

**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 12<sup>th</sup> 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 23<sup>rd</sup>. Indoor air and outdoor ambient air samples were initiated on November 18<sup>th</sup>. On November 19<sup>th</sup> 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/m<sup>3</sup>)**

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 12 <sup>th</sup> 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 12 <sup>th</sup> 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/m<sup>3</sup>

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 12<sup>th</sup> Avenue (access denied during November 2019) are recommended. Recent communication between with the property owner at 1225-1227 12<sup>th</sup> 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**

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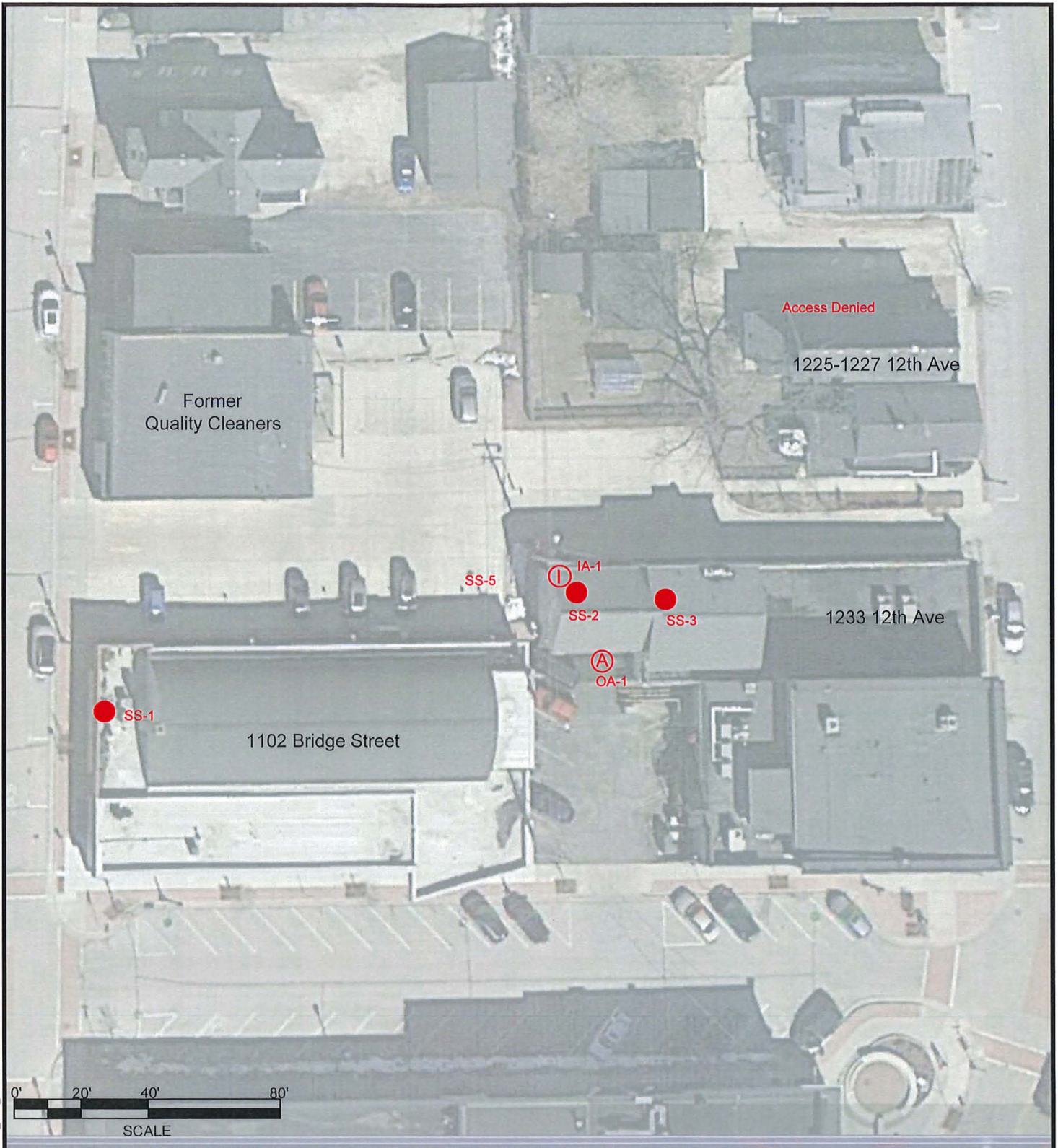


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**Legend:**

- 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.










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GRAFTON VI ASSESSMENT		
VAPOR INTRUSION ASSESSMENT SAMPLE LOCATIONS		
Project Number: 60602996	Drawn By: TAS	Date: 11/19/2019
		Figure No. 1



SYSTEM COMPONENT		WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?	ANNUAL INSPECTION				
NAME	PHOTO					DATE	NOTES			
Fan		<p>Fan creates a vacuum and lowers pressure below foundation.</p> <p>The fan also removes soil gases from below foundation for discharge to atmosphere.</p>	<p>Fan Operation</p> <p>Fan Location</p> <p>Motor Noise</p>	<p>Fan is on</p> <p>Fan mounted outside &amp; secure</p> <p>Fan motor is quiet (loud motor may indicate problem)</p>	<p>Fan may need to be replaced every 15 to 20 years.</p> <p>Replacement fan to have similar specifications as original with respect to flow and vacuum.</p> <p><b>ORIGINAL = Fan Spec RP145</b></p>	11/19/2019	Fan is located on the SE side of the building. The fan is on and operational with no abnormal noises.			
Sealed Sump w/Vent Pipe		<p><b>Sump Cover:</b> Soil gases are collected in sump and the cover prevents soil gas from getting inside home.</p> <p><b>Vent Pipe:</b> Pipe conveys the vacuum from the fan, and collects soil gases for discharge to the atmosphere.</p>	<p>Sump Cover Seal</p> <p>Vent Pipe Condition</p>	<p>Sump seal is air tight around edge and at pipe penetrations.</p> <p>Vent pipe is connected to fan, and is free of cracks or leaks.</p>	<p>Sump cover or vent pipe may need to be sealed or replaced if cracks or leaks appear.</p> <p>See NOTE below regarding pipe alternations. Have professional test pressures if pipes are modified</p>	11/19/2019	There is no sump at this location.			
Suction Drop Point w/Vent Pipe		<p><b>Suction Pit:</b> Soil gases are collected in a pit below the foundation, and tight seal prevents soil gas from getting inside home.</p> <p><b>Vent Pipe:</b> Pipe conveys the vacuum from the fan, and collects soil gases for discharge to the atmosphere</p>	<p>Suction Pit Seal</p> <p>Vent Pipe Condition</p>	<p>Seal is air tight around pipe penetration.</p> <p>Vent pipe is connected to fan, has not cracked</p>	<p>Suction pit seal or vent pipe may need to be sealed or replaced if cracks or leaks appear.</p> <p>See NOTE below regarding pipe alternations. Have professional test pressures if pipes are modified</p>	11/19/2019	The vent pipe is properly secured to the fan and has no apparent damage. The seal is air tight going into the ground.			
Manometer or Differential Pressure Gauge		<p>Measures differential pressure between vacuum side of vent pipe and indoor space.</p> <p>This measurement confirms there is a vacuum being pulled by the fan.</p>	<p>Liquid Level on Manometer</p>	<p>Liquid level in manometer is between .4 and .5 on the higher side.</p>	<p>A change in liquid level indicates a change in the vacuum below foundation. This could be caused by failure of fan, blockage of vent pipe, change in water level below building, or other conditions.</p> <p>Troubleshoot or hire professional to identify cause and repair if needed.</p>	11/19/2019	MANOMETER LEVEL Manometer level is at 0.4			
Outdoor Vent Pipe		<p>Pipe carries soil gas outside and vents them to the atmosphere.</p>	<p>Vent Pipe Condition</p> <p>Vent Pipe Location</p>	<p>Vent pipe remains connected to fan.</p> <p>End of pipe free from obstructions.</p> <p>The exhaust is more than 15 feet from windows or air intakes.</p>	<p>Vent pipe may require replacement, or cleaning to remove ice or debris.</p> <p>See NOTE below regarding pipe alternations. Have professional test pressures if pipes are modified.</p>	11/19/2019	NOTES Located on the Southeast side of the building. Vent pipe is in ideal condition. The window nearby is approximately 15 feet from vent pipe, but is sealed and cannot open.			
Foundation Floor		<p>Foundation is a barrier that minimizes soil gas entry into building, and helps fan to work efficiently.</p>	<p>Foundation Condition</p> <p>Foundation Footprint</p>	<p>No penetrating cracks or holes in foundation below grade.</p> <p>Check if there have been alterations or additions to building.</p>	<p>Seal cracks or other penetrations as you would to prevent water from entering.</p> <p>If building floor plan has changed, contact a professional contractor and/or the DNR to evaluate if modifications to the vapor mitigation system are necessary.</p>	11/19/2019	NOTES One notable crack in the suction drop point room. Crack was filled and sealed with concrete sealer. No other alterations or additions to the building.			
Vapor Pin		<p>This is a sample port to measure vacuum or take sample of soil gas if needed. It needs to remain sealed when not in use to prevent soil gas entry into the home.</p>	<p>Pin Seal/Cap</p> <p>Pin Condition</p>	<p>Vacuum measured with a micromanometer is less than ___ in H2O or ___ Pa.</p> <p>Pin is sealed and capped when not in use.</p>	<p>Repair or replace the seal and cover as needed.</p> <p>Permanently seal hole if sample port is ever removed.</p>	11/19/2019	VACUUM (IN H2O) No existing vapor pins at this location.			



Pace Analytical Services, LLC  
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(612)607-1700

January 23, 2020

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

RE: Project: 60602996 Grafton VI-Revised Report  
Pace Project No.: 10500212

Dear Lanette Altenbach:

Enclosed are the analytical results for sample(s) received by the laboratory on November 21, 2019. 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.

This report was revised on January 23, 2020, to transfer selected samples to a separate 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



#### REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 60602996 Grafton VI-Revised Report  
Pace Project No.: 10500212

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### 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 Certification #: 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

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### SAMPLE SUMMARY

Project: 60602996 Grafton VI-Revised Report

Pace Project No.: 10500212

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10500212001	OA-1	Air	11/19/19 13:00	11/21/19 09:40
10500212002	IA-1	Air	11/19/19 13:05	11/21/19 09:40
10500212003	SS-2	Air	11/19/19 14:00	11/21/19 09:40
10500212004	SS-3	Air	11/19/19 14:02	11/21/19 09:40

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### SAMPLE ANALYTE COUNT

Project: 60602996 Grafton VI-Revised Report  
Pace Project No.: 10500212

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10500212001	OA-1	TO-15	NCK	61	PASI-M
10500212002	IA-1	TO-15	NCK	61	PASI-M
10500212003	SS-2	TO-15	NCK	61	PASI-M
10500212004	SS-3	TO-15	MJL, NCK	61	PASI-M

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### ANALYTICAL RESULTS

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

Sample: OA-1 Lab ID: 10500212001 Collected: 11/19/19 13:00 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	14.4	ug/m3	3.6	1.8	1.49		11/27/19 00:25	67-64-1	
Benzene	0.37J	ug/m3	0.48	0.23	1.49		11/27/19 00:25	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		11/27/19 00:25	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		11/27/19 00:25	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		11/27/19 00:25	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		11/27/19 00:25	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		11/27/19 00:25	106-99-0	
2-Butanone (MEK)	0.99J	ug/m3	4.5	0.55	1.49		11/27/19 00:25	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.94	0.33	1.49		11/27/19 00:25	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		11/27/19 00:25	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		11/27/19 00:25	108-90-7	
Chloroethane	<0.39	ug/m3	0.80	0.39	1.49		11/27/19 00:25	75-00-3	
Chloroform	<0.29	ug/m3	0.74	0.29	1.49		11/27/19 00:25	67-66-3	
Chloromethane	0.50J	ug/m3	0.63	0.23	1.49		11/27/19 00:25	74-87-3	
Cyclohexane	<0.53	ug/m3	2.6	0.53	1.49		11/27/19 00:25	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		11/27/19 00:25	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		11/27/19 00:25	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		11/27/19 00:25	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		11/27/19 00:25	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		11/27/19 00:25	106-46-7	
Dichlorodifluoromethane	2.3	ug/m3	1.5	0.44	1.49		11/27/19 00:25	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.2	0.34	1.49		11/27/19 00:25	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		11/27/19 00:25	107-06-2	
1,1-Dichloroethene	<0.41	ug/m3	1.2	0.41	1.49		11/27/19 00:25	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		11/27/19 00:25	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		11/27/19 00:25	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		11/27/19 00:25	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		11/27/19 00:25	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		11/27/19 00:25	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		11/27/19 00:25	76-14-2	
Ethanol	37.0	ug/m3	2.9	1.2	1.49		11/27/19 00:25	64-17-5	
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		11/27/19 00:25	141-78-6	
Ethylbenzene	<0.45	ug/m3	1.3	0.45	1.49		11/27/19 00:25	100-41-4	
4-Ethyltoluene	<0.85	ug/m3	3.7	0.85	1.49		11/27/19 00:25	622-96-8	
n-Heptane	<0.57	ug/m3	1.2	0.57	1.49		11/27/19 00:25	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		11/27/19 00:25	87-68-3	
n-Hexane	0.82J	ug/m3	1.1	0.46	1.49		11/27/19 00:25	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		11/27/19 00:25	591-78-6	
Methylene Chloride	3.6J	ug/m3	5.3	1.8	1.49		11/27/19 00:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		11/27/19 00:25	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		11/27/19 00:25	1634-04-4	
Naphthalene	<2.0	ug/m3	4.0	2.0	1.49		11/27/19 00:25	91-20-3	
2-Propanol	17.7	ug/m3	3.7	1.0	1.49		11/27/19 00:25	67-63-0	
Propylene	<0.21	ug/m3	0.52	0.21	1.49		11/27/19 00:25	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		11/27/19 00:25	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	ug/m3	1.0	0.46	1.49		11/27/19 00:25	79-34-5	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

Sample: OA-1 Lab ID: 10500212001 Collected: 11/19/19 13:00 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Tetrachloroethene	<0.47	ug/m3	1.0	0.47	1.49		11/27/19 00:25	127-18-4	
Tetrahydrofuran	<0.39	ug/m3	0.89	0.39	1.49		11/27/19 00:25	109-99-9	
Toluene	1.1	ug/m3	1.1	0.52	1.49		11/27/19 00:25	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		11/27/19 00:25	120-82-1	
1,1,1-Trichloroethane	<0.46	ug/m3	1.7	0.46	1.49		11/27/19 00:25	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		11/27/19 00:25	79-00-5	
Trichloroethene	<0.38	ug/m3	0.81	0.38	1.49		11/27/19 00:25	79-01-6	
Trichlorofluoromethane	1.2J	ug/m3	1.7	0.55	1.49		11/27/19 00:25	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		11/27/19 00:25	76-13-1	
1,2,4-Trimethylbenzene	<0.67	ug/m3	1.5	0.67	1.49		11/27/19 00:25	95-63-6	
1,3,5-Trimethylbenzene	<0.59	ug/m3	1.5	0.59	1.49		11/27/19 00:25	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		11/27/19 00:25	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		11/27/19 00:25	75-01-4	
m&p-Xylene	<1.0	ug/m3	2.6	1.0	1.49		11/27/19 00:25	179601-23-1	
o-Xylene	<0.51	ug/m3	1.3	0.51	1.49		11/27/19 00:25	95-47-6	

Sample: IA-1 Lab ID: 10500212002 Collected: 11/19/19 13:05 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	31.0	ug/m3	3.9	1.9	1.61		11/27/19 00:55	67-64-1	
Benzene	0.57	ug/m3	0.52	0.25	1.61		11/27/19 00:55	71-43-2	
Benzyl chloride	<1.9	ug/m3	4.2	1.9	1.61		11/27/19 00:55	100-44-7	
Bromodichloromethane	<0.59	ug/m3	2.2	0.59	1.61		11/27/19 00:55	75-27-4	
Bromoform	<2.3	ug/m3	8.5	2.3	1.61		11/27/19 00:55	75-25-2	
Bromomethane	<0.37	ug/m3	1.3	0.37	1.61		11/27/19 00:55	74-83-9	
1,3-Butadiene	<0.21	ug/m3	0.72	0.21	1.61		11/27/19 00:55	106-99-0	
2-Butanone (MEK)	2.9J	ug/m3	4.8	0.59	1.61		11/27/19 00:55	78-93-3	
Carbon disulfide	<0.35	ug/m3	1.0	0.35	1.61		11/27/19 00:55	75-15-0	
Carbon tetrachloride	<0.69	ug/m3	2.1	0.69	1.61		11/27/19 00:55	56-23-5	
Chlorobenzene	<0.44	ug/m3	1.5	0.44	1.61		11/27/19 00:55	108-90-7	
Chloroethane	<0.42	ug/m3	0.86	0.42	1.61		11/27/19 00:55	75-00-3	
Chloroform	0.37J	ug/m3	0.80	0.32	1.61		11/27/19 00:55	67-66-3	
Chloromethane	0.97	ug/m3	0.68	0.25	1.61		11/27/19 00:55	74-87-3	
Cyclohexane	1.2J	ug/m3	2.8	0.57	1.61		11/27/19 00:55	110-82-7	
Dibromochloromethane	<1.2	ug/m3	2.8	1.2	1.61		11/27/19 00:55	124-48-1	
1,2-Dibromoethane (EDB)	<0.59	ug/m3	1.3	0.59	1.61		11/27/19 00:55	106-93-4	
1,2-Dichlorobenzene	<0.80	ug/m3	2.0	0.80	1.61		11/27/19 00:55	95-50-1	
1,3-Dichlorobenzene	<0.94	ug/m3	2.0	0.94	1.61		11/27/19 00:55	541-73-1	
1,4-Dichlorobenzene	<1.6	ug/m3	4.9	1.6	1.61		11/27/19 00:55	106-46-7	
Dichlorodifluoromethane	2.5	ug/m3	1.6	0.47	1.61		11/27/19 00:55	75-71-8	
1,1-Dichloroethane	<0.36	ug/m3	1.3	0.36	1.61		11/27/19 00:55	75-34-3	
1,2-Dichloroethane	<0.24	ug/m3	0.66	0.24	1.61		11/27/19 00:55	107-06-2	

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### ANALYTICAL RESULTS

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

Sample: IA-1 Lab ID: 10500212002 Collected: 11/19/19 13:05 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
1,1-Dichloroethene	<0.44	ug/m3	1.3	0.44	1.61		11/27/19 00:55	75-35-4	
cis-1,2-Dichloroethene	<0.35	ug/m3	1.3	0.35	1.61		11/27/19 00:55	156-59-2	
trans-1,2-Dichloroethene	<0.46	ug/m3	1.3	0.46	1.61		11/27/19 00:55	156-60-5	
1,2-Dichloropropane	<0.37	ug/m3	1.5	0.37	1.61		11/27/19 00:55	78-87-5	
cis-1,3-Dichloropropene	<0.49	ug/m3	1.5	0.49	1.61		11/27/19 00:55	10061-01-5	
trans-1,3-Dichloropropene	<0.71	ug/m3	1.5	0.71	1.61		11/27/19 00:55	10061-02-6	
Dichlorotetrafluoroethane	<0.70	ug/m3	2.3	0.70	1.61		11/27/19 00:55	76-14-2	
Ethanol	90.6	ug/m3	3.1	1.3	1.61		11/27/19 00:55	64-17-5	
Ethyl acetate	2.3	ug/m3	1.2	0.31	1.61		11/27/19 00:55	141-78-6	
Ethylbenzene	0.88J	ug/m3	1.4	0.49	1.61		11/27/19 00:55	100-41-4	
4-Ethyltoluene	1.0J	ug/m3	4.0	0.92	1.61		11/27/19 00:55	622-96-8	
n-Heptane	1.0J	ug/m3	1.3	0.61	1.61		11/27/19 00:55	142-82-5	
Hexachloro-1,3-butadiene	<3.2	ug/m3	8.7	3.2	1.61		11/27/19 00:55	87-68-3	
n-Hexane	2.3	ug/m3	1.2	0.50	1.61		11/27/19 00:55	110-54-3	
2-Hexanone	<1.2	ug/m3	6.7	1.2	1.61		11/27/19 00:55	591-78-6	
Methylene Chloride	10.9	ug/m3	5.7	1.9	1.61		11/27/19 00:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.83	ug/m3	6.7	0.83	1.61		11/27/19 00:55	108-10-1	
Methyl-tert-butyl ether	<1.1	ug/m3	5.9	1.1	1.61		11/27/19 00:55	1634-04-4	
Naphthalene	2.6J	ug/m3	4.3	2.1	1.61		11/27/19 00:55	91-20-3	
2-Propanol	46.0	ug/m3	4.0	1.1	1.61		11/27/19 00:55	67-63-0	
Propylene	<0.23	ug/m3	0.56	0.23	1.61		11/27/19 00:55	115-07-1	
Styrene	1.0J	ug/m3	1.4	0.55	1.61		11/27/19 00:55	100-42-5	
1,1,2,2-Tetrachloroethane	<0.50	ug/m3	1.1	0.50	1.61		11/27/19 00:55	79-34-5	
Tetrachloroethene	2.5	ug/m3	1.1	0.51	1.61		11/27/19 00:55	127-18-4	
Tetrahydrofuran	0.97	ug/m3	0.97	0.42	1.61		11/27/19 00:55	109-99-9	
Toluene	5.3	ug/m3	1.2	0.57	1.61		11/27/19 00:55	108-88-3	
1,2,4-Trichlorobenzene	<6.0	ug/m3	12.1	6.0	1.61		11/27/19 00:55	120-82-1	
1,1,1-Trichloroethane	<0.50	ug/m3	1.8	0.50	1.61		11/27/19 00:55	71-55-6	
1,1,2-Trichloroethane	<0.39	ug/m3	0.89	0.39	1.61		11/27/19 00:55	79-00-5	
Trichloroethene	<0.41	ug/m3	0.88	0.41	1.61		11/27/19 00:55	79-01-6	
Trichlorofluoromethane	7.4	ug/m3	1.8	0.59	1.61		11/27/19 00:55	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.91	ug/m3	2.5	0.91	1.61		11/27/19 00:55	76-13-1	
1,2,4-Trimethylbenzene	1.2J	ug/m3	1.6	0.73	1.61		11/27/19 00:55	95-63-6	
1,3,5-Trimethylbenzene	<0.64	ug/m3	1.6	0.64	1.61		11/27/19 00:55	108-67-8	
Vinyl acetate	<0.43	ug/m3	1.2	0.43	1.61		11/27/19 00:55	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.42	0.20	1.61		11/27/19 00:55	75-01-4	
m&p-Xylene	3.0	ug/m3	2.8	1.1	1.61		11/27/19 00:55	179601-23-1	
o-Xylene	1.1J	ug/m3	1.4	0.55	1.61		11/27/19 00:55	95-47-6	

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### ANALYTICAL RESULTS

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

Sample: SS-2 Lab ID: 10500212003 Collected: 11/19/19 14:00 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	7.0	ug/m3	3.6	1.8	1.49		11/27/19 03:50	67-64-1	
Benzene	<0.23	ug/m3	0.48	0.23	1.49		11/27/19 03:50	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		11/27/19 03:50	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		11/27/19 03:50	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		11/27/19 03:50	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		11/27/19 03:50	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		11/27/19 03:50	106-99-0	
2-Butanone (MEK)	1.1J	ug/m3	4.5	0.55	1.49		11/27/19 03:50	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.94	0.33	1.49		11/27/19 03:50	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		11/27/19 03:50	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		11/27/19 03:50	108-90-7	
Chloroethane	<0.39	ug/m3	0.80	0.39	1.49		11/27/19 03:50	75-00-3	
Chloroform	<0.29	ug/m3	0.74	0.29	1.49		11/27/19 03:50	67-66-3	
Chloromethane	<0.23	ug/m3	0.63	0.23	1.49		11/27/19 03:50	74-87-3	
Cyclohexane	<0.53	ug/m3	2.6	0.53	1.49		11/27/19 03:50	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		11/27/19 03:50	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		11/27/19 03:50	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		11/27/19 03:50	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		11/27/19 03:50	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		11/27/19 03:50	106-46-7	
Dichlorodifluoromethane	2.4	ug/m3	1.5	0.44	1.49		11/27/19 03:50	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.2	0.34	1.49		11/27/19 03:50	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		11/27/19 03:50	107-06-2	
1,1-Dichloroethene	<0.41	ug/m3	1.2	0.41	1.49		11/27/19 03:50	75-35-4	
cis-1,2-Dichloroethene	0.49J	ug/m3	1.2	0.33	1.49		11/27/19 03:50	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		11/27/19 03:50	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		11/27/19 03:50	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		11/27/19 03:50	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		11/27/19 03:50	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		11/27/19 03:50	76-14-2	
Ethanol	5.1	ug/m3	2.9	1.2	1.49		11/27/19 03:50	64-17-5	
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		11/27/19 03:50	141-78-6	
Ethylbenzene	<0.45	ug/m3	1.3	0.45	1.49		11/27/19 03:50	100-41-4	
4-Ethyltoluene	0.94J	ug/m3	3.7	0.85	1.49		11/27/19 03:50	622-96-8	
n-Heptane	<0.57	ug/m3	1.2	0.57	1.49		11/27/19 03:50	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		11/27/19 03:50	87-68-3	
n-Hexane	0.62J	ug/m3	1.1	0.46	1.49		11/27/19 03:50	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		11/27/19 03:50	591-78-6	
Methylene Chloride	2.8J	ug/m3	5.3	1.8	1.49		11/27/19 03:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		11/27/19 03:50	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		11/27/19 03:50	1634-04-4	
Naphthalene	2.3J	ug/m3	4.0	2.0	1.49		11/27/19 03:50	91-20-3	
2-Propanol	1.7J	ug/m3	3.7	1.0	1.49		11/27/19 03:50	67-63-0	
Propylene	<0.21	ug/m3	0.52	0.21	1.49		11/27/19 03:50	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		11/27/19 03:50	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	ug/m3	1.0	0.46	1.49		11/27/19 03:50	79-34-5	

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### ANALYTICAL RESULTS

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

Sample: SS-2 Lab ID: 10500212003 Collected: 11/19/19 14:00 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Tetrachloroethene	85.4	ug/m3	1.0	0.47	1.49		11/27/19 03:50	127-18-4	
Tetrahydrofuran	0.61J	ug/m3	0.89	0.39	1.49		11/27/19 03:50	109-99-9	
Toluene	1.2	ug/m3	1.1	0.52	1.49		11/27/19 03:50	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		11/27/19 03:50	120-82-1	
1,1,1-Trichloroethane	<0.46	ug/m3	1.7	0.46	1.49		11/27/19 03:50	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		11/27/19 03:50	79-00-5	
Trichloroethene	<0.38	ug/m3	0.81	0.38	1.49		11/27/19 03:50	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.7	0.55	1.49		11/27/19 03:50	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		11/27/19 03:50	76-13-1	
1,2,4-Trimethylbenzene	1.3J	ug/m3	1.5	0.67	1.49		11/27/19 03:50	95-63-6	
1,3,5-Trimethylbenzene	<0.59	ug/m3	1.5	0.59	1.49		11/27/19 03:50	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		11/27/19 03:50	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		11/27/19 03:50	75-01-4	
m&p-Xylene	1.7J	ug/m3	2.6	1.0	1.49		11/27/19 03:50	179601-23-1	
o-Xylene	0.73J	ug/m3	1.3	0.51	1.49		11/27/19 03:50	95-47-6	

Sample: SS-3 Lab ID: 10500212004 Collected: 11/19/19 14:02 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	3.5J	ug/m3	3.7	1.9	1.55		11/27/19 02:23	67-64-1	
Benzene	<0.24	ug/m3	0.50	0.24	1.55		11/27/19 02:23	71-43-2	
Benzyl chloride	<1.9	ug/m3	4.1	1.9	1.55		11/27/19 02:23	100-44-7	
Bromodichloromethane	<0.57	ug/m3	2.1	0.57	1.55		11/27/19 02:23	75-27-4	
Bromoform	<2.2	ug/m3	8.1	2.2	1.55		11/27/19 02:23	75-25-2	
Bromomethane	<0.35	ug/m3	1.2	0.35	1.55		11/27/19 02:23	74-83-9	
1,3-Butadiene	<0.20	ug/m3	0.70	0.20	1.55		11/27/19 02:23	106-99-0	
2-Butanone (MEK)	<0.57	ug/m3	4.6	0.57	1.55		11/27/19 02:23	78-93-3	
Carbon disulfide	<0.34	ug/m3	0.98	0.34	1.55		11/27/19 02:23	75-15-0	
Carbon tetrachloride	<0.66	ug/m3	2.0	0.66	1.55		11/27/19 02:23	56-23-5	
Chlorobenzene	<0.43	ug/m3	1.5	0.43	1.55		11/27/19 02:23	108-90-7	
Chloroethane	<0.40	ug/m3	0.83	0.40	1.55		11/27/19 02:23	75-00-3	
Chloroform	<0.30	ug/m3	0.77	0.30	1.55		11/27/19 02:23	67-66-3	
Chloromethane	<0.24	ug/m3	0.65	0.24	1.55		11/27/19 02:23	74-87-3	
Cyclohexane	<0.55	ug/m3	2.7	0.55	1.55		11/27/19 02:23	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.7	1.1	1.55		11/27/19 02:23	124-48-1	
1,2-Dibromoethane (EDB)	<0.57	ug/m3	1.2	0.57	1.55		11/27/19 02:23	106-93-4	
1,2-Dichlorobenzene	<0.77	ug/m3	1.9	0.77	1.55		11/27/19 02:23	95-50-1	
1,3-Dichlorobenzene	<0.90	ug/m3	1.9	0.90	1.55		11/27/19 02:23	541-73-1	
1,4-Dichlorobenzene	<1.6	ug/m3	4.7	1.6	1.55		11/27/19 02:23	106-46-7	
Dichlorodifluoromethane	2.3	ug/m3	1.6	0.45	1.55		11/27/19 02:23	75-71-8	
1,1-Dichloroethane	<0.35	ug/m3	1.3	0.35	1.55		11/27/19 02:23	75-34-3	
1,2-Dichloroethane	<0.23	ug/m3	0.64	0.23	1.55		11/27/19 02:23	107-06-2	

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### ANALYTICAL RESULTS

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

Sample: SS-3 Lab ID: 10500212004 Collected: 11/19/19 14:02 Received: 11/21/19 09:40 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
1,1-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.55		11/27/19 02:23	75-35-4	
cis-1,2-Dichloroethene	<0.34	ug/m3	1.2	0.34	1.55		11/27/19 02:23	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.55		11/27/19 02:23	156-60-5	
1,2-Dichloropropane	<0.36	ug/m3	1.5	0.36	1.55		11/27/19 02:23	78-87-5	
cis-1,3-Dichloropropene	<0.47	ug/m3	1.4	0.47	1.55		11/27/19 02:23	10061-01-5	
trans-1,3-Dichloropropene	<0.68	ug/m3	1.4	0.68	1.55		11/27/19 02:23	10061-02-6	
Dichlorotetrafluoroethane	<0.68	ug/m3	2.2	0.68	1.55		11/27/19 02:23	76-14-2	
Ethanol	7.7	ug/m3	3.0	1.3	1.55		11/27/19 02:23	64-17-5	
Ethyl acetate	<0.29	ug/m3	1.1	0.29	1.55		11/27/19 02:23	141-78-6	
Ethylbenzene	0.53J	ug/m3	1.4	0.47	1.55		11/27/19 02:23	100-41-4	
4-Ethyltoluene	0.99J	ug/m3	3.9	0.88	1.55		11/27/19 02:23	622-96-8	
n-Heptane	<0.59	ug/m3	1.3	0.59	1.55		11/27/19 02:23	142-82-5	
Hexachloro-1,3-butadiene	<3.1	ug/m3	8.4	3.1	1.55		11/27/19 02:23	87-68-3	
n-Hexane	0.62J	ug/m3	1.1	0.48	1.55		11/27/19 02:23	110-54-3	
2-Hexanone	<1.2	ug/m3	6.4	1.2	1.55		11/27/19 02:23	591-78-6	
Methylene Chloride	3.8J	ug/m3	5.5	1.9	1.55		11/27/19 02:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/m3	6.4	0.80	1.55		11/27/19 02:23	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/m3	5.7	1.0	1.55		11/27/19 02:23	1634-04-4	
Naphthalene	2.6J	ug/m3	4.1	2.0	1.55		11/27/19 02:23	91-20-3	
2-Propanol	2.1J	ug/m3	3.9	1.1	1.55		11/27/19 02:23	67-63-0	
Propylene	<0.22	ug/m3	0.54	0.22	1.55		11/27/19 02:23	115-07-1	
Styrene	1.1J	ug/m3	1.3	0.53	1.55		11/27/19 02:23	100-42-5	
1,1,2,2-Tetrachloroethane	<0.48	ug/m3	1.1	0.48	1.55		11/27/19 02:23	79-34-5	
Tetrachloroethene	491	ug/m3	21.4	9.7	31		11/28/19 02:58	127-18-4	
Tetrahydrofuran	0.63J	ug/m3	0.93	0.40	1.55		11/27/19 02:23	109-99-9	
Toluene	1.3	ug/m3	1.2	0.54	1.55		11/27/19 02:23	108-88-3	
1,2,4-Trichlorobenzene	<5.8	ug/m3	11.7	5.8	1.55		11/27/19 02:23	120-82-1	
1,1,1-Trichloroethane	<0.48	ug/m3	1.7	0.48	1.55		11/27/19 02:23	71-55-6	
1,1,2-Trichloroethane	<0.38	ug/m3	0.86	0.38	1.55		11/27/19 02:23	79-00-5	
Trichloroethene	<0.39	ug/m3	0.85	0.39	1.55		11/27/19 02:23	79-01-6	
Trichlorofluoromethane	3.5	ug/m3	1.8	0.57	1.55		11/27/19 02:23	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.87	ug/m3	2.4	0.87	1.55		11/27/19 02:23	76-13-1	
1,2,4-Trimethylbenzene	1.9	ug/m3	1.5	0.70	1.55		11/27/19 02:23	95-63-6	
1,3,5-Trimethylbenzene	0.71J	ug/m3	1.5	0.62	1.55		11/27/19 02:23	108-67-8	
Vinyl acetate	<0.42	ug/m3	1.1	0.42	1.55		11/27/19 02:23	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		11/27/19 02:23	75-01-4	
m&p-Xylene	2.3J	ug/m3	2.7	1.1	1.55		11/27/19 02:23	179601-23-1	
o-Xylene	1.1J	ug/m3	1.4	0.53	1.55		11/27/19 02:23	95-47-6	

### REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

QC Batch: 647211 Analysis Method: TO-15  
 QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level  
 Associated Lab Samples: 10500212001, 10500212002, 10500212003, 10500212004

METHOD BLANK: 3482836 Matrix: Air  
 Associated Lab Samples: 10500212001, 10500212002, 10500212003, 10500212004

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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### QUALITY CONTROL DATA

Project: 60602996 Grafton VI-Revised Report  
Pace Project No.: 10500212

METHOD BLANK: 3482836 Matrix: Air  
Associated Lab Samples: 10500212001, 10500212002, 10500212003, 10500212004

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

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**QUALITY CONTROL DATA**

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

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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QUALITY CONTROL DATA

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

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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**QUALITY CONTROL DATA**

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

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	
1,1,1,2-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	

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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QUALITY CONTROL DATA

Project: 60602996 Grafton VI-Revised Report  
 Pace Project No.: 10500212

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	

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REPORT OF LABORATORY ANALYSIS

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## QUALIFIERS

Project: 60602996 Grafton VI-Revised Report  
Pace Project No.: 10500212

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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, 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.

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: 60602996 Grafton VI-Revised Report

Pace Project No.: 10500212

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10500212001	OA-1	TO-15	647211		
10500212002	IA-1	TO-15	647211		
10500212003	SS-2	TO-15	647211		
10500212004	SS-3	TO-15	647211		

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WO#: 10500212



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



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Page: 1 of 2

<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	<b>Program</b>
Company: <b>AECOM</b>	Report To: <b>AECOM</b>	Attention: <b>OSAPIMAGING@AECOM.com</b>	<input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act
Address: <b>1555 N River Center Dr. Milwaukee WI 53212</b>	Copy To: <b>Dr. Lanette Altenbach</b>	Company Name: <b>same</b>	<input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input checked="" type="checkbox"/> Other
Email To: <b>tory.schultz@AECOM.com</b>	Purchase Order No.:	Address: <b>same</b>	Location of Sampling by State: <b>WI</b>
Phone: <b>414.690.8405</b>	Project Name: <b>Grafton VI</b>	Pace Quote Reference:	Reporting Units: <input type="checkbox"/> ug/m <sup>3</sup> <input type="checkbox"/> mg/m <sup>3</sup> <input type="checkbox"/> PPBV <input type="checkbox"/> PPMV <input type="checkbox"/> Other
Requested Due Date/TAT: <b>STD</b>	Project Number: <b>60602996</b>	Pace Project Manager/Sales Rep.	Report Level: <input type="checkbox"/> I <input checked="" type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> Other
		Pace Profile #: <b>40398 REV 40280</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:	Page Lab ID
					COMPOSITE START		COMPOSITE - END/GRAB							
					DATE	TIME	DATE	TIME						
1	OA-1		6LL	0.0	11.18.19	1430	11.19.19	1300	29	4	3316	0293	X	001
2	IA-1		6LL	0.0	11.18.19	1430	11.17.19	1305	30	6	2108	2028	X	002
3	SS-2		6LL	0.0	11.19.19	1319	11.19.19	1400	30	4	1668	1619	X	003
4	SS-3		6LL	0.0	11.19.19	1323	11.19.19	1402	29	5	3503	1131	X	004
5														
6														
7														
8														
9														
10														
11														
12														

Comments :	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	<i>[Signature]</i> AECOM	11.20.19	1400	<i>[Signature]</i> PALE	11/21/19	940	-	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	Received on ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER: <b>Keith Nielsen</b>					
SIGNATURE OF SAMPLER: <i>[Signature]</i> DATE Signed (MM/DD/YY) <b>11.20.19</b>					

ORIGINAL

Page 19 of 21



# AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

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Page: 2 of 2

<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	<b>Program</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
Company: <b>AECOM</b>	Report To: <b>AECOM</b>	Attention: <b>USAP IMAGING@AECOM.com</b>	Reporting Units ug/m <sup>3</sup> <input type="checkbox"/> mg/m <sup>3</sup> <input type="checkbox"/> PPBV <input type="checkbox"/> PPMV <input type="checkbox"/> Other <input type="checkbox"/>
Address: <b>1555 N Rivercenter Dr M: Waukesha, WI, 53212</b>	Copy To: <b>Lanette Altenbach lanette.altenbach@AECOM.com</b>	Company Name: <b>same</b>	
Email To: <b>tocy.schultz@AECOM.com</b>	Purchase Order No.:	Address: <b>same</b>	Location of Sampling by State _____
Phone: <b>414.690.8485</b>	Project Name: <b>Grafton VI</b>	Pace Quote Reference:	
Requested Due Date/TAT: <b>STD</b>	Project Number: <b>00602996</b>	Pace Project Manager/Sales Rep.	Report Level: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> Other
		Pace Profile #: <b>40280 40280</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:								Pace Lab ID	
					COMPOSITE START		COMPOSITE - END/GRAB						PM10	SC - Pktd Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-16 Short List Chromatogram		
					DATE	TIME	DATE	TIME														
1	SS-1		6LC	0.0	11.19.19	1240	11.19.19	1328	30	2	22823										005	
2	SS-5		6LC	0.0	11.19.19	1506	11.19.19	1535	28	5	00570960										006	
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Comments :	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
	<i>Keith Nielsen AECOM</i>	11.20.19	1400	<i>Keith Nielsen AECOM</i>	11/21/19	940	—	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER:	<i>Keith Nielsen</i>				
SIGNATURE of SAMPLER:	<i>Keith Nielsen</i>	DATE Signed (MM/DD/YY) <b>11.20.19</b>			

ORIGINAL



Document Name:  
Air Sample Condition Upon Receipt  
Document No.:  
F-MN-A-105-rev.19

Document Revised: 14Oct2019  
Page 1 of 1  
Issuing Authority:  
Pace Analytical 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?	<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 checked="" type="checkbox"/> Yes <input 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.
Do cans need to be pressurized? (DO NOT PRESSURIZE 3C or ASTM 1946!!!)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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
DA-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-1 and SS-5 transferred to separate WO 1/23/20

Project Manager Review: Carolynne Hunt

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)





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



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 60602996 Grafton  
Pace Project No.: 10506291

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### Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01	Minnesota Dept of Ag Certification #: via MN 027-053-137
Alabama Certification #: 40770	Minnesota Petrofund Certification #: 1240
Alaska Contaminated Sites Certification #: 17-009	Mississippi Certification #: MN00064
Alaska DW Certification #: MN00064	Missouri Certification #: 10100
Arizona Certification #: AZ0014	Montana Certification #: CERT0092
Arkansas DW Certification #: MN00064	Nebraska Certification #: NE-OS-18-06
Arkansas WW Certification #: 88-0680	Nevada Certification #: MN00064
California Certification #: 2929	New Hampshire Certification #: 2081
CNMI Saipan Certification #: MP0003	New Jersey Certification #: MN002
Colorado Certification #: MN00064	New York Certification #: 11647
Connecticut Certification #: PH-0256	North Carolina DW Certification #: 27700
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137	North Carolina WW Certification #: 530
Florida Certification #: E87605	North Dakota Certification #: R-036
Georgia Certification #: 959	Ohio DW Certification #: 41244
Guam EPA Certification #: MN00064	Ohio VAP Certification #: CL101
Hawaii Certification #: MN00064	Oklahoma Certification #: 9507
Idaho Certification #: MN00064	Oregon Primary Certification #: MN300001
Illinois Certification #: 200011	Oregon Secondary Certification #: MN200001
Indiana Certification #: C-MN-01	Pennsylvania Certification #: 68-00563
Iowa Certification #: 368	Puerto Rico Certification #: MN00064
Kansas Certification #: E-10167	South Carolina Certification #: 74003001
Kentucky DW Certification #: 90062	Tennessee Certification #: TN02818
Kentucky WW Certification #: 90062	Texas Certification #: T104704192
Louisiana DEQ Certification #: 03086	Utah Certification #: MN00064
Louisiana DW Certification #: MN00064	Vermont Certification #: VT-027053137
Maine Certification #: MN00064	Virginia Certification #: 460163
Maryland Certification #: 322	Washington Certification #: C486
Massachusetts Certification #: M-MN064	West Virginia DEP Certification #: 382
Massachusetts DWP Certification #: via MN 027-053-137	West Virginia DW Certification #: 9952 C
Michigan Certification #: 9909	Wisconsin Certification #: 999407970
Minnesota Certification #: 027-053-137	Wyoming UST Certification #: via A2LA 2926.01

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### SAMPLE SUMMARY

Project: 60602996 Grafton

Pace Project No.: 10506291

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10506291001	plceholder	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

**REPORT OF LABORATORY ANALYSIS**

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### SUMMARY OF DETECTION

Project: 60602996 Grafton

Pace Project No.: 10506291

Lab Sample ID	Client Sample ID				
Method	Parameters	Result	Units	Report Limit	Analyzed
<b>10500212005</b>	<b>SS-1</b>				
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
<b>10500212006</b>	<b>SS-5</b>				
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

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**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
<b>TO15 MSV AIR</b>		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	

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**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
<b>TO15 MSV AIR</b> 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
<b>TO15 MSV AIR</b> 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	

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### 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
<b>TO15 MSV AIR</b>		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	

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**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**

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**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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### 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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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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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	
1,1,1,2-Tetrachloroethane	ug/m3	<0.47	<0.47		25	
1,1,1,2-Trichloroethane	ug/m3	<0.37	<0.37		25	
1,1,1,2-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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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	

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## QUALIFIERS

Project: 60602996 Grafton  
Pace Project No.: 10506291

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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, 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.

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: 60602996 Grafton  
Pace Project No.: 10506291

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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		

**REPORT OF LABORATORY ANALYSIS**

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# 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

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		Program	
Company: <b>AECOM</b>		Report To: <b>AECOM</b>		Attention: <b>USAP IMAGING@AECOM.com</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	
Address: <b>1555N PineKenter Dr</b>		Copy To: <b>Lanette Altenbach</b>		Company Name: <b>same</b>		Reporting Units Location of Sampling by State: _____ ug/m <sup>3</sup> _____ mg/m <sup>3</sup> PPBV _____ PPMV _____ Other _____	
Address: <b>M: Waukegan, WI, 53212</b>		Purchase Order No.: _____		Address: <b>same</b>		Report Level: <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> Other _____	
Email To: <b>toey.schultz@AECOM.com</b>		Project Name: <b>Grafton VI</b>		Face Quote Reference: _____		Pace Project Manager/Sales Rep. _____	
Phone: <b>414.690.8485</b>		Project Number: <b>60602996</b>		Pace Profile #: <b>40200000 40280</b>		Method: PM10 <input type="checkbox"/> JC - Fixed Gas (%) <input type="checkbox"/> TO-3a BTEX <input type="checkbox"/> TO-3M (Mercury) <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 Chlorinated (ethy) <input type="checkbox"/>	
Requested Due Date/TAT: <b>STD</b>						Pace Lab ID	

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:								Pace Lab ID	
					COMPOSITE START		COMPOSITE - END/GRAB						PM10	JC - Fixed Gas (%)	TO-3a BTEX	TO-3M (Mercury)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated (ethy)		
					DATE	TIME	DATE	TIME														
1	SS-1		6LC0.0		11.19.19	1240	11.19.19	1328	30	2	22823										005	
2	SS-5		6LC0.0		11.19.19	1500	11.19.19	1535	28	5	00570960										006	
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

Comments :	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	<b>Bob W. AECOM</b>	<b>11.20.19</b>	<b>1400</b>	<b>W.M. - J. PALE</b>	<b>11/21/19</b>	<b>940</b>	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER: <b>Keith Nielsen</b>	DATE Signed (MM / DD / YY) <b>11.20.19</b>				
SIGNATURE of SAMPLER: <b>[Signature]</b>					

ORIGINAL



Document Name:  
Air Sample Condition Upon Receipt  
Document No.:  
F-MN-A-106-rev.19

Document Revised: 14Oct2019  
Page 1 of 1  
Issuing Authority:  
Pace Analytical 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?	<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 checked="" type="checkbox"/> Yes <input 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.
Do cans need to be pressurized? (DO NOT PRESSURIZE 3C or ASTM 1946!!!)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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
DA-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: Carolynne Hunt

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)