	ug/m3	1.3	0.55	1.61		07/05/18 18:59	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.47</b>	ug/m3	1.3	0.47	1.61		07/05/18 18:59	156-60-5	
Tetrachloroethene	<b>27.7</b>	ug/m3	1.1	0.46	1.61		07/05/18 18:59	127-18-4	
Trichloroethene	<b>10.8</b>	ug/m3	0.88	0.43	1.61		07/05/18 18:59	79-01-6	
Vinyl chloride	<b>&lt;0.20</b>	ug/m3	0.42	0.20	1.61		07/05/18 18:59	75-01-4	

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

**Sample: Outdoor-2**      **Lab ID: 10437970002**      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
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>1.5</b>	ug/m3	1.3	0.54	1.58		07/05/18 20:02	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.47</b>	ug/m3	1.3	0.47	1.58		07/05/18 20:02	156-60-5	
Tetrachloroethene	<b>28.0</b>	ug/m3	1.1	0.45	1.58		07/05/18 20:02	127-18-4	
Trichloroethene	<b>9.4</b>	ug/m3	0.86	0.42	1.58		07/05/18 20:02	79-01-6	
Vinyl chloride	<b>&lt;0.20</b>	ug/m3	0.41	0.20	1.58		07/05/18 20:02	75-01-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

**Sample: DUP-01**      **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
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>1.5</b>	ug/m3	1.4	0.58	1.71		07/05/18 21:05	156-59-2	
trans-1,2-Dichloroethene	<b>1.8</b>	ug/m3	1.4	0.50	1.71		07/05/18 21:05	156-60-5	
Tetrachloroethene	<b>29.9</b>	ug/m3	1.2	0.49	1.71		07/05/18 21:05	127-18-4	
Trichloroethene	<b>9.7</b>	ug/m3	0.93	0.46	1.71		07/05/18 21:05	79-01-6	
Vinyl chloride	<b>&lt;0.22</b>	ug/m3	0.44	0.22	1.71		07/05/18 21:05	75-01-4	

### REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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	

LABORATORY CONTROL SAMPLE: 2982933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% 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

Parameter	Units	10437970001 Result	Dup Result	RPD	Max 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

Parameter	Units	10437970002 Result	Dup Result	RPD	Max 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.

**REPORT OF LABORATORY ANALYSIS**

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## QUALIFIERS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437970

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		

### REPORT OF LABORATORY ANALYSIS

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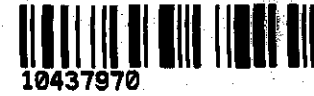




# AIR: CHAIN-OF-CUSTODY

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

WO#: 10437970



32432

Page: 1 of 1

<b>Section A</b> Required Client Information: Company: TRC Address: 708 Heartland Trail Suite 3000, Madison, WI 53717 Email To: astehn@trcsolutions.com Phone: 608.826.3665 Requested Due Date/TAT: Standard	<b>Section B</b> Required Project Information: Report To: Andrew Stehn Copy To: Theodore O'Connell Address: 17 toconnell@trcsolutions.com Purchase Order No.: 120030 Project Name: Northwoods/Wis DOT Project Number: 298526	<b>Section C</b> Invoice Information: Attention: Theodore O'Connell Company Name: TRC Address: same as section A Pace Quote Reference: Pace Project Manager/Sales Rep. Pace Profile #: 34570	Program <input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other Location of Sampling by State: WI Reporting Units ug/m <sup>3</sup> _____ mg/m <sup>3</sup> _____ PPBV _____ PPMV _____ Other _____ Report Level: II _____ III _____ IV _____ Other _____
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ITEM #	Section D Required Client Information <b>AIR SAMPLE ID</b> Sample IDs MUST BE UNIQUE	Valid Media Codes		COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method:								Pace Lab ID
		MEDIA	CODE	COMPOSITE START		COMPOSITE - END/GRAB						<input type="checkbox"/> See Comment <input type="checkbox"/> PID Reading (Client only) <input type="checkbox"/> 3c - Fixed Gas (%) <input type="checkbox"/> TO-3 BTEX <input type="checkbox"/> TO-3M (Methane) <input type="checkbox"/> TO-14 <input type="checkbox"/> TO-15 Full List VOCs <input type="checkbox"/> TO-15 Short List BTEX <input type="checkbox"/> TO-15 Short List Chromatogram (other)								
		TEDELAR BAG	1L	DATE	TIME	DATE	TIME					TO-3M	TO-14	TO-15	TO-15	TO-15	TO-15	TO-15		
1	Outdoor - 1	6LC		6/26/18	9:33	6/27/18	7:30	-25	-4	2 2 9 3 1 3 5 4								001		
2	Outdoor - 2	AS		6/27/18	5:32	6/27/18	14:15	-25	-2	2 0 2 2 1 3 5 2								002		
3	<del>DUP of AES</del>																			
4	DUP - 01			6/26/18						0 2 2 7								003		
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

Comments:	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
	Analyze for PCE, TCE, cis-1,2 DCE, trans-1,2 DCE, and VC	Andrew Stehn / TRC	6/28/18	13:45	ALICIA	7-2-18	1325	-	Y/N	Y/N	Y/N
								Y/N	Y/N	Y/N	Y/N
								Y/N	Y/N	Y/N	Y/N
								Y/N	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE				Temp in °C
PRINT Name of SAMPLER:				
SIGNATURE of SAMPLER:		DATE Signed (MM / DD / YY)		
Received on Ice	Custody Sealed Cooler	Samples Intact		

ORIGINAL



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: TRC Project #: \_\_\_\_\_

**WO#: 10437970**  
PM: CT1 Due Date: 07/10/18  
CLIENT: TRC-WI

Courier:  Fed Ex  UPS  Speedee  Client  
 Commercial  Pace  Other: \_\_\_\_\_

Tracking Number: See exceptions

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

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Tin Can  Other: \_\_\_\_\_ Temp Blank rec:  Yes  No

Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermom. Used:  G87A9170600254  
Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_ Date & Initials of Person Examining Contents: RG 7/2/18

Type of ice Received  Blue  Wet  None

**Comments:**

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: 4 Canses 1-PSitting Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>Out 1</u>			<u>-5</u>	<u>+5</u>					
<u>2</u>			<u>-4.5</u>	<u>"</u>					
<u>Dup</u>			<u>-6.5</u>	<u>"</u>					

**CLIENT NOTIFICATION/RESOLUTION**

Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Project Manager Review: Carolynne Hunt

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

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

Issuing Authority:  
Pace Minnesota Quality Office

**SCUR Exceptions:**

**Workorder #:**

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

**pH Adjustment Log for Preserved Samples**

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

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

Enclosures

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



## REPORT OF LABORATORY ANALYSIS

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## 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 #: 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

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## REPORT OF LABORATORY ANALYSIS

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## 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

## REPORT OF LABORATORY ANALYSIS

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### 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

### REPORT OF LABORATORY ANALYSIS

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## 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.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

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**Sample: 515-IA**      **Lab ID: 10437972001**      Collected: 06/27/18 13:32      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>1.4</b>	ug/m3	1.2	0.53	1.55		07/05/18 21:37	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.46</b>	ug/m3	1.2	0.46	1.55		07/05/18 21:37	156-60-5	
Tetrachloroethene	<b>26.2</b>	ug/m3	1.1	0.44	1.55		07/05/18 21:37	127-18-4	
Trichloroethene	<b>8.9</b>	ug/m3	0.85	0.42	1.55		07/05/18 21:37	79-01-6	
Vinyl chloride	<b>&lt;0.20</b>	ug/m3	0.40	0.20	1.55		07/05/18 21:37	75-01-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

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**Sample: 515-SS**      **Lab ID: 10437972002**      Collected: 06/27/18 14:33      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15									
cis-1,2-Dichloroethene	<b>1.3</b>	ug/m3	1.2	0.53	1.55		07/05/18 22:08	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.46</b>	ug/m3	1.2	0.46	1.55		07/05/18 22:08	156-60-5	
Tetrachloroethene	<b>25.8</b>	ug/m3	1.1	0.44	1.55		07/05/18 22:08	127-18-4	
Trichloroethene	<b>8.2</b>	ug/m3	0.85	0.42	1.55		07/05/18 22:08	79-01-6	
Vinyl chloride	<b>&lt;0.20</b>	ug/m3	0.40	0.20	1.55		07/05/18 22:08	75-01-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437972

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**Sample: 329-SS**      **Lab ID: 10437972003**      Collected: 06/27/18 14:02      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>&lt;0.57</b>	ug/m3	1.4	0.57	1.68		07/06/18 00:15	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.50</b>	ug/m3	1.4	0.50	1.68		07/06/18 00:15	156-60-5	
Tetrachloroethene	<b>22.2</b>	ug/m3	1.2	0.48	1.68		07/06/18 00:15	127-18-4	
Trichloroethene	<b>0.60J</b>	ug/m3	0.92	0.45	1.68		07/06/18 00:15	79-01-6	
Vinyl chloride	<b>&lt;0.21</b>	ug/m3	0.44	0.21	1.68		07/06/18 00:15	75-01-4	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT  
Pace Project No.: 10437972

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

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% 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

Parameter	Units	10437970001 Result	Dup Result	RPD	Max 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

Parameter	Units	10437970002 Result	Dup Result	RPD	Max 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.

### REPORT OF LABORATORY ANALYSIS

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## 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.

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: 298526 Northwoods/WisDOT  
Pace Project No.: 10437972

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		

**REPORT OF LABORATORY ANALYSIS**

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# AIR: CHAIN-OF-CUSTODY / A

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

WO#: 10437972



<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	31925	Page: 1 of 1
Company: TRC	Report To: Andrew Stehn	Attention: Theodore O'Connell	Program	
Address: 705 Heartland Trail, Suite 300 Madison, WI 53717	Copy To: Theodore O'Connell t.oconnell@trcsolutions.com	Company Name: TRC	<input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Email To: astehn@trcsolutions.com	Purchase Order No.: 120030	Address: same as section A	Location of Sampling by State: WI	Reporting Units: ug/m <sup>3</sup> _____ mg/m <sup>3</sup> _____ PPBV _____ PPMV _____ Other _____
Phone: 608 826 3665 Fax:	Project Name: Northwoods/WisDOT	Pace Quote Reference:	Report Level: II _____ III _____ IV _____ Other _____	
Requested Due Date/TAT: standard	Project Number: 298526	Pace Project Manager/Sales Rep.		
		Pace Profile #: 38604-34570		

ITEM #	'Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE Tetlar Bag TB 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method:								Face Lab ID			
					COMPOSITE START		COMPOSITE - END/GRAB						PM10	3c - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List FOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated		TO-15 Short List (Other)		
					DATE	TIME	DATE	TIME																
1	S15-IA		6LC		6/26/18	13:43	6/27/18	13:32	-30	-51199	0533											X	001	
2	S15-SS		↓		6/27/18	13:55	↓	14:33	-30	-50738	0725												↓	002
3	329-SS		↓		6/27/18	13:28	↓	14:02	-28	-61582	1667												↓	003

Comments :	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
Analyze for PCE, TCE, cis-1,2 DCE, trans-1,2 DCE, and VC	Alia Siloreddy/TRC	6/29/18	13:45	Ull CASE	7-2-18	1325	-	Y/N	Y/N	Y/N	Y/N
								Y/N	Y/N	Y/N	Y/N
								Y/N	Y/N	Y/N	Y/N
								Y/N	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:			
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY)	
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

Page 12 of 14

ORIGINAL

**Air Sample Condition Upon Receipt**

Client Name: **TRC**

Project #: **WO#: 10437972**

Courier:  Fed Ex  UPS  Speedee  Client  
 Commercial  Pace  Other: \_\_\_\_\_

PM: CT1 Due Date: 07/10/18  
 CLIENT: TRC-WI

Tracking Number: see exceptions

Custody Seal on Cooler/Box Present?  Yes  No    Seals Intact?  Yes  No  
 Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Tin Can  Other: \_\_\_\_\_    Temp Blank rec:  Yes  No  
 Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermom. Used:  G87A9170600254  
 G87A9155100842  
 Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_ Date & Initials of Person Examining Contents: RG 7/2/18  
 Type of ice Received  Blue  Wet  None

**Comments:**

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: <u>4 Canses 1-PSitting</u>					Pressure Gauge # 10AIR26				
Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>515 FA</u>			<u>-4</u>	<u>+5</u>					
<u>SS</u>			<u>-4</u>	<u>"</u>					
<u>329 SS</u>			<u>-6</u>	<u>"</u>					

CLIENT NOTIFICATION/RESOLUTION Field Data Required?  Yes  No  
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/Resolution: \_\_\_\_\_

Project Manager Review: Carolynne Hunt Date: 7/2/18  
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



**SCUR Exceptions:**

**Workorder #:**

Issue	Sample ID	Container Type/#
7476 3008	0353	
	0390	
	0316	
	0335	
	0379	
	0380	
	0405	
	0368	

**pH Adjustment Log for Preserved Samples**

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

July 06, 2018

Andrew Stehn  
TRC  
708 Heartland Trail  
Madison, WI 53717

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

Dear Andrew Stehn:

Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

*Carolynne Trout*

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

Enclosures

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



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

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### 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

---

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

---

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

### REPORT OF LABORATORY ANALYSIS

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### 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

### REPORT OF LABORATORY ANALYSIS

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## 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.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

---

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

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

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

---

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

---

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>&lt;0.56</b>	ug/m3	1.3	0.56	1.64		07/03/18 16:29	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.48</b>	ug/m3	1.3	0.48	1.64		07/03/18 16:29	156-60-5	
Tetrachloroethene	<b>13.4</b>	ug/m3	1.1	0.47	1.64		07/03/18 16:29	127-18-4	
Trichloroethene	<b>&lt;0.44</b>	ug/m3	0.90	0.44	1.64		07/03/18 16:29	79-01-6	
Vinyl chloride	<b>&lt;0.21</b>	ug/m3	0.43	0.21	1.64		07/03/18 16:29	75-01-4	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

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	

LABORATORY CONTROL SAMPLE: 2981153

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

SAMPLE DUPLICATE: 2981491

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

SAMPLE DUPLICATE: 2981495

Parameter	Units	10437786002 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.58		25	
Tetrachloroethene	ug/m3	1.8	1.7	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.50		25	
Trichloroethene	ug/m3	ND	<0.46		25	
Vinyl chloride	ug/m3	ND	<0.22		25	

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

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## QUALIFIERS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

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### 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437974

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<b>Lab ID</b>	<b>Sample ID</b>	<b>QC Batch Method</b>	<b>QC Batch</b>	<b>Analytical Method</b>	<b>Analytical Batch</b>
10437974001	527-IA	TO-15	548412		
10437974002	527-SS	TO-15	548412		

### REPORT OF LABORATORY ANALYSIS

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

WO#: 10437974



Section A Required Client Information: Section B Required Project Information: Section C Invoice Information: 31919 Page: of 1

Company: TRC	Report To: Andrew Stehn	Attention: Theodore O'Connell
Address: 708 Heartland Trail, Suite 200 Madison, WI 53717	Copy To: Theodore O'Connell toconnell@treresolutions.com	Company Name: TRC
Email TO: astehn@treresolutions.com	Purchase Order No.: 120030	Address: Same as section A
Phone: 608 826 3665 Fax:	Project Name: Northwoods/WisDOT	Pace Quote Reference:
Requested Due Date/TAT: Standard	Project Number: 298526	Pace Project Manager/Sales Rep.
		Pace Profile #: 37608 ACS 34570

Program

UST  Superfund  Emissions  Clean Air Act

Voluntary Clean Up  Dry Clean  RCRA  Other

Location of Sampling by State: WI

Reporting Units: ug/m<sup>3</sup> mg/m<sup>3</sup> PPBV PPMV Other

Report Level: II. III. IV. Other

ITEM #	'Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes		COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method:	See Comment	Face Lab ID
		MEDIA	CODE	COMPOSITE START		COMPOSITE - END/GRAB								
				DATE	TIME	DATE	TIME							
1	527-1A	6LC		6/26/18	15:06	6/27/18	14:46	-30	-35 ACS	34171259		X	001	
2	527-SS	↓		6/27/18	15:10	6/27/18	15:44	-30	-6	02001729		↓	002	
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments:	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Analyze for PCE, TCE, cis-1,2DCE, trans-1,2DCE, and VC	Andrew Stehn / TRC	6/28/18	13:45	W. Pace	7-2-18	1325	Y/N	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

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

Temp in °C

Received on Ice

Custody Sealed Cooler

Samples Intact

ORIGINAL

**Air Sample Condition Upon Receipt** Client Name: TRC Project #: **WO#: 10437974**  
 Courier:  Fed Ex  UPS  Speedee  Client  
 Commercial  Pace  Other: \_\_\_\_\_  
 Tracking Number: see exceptions  
 PM: CT1 Due Date: 07/10/18  
 CLIENT: TRC-WI

Custody Seal on Cooler/Box Present?  Yes  No Seals Intact?  Yes  No  
 Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Tin Can  Other: \_\_\_\_\_ Temp Blank rec:  Yes  No  
 Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermom. Used:  G87A9170600254  
 G87A9155100842  
 Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_ Date & Initials of Person Examining Contents: RL 7/2/18  
 Type of Ice Received  Blue  Wet  None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: 4 Cans 1-TSitting Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>IA</u>			<u>-3.5</u>	<u>+5</u>					
<u>SS</u>			<u>-5.5</u>	<u>11</u>					

CLIENT NOTIFICATION/RESOLUTION: \_\_\_\_\_ Field Data Required?  Yes  No  
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/Resolution: \_\_\_\_\_

Project Manager Review: Carolynne Hunt Date: 7/2/18  
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

**SCUR Exceptions:**

**Workorder #:**

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

**pH Adjustment Log for Preserved Samples**

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

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

Enclosures

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



## REPORT OF LABORATORY ANALYSIS

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## 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

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

---

## REPORT OF LABORATORY ANALYSIS

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### 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

### REPORT OF LABORATORY ANALYSIS

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### 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

### REPORT OF LABORATORY ANALYSIS

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## 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.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

---

**Sample: 300-IA**      **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
<b>TO15 MSV AIR</b>		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	<b>0.68J</b>	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	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437976

---

**Sample: 300-SS**      **Lab ID: 10437976002**      Collected: 06/27/18 19:14      Received: 07/02/18 13:25      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		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	
Trichloroethene	<0.48	ug/m3	0.98	0.48	1.79		07/05/18 20:12	79-01-6	
Vinyl chloride	<0.23	ug/m3	0.47	0.23	1.79		07/05/18 20:12	75-01-4	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 298526 Northwoods/WisDOT  
Pace Project No.: 10437976

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

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% 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	

SAMPLE DUPLICATE: 2983769

Parameter	Units	10437976001 Result	Dup Result	RPD	Max 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.

### REPORT OF LABORATORY ANALYSIS

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## 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.

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: 298526 Northwoods/WisDOT  
Pace Project No.: 10437976

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		

**REPORT OF LABORATORY ANALYSIS**

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# AIR: CHAIN-OF-CUSTODY / A

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

WO#: 10437976



<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	31920	Page:   of
Company: <b>TRC</b>	Report To: <b>Andrew Stehn</b>	Attention: <b>Theodore O'Connell</b>	Program	
Address: <b>78 Heartland Trail, Suite 300</b>	Copy To: <b>Theodore O'Connell</b>	Company Name: <b>TRC</b>	<input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
<b>Madison, WI 53717</b>	Email To: <b>toconnell@treresolutions.com</b>	Address: <b>same as section A</b>	Location of Sampling by State: <b>WI</b>	
Phone: <b>608 826 3665</b>	Purchase Order No: <b>120030</b>	Pace Quote Reference:	Reporting Units ug/m <sup>3</sup> ___ mg/m <sup>3</sup> ___ PPBV ___ PPMV ___ Other ___	
Requested Due Date/TAT: <b>Standard</b>	Project Name: <b>Northwoods/WISD</b>	Pace Project Manager/Sales Rep: <b>AGS</b>	Report Level: II ___ III ___ IV ___ Other ___	
	Project Number: <b>298526</b>	Pace Profile #: <b>38608-34570</b>		

ITEM #	'Section D Required Client Information <b>AIR SAMPLE ID</b> Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE Tedlar Bag TB 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10 3c - Fixed Gas (%) TO-3 BTEX TO-3M (Methane) TO-14 TO-15 Full List VOCs TO-15 Short List BTEX TO-15 Short List Chlorinated	see comment	Face Lab ID
					COMPOSITE START		COMPOSITE - END/GRAB								
					DATE	TIME	DATE	TIME							
1	300 - IA		6LC		6/26/18	17:58	6/27/18	17:32	-30	-4	1498	1376		X	001
2	300 - SS		↓		6/27/18	18:10	6/27/18	19:14	-27	-6	1588	0967		X	002
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

Comments: <b>Analyze for PCE, TCE, cis-1,2DCE, trans-1,2DCE, and VC</b>	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	<b>AGS/Tru</b>	<b>6/27/18</b>	<b>13:45</b>	<b>AGS/Tru</b>	<b>7-2-18</b>	<b>1325</b>	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
							Y/N	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N	Y/N

ORIGINAL



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:  
**TRC**

Project #:

**WO# : 10437976**

PM: CT1

Due Date: 07/10/18

CLIENT: TRC-WI

Courier:  Fed Ex  UPS  Speedee  Client  
 Commercial  Pace  Other:

Tracking Number: see exceptions

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

Optional: Proj. Due Date:      Proj. Name:

Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Tin Can  Other:

Temp Blank rec:  Yes  No

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

G87A9170600254  
 G87A9155100842

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

Date & Initials of Person Examining Contents: RG 7/2/18

Type of ice Received  Blue  Wet  None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag    Filter    TDT    Passive		11. Individually Certified Cans <u>Y</u> <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: 4 Canisters 1-TS, 1-Hag      Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>IA</u>			<u>-3.5</u>	<u>+5</u>					
<u>SS</u>			<u>-7</u>	<u>11</u>					

CLIENT NOTIFICATION/RESOLUTION

Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_

Project Manager Review: Carolynne Trout

Date: 7/2/18

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



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	
	0346	
	0335	
	0379	
	0380	
	0405	
	0368	

**pH Adjustment Log for Preserved Samples**

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

July 06, 2018

Andrew Stehn  
TRC  
708 Heartland Trail  
Madison, WI 53717

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

Dear Andrew Stehn:

Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

*Carolynne Trout*

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

Enclosures

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



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437978

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### 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

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## REPORT OF LABORATORY ANALYSIS

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## 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

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### SAMPLE ANALYTE COUNT

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437978

---

<b>Lab ID</b>	<b>Sample ID</b>	<b>Method</b>	<b>Analysts</b>	<b>Analytes Reported</b>
10437978001	405-SS	TO-15	AFV	5

### REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437978

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**Method:** TO-15

**Description:** TO15 MSV AIR

**Client:** TRC-WI

**Date:** July 06, 2018

**General Information:**

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

**Hold Time:**

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

**Initial Calibrations (including MS Tune as applicable):**

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

**Continuing Calibration:**

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

**Internal Standards:**

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

**Method Blank:**

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

**Laboratory Control Spike:**

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

**Duplicate Sample:**

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

**Additional Comments:**

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

## REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 298526 Northwoods/WisDOT

Pace Project No.: 10437978

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

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
cis-1,2-Dichloroethene	<b>&lt;0.55</b>	ug/m3	1.3	0.55	1.61		07/03/18 15:58	156-59-2	
trans-1,2-Dichloroethene	<b>4.5</b>	ug/m3	1.3	0.47	1.61		07/03/18 15:58	156-60-5	
Tetrachloroethene	<b>114</b>	ug/m3	1.1	0.46	1.61		07/03/18 15:58	127-18-4	
Trichloroethene	<b>&lt;0.43</b>	ug/m3	0.88	0.43	1.61		07/03/18 15:58	79-01-6	
Vinyl chloride	<b>&lt;0.20</b>	ug/m3	0.42	0.20	1.61		07/03/18 15:58	75-01-4	

### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

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

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

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

LABORATORY CONTROL SAMPLE: 2981153

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

SAMPLE DUPLICATE: 2981491

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

SAMPLE DUPLICATE: 2981495

Parameter	Units	10437786002 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	ND	<0.58		25	
Tetrachloroethene	ug/m3	1.8	1.7	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.50		25	
Trichloroethene	ug/m3	ND	<0.46		25	
Vinyl chloride	ug/m3	ND	<0.22		25	

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

### REPORT OF LABORATORY ANALYSIS

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## 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.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

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

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

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### REPORT OF LABORATORY ANALYSIS

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# AIR: CHAIN-OF-CUSTODY /

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

WO#: 10437978



<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	32455	Page: 1 of 1
Company: TRC	Report To: Andrew Stehn	Attention: Theodore O'Connell	Program	
Address: 708 Heartland Trail, Suite 3002 Madison, WI 53717	Copy To: Theodore O'Connell tconnell@trcsolutions.com	Company Name: TRC	<input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act <input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input type="checkbox"/> Other	
Email To: astehn@trcsolutions.com	Purchase Order No.: 120030	Address: same as section A	Location of Sampling by State: WI Reporting Units: ug/m <sup>3</sup> , mg/m <sup>3</sup> , PPBV, PPMV, Other	
Phone: 608-826-3665 Fax:	Project Name: Northwoods/WisDOT	Pace Quote Reference:	Report Level: II, III, IV, Other	
Requested Due Date/TAT: standard	Project Number: 298526	Pace Project Manager/Sales Rep. Profile #: 34570		

ITEM #	'Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE Todar Bag TB 1 Liter Summa Can 1LC 6 Liter Summa Can 6LC Low Volume Puff LVP High Volume Puff HVP Other PM10	MEDIA CODE	PID Reading (Client only)	COLLECTED				Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10 3C - Fixed Gas (%) TO-3 BTEX TO-3M (Methane) TO-14 TO-15 Full List VOCs TO-15 Short List BTEX TO-15 Short List Chlorinated TO-15 Short List (other)	Face Lab ID
					COMPOSITE START		COMPOSITE - END/GRAB							
					DATE	TIME	DATE	TIME						
1	405-SS		6LC		6/26/18	14:17	6/26/18	14:48	-25	-50	1461110			
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

Comments:	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
Analyze for PCE, TCE, cis-1,2 DCE, trans-1,2 DCE, and VC	APD Sellsch/TRC	6/28/18	13:45	UG PACE	7-2-18	1325	Y/N	Y/N	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE		Temp in °C
PRINT Name of SAMPLER:	Received on	
SIGNATURE of SAMPLER:	Custody Sealed Cooler	
DATE Signed (MM/DD/YY)	Samples Intact	

ORIGINAL

**Air Sample Condition Upon Receipt** Client Name: TRC Project #: **WO# : 10437978**  
 Courier:  Fed Ex  UPS  Speedee  Client  
 Commercial  Pace  Other: \_\_\_\_\_  
 Tracking Number: see exceptions  
 PM: CT1 Due Date: 07/10/18  
 CLIENT: TRC-WI

Custody Seal on Cooler/Box Present?  Yes  No Seals Intact?  Yes  No  
 Packing Material:  Bubble Wrap  Bubble Bags  Foam  None  Tin Can  Other: \_\_\_\_\_ Temp Blank rec:  Yes  No  
 Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermom. Used:  G87A9170600254  
 G87A9155100842  
 Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_ Date & Initials of Person Examining Contents: RL 7/2/18  
 Type of Ice Received  Blue  Wet  None

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name and/or Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Media: <u>Air Can</u> Airbag Filter TDT Passive		11. Individually Certified Cans Y <u>N</u> (list which samples)
Is sufficient information available to reconcile samples to the COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.

Samples Received: 4 Canses 1-PSitting Pressure Gauge # 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
<u>405</u>			<u>-5</u>	<u>+5</u>					
<u>unsealed</u>	<u>3426</u>	<u>1248</u>	<u>-28</u>	<u>-</u>					
	<u>1575</u>	<u>2836</u>	<u>-29</u>	<u>-</u>					
	<u>1285</u>	<u>0888</u>	<u>-29</u>	<u>-</u>					
	<u>0940</u>	<u>1751</u>	<u>-29</u>	<u>-</u>					
	<u>2714</u>	<u>0768</u>	<u>-29</u>	<u>-</u>					

CLIENT NOTIFICATION/RESOLUTION Field Data Required?  Yes  No  
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/Resolution: \_\_\_\_\_

Project Manager Review: Carolynne Hunt Date: 7/2/18  
 Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

**SCUR Exceptions:**

**Workorder #:**

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

**pH Adjustment Log for Preserved Samples**

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