State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
Plymouth Service Center
1155 Pilgrim Road
Plymouth WI 53073

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

February 7, 2020

Mr. Brian Behrens
Behrens 1106 LLC
1297 Hwy W
Grafton, WI 53024

SUBJECT: Results of 2nd Round Vapor Intrusion Sampling at 1102 Bridge St., Grafton, WI
Related to former Quality Cleaners, 1226 11th Avenue, Grafton, WI
BRRTS #: 02-46-560212, FID #: 246166470

Dear Mr. Behrens:

Included are the findings of a recent investigation on your property by the Wisconsin Department of Natural Resources (DNR). As you are aware, this investigation was conducted because of the potential for contaminant vapors from the nearby former Quality Cleaners property, identified above, to migrate through soils, accumulate beneath the foundation of your property, and possibly enter the indoor air. The contaminants of concern at the former Quality Cleaners property are the dry-cleaning solvent perchloroethylene (PCE), and its daughter product trichloroethylene (TCE). The history of this site and the potential concerns to neighboring residents were described in detail in the original letter sent to you.

On November 19, 2019, the environmental contractor, AECOM, hired by the DNR, collected a 2nd round of samples. The samples were submitted to Pace Analytical for TO-15 analysis, which includes the contaminants of concern listed above.

Your Test Results

Attached is a copy of the laboratory report for your sub-slab sample. The results show that a small amount of PCE was detected in the sample taken from beneath your foundation. Although PCE was detected in soil vapors beneath your foundation floor, the level at which it was detected is such that it does not pose a threat. This is called "a detection below screening level" and is explained in the enclosed fact sheet.

At this time, there does not appear to be a risk from the PCE vapor entering your property from beneath the foundation. Additional sampling needs to be conducted in order to confirm these results. AECOM will contact you soon to schedule another sampling visit.

The laboratory report also shows very low levels of volatile organic compounds (VOCs) other than PCE and TCE in soil vapors from beneath your home/building. This is likely due to trace amounts of VOCs from products such as paints, adhesives, fragrances, etc. that are commonly found in the typical home or office, and unrelated to the activities that took place at Quality Cleaners in the past.

Please call me, the DNR project manager, at your earliest convenience, at 920-893-8523, or via email at johnm.feeney@wisconsin.gov if you have any questions. Please direct health related questions to Mr. Curtis Hedman at the Department of Health and Human Services at 608-266-6677, or email at Curtis.Hedman@wisconsin.gov.

Sincerely,

John Feeney, PG
Hydrogeologist
Remediation & Redevelopment Program

Cc: Mr. Tory Schultz, AECOM
Mr. Curtis Hedman, DHS (electronic)
SER File

Attachments: Email with Tabulated Data and Sample Location Map
Laboratory Analytical Sheets

Feeney, John M - DNR

From:	Schultz, Tory <Tory.Schultz@aecom.com>
Sent:	Thursday, January 23, 2020 5:33 PM
To:	Feeney, John M - DNR
Cc:	Altenbach, Lanette
Subject:	Former Quality Cleaners Off-site Vapor Intrusion Assessment (BRRTS #02-46-560212) - Second Sample Event Results (warming season)
Attachments:	Figure 1 Sample Locations_R.pdf; 2019.11.19_SSDS OM&M Inspection Log.pdf; 1233.12th.Ave_LabRport.pdf; 1102Bridge_LabRport.pdf

Good evening John,

Here are the results of our VI testing in Grafton conducted during November 2019.

On November 18-19th, 2019 AECOM conducted work associated with the Former Quality Cleaners Off-site Vapor Intrusion Assessment. Four sub-slab vapor pins at off-site locations were sampled (SS-1, SS-2, SS-3, and SS-5). One indoor air and one outdoor ambient air sample was collected from 1233 12th Avenue. Samples were collected in laboratory supplied Summa canisters and analyzed by method TO-15 by Pace Analytical. Field sampling was conducted in general accordance with the WDNR vapor intrusion guidance (RR-986) and compared to the most conservative values (Residential Wisc. Admin § NR 700.03(49g)) shown on the WI Vapor Quick Look-Up Table for Indoor Air Vapor Action Levels (VAL) and Vapor Risk Screening Levels (VRSL), dated November 2017. Results from this vapor intrusion sampling event collected during the warming season are summarized below and the laboratory report is attached. All ambient, indoor air, and sub-slab vapor samples were reported below VALs and VRSLs, respectively. Figure 1 shows locations of the vapor pins on each property along with the indoor and outdoor ambient air sample collection points.

Sample Methodology

Vapor pins (VP) were installed during initial site visit on July 23rd. Indoor air and outdoor ambient air samples were initiated on November 18th. On November 19th field staff returned to the properties to collect sub-slab vapor samples and collect the 24-hour ambient outdoor and indoor air samples. Prior to collection of sub-slab vapor samples, leak testing by use of a water dam and shut-in test with a laboratory supplied Purge Manifold Assembly (PMA) confirmed each vapor pin was properly installed and the sample train was constructed without leaks.

Table 1 – Summary of Air Sampling Results for PCE (µg/m³)

Assessment Property	Sample ID	Cooling Season	Warming Season
1102 Bridge Street	SS-1	3.9	1.7
	SS-5	Vapor Pin installed at later date	2.8
1233 12th Avenue	SS-2	1,390	85.4
	SS-3	169	491
	OA-1 (AA-1)	ND	ND
	IA-1 (AI-1)	1.1	2.5
1225-1227 12th Avenue	SS-4	2.8	Access Denied During this event
	AA-2	ND	
	AI-2	ND	

Notes:
SS = sub-slab vapor sample collected at a rate of approximately 200mL/minute
OA = Outdoor Ambient air 24-hour sample duration, labeled "AA" during cooling season sampling event.
IA = indoor air 24-hour sample duration, labeled "AI" during cooling season sampling event.
Sub-Slab vapor risk screening level 1,400 µg/m³

ND=Non Detect

Inspection of Sub-Slab Depressurization System (SSDS) at the Former Quality Cleaners

At the time of the inspection on November 19, 2019 the SSDS appeared to be functioning as indicated by negative vacuum pressure observed on the manometer tube (0.4-inches of water). One notable crack was recorded and repaired in the same room as the suction point. No other alterations or additions were noted during the inspection. A SSDS Operations, Maintenance, and Monitoring (OM&M) Inspection Form has been completed and attached for your review.

Deviations from the Sampling and Analysis Plan

1. At the request of WDNR, one addition sub-slab sample was collected from the ground level of the northeast corner of 1102 Bridge Street.
2. In place of a helium shroud to confirm a proper seal of the VP, Pace Analytical supplied a dedicated Purge Manifold Assembly (PMA) for each sample location to perform a shut-in test on the sample train prior to sample collection. Leak testing each sample train was conducted according to Pace Analytical's Assembly of the Purge Manifold Assembly (PMA).

Third Sampling Event Schedule

As recommended by WDNR R&R800 Vapor Intrusion Guidance, sampling events are to occur during the heating and cooling seasons. Sub-slab sample SS-5 was collected during the warming season only, as this vapor pin location was chosen following the cooling season sampling event. A second sample from SS-5 and property located at 1225-1227 12th Avenue (access denied during November 2019) are recommended. Recent communication between with the property owner at 1225-1227 12th Avenue and WDNR have been successful at obtaining access for additional sampling. The third sampling event (final) for SS-1, SS-2 and SS-3 and paired indoor and outdoor air will be scheduled coincident with the second sampling event of SS-4 and paired indoor and outdoor air samples and SS-5 in the coming weeks, pending coordinated access from property owners.

Please let us know if you have comments.

Kind regards,

Tory Schultz
Senior Project Manager, Environment, Central Region
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M +1-414-690-8405
tory.schultz@aecom.com

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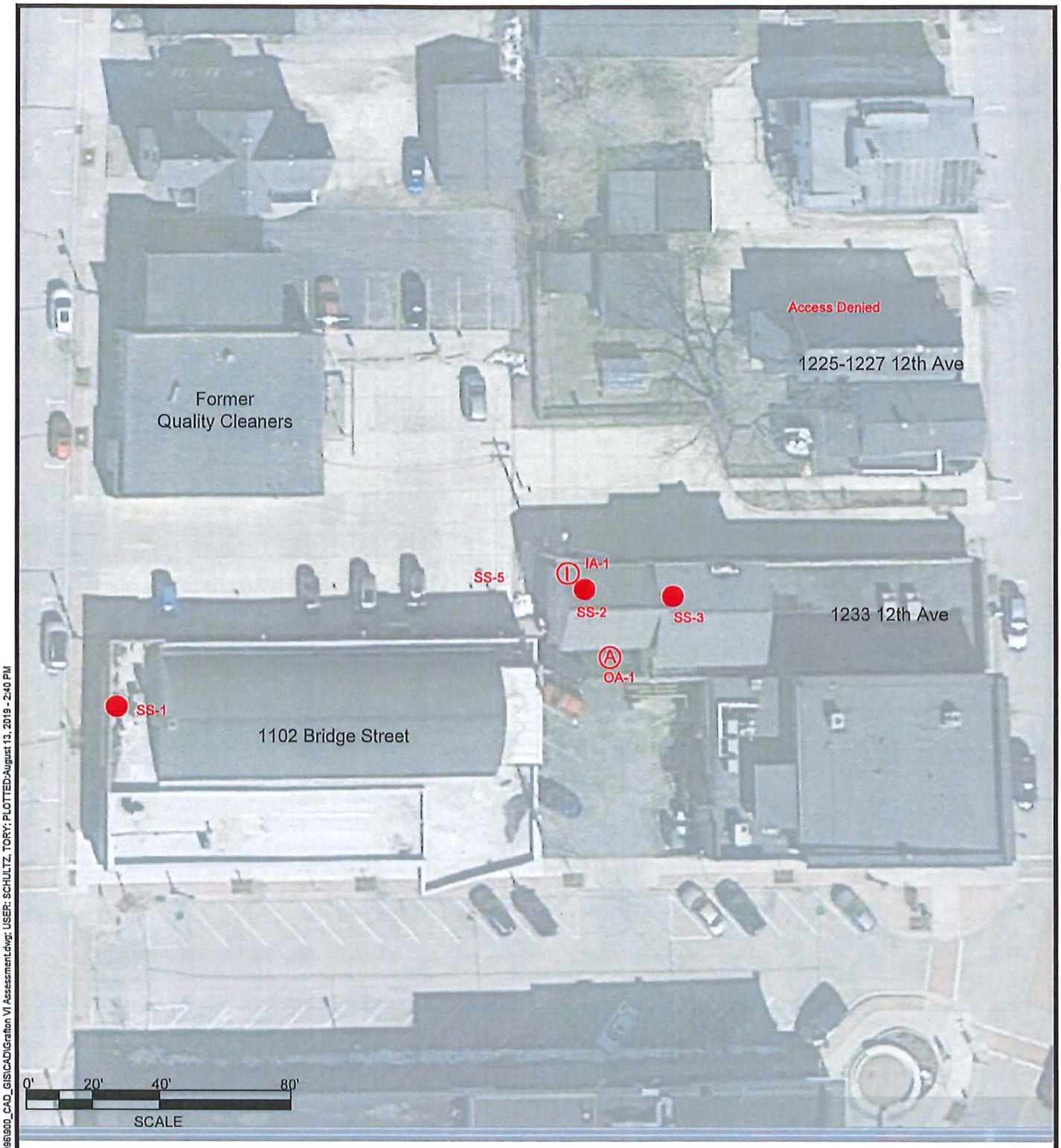

Legend:

- Subslab Vapor Probe and Identification Number
- Indoor Air (IA) Sample Location and Identification Number
- Outdoor Ambient (OA) Air Sample Location and Identification Number

Notes:

1. Aerial photograph from Google Earth Pro dated 10/10/2013.

AECOM
Milwaukee Office
1555 RiverCenter Dr
Milwaukee, WI
414.944.6080

AECOM

GRAFTON VI ASSESSMENT

VAPOR INTRUSION ASSESSMENT
SAMPLE LOCATIONS

Project Number:	Drawn By:	Date:	Figure No. 1
60602996	TAS	11/19/2019	

Pace Analytical®
www.pacelabs.com

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

January 23, 2020

Lanette Altenbach
AECOM
1555 N RiverCenter Drive
Suite 214
Milwaukee, WI 53212

RE: Project: 60602996 Grafton
Pace Project No.: 10506291

Dear Lanette Altenbach:
Enclosed are the analytical results for sample(s) received by the laboratory between November 21, 2019 and January 23, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

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

CERTIFICATIONS

Project: 60602996 Grafton
Pace Project No.: 10506291

Pace Analytical Services Minneapolis

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
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

Pace Analytical Services, LLC
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SAMPLE SUMMARY

Project: 60602996 Grafton
Pace Project No.: 10506291

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10506291001	placeholder	Air	01/23/20 00:00	01/23/20 16:06
10500212005	SS-1	Air	11/19/19 13:28	11/21/19 09:40
10500212006	SS-5	Air	11/19/19 15:35	11/21/19 09:40

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SAMPLE ANALYTE COUNT

Project: 60602996 Grafton
Pace Project No.: 10506291

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10500212005	SS-1	TO-15	NCK	61	PASI-M
10500212006	SS-5	TO-15	NCK	61	PASI-M

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SUMMARY OF DETECTION

Project: 60602996 Grafton
Pace Project No.: 10506291

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10500212005	**SS-1**					
TO-15	Acetone	5.2	ug/m3	3.9	11/27/19 02:53	
TO-15	Chloromethane	0.27J	ug/m3	0.68	11/27/19 02:53	
TO-15	Dichlorodifluoromethane	2.7	ug/m3	1.6	11/27/19 02:53	
TO-15	Ethanol	5.6	ug/m3	3.1	11/27/19 02:53	
TO-15	Ethylbenzene	0.51J	ug/m3	1.4	11/27/19 02:53	
TO-15	4-Ethyltoluene	1.1J	ug/m3	4.0	11/27/19 02:53	
TO-15	Naphthalene	2.6J	ug/m3	4.3	11/27/19 02:53	
TO-15	2-Propanol	3.1J	ug/m3	4.0	11/27/19 02:53	
TO-15	Styrene	1.1J	ug/m3	1.4	11/27/19 02:53	
TO-15	Tetrachloroethene	1.7	ug/m3	1.1	11/27/19 02:53	
TO-15	Tetrahydrofuran	0.61J	ug/m3	0.97	11/27/19 02:53	
TO-15	Toluene	1.1J	ug/m3	1.2	11/27/19 02:53	
TO-15	Trichlorofluoromethane	1.3J	ug/m3	1.8	11/27/19 02:53	
TO-15	1,2,4-Trimethylbenzene	1.7	ug/m3	1.6	11/27/19 02:53	
TO-15	1,3,5-Trimethylbenzene	0.76J	ug/m3	1.6	11/27/19 02:53	
TO-15	m&p-Xylene	2.1J	ug/m3	2.8	11/27/19 02:53	
TO-15	o-Xylene	0.96J	ug/m3	1.4	11/27/19 02:53	
10500212006	**SS-5**					
TO-15	Acetone	46.0	ug/m3	4.0	11/27/19 01:54	
TO-15	Dichlorodifluoromethane	2.4	ug/m3	1.7	11/27/19 01:54	
TO-15	Ethanol	19.6	ug/m3	3.1	11/27/19 01:54	
TO-15	Ethylbenzene	0.61J	ug/m3	1.4	11/27/19 01:54	
TO-15	4-Ethyltoluene	1.2J	ug/m3	4.1	11/27/19 01:54	
TO-15	Methylene Chloride	3.3J	ug/m3	5.8	11/27/19 01:54	
TO-15	Naphthalene	2.7J	ug/m3	4.4	11/27/19 01:54	
TO-15	2-Propanol	16.3	ug/m3	4.1	11/27/19 01:54	
TO-15	Styrene	1.2J	ug/m3	1.4	11/27/19 01:54	
TO-15	Tetrachloroethene	2.8	ug/m3	1.1	11/27/19 01:54	
TO-15	Tetrahydrofuran	0.92J	ug/m3	0.98	11/27/19 01:54	
TO-15	Toluene	1.6	ug/m3	1.3	11/27/19 01:54	
TO-15	Trichlorofluoromethane	1.2J	ug/m3	1.9	11/27/19 01:54	
TO-15	1,2,4-Trimethylbenzene	1.9	ug/m3	1.6	11/27/19 01:54	
TO-15	1,3,5-Trimethylbenzene	0.75J	ug/m3	1.6	11/27/19 01:54	
TO-15	m&p-Xylene	2.5J	ug/m3	2.9	11/27/19 01:54	
TO-15	o-Xylene	1.2J	ug/m3	1.4	11/27/19 01:54	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 60602996 Grafton
Pace Project No.: 10506291

Sample: SS-1 **Lab ID: 10500212005** Collected: 11/19/19 13:28 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**5.2**	ug/m3	3.9	1.9	1.61		11/27/19 02:53	67-64-1	
Benzene	**<0.25**	ug/m3	0.52	0.25	1.61		11/27/19 02:53	71-43-2	
Benzyl chloride	**<1.9**	ug/m3	4.2	1.9	1.61		11/27/19 02:53	100-44-7	
Bromodichloromethane	**<0.59**	ug/m3	2.2	0.59	1.61		11/27/19 02:53	75-27-4	
Bromoform	**<2.3**	ug/m3	8.5	2.3	1.61		11/27/19 02:53	75-25-2	
Bromomethane	**<0.37**	ug/m3	1.3	0.37	1.61		11/27/19 02:53	74-83-9	
1,3-Butadiene	**<0.21**	ug/m3	0.72	0.21	1.61		11/27/19 02:53	106-99-0	
2-Butanone (MEK)	**<0.59**	ug/m3	4.8	0.59	1.61		11/27/19 02:53	78-93-3	
Carbon disulfide	**<0.35**	ug/m3	1.0	0.35	1.61		11/27/19 02:53	75-15-0	
Carbon tetrachloride	**<0.69**	ug/m3	2.1	0.69	1.61		11/27/19 02:53	56-23-5	
Chlorobenzene	**<0.44**	ug/m3	1.5	0.44	1.61		11/27/19 02:53	108-90-7	
Chloroethane	**<0.42**	ug/m3	0.86	0.42	1.61		11/27/19 02:53	75-00-3	
Chloroform	**<0.32**	ug/m3	0.80	0.32	1.61		11/27/19 02:53	67-66-3	
Chloromethane	**0.27J**	ug/m3	0.68	0.25	1.61		11/27/19 02:53	74-87-3	
Cyclohexane	**<0.57**	ug/m3	2.8	0.57	1.61		11/27/19 02:53	110-82-7	
Dibromochloromethane	**<1.2**	ug/m3	2.8	1.2	1.61		11/27/19 02:53	124-48-1	
1,2-Dibromoethane (EDB)	**<0.59**	ug/m3	1.3	0.59	1.61		11/27/19 02:53	106-93-4	
1,2-Dichlorobenzene	**<0.80**	ug/m3	2.0	0.80	1.61		11/27/19 02:53	95-50-1	
1,3-Dichlorobenzene	**<0.94**	ug/m3	2.0	0.94	1.61		11/27/19 02:53	541-73-1	
1,4-Dichlorobenzene	**<1.6**	ug/m3	4.9	1.6	1.61		11/27/19 02:53	106-46-7	
Dichlorodifluoromethane	**2.7**	ug/m3	1.6	0.47	1.61		11/27/19 02:53	75-71-8	
1,1-Dichloroethane	**<0.36**	ug/m3	1.3	0.36	1.61		11/27/19 02:53	75-34-3	
1,2-Dichloroethane	**<0.24**	ug/m3	0.66	0.24	1.61		11/27/19 02:53	107-06-2	
1,1-Dichloroethene	**<0.44**	ug/m3	1.3	0.44	1.61		11/27/19 02:53	75-35-4	
cis-1,2-Dichloroethene	**<0.35**	ug/m3	1.3	0.35	1.61		11/27/19 02:53	156-59-2	
trans-1,2-Dichloroethene	**<0.46**	ug/m3	1.3	0.46	1.61		11/27/19 02:53	156-60-5	
1,2-Dichloropropane	**<0.37**	ug/m3	1.5	0.37	1.61		11/27/19 02:53	78-87-5	
cis-1,3-Dichloropropene	**<0.49**	ug/m3	1.5	0.49	1.61		11/27/19 02:53	10061-01-5	
trans-1,3-Dichloropropene	**<0.71**	ug/m3	1.5	0.71	1.61		11/27/19 02:53	10061-02-6	
Dichlorotetrafluoroethane	**<0.70**	ug/m3	2.3	0.70	1.61		11/27/19 02:53	76-14-2	
Ethanol	**5.6**	ug/m3	3.1	1.3	1.61		11/27/19 02:53	64-17-5	
Ethyl acetate	**<0.31**	ug/m3	1.2	0.31	1.61		11/27/19 02:53	141-78-6	
Ethylbenzene	**0.51J**	ug/m3	1.4	0.49	1.61		11/27/19 02:53	100-41-4	
4-Ethyltoluene	**1.1J**	ug/m3	4.0	0.92	1.61		11/27/19 02:53	622-96-8	
n-Heptane	**<0.61**	ug/m3	1.3	0.61	1.61		11/27/19 02:53	142-82-5	
Hexachloro-1,3-butadiene	**<3.2**	ug/m3	8.7	3.2	1.61		11/27/19 02:53	87-68-3	
n-Hexane	**<0.50**	ug/m3	1.2	0.50	1.61		11/27/19 02:53	110-54-3	
2-Hexanone	**<1.2**	ug/m3	6.7	1.2	1.61		11/27/19 02:53	591-78-6	
Methylene Chloride	**<1.9**	ug/m3	5.7	1.9	1.61		11/27/19 02:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.83**	ug/m3	6.7	0.83	1.61		11/27/19 02:53	108-10-1	
Methyl-tert-butyl ether	**<1.1**	ug/m3	5.9	1.1	1.61		11/27/19 02:53	1634-04-4	
Naphthalene	**2.6J**	ug/m3	4.3	2.1	1.61		11/27/19 02:53	91-20-3	
2-Propanol	**3.1J**	ug/m3	4.0	1.1	1.61		11/27/19 02:53	67-63-0	
Propylene	**<0.23**	ug/m3	0.56	0.23	1.61		11/27/19 02:53	115-07-1	
Styrene	**1.1J**	ug/m3	1.4	0.55	1.61		11/27/19 02:53	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.50**	ug/m3	1.1	0.50	1.61		11/27/19 02:53	79-34-5	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 60602996 Grafton
Pace Project No.: 10506291

Sample: SS-1 **Lab ID: 10500212005** Collected: 11/19/19 13:28 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**1.7**	ug/m3	1.1	0.51	1.61		11/27/19 02:53	127-18-4	
Tetrahydrofuran	**0.61J**	ug/m3	0.97	0.42	1.61		11/27/19 02:53	109-99-9	
Toluene	**1.1J**	ug/m3	1.2	0.57	1.61		11/27/19 02:53	108-88-3	
1,2,4-Trichlorobenzene	**<6.0**	ug/m3	12.1	6.0	1.61		11/27/19 02:53	120-82-1	
1,1,1-Trichloroethane	**<0.50**	ug/m3	1.8	0.50	1.61		11/27/19 02:53	71-55-6	
1,1,2-Trichloroethane	**<0.39**	ug/m3	0.89	0.39	1.61		11/27/19 02:53	79-00-5	
Trichloroethene	**<0.41**	ug/m3	0.88	0.41	1.61		11/27/19 02:53	79-01-6	
Trichlorofluoromethane	**1.3J**	ug/m3	1.8	0.59	1.61		11/27/19 02:53	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<0.91**	ug/m3	2.5	0.91	1.61		11/27/19 02:53	76-13-1	
1,2,4-Trimethylbenzene	**1.7**	ug/m3	1.6	0.73	1.61		11/27/19 02:53	95-63-6	
1,3,5-Trimethylbenzene	**0.76J**	ug/m3	1.6	0.64	1.61		11/27/19 02:53	108-67-8	
Vinyl acetate	**<0.43**	ug/m3	1.2	0.43	1.61		11/27/19 02:53	108-05-4	
Vinyl chloride	**<0.20**	ug/m3	0.42	0.20	1.61		11/27/19 02:53	75-01-4	
m&p-Xylene	**2.1J**	ug/m3	2.8	1.1	1.61		11/27/19 02:53	179601-23-1	
o-Xylene	**0.96J**	ug/m3	1.4	0.55	1.61		11/27/19 02:53	95-47-6	

Sample: SS-5 **Lab ID: 10500212006** Collected: 11/19/19 15:35 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**46.0**	ug/m3	4.0	2.0	1.64		11/27/19 01:54	67-64-1	
Benzene	**<0.25**	ug/m3	0.53	0.25	1.64		11/27/19 01:54	71-43-2	
Benzyl chloride	**<2.0**	ug/m3	4.3	2.0	1.64		11/27/19 01:54	100-44-7	
Bromodichloromethane	**<0.60**	ug/m3	2.2	0.60	1.64		11/27/19 01:54	75-27-4	
Bromoform	**<2.3**	ug/m3	8.6	2.3	1.64		11/27/19 01:54	75-25-2	
Bromomethane	**<0.37**	ug/m3	1.3	0.37	1.64		11/27/19 01:54	74-83-9	
1,3-Butadiene	**<0.21**	ug/m3	0.74	0.21	1.64		11/27/19 01:54	106-99-0	
2-Butanone (MEK)	**<0.61**	ug/m3	4.9	0.61	1.64		11/27/19 01:54	78-93-3	
Carbon disulfide	**<0.36**	ug/m3	1.0	0.36	1.64		11/27/19 01:54	75-15-0	
Carbon tetrachloride	**<0.70**	ug/m3	2.1	0.70	1.64		11/27/19 01:54	56-23-5	
Chlorobenzene	**<0.45**	ug/m3	1.5	0.45	1.64		11/27/19 01:54	108-90-7	
Chloroethane	**<0.43**	ug/m3	0.88	0.43	1.64		11/27/19 01:54	75-00-3	
Chloroform	**<0.32**	ug/m3	0.81	0.32	1.64		11/27/19 01:54	67-66-3	
Chloromethane	**<0.26**	ug/m3	0.69	0.26	1.64		11/27/19 01:54	74-87-3	
Cyclohexane	**<0.58**	ug/m3	2.9	0.58	1.64		11/27/19 01:54	110-82-7	
Dibromochloromethane	**<1.2**	ug/m3	2.8	1.2	1.64		11/27/19 01:54	124-48-1	
1,2-Dibromoethane (EDB)	**<0.60**	ug/m3	1.3	0.60	1.64		11/27/19 01:54	106-93-4	
1,2-Dichlorobenzene	**<0.82**	ug/m3	2.0	0.82	1.64		11/27/19 01:54	95-50-1	
1,3-Dichlorobenzene	**<0.95**	ug/m3	2.0	0.95	1.64		11/27/19 01:54	541-73-1	
1,4-Dichlorobenzene	**<1.6**	ug/m3	5.0	1.6	1.64		11/27/19 01:54	106-46-7	
Dichlorodifluoromethane	**2.4**	ug/m3	1.7	0.48	1.64		11/27/19 01:54	75-71-8	
1,1-Dichloroethane	**<0.37**	ug/m3	1.3	0.37	1.64		11/27/19 01:54	75-34-3	
1,2-Dichloroethane	**<0.25**	ug/m3	0.67	0.25	1.64		11/27/19 01:54	107-06-2	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 60602996 Grafton
Pace Project No.: 10506291

Sample: SS-5 **Lab ID: 10500212006** Collected: 11/19/19 15:35 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethene	**<0.45**	ug/m3	1.3	0.45	1.64		11/27/19 01:54	75-35-4	
cis-1,2-Dichloroethene	**<0.36**	ug/m3	1.3	0.36	1.64		11/27/19 01:54	156-59-2	
trans-1,2-Dichloroethene	**<0.47**	ug/m3	1.3	0.47	1.64		11/27/19 01:54	156-60-5	
1,2-Dichloropropane	**<0.38**	ug/m3	1.5	0.38	1.64		11/27/19 01:54	78-87-5	
cis-1,3-Dichloropropene	**<0.50**	ug/m3	1.5	0.50	1.64		11/27/19 01:54	10061-01-5	
trans-1,3-Dichloropropene	**<0.72**	ug/m3	1.5	0.72	1.64		11/27/19 01:54	10061-02-6	
Dichlorotetrafluoroethane	**<0.72**	ug/m3	2.3	0.72	1.64		11/27/19 01:54	76-14-2	
Ethanol	**19.6**	ug/m3	3.1	1.3	1.64		11/27/19 01:54	64-17-5	
Ethyl acetate	**<0.31**	ug/m3	1.2	0.31	1.64		11/27/19 01:54	141-78-6	
Ethylbenzene	**0.61J**	ug/m3	1.4	0.50	1.64		11/27/19 01:54	100-41-4	
4-Ethyltoluene	**1.2J**	ug/m3	4.1	0.93	1.64		11/27/19 01:54	622-96-8	
n-Heptane	**<0.62**	ug/m3	1.4	0.62	1.64		11/27/19 01:54	142-82-5	
Hexachloro-1,3-butadiene	**<3.2**	ug/m3	8.9	3.2	1.64		11/27/19 01:54	87-68-3	
n-Hexane	**<0.51**	ug/m3	1.2	0.51	1.64		11/27/19 01:54	110-54-3	
2-Hexanone	**<1.2**	ug/m3	6.8	1.2	1.64		11/27/19 01:54	591-78-6	
Methylene Chloride	**3.3J**	ug/m3	5.8	2.0	1.64		11/27/19 01:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.85**	ug/m3	6.8	0.85	1.64		11/27/19 01:54	108-10-1	
Methyl-tert-butyl ether	**<1.1**	ug/m3	6.0	1.1	1.64		11/27/19 01:54	1634-04-4	
Naphthalene	**2.7J**	ug/m3	4.4	2.1	1.64		11/27/19 01:54	91-20-3	
2-Propanol	**16.3**	ug/m3	4.1	1.1	1.64		11/27/19 01:54	67-63-0	
Propylene	**<0.23**	ug/m3	0.57	0.23	1.64		11/27/19 01:54	115-07-1	
Styrene	**1.2J**	ug/m3	1.4	0.56	1.64		11/27/19 01:54	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.51**	ug/m3	1.1	0.51	1.64		11/27/19 01:54	79-34-5	
Tetrachloroethene	**2.8**	ug/m3	1.1	0.51	1.64		11/27/19 01:54	127-18-4	
Tetrahydrofuran	**0.92J**	ug/m3	0.98	0.43	1.64		11/27/19 01:54	109-99-9	
Toluene	**1.6**	ug/m3	1.3	0.58	1.64		11/27/19 01:54	108-88-3	
1,2,4-Trichlorobenzene	**<6.1**	ug/m3	12.4	6.1	1.64		11/27/19 01:54	120-82-1	
1,1,1-Trichloroethane	**<0.51**	ug/m3	1.8	0.51	1.64		11/27/19 01:54	71-55-6	
1,1,2-Trichloroethane	**<0.40**	ug/m3	0.91	0.40	1.64		11/27/19 01:54	79-00-5	
Trichloroethene	**<0.41**	ug/m3	0.90	0.41	1.64		11/27/19 01:54	79-01-6	
Trichlorofluoromethane	**1.2J**	ug/m3	1.9	0.60	1.64		11/27/19 01:54	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<0.92**	ug/m3	2.6	0.92	1.64		11/27/19 01:54	76-13-1	
1,2,4-Trimethylbenzene	**1.9**	ug/m3	1.6	0.74	1.64		11/27/19 01:54	95-63-6	
1,3,5-Trimethylbenzene	**0.75J**	ug/m3	1.6	0.65	1.64		11/27/19 01:54	108-67-8	
Vinyl acetate	**<0.44**	ug/m3	1.2	0.44	1.64		11/27/19 01:54	108-05-4	
Vinyl chloride	**<0.21**	ug/m3	0.43	0.21	1.64		11/27/19 01:54	75-01-4	
m&p-Xylene	**2.5J**	ug/m3	2.9	1.1	1.64		11/27/19 01:54	179601-23-1	
o-Xylene	**1.2J**	ug/m3	1.4	0.56	1.64		11/27/19 01:54	95-47-6	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 60602996 Grafton
Pace Project No.: 10506291

QC Batch: 647211 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10500212005, 10500212006

METHOD BLANK: 3482836 Matrix: Air
Associated Lab Samples: 10500212005, 10500212006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.31	1.1	11/26/19 15:24	
1,1,2,2-Tetrachloroethane	ug/m3	<0.31	0.70	11/26/19 15:24	
1,1,2-Trichloroethane	ug/m3	<0.24	0.56	11/26/19 15:24	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.56	1.6	11/26/19 15:24	
1,1-Dichloroethane	ug/m3	<0.22	0.82	11/26/19 15:24	
1,1-Dichloroethene	ug/m3	<0.27	0.81	11/26/19 15:24	
1,2,4-Trichlorobenzene	ug/m3	<3.7	7.5	11/26/19 15:24	
1,2,4-Trimethylbenzene	ug/m3	<0.45	1.0	11/26/19 15:24	
1,2-Dibromoethane (EDB)	ug/m3	<0.37	0.78	11/26/19 15:24	
1,2-Dichlorobenzene	ug/m3	<0.50	1.2	11/26/19 15:24	
1,2-Dichloroethane	ug/m3	<0.15	0.41	11/26/19 15:24	
1,2-Dichloropropane	ug/m3	<0.23	0.94	11/26/19 15:24	
1,3,5-Trimethylbenzene	ug/m3	<0.40	1.0	11/26/19 15:24	
1,3-Butadiene	ug/m3	<0.13	0.45	11/26/19 15:24	
1,3-Dichlorobenzene	ug/m3	<0.58	1.2	11/26/19 15:24	
1,4-Dichlorobenzene	ug/m3	<1.0	3.1	11/26/19 15:24	
2-Butanone (MEK)	ug/m3	<0.37	3.0	11/26/19 15:24	
2-Hexanone	ug/m3	<0.74	4.2	11/26/19 15:24	
2-Propanol	ug/m3	<0.70	2.5	11/26/19 15:24	
4-Ethyltoluene	ug/m3	<0.57	2.5	11/26/19 15:24	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.52	4.2	11/26/19 15:24	
Acetone	ug/m3	<1.2	2.4	11/26/19 15:24	
Benzene	ug/m3	<0.15	0.32	11/26/19 15:24	
Benzyl chloride	ug/m3	<1.2	2.6	11/26/19 15:24	
Bromodichloromethane	ug/m3	<0.37	1.4	11/26/19 15:24	
Bromoform	ug/m3	<1.4	5.2	11/26/19 15:24	
Bromomethane	ug/m3	<0.23	0.79	11/26/19 15:24	
Carbon disulfide	ug/m3	<0.22	0.63	11/26/19 15:24	
Carbon tetrachloride	ug/m3	<0.43	1.3	11/26/19 15:24	
Chlorobenzene	ug/m3	<0.28	0.94	11/26/19 15:24	
Chloroethane	ug/m3	<0.26	0.54	11/26/19 15:24	
Chloroform	ug/m3	<0.20	0.50	11/26/19 15:24	
Chloromethane	ug/m3	<0.16	0.42	11/26/19 15:24	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	11/26/19 15:24	
cis-1,3-Dichloropropene	ug/m3	<0.30	0.92	11/26/19 15:24	
Cyclohexane	ug/m3	<0.35	1.8	11/26/19 15:24	
Dibromochloromethane	ug/m3	<0.72	1.7	11/26/19 15:24	
Dichlorodifluoromethane	ug/m3	<0.29	1.0	11/26/19 15:24	
Dichlorotetrafluoroethane	ug/m3	<0.44	1.4	11/26/19 15:24	
Ethanol	ug/m3	<0.81	1.9	11/26/19 15:24	
Ethyl acetate	ug/m3	<0.19	0.73	11/26/19 15:24	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 60602996 Grafton
Pace Project No.: 10506291

METHOD BLANK: 3482836 Matrix: Air
Associated Lab Samples: 10500212005, 10500212006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethylbenzene	ug/m3	<0.30	0.88	11/26/19 15:24	
Hexachloro-1,3-butadiene	ug/m3	<2.0	5.4	11/26/19 15:24	
m&p-Xylene	ug/m3	<0.70	1.8	11/26/19 15:24	
Methyl-tert-butyl ether	ug/m3	<0.66	3.7	11/26/19 15:24	
Methylene Chloride	ug/m3	<1.2	3.5	11/26/19 15:24	
n-Heptane	ug/m3	<0.38	0.83	11/26/19 15:24	
n-Hexane	ug/m3	<0.31	0.72	11/26/19 15:24	
Naphthalene	ug/m3	1.5J	2.7	11/26/19 15:24	
o-Xylene	ug/m3	<0.34	0.88	11/26/19 15:24	
Propylene	ug/m3	<0.14	0.35	11/26/19 15:24	
Styrene	ug/m3	<0.34	0.87	11/26/19 15:24	
Tetrachloroethene	ug/m3	<0.31	0.69	11/26/19 15:24	
Tetrahydrofuran	ug/m3	<0.26	0.60	11/26/19 15:24	
Toluene	ug/m3	<0.35	0.77	11/26/19 15:24	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	11/26/19 15:24	
trans-1,3-Dichloropropene	ug/m3	<0.44	0.92	11/26/19 15:24	
Trichloroethene	ug/m3	<0.25	0.55	11/26/19 15:24	
Trichlorofluoromethane	ug/m3	<0.37	1.1	11/26/19 15:24	
Vinyl acetate	ug/m3	<0.27	0.72	11/26/19 15:24	
Vinyl chloride	ug/m3	<0.13	0.26	11/26/19 15:24	

LABORATORY CONTROL SAMPLE: 3482837

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	56.6	50.7	90	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	65.6	94	70-132	
1,1,2-Trichloroethane	ug/m3	58.2	52.4	90	70-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	84.9	72.8	86	70-130	
1,1-Dichloroethane	ug/m3	42.4	39.3	93	70-130	
1,1-Dichloroethene	ug/m3	43.5	36.5	84	70-130	
1,2,4-Trichlorobenzene	ug/m3	74.7	54.3	73	56-130	
1,2,4-Trimethylbenzene	ug/m3	53	45.7	86	70-134	
1,2-Dibromoethane (EDB)	ug/m3	83.6	72.4	87	70-130	
1,2-Dichlorobenzene	ug/m3	59.9	51.8	86	70-132	
1,2-Dichloroethane	ug/m3	42.8	39.3	92	70-130	
1,2-Dichloropropane	ug/m3	48.4	44.0	91	70-130	
1,3,5-Trimethylbenzene	ug/m3	53.5	49.7	93	70-132	
1,3-Butadiene	ug/m3	22.5	18.6	82	65-130	
1,3-Dichlorobenzene	ug/m3	65.4	50.6	77	70-137	
1,4-Dichlorobenzene	ug/m3	65.4	46.3	71	70-134	
2-Butanone (MEK)	ug/m3	32.4	26.9	83	70-130	
2-Hexanone	ug/m3	42.9	37.4	87	70-135	
2-Propanol	ug/m3	26.5	24.7	93	68-130	
4-Ethyltoluene	ug/m3	52	43.6	84	70-138	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 60602996 Grafton
Pace Project No.: 10506291

LABORATORY CONTROL SAMPLE: 3482837

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4-Methyl-2-pentanone (MIBK)	ug/m3	42	40.1	95	70-131	
Acetone	ug/m3	26.6	19.9	75	67-130	
Benzene	ug/m3	34.4	29.7	86	70-130	
Benzyl chloride	ug/m3	56.3	41.8	74	70-130	
Bromodichloromethane	ug/m3	69.5	64.0	92	70-130	
Bromoform	ug/m3	97.7	282	289	70-132	L3,SS
Bromomethane	ug/m3	40.6	34.2	84	69-130	
Carbon disulfide	ug/m3	32.9	30.2	92	56-137	
Carbon tetrachloride	ug/m3	65.9	62.9	96	66-131	
Chlorobenzene	ug/m3	49.6	42.9	86	70-130	
Chloroethane	ug/m3	26.8	24.8	92	70-130	
Chloroform	ug/m3	52.6	45.1	86	70-130	
Chloromethane	ug/m3	22.2	18.4	83	66-130	
cis-1,2-Dichloroethene	ug/m3	41.9	36.8	88	70-130	
cis-1,3-Dichloropropene	ug/m3	48	42.2	88	70-133	
Cyclohexane	ug/m3	35.3	33.3	94	68-132	
Dibromochloromethane	ug/m3	90	92.7	103	70-130	
Dichlorodifluoromethane	ug/m3	52.8	45.0	85	70-130	
Dichlorotetrafluoroethane	ug/m3	74.6	62.8	84	70-130	
Ethanol	ug/m3	21.1	16.8	80	68-133	
Ethyl acetate	ug/m3	38.8	34.0	88	69-130	
Ethylbenzene	ug/m3	45.5	41.7	92	67-131	
Hexachloro-1,3-butadiene	ug/m3	108	93.1	86	66-137	
m&p-Xylene	ug/m3	45.9	45.2	99	70-132	
Methyl-tert-butyl ether	ug/m3	37.4	34.2	91	70-130	
Methylene Chloride	ug/m3	38.1	33.8	89	65-130	
n-Heptane	ug/m3	43.7	37.0	84	65-130	
n-Hexane	ug/m3	37.6	31.3	83	66-130	
Naphthalene	ug/m3	52.7	38.5	73	56-130	
o-Xylene	ug/m3	44.1	41.9	95	70-130	
Propylene	ug/m3	19.2	15.7	82	67-130	
Styrene	ug/m3	44.2	38.1	86	69-136	
Tetrachloroethene	ug/m3	70.3	62.3	89	70-130	
Tetrahydrofuran	ug/m3	30.3	30.0	99	68-131	
Toluene	ug/m3	39.4	34.7	88	70-130	
trans-1,2-Dichloroethene	ug/m3	41.5	37.6	91	70-130	
trans-1,3-Dichloropropene	ug/m3	44.8	45.8	102	70-134	
Trichloroethene	ug/m3	56.3	50.4	90	70-130	
Trichlorofluoromethane	ug/m3	58.8	50.8	86	65-130	
Vinyl acetate	ug/m3	35.1	32.7	93	61-133	
Vinyl chloride	ug/m3	28.1	23.0	82	70-130	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 60602996 Grafton
Pace Project No.: 10506291

SAMPLE DUPLICATE: 3483874

Parameter	Units	10500212002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.50	<0.50		25	
1,1,2,2-Tetrachloroethane	ug/m3	<0.50	<0.50		25	
1,1,2-Trichloroethane	ug/m3	<0.39	<0.39		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.91	<0.91		25	
1,1-Dichloroethane	ug/m3	<0.36	<0.36		25	
1,1-Dichloroethene	ug/m3	<0.44	<0.44		25	
1,2,4-Trichlorobenzene	ug/m3	<6.0	<6.0		25	
1,2,4-Trimethylbenzene	ug/m3	1.2J	1.2J		25	
1,2-Dibromoethane (EDB)	ug/m3	<0.59	<0.59		25	
1,2-Dichlorobenzene	ug/m3	<0.80	<0.80		25	
1,2-Dichloroethane	ug/m3	<0.24	<0.24		25	
1,2-Dichloropropane	ug/m3	<0.37	<0.37		25	
1,3,5-Trimethylbenzene	ug/m3	<0.64	<0.64		25	
1,3-Butadiene	ug/m3	<0.21	<0.21		25	
1,3-Dichlorobenzene	ug/m3	<0.94	<0.94		25	
1,4-Dichlorobenzene	ug/m3	<1.6	<1.6		25	
2-Butanone (MEK)	ug/m3	2.9J	2.8J		25	
2-Hexanone	ug/m3	<1.2	<1.2		25	
2-Propanol	ug/m3	46.0	45.2	2	25	
4-Ethyltoluene	ug/m3	1.0J	1.0J		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.83	<0.83		25	
Acetone	ug/m3	31.0	30.5	2	25	
Benzene	ug/m3	0.57	0.56	3	25	
Benzyl chloride	ug/m3	<1.9	<1.9		25	
Bromodichloromethane	ug/m3	<0.59	<0.59		25	
Bromoform	ug/m3	<2.3	<2.3		25	
Bromomethane	ug/m3	<0.37	<0.37		25	
Carbon disulfide	ug/m3	<0.35	<0.35		25	
Carbon tetrachloride	ug/m3	<0.69	<0.69		25	
Chlorobenzene	ug/m3	<0.44	<0.44		25	
Chloroethane	ug/m3	<0.42	<0.42		25	
Chloroform	ug/m3	0.37J	<0.32		25	
Chloromethane	ug/m3	0.97	0.84	15	25	
cis-1,2-Dichloroethene	ug/m3	<0.35	<0.35		25	
cis-1,3-Dichloropropene	ug/m3	<0.49	<0.49		25	
Cyclohexane	ug/m3	1.2J	1.2J		25	
Dibromochloromethane	ug/m3	<1.2	<1.2		25	
Dichlorodifluoromethane	ug/m3	2.5	2.5	2	25	
Dichlorotetrafluoroethane	ug/m3	<0.70	<0.70		25	
Ethanol	ug/m3	90.6	87.2	4	25	
Ethyl acetate	ug/m3	2.3	2.2	1	25	
Ethylbenzene	ug/m3	0.88J	0.76J		25	
Hexachloro-1,3-butadiene	ug/m3	<3.2	<3.2		25	
m&p-Xylene	ug/m3	3.0	2.8J		25	
Methyl-tert-butyl ether	ug/m3	<1.1	<1.1		25	
Methylene Chloride	ug/m3	10.9	10.7	2	25	
n-Heptane	ug/m3	1.0J	0.88J		25	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 60602996 Grafton
Pace Project No.: 10506291

SAMPLE DUPLICATE: 3483874

Parameter	Units	10500212002 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	2.3	2.4	5	25	
Naphthalene	ug/m3	2.6J	2.7J		25	
o-Xylene	ug/m3	1.1J	1.1J		25	
Propylene	ug/m3	<0.23	<0.23		25	
Styrene	ug/m3	1.0J	1.0J		25	
Tetrachloroethene	ug/m3	2.5	2.4	4	25	
Tetrahydrofuran	ug/m3	0.97	0.97	0	25	
Toluene	ug/m3	5.3	5.3	0	25	
trans-1,2-Dichloroethene	ug/m3	<0.46	<0.46		25	
trans-1,3-Dichloropropene	ug/m3	<0.71	<0.71		25	
Trichloroethene	ug/m3	<0.41	<0.41		25	
Trichlorofluoromethane	ug/m3	7.4	7.4	0	25	
Vinyl acetate	ug/m3	<0.43	<0.43		25	
Vinyl chloride	ug/m3	<0.20	<0.20		25	

SAMPLE DUPLICATE: 3483875

Parameter	Units	10500780001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.47	<0.47		25	
1,1,2,2-Tetrachloroethane	ug/m3	<0.47	<0.47		25	
1,1,2-Trichloroethane	ug/m3	<0.37	<0.37		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.86	<0.86		25	
1,1-Dichloroethane	ug/m3	<0.34	<0.34		25	
1,1-Dichloroethene	ug/m3	<0.42	<0.42		25	
1,2,4-Trichlorobenzene	ug/m3	<5.7	<5.7		25	
1,2,4-Trimethylbenzene	ug/m3	1.3J	1.2J		25	
1,2-Dibromoethane (EDB)	ug/m3	<0.56	<0.56		25	
1,2-Dichlorobenzene	ug/m3	<0.76	<0.76		25	
1,2-Dichloroethane	ug/m3	0.33J	<0.23		25	
1,2-Dichloropropane	ug/m3	<0.35	<0.35		25	
1,3,5-Trimethylbenzene	ug/m3	<0.61	<0.61		25	
1,3-Butadiene	ug/m3	<0.19	<0.19		25	
1,3-Dichlorobenzene	ug/m3	<0.88	<0.88		25	
1,4-Dichlorobenzene	ug/m3	<1.5	<1.5		25	
2-Butanone (MEK)	ug/m3	<0.56	<0.56		25	
2-Hexanone	ug/m3	<1.1	<1.1		25	
2-Propanol	ug/m3	6.2	6.0	4	25	
4-Ethyltoluene	ug/m3	<0.87	<0.87		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.79	<0.79		25	
Acetone	ug/m3	17.9	17.4	3	25	
Benzene	ug/m3	2.4	2.4	0	25	
Benzyl chloride	ug/m3	<1.8	<1.8		25	
Bromodichloromethane	ug/m3	<0.56	<0.56		25	
Bromoform	ug/m3	<2.2	<2.2		25	
Bromomethane	ug/m3	<0.35	<0.35		25	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 60602996 Grafton
Pace Project No.: 10506291

SAMPLE DUPLICATE: 3483875

Parameter	Units	10500780001 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/m3	0.55J	0.52J		25	
Carbon tetrachloride	ug/m3	<0.65	<0.65		25	
Chlorobenzene	ug/m3	<0.42	<0.42		25	
Chloroethane	ug/m3	<0.40	<0.40		25	
Chloroform	ug/m3	<0.30	<0.30		25	
Chloromethane	ug/m3	1.0	0.95	9	25	
cis-1,2-Dichloroethene	ug/m3	<0.33	<0.33		25	
cis-1,3-Dichloropropene	ug/m3	<0.46	<0.46		25	
Cyclohexane	ug/m3	<0.54	<0.54		25	
Dibromochloromethane	ug/m3	<1.1	<1.1		25	
Dichlorodifluoromethane	ug/m3	2.7	2.7	0	25	
Dichlorotetrafluoroethane	ug/m3	<0.66	<0.66		25	
Ethanol	ug/m3	181	171	5	25	
Ethyl acetate	ug/m3	4.6	4.5	2	25	
Ethylbenzene	ug/m3	0.80J	0.78J		25	
Hexachloro-1,3-butadiene	ug/m3	<3.0	<3.0		25	
m&p-Xylene	ug/m3	2.8	2.6J		25	
Methyl-tert-butyl ether	ug/m3	<1.0	<1.0		25	
Methylene Chloride	ug/m3	3.3J	3.3J		25	
n-Heptane	ug/m3	1.4	1.5	4	25	
n-Hexane	ug/m3	5.4	5.6	4	25	
Naphthalene	ug/m3	<2.0	2.4J		25	
o-Xylene	ug/m3	0.99J	0.97J		25	
Propylene	ug/m3	<0.21	<0.21		25	
Styrene	ug/m3	<0.52	1.0J		25	
Tetrachloroethene	ug/m3	<0.48	<0.48		25	
Tetrahydrofuran	ug/m3	<0.40	<0.40		25	
Toluene	ug/m3	7.4	7.5	2	25	
trans-1,2-Dichloroethene	ug/m3	<0.43	<0.43		25	
trans-1,3-Dichloropropene	ug/m3	<0.67	<0.67		25	
Trichloroethene	ug/m3	<0.38	<0.38		25	
Trichlorofluoromethane	ug/m3	1.8	1.7J		25	
Vinyl acetate	ug/m3	<0.41	<0.41		25	
Vinyl chloride	ug/m3	<0.19	<0.19		25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 60602996 Grafton
Pace Project No.: 10506291

DEFINITIONS

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

ND - Not Detected at or above LOD.

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

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

Pace Analytical Services, LLC
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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60602996 Grafton
Pace Project No.: 10506291

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10500212005	SS-1	TO-15	647211		
10500212006	SS-5	TO-15	647211		

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

47857

Page: 2 of 2

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: AECOM	Report To: AECOM	Attention: USAPIMAGING@AECOM.com
Address: 1555N RiverCenter Dr Milwaukee, WI, 53212	Copy To: Lanette Altenbach lanette.altenbach@AECOM.com	Company Name: Same
Email To: tory.schultz@AECOM.com	Purchase Order No.: -	Address: Same
Phone: 414.690.8465 Fax: -	Project Name: Grafton VI	Pace Quote Reference: -
Requested Due Date/TAT: STD	Project Number: 60602996	Pace Project Manager/Sales Rep.
		Pace Profile #: ~~40570~~ 40280

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: _____

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II ___ III ___ IV ___ Other ___

ITEM #	*Section D Required Client Information AIR SAMPLE ID Sample IDs MUST BE UNIQUE	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - In Hg)	Canister Pressure (Final Field - In Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	SS-1	6LC	0.0	11.19.19	1240	11.19.19	1328	30	2	22823						X					005
2	SS-5	6LC	0.0	11.19.19	1500	11.19.19	1535	28	5	00570960						X					006
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[illegible] AECOM	11.20.19	1400	[illegible] PACE	11/21/19	940

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Keith Nielsen

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 11.20.19

ORIGINAL

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

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 14Oct2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.19	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: AECOM

Project #:

WO# : 10500212

PM: CT1 **Due Date: 12/02/19**

CLIENT: AECOM-WI

Courier: ☒Fed Ex ☐UPS ☐USPS ☐Client ☐Pace ☐SpeeDee ☐Commercial See Exception ☐

Tracking Number: 7781 8824 3370, 3360

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): X **Corrected Temp (°C):** X **Thermometer Used:** ☐G87A9170600254 ☐G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 11/21/19 cmy

Type of Ice Received ☐Blue ☐Wet ☒None

		Comments:
Chain of Custody Present?	☒Yes ☐No	1.
Chain of Custody Filled Out?	☒Yes ☐No	2.
Chain of Custody Relinquished?	☒Yes ☐No	3.
Sampler Name and/or Signature on COC?	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time?	☒Yes ☐No	5.
Short Hold Time Analysis (<72 hr)?	☐Yes ☒No	6.
Rush Turn Around Time Requested?	☐Yes ☒No	7.
Sufficient Volume?	☒Yes ☐No	8.
Correct Containers Used?	☒Yes ☐No	9.
-Pace Containers Used?	☒Yes ☐No	
Containers Intact?	☒Yes ☐No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒Yes ☐No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒Yes ☐No	13.

Gauge # ☐10AIR26 ☒10AIR34 ☐10AIR35 ☐4097

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
OA-1	3316	0293	-3	-5					
IA-1	2108	2028	-5	-5					
SS-2	1668	1619	-3	-5					
SS-3	3503	1131	-4	-5					
SS-1	0002	2823	-1	-5					
SS-5	0057	0960	-5.5	-5					

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐Yes ☐No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Samples SS-1SS-5 transferred to separate WO 10506291 1/23/20 per client request

Project Manager Review: Carolyne Trust **Date:** 11/21/19

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)