

October 24, 2019

Mr. Matthew Karl  
Olympus Ventures LLC  
660 France Ave. S., Suite 550  
Minneapolis, MN 55435

Ms. Jennifer Recker-Jones  
Ascension Wisconsin Real Estate  
4300 W. Brown Deer Rd.  
Brown Deer, WI 53223

Subject: Vapor Sampling Results – Contaminant Detections Below DNR Screening Levels  
Property: Former Vaughan Mfg./MPS site, currently Gateway Medical Clinic, 801 S. 70<sup>th</sup> St., West Allis, WI  
BRRTS Activity # 02-41-000938 VPLE # 07-41-236669

Dear Mr. Karl and Ms. Recker-Jones:

Included with this letter are the findings of a recent investigation performed on the property located at 801 S. 70<sup>th</sup> St., West Allis (the site), by the Wisconsin Department of Natural Resources (DNR).

As you are aware, this investigation was conducted because of the potential for contaminant vapors related to residual soil and groundwater contamination at the site, to migrate through soils, accumulate beneath the medical building foundation, and possibly enter the indoor air. The contaminants of concern included naphthalene and trichloroethene (TCE) which were detected during soil gas sampling conducted in July 2019 outside of the building footprint. These volatile organic compounds (VOCs) were detected outside the building footprint at concentrations exceeding their respective vapor risk screening level (VRSL) based on commercial property use.

On October 3, 2019, The Sigma Group, Inc. (Sigma), an environmental consulting firm hired by the DNR, collected ten indoor air samples from the medical facility at the site. The samples were submitted to Pace Analytical Services, LLC (Pace) where they underwent laboratory analysis for VOCs, including TCE and naphthalene.

Additionally, on October 8, 2019, Sigma collected nine sub-slab vapor samples from beneath the foundation of the medical building. The samples were also submitted to Pace where they were analyzed for VOCs, including TCE and naphthalene.

#### **Your Test Results**

Attached are copies of the laboratory reports, results tables for both the indoor air and sub-slab vapor samples and sample location maps. The DNR fact sheet "Understanding Chemical Vapor Intrusion Testing Results" is also enclosed for your information.

Indoor air results: Low level VOCs were detected in some of the indoor air samples. Naphthalene was not detected in any sample above laboratory detection limits. A small amount of TCE was detected in one sample at an estimated concentration below laboratory quantification limits. All results were compared to indoor air vapor action levels (VAL), the numeral value that represents a health hazard risk to no more than 1 in 100,000 people

during a lifetime of exposure. None of the chemicals detected exceeded a VAL, with the exception of 2-propanol (isopropyl alcohol), which exceeded its VAL based on non-residential property use. The 2-propanol concentrations observed are not surprising as the building is an operating clinic and 2-propanol is commonly used in this setting. Although these concentrations exceeded an EPA VAL which is based upon male reproductive effects observed in mice after chronic exposure to 2-propanol, they are all well below the OSHA Permissible Exposure Level (PEL) of 400 ppm (980 mg/m<sup>3</sup>) over an 8 hour work day. Please contact WI DHS Toxicologist, Dr. Curtis Hedman, at (608) 0266-6677 or [curtis.hedman@wisconsin.gov](mailto:curtis.hedman@wisconsin.gov) for additional information regarding the human health considerations for these results.

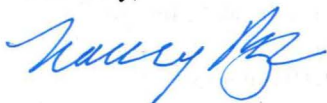
Sub-slab vapor results: One or more individual VOCs, including TCE, were detected in each of the sub-slab samples submitted for analysis. No chemical was detected at a concentration exceeding its vapor risk screening level (VRSL) based on residential, commercial or industrial property use assumptions. These results indicate that there does not appear to be a risk of TCE, naphthalene or other VOCs posing a threat to occupants of the building from vapor intrusion at this time. However, additional sampling is needed to confirm these results.

#### Next Steps

Based on the presence of TCE and other VOCs in the sub-slab samples and the many variables that affect migration of vapors into a building, the DNR is proposing to conduct additional sub-slab and concurrent indoor air sampling to further evaluate the vapor intrusion risk to the occupants of the medical building. We recommend re-sampling the facility with an event scheduled in the winter months when migration of vapors into the building are more likely and, if necessary, a third round of sampling several months after that. We will be contacting you to schedule future sampling and to obtain an updated access agreement.

Please feel free to contact me at (414) 263-8533 or by email to [nancy.ryan@wisconsin.gov](mailto:nancy.ryan@wisconsin.gov) if you have any questions about these results.

Sincerely,



Nancy D. Ryan, Hydrogeologist  
Remediation & Redevelopment Program

#### Attachments:

RR-977 Understanding Chemical Vapor Intrusion Testing Results  
Laboratory indoor air and sub-slab vapor results – provided electronically only  
Indoor air and sub-slab vapor sampling maps  
Table 1 Ambient/Indoor Air Analytical Data  
Table 2 Subslab Vapor Analytical Data

#### Cc:

Curtis Hedman, Wisconsin Department of Health Services  
Jennifer Borski, DNR



# Understanding Chemical Vapor Intrusion Testing Results

RR-977

October 2014

## From the Lab to You

Chemical vapor samples were taken from underneath your house or building and possibly indoors as well. These samples have been tested by a certified laboratory and a report was issued. The Wisconsin Department of Natural Resources (DNR) uses these test results to determine if people in the building are being exposed to chemical vapors coming from nearby contaminated soil or groundwater, and to decide what, if any, action is needed to prevent this exposure.

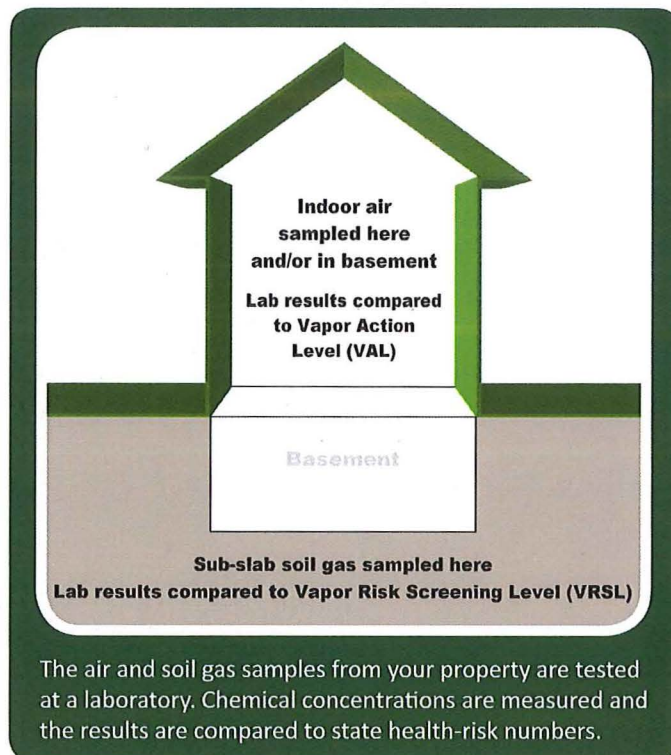
## Indoor Air Testing Results

If indoor air samples were collected in your house or building, test results from the lab will be compared to the state Vapor Action Level (VAL) for chemicals of concern. The VAL is a chemical compound's numerical value that represents a health hazard risk to no more than 1 in 100,000 people during a lifetime of exposure. If test results show chemical concentrations in your air below the VAL then adverse health effects are extremely rare, even if you were to breathe the chemical at this concentration for your entire life.

Test results showing chemical concentrations in the air at or above the VAL prompt DNR to recommend that exposure to these chemical vapors be reduced. If test results show concentrations significantly above the VAL, or more than one type of chemical vapor is identified in your indoor air, the risk from exposure increases. If the concentration of any indoor chemical vapor greatly exceeds the VAL, DNR is concerned about even short-term exposure and will typically require immediate action to address the problem.

The VAL for each chemical is set by scientific research. It is protective of all people, including those who are most susceptible to adverse health effects.

If test results identify chemicals in your air that are not present in nearby soil or groundwater contamination, it is likely that these vapors are coming from some product or activity in or near your house or building. Many everyday consumer products (e.g., cleaners, solvents, polish, adhesives, lubricants, aerosols, insect repellants, etc.); combustion processes (e.g., smoking, home heating); fuels in attached garages; dry cleaned clothing or draperies; and occupant activities (e.g., craft hobbies), also release chemical vapors into the air.



## Sub-slab Soil Gas Testing Results

Soil gas samples were collected from the ground beneath the concrete slab of your building foundation or basement. The lab measured the concentrations of various chemicals in these samples. DNR compares these measurements to the state Vapor Risk Screening Level (VRSL), which identifies the concentration of a chemical in soil gas that scientific research suggests can be a health risk if vapor enters a building. If soil gas measurements exceed the VRSL for a chemical of concern, action to reduce exposure is strongly recommended.

The VRSL is a higher number (higher chemical concentration) than the VAL because it is presumed that concrete building foundations and basement walls will prevent most soil gas from entering a building. Further, any soil gas that does enter a building through cracks, holes, sump pumps, drains, etc., will be diluted to some extent by the indoor air. So, people inside will not be breathing air that includes the full concentration of chemical vapors that exist in the ground.



Wisconsin Department of Natural Resources  
P.O. Box 7921, Madison, WI 53707  
dnr.wi.gov, search "Brownfields"





DNR generally relies on the test results of the sub-slab soil gas samples when determining what, if any, action should be taken related to chemical vapors coming from nearby soil or groundwater contamination. Indoor air quality is highly variable, and it is difficult to make a definitive decision about vapor intrusion based on indoor air sampling alone.

### Follow-Up Actions

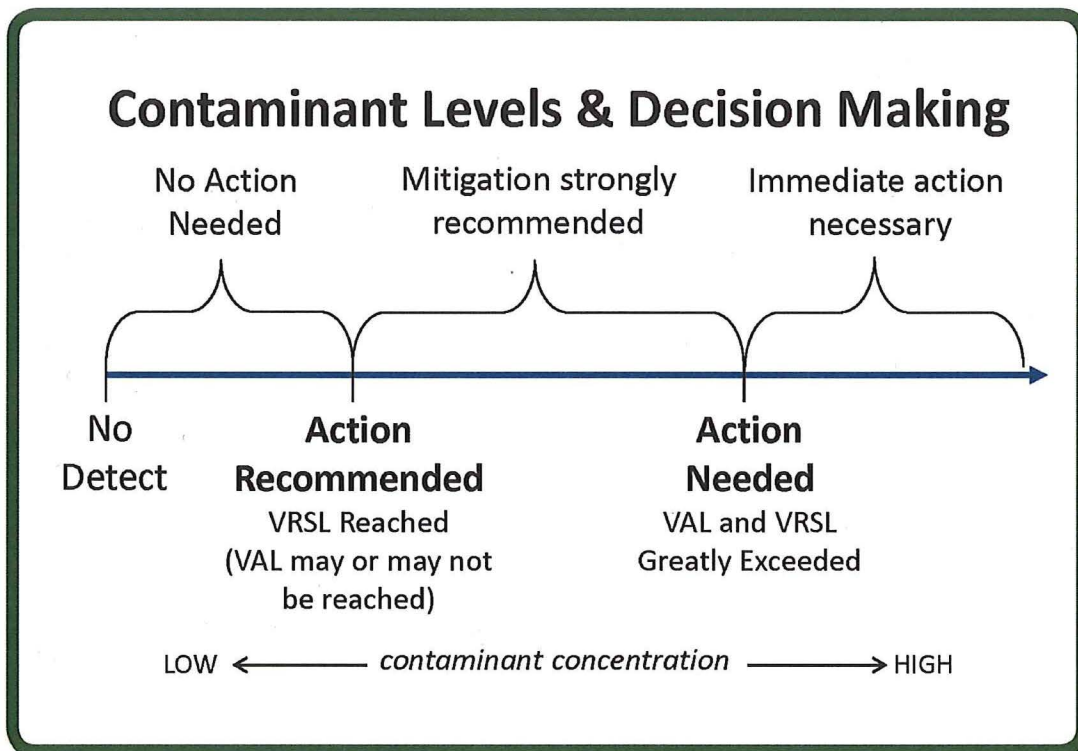
If your test results are less than a VAL for indoor air, or a VRSL for sub-slab soil gas, then the air in the house or building should not present a health concern. Follow-up sampling and testing may be necessary to confirm the results, but no other action is typically suggested.

When test results show soil gas chemical concentrations above a VRSL, both DNR and the Wisconsin Department of

Health Services recommend that owners take action to reduce potential exposure. This typically involves installing a vapor mitigation system that vents chemical vapors from beneath your home or building to the outdoors, similar to a radon mitigation system.

If indoor air concentrations exceed a VAL, but sub-slab concentrations are less than a VRSL, then the chemical vapors are most likely coming from indoor sources. Steps should be taken by the house or building owner to identify the products and practices causing the problem and implement appropriate remedies.

If soil gas mitigation is recommended, a representative of the party who is responsible for the soil or groundwater contamination will contact you to discuss your options.



**A Note about Measurement Units:** The lab report may include some unfamiliar technical language. The most important point to note is whether or not the test result for a specific chemical exceeds a VAL or VRSL, which are also sometimes referred to, generically, as "screening levels."

The concentration of gaseous pollutants in air is typically described in two different ways: 1) as units of mass per volume, where  $\mu\text{g}/\text{m}^3$  represents micrograms of gaseous pollutant per cubic meter of ambient air; and 2) as parts per billion by volume (ppbv), where the volume of a gaseous pollutant is compared to a set volume of ambient air. These are the numbers that are compared to the VAL and VRSL.

For more information, visit [dnr.wi.gov/topic/Brownfields/Vapor.html](http://dnr.wi.gov/topic/Brownfields/Vapor.html)

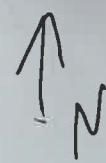
This document contains information about certain state statutes and administrative rules but does not necessarily include all of the details found in the statutes and rules. Readers should consult the actual language of the statutes and rules to answer specific questions. The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of Interior, Washington, D.C. 20240. This publication is available in alternative format upon request. Please call 608-267-3543 for more information.



HAST

Proj #18883

801 S. 70th St.  
West Allis

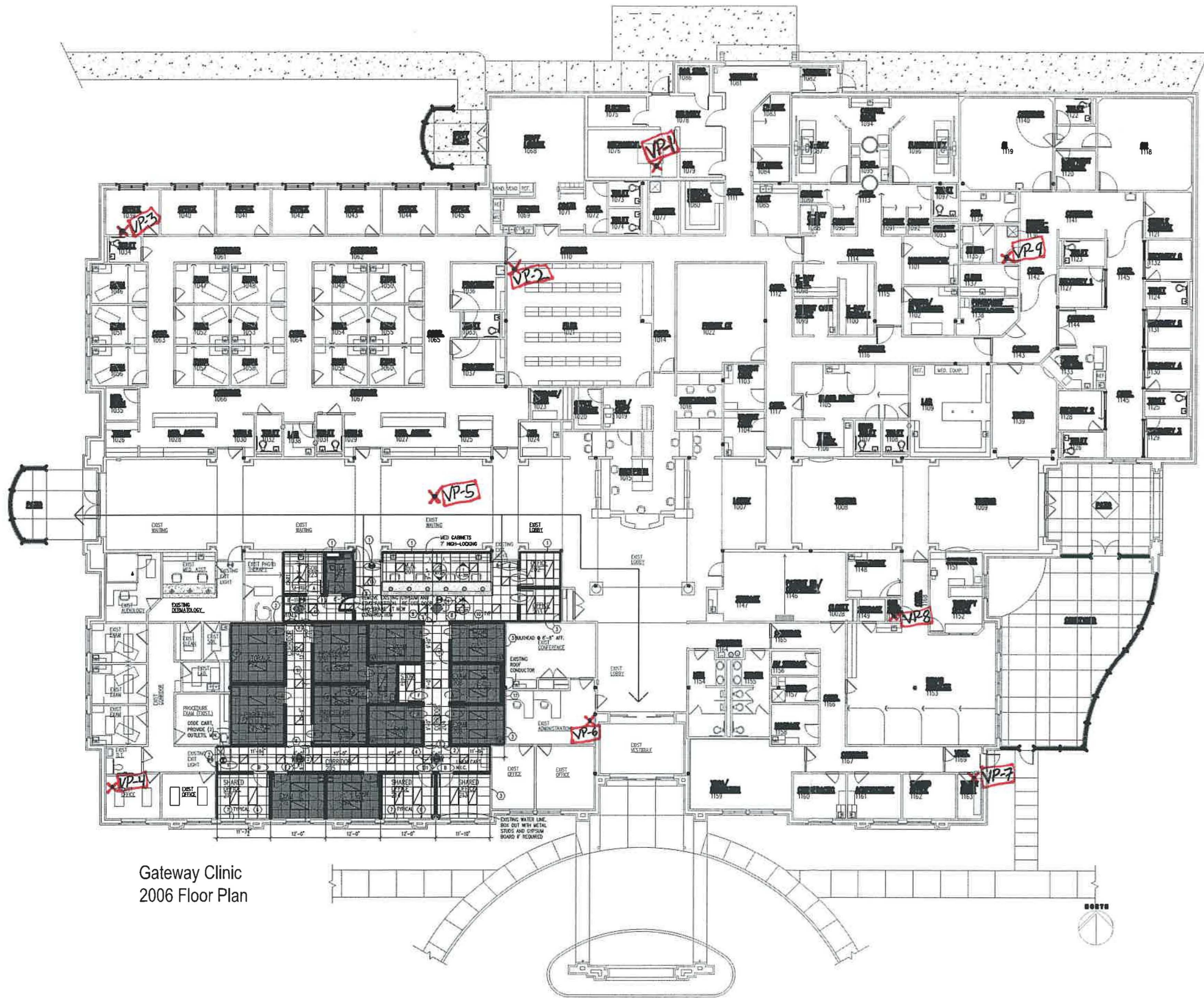


70th St



Gateway Clinic  
2006 Floor Plan





Gateway Clinic  
2006 Floor Plan

Vapor Sample Locations  
10/08/2019  
ESP

October 21, 2019

Steve Meer  
Sigma Environmental Services  
1300 W. Canal St.  
Milwaukee, WI 53233

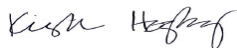
RE: Project: 18883 MPS-Vaughan Manufac  
Pace Project No.: 10495129

Dear Steve Meer:

Enclosed are the analytical results for sample(s) received by the laboratory on October 10, 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.

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

Sincerely,



Kirsten Hogberg  
kirsten.hogberg@pacelabs.com  
(612)607-1700  
Project Manager

Enclosures

cc: Ed Pencak, Sigma Group



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 18883 MPS-Vaughan Manufac  
Pace Project No.: 10495129

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### Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485  
A2LA Certification #: 2926.01  
Alabama Certification #: 40770  
Alaska Contaminated Sites Certification #: 17-009  
Alaska DW Certification #: MN00064  
Arizona Certification #: AZ0014  
Arkansas DW Certification #: MN00064  
Arkansas WW Certification #: 88-0680  
California Certification #: 2929  
CNMI Saipan Certification #: MP0003  
Colorado Certification #: MN00064  
Connecticut Certification #: PH-0256  
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137  
Florida Certification #: E87605  
Georgia Certification #: 959  
Guam EPA Certification #: MN00064  
Hawaii Certification #: MN00064  
Idaho Certification #: MN00064  
Illinois Certification #: 200011  
Indiana Certification #: C-MN-01  
Iowa Certification #: 368  
Kansas Certification #: E-10167  
Kentucky DW Certification #: 90062  
Kentucky WW Certification #: 90062  
Louisiana DEQ Certification #: 03086  
Louisiana DW Certification #: MN00064  
Maine Certification #: MN00064  
Maryland Certification #: 322  
Massachusetts Certification #: M-MN064  
Michigan Certification #: 9909  
Minnesota Certification #: 027-053-137

Minnesota Dept of Ag Certification #: via MN 027-053-137  
Minnesota Petrofund Certification #: 1240  
Mississippi Certification #: MN00064  
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: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10495129001	VP-1	Air	10/08/19 06:07	10/10/19 11:45
10495129002	VP-2	Air	10/08/19 06:59	10/10/19 11:45
10495129003	VP-3	Air	10/08/19 07:30	10/10/19 11:45
10495129004	VP-4	Air	10/08/19 08:17	10/10/19 11:45
10495129005	VP-5	Air	10/08/19 08:45	10/10/19 11:45
10495129006	VP-6	Air	10/08/19 09:13	10/10/19 11:45
10495129007	VP-7	Air	10/08/19 09:47	10/10/19 11:45
10495129008	VP-8	Air	10/08/19 10:12	10/10/19 11:45
10495129009	VP-9	Air	10/08/19 10:36	10/10/19 11:45

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### SAMPLE ANALYTE COUNT

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10495129001	VP-1	TO-15	MG2	61	PASI-M
10495129002	VP-2	TO-15	MG2	61	PASI-M
10495129003	VP-3	TO-15	MG2	61	PASI-M
10495129004	VP-4	TO-15	MG2	61	PASI-M
10495129005	VP-5	TO-15	MG2	61	PASI-M
10495129006	VP-6	TO-15	MG2	61	PASI-M
10495129007	VP-7	TO-15	MG2	61	PASI-M
10495129008	VP-8	TO-15	MG2	61	PASI-M
10495129009	VP-9	TO-15	MG2	61	PASI-M

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-1**      **Lab ID: 10495129001**      Collected: 10/08/19 06:07      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	27.6	ug/m3	3.7	1.9	1.55		10/18/19 20:19	67-64-1	
Benzene	0.68	ug/m3	0.50	0.24	1.55		10/18/19 20:19	71-43-2	
Benzyl chloride	<1.9	ug/m3	4.1	1.9	1.55		10/18/19 20:19	100-44-7	
Bromodichloromethane	<0.57	ug/m3	2.1	0.57	1.55		10/18/19 20:19	75-27-4	
Bromoform	<2.2	ug/m3	8.1	2.2	1.55		10/18/19 20:19	75-25-2	
Bromomethane	0.44J	ug/m3	1.2	0.35	1.55		10/18/19 20:19	74-83-9	
1,3-Butadiene	<0.20	ug/m3	0.70	0.20	1.55		10/18/19 20:19	106-99-0	
2-Butanone (MEK)	3.8J	ug/m3	4.6	0.57	1.55		10/18/19 20:19	78-93-3	
Carbon disulfide	0.69J	ug/m3	0.98	0.34	1.55		10/18/19 20:19	75-15-0	
Carbon tetrachloride	<0.66	ug/m3	2.0	0.66	1.55		10/18/19 20:19	56-23-5	
Chlorobenzene	<0.43	ug/m3	1.5	0.43	1.55		10/18/19 20:19	108-90-7	
Chloroethane	<0.40	ug/m3	0.83	0.40	1.55		10/18/19 20:19	75-00-3	
Chloroform	<0.30	ug/m3	0.77	0.30	1.55		10/18/19 20:19	67-66-3	
Chloromethane	<0.24	ug/m3	0.65	0.24	1.55		10/18/19 20:19	74-87-3	
Cyclohexane	2.5J	ug/m3	2.7	0.55	1.55		10/18/19 20:19	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.7	1.1	1.55		10/18/19 20:19	124-48-1	
1,2-Dibromoethane (EDB)	<0.57	ug/m3	1.2	0.57	1.55		10/18/19 20:19	106-93-4	
1,2-Dichlorobenzene	<0.77	ug/m3	1.9	0.77	1.55		10/18/19 20:19	95-50-1	
1,3-Dichlorobenzene	<0.90	ug/m3	1.9	0.90	1.55		10/18/19 20:19	541-73-1	
1,4-Dichlorobenzene	<1.6	ug/m3	4.7	1.6	1.55		10/18/19 20:19	106-46-7	
Dichlorodifluoromethane	2.7	ug/m3	1.6	0.45	1.55		10/18/19 20:19	75-71-8	
1,1-Dichloroethane	<0.35	ug/m3	1.3	0.35	1.55		10/18/19 20:19	75-34-3	
1,2-Dichloroethane	<0.23	ug/m3	0.64	0.23	1.55		10/18/19 20:19	107-06-2	
1,1-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.55		10/18/19 20:19	75-35-4	
cis-1,2-Dichloroethene	<0.34	ug/m3	1.2	0.34	1.55		10/18/19 20:19	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.55		10/18/19 20:19	156-60-5	
1,2-Dichloropropane	<0.36	ug/m3	1.5	0.36	1.55		10/18/19 20:19	78-87-5	
cis-1,3-Dichloropropene	<0.47	ug/m3	1.4	0.47	1.55		10/18/19 20:19	10061-01-5	
trans-1,3-Dichloropropene	<0.68	ug/m3	1.4	0.68	1.55		10/18/19 20:19	10061-02-6	
Dichlorotetrafluoroethane	<0.68	ug/m3	2.2	0.68	1.55		10/18/19 20:19	76-14-2	
Ethanol	128	ug/m3	3.0	1.3	1.55		10/18/19 20:19	64-17-5	
Ethyl acetate	<0.29	ug/m3	1.1	0.29	1.55		10/18/19 20:19	141-78-6	
Ethylbenzene	1.2J	ug/m3	1.4	0.47	1.55		10/18/19 20:19	100-41-4	
4-Ethyltoluene	<0.88	ug/m3	3.9	0.88	1.55		10/18/19 20:19	622-96-8	
n-Heptane	2.8	ug/m3	1.3	0.59	1.55		10/18/19 20:19	142-82-5	
Hexachloro-1,3-butadiene	<3.1	ug/m3	8.4	3.1	1.55		10/18/19 20:19	87-68-3	
n-Hexane	2.0	ug/m3	1.1	0.48	1.55		10/18/19 20:19	110-54-3	
2-Hexanone	<1.2	ug/m3	6.4	1.2	1.55		10/18/19 20:19	591-78-6	
Methylene Chloride	3.2J	ug/m3	5.5	1.9	1.55		10/18/19 20:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/m3	6.4	0.80	1.55		10/18/19 20:19	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/m3	5.7	1.0	1.55		10/18/19 20:19	1634-04-4	
Naphthalene	2.6J	ug/m3	4.1	2.0	1.55		10/18/19 20:19	91-20-3	
2-Propanol	38.0	ug/m3	3.9	1.1	1.55		10/18/19 20:19	67-63-0	
Propylene	<0.22	ug/m3	0.54	0.22	1.55		10/18/19 20:19	115-07-1	
Styrene	<0.53	ug/m3	1.3	0.53	1.55		10/18/19 20:19	100-42-5	
1,1,2,2-Tetrachloroethane	<0.48	ug/m3	1.1	0.48	1.55		10/18/19 20:19	79-34-5	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-1**      **Lab ID: 10495129001**      Collected: 10/08/19 06:07      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Tetrachloroethene	12.5	ug/m3	1.1	0.49	1.55		10/18/19 20:19	127-18-4	
Tetrahydrofuran	<0.40	ug/m3	0.93	0.40	1.55		10/18/19 20:19	109-99-9	
Toluene	2.7	ug/m3	1.2	0.54	1.55		10/18/19 20:19	108-88-3	
1,2,4-Trichlorobenzene	<5.8	ug/m3	11.7	5.8	1.55		10/18/19 20:19	120-82-1	
1,1,1-Trichloroethane	<0.48	ug/m3	1.7	0.48	1.55		10/18/19 20:19	71-55-6	
1,1,2-Trichloroethane	<0.38	ug/m3	0.86	0.38	1.55		10/18/19 20:19	79-00-5	
Trichloroethene	<0.39	ug/m3	0.85	0.39	1.55		10/18/19 20:19	79-01-6	
Trichlorofluoromethane	1.7J	ug/m3	1.8	0.57	1.55		10/18/19 20:19	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.87	ug/m3	2.4	0.87	1.55		10/18/19 20:19	76-13-1	
1,2,4-Trimethylbenzene	1.8	ug/m3	1.5	0.70	1.55		10/18/19 20:19	95-63-6	
1,3,5-Trimethylbenzene	<0.62	ug/m3	1.5	0.62	1.55		10/18/19 20:19	108-67-8	
Vinyl acetate	<0.42	ug/m3	1.1	0.42	1.55		10/18/19 20:19	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		10/18/19 20:19	75-01-4	
m&p-Xylene	4.5	ug/m3	2.7	1.1	1.55		10/18/19 20:19	179601-23-1	
o-Xylene	1.8	ug/m3	1.4	0.53	1.55		10/18/19 20:19	95-47-6	

**Sample: VP-2**      **Lab ID: 10495129002**      Collected: 10/08/19 06:59      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	186	ug/m3	3.7	1.9	1.55		10/18/19 20:48	67-64-1	
Benzene	<0.24	ug/m3	0.50	0.24	1.55		10/18/19 20:48	71-43-2	
Benzyl chloride	<1.9	ug/m3	4.1	1.9	1.55		10/18/19 20:48	100-44-7	
Bromodichloromethane	<0.57	ug/m3	2.1	0.57	1.55		10/18/19 20:48	75-27-4	
Bromoform	<2.2	ug/m3	8.1	2.2	1.55		10/18/19 20:48	75-25-2	
Bromomethane	<0.35	ug/m3	1.2	0.35	1.55		10/18/19 20:48	74-83-9	
1,3-Butadiene	<0.20	ug/m3	0.70	0.20	1.55		10/18/19 20:48	106-99-0	
2-Butanone (MEK)	14.5	ug/m3	4.6	0.57	1.55		10/18/19 20:48	78-93-3	
Carbon disulfide	<0.34	ug/m3	0.98	0.34	1.55		10/18/19 20:48	75-15-0	
Carbon tetrachloride	<0.66	ug/m3	2.0	0.66	1.55		10/18/19 20:48	56-23-5	
Chlorobenzene	<0.43	ug/m3	1.5	0.43	1.55		10/18/19 20:48	108-90-7	
Chloroethane	<0.40	ug/m3	0.83	0.40	1.55		10/18/19 20:48	75-00-3	
Chloroform	<0.30	ug/m3	0.77	0.30	1.55		10/18/19 20:48	67-66-3	
Chloromethane	<0.24	ug/m3	0.65	0.24	1.55		10/18/19 20:48	74-87-3	
Cyclohexane	<0.55	ug/m3	2.7	0.55	1.55		10/18/19 20:48	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.7	1.1	1.55		10/18/19 20:48	124-48-1	
1,2-Dibromoethane (EDB)	<0.57	ug/m3	1.2	0.57	1.55		10/18/19 20:48	106-93-4	
1,2-Dichlorobenzene	<0.77	ug/m3	1.9	0.77	1.55		10/18/19 20:48	95-50-1	
1,3-Dichlorobenzene	<0.90	ug/m3	1.9	0.90	1.55		10/18/19 20:48	541-73-1	
1,4-Dichlorobenzene	<1.6	ug/m3	4.7	1.6	1.55		10/18/19 20:48	106-46-7	
Dichlorodifluoromethane	2.9	ug/m3	1.6	0.45	1.55		10/18/19 20:48	75-71-8	
1,1-Dichloroethane	<0.35	ug/m3	1.3	0.35	1.55		10/18/19 20:48	75-34-3	
1,2-Dichloroethane	<0.23	ug/m3	0.64	0.23	1.55		10/18/19 20:48	107-06-2	

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-2**      **Lab ID: 10495129002**      Collected: 10/08/19 06:59      Received: 10/10/19 11:45      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		10/18/19 20:48	75-35-4	
cis-1,2-Dichloroethene	<0.34	ug/m3	1.2	0.34	1.55		10/18/19 20:48	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.55		10/18/19 20:48	156-60-5	
1,2-Dichloropropane	<0.36	ug/m3	1.5	0.36	1.55		10/18/19 20:48	78-87-5	
cis-1,3-Dichloropropene	<0.47	ug/m3	1.4	0.47	1.55		10/18/19 20:48	10061-01-5	
trans-1,3-Dichloropropene	<0.68	ug/m3	1.4	0.68	1.55		10/18/19 20:48	10061-02-6	
Dichlorotetrafluoroethane	<0.68	ug/m3	2.2	0.68	1.55		10/18/19 20:48	76-14-2	
Ethanol	302	ug/m3	3.0	1.3	1.55		10/18/19 20:48	64-17-5	
Ethyl acetate	<0.29	ug/m3	1.1	0.29	1.55		10/18/19 20:48	141-78-6	
Ethylbenzene	0.66J	ug/m3	1.4	0.47	1.55		10/18/19 20:48	100-41-4	
4-Ethyltoluene	<0.88	ug/m3	3.9	0.88	1.55		10/18/19 20:48	622-96-8	
n-Heptane	2.2	ug/m3	1.3	0.59	1.55		10/18/19 20:48	142-82-5	
Hexachloro-1,3-butadiene	<3.1	ug/m3	8.4	3.1	1.55		10/18/19 20:48	87-68-3	
n-Hexane	0.53J	ug/m3	1.1	0.48	1.55		10/18/19 20:48	110-54-3	
2-Hexanone	2.1J	ug/m3	6.4	1.2	1.55		10/18/19 20:48	591-78-6	
Methylene Chloride	3.3J	ug/m3	5.5	1.9	1.55		10/18/19 20:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	13.4	ug/m3	6.4	0.80	1.55		10/18/19 20:48	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/m3	5.7	1.0	1.55		10/18/19 20:48	1634-04-4	
Naphthalene	2.2J	ug/m3	4.1	2.0	1.55		10/18/19 20:48	91-20-3	
2-Propanol	339	ug/m3	3.9	1.1	1.55		10/18/19 20:48	67-63-0	
Propylene	<0.22	ug/m3	0.54	0.22	1.55		10/18/19 20:48	115-07-1	
Styrene	<0.53	ug/m3	1.3	0.53	1.55		10/18/19 20:48	100-42-5	
1,1,2,2-Tetrachloroethane	<0.48	ug/m3	1.1	0.48	1.55		10/18/19 20:48	79-34-5	
Tetrachloroethene	8.6	ug/m3	1.1	0.49	1.55		10/18/19 20:48	127-18-4	
Tetrahydrofuran	<0.40	ug/m3	0.93	0.40	1.55		10/18/19 20:48	109-99-9	
Toluene	1.5	ug/m3	1.2	0.54	1.55		10/18/19 20:48	108-88-3	
1,2,4-Trichlorobenzene	<5.8	ug/m3	11.7	5.8	1.55		10/18/19 20:48	120-82-1	
1,1,1-Trichloroethane	7.7	ug/m3	1.7	0.48	1.55		10/18/19 20:48	71-55-6	
1,1,2-Trichloroethane	<0.38	ug/m3	0.86	0.38	1.55		10/18/19 20:48	79-00-5	
Trichloroethene	1.7	ug/m3	0.85	0.39	1.55		10/18/19 20:48	79-01-6	
Trichlorofluoromethane	2.1	ug/m3	1.8	0.57	1.55		10/18/19 20:48	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.87	ug/m3	2.4	0.87	1.55		10/18/19 20:48	76-13-1	
1,2,4-Trimethylbenzene	1.2J	ug/m3	1.5	0.70	1.55		10/18/19 20:48	95-63-6	
1,3,5-Trimethylbenzene	<0.62	ug/m3	1.5	0.62	1.55		10/18/19 20:48	108-67-8	
Vinyl acetate	<0.42	ug/m3	1.1	0.42	1.55		10/18/19 20:48	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		10/18/19 20:48	75-01-4	
m&p-Xylene	3.0	ug/m3	2.7	1.1	1.55		10/18/19 20:48	179601-23-1	
o-Xylene	1.3J	ug/m3	1.4	0.53	1.55		10/18/19 20:48	95-47-6	

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-3**      **Lab ID: 10495129003**      Collected: 10/08/19 07:30      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	<b>58.3</b>	ug/m3	3.6	1.8	1.49		10/18/19 21:17	67-64-1	
Benzene	<b>1.4</b>	ug/m3	0.48	0.23	1.49		10/18/19 21:17	71-43-2	
Benzyl chloride	<b>&lt;1.8</b>	ug/m3	3.9	1.8	1.49		10/18/19 21:17	100-44-7	
Bromodichloromethane	<b>&lt;0.55</b>	ug/m3	2.0	0.55	1.49		10/18/19 21:17	75-27-4	
Bromoform	<b>&lt;2.1</b>	ug/m3	7.8	2.1	1.49		10/18/19 21:17	75-25-2	
Bromomethane	<b>&lt;0.34</b>	ug/m3	1.2	0.34	1.49		10/18/19 21:17	74-83-9	
1,3-Butadiene	<b>&lt;0.19</b>	ug/m3	0.67	0.19	1.49		10/18/19 21:17	106-99-0	
2-Butanone (MEK)	<b>2.2J</b>	ug/m3	4.5	0.55	1.49		10/18/19 21:17	78-93-3	
Carbon disulfide	<b>&lt;0.33</b>	ug/m3	0.94	0.33	1.49		10/18/19 21:17	75-15-0	
Carbon tetrachloride	<b>&lt;0.64</b>	ug/m3	1.9	0.64	1.49		10/18/19 21:17	56-23-5	
Chlorobenzene	<b>&lt;0.41</b>	ug/m3	1.4	0.41	1.49		10/18/19 21:17	108-90-7	
Chloroethane	<b>&lt;0.39</b>	ug/m3	0.80	0.39	1.49		10/18/19 21:17	75-00-3	
Chloroform	<b>&lt;0.29</b>	ug/m3	0.74	0.29	1.49		10/18/19 21:17	67-66-3	
Chloromethane	<b>&lt;0.23</b>	ug/m3	0.63	0.23	1.49		10/18/19 21:17	74-87-3	
Cyclohexane	<b>3.3</b>	ug/m3	2.6	0.53	1.49		10/18/19 21:17	110-82-7	
Dibromochloromethane	<b>&lt;1.1</b>	ug/m3	2.6	1.1	1.49		10/18/19 21:17	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;0.55</b>	ug/m3	1.2	0.55	1.49		10/18/19 21:17	106-93-4	
1,2-Dichlorobenzene	<b>&lt;0.74</b>	ug/m3	1.8	0.74	1.49		10/18/19 21:17	95-50-1	
1,3-Dichlorobenzene	<b>&lt;0.87</b>	ug/m3	1.8	0.87	1.49		10/18/19 21:17	541-73-1	
1,4-Dichlorobenzene	<b>&lt;1.5</b>	ug/m3	4.6	1.5	1.49		10/18/19 21:17	106-46-7	
Dichlorodifluoromethane	<b>2.7</b>	ug/m3	1.5	0.44	1.49		10/18/19 21:17	75-71-8	
1,1-Dichloroethane	<b>&lt;0.34</b>	ug/m3	1.2	0.34	1.49		10/18/19 21:17	75-34-3	
1,2-Dichloroethane	<b>&lt;0.22</b>	ug/m3	0.61	0.22	1.49		10/18/19 21:17	107-06-2	
1,1-Dichloroethene	<b>&lt;0.41</b>	ug/m3	1.2	0.41	1.49		10/18/19 21:17	75-35-4	
cis-1,2-Dichloroethene	<b>&lt;0.33</b>	ug/m3	1.2	0.33	1.49		10/18/19 21:17	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.42</b>	ug/m3	1.2	0.42	1.49		10/18/19 21:17	156-60-5	
1,2-Dichloropropane	<b>&lt;0.34</b>	ug/m3	1.4	0.34	1.49		10/18/19 21:17	78-87-5	
cis-1,3-Dichloropropene	<b>&lt;0.45</b>	ug/m3	1.4	0.45	1.49		10/18/19 21:17	10061-01-5	
trans-1,3-Dichloropropene	<b>&lt;0.66</b>	ug/m3	1.4	0.66	1.49		10/18/19 21:17	10061-02-6	
Dichlorotetrafluoroethane	<b>&lt;0.65</b>	ug/m3	2.1	0.65	1.49		10/18/19 21:17	76-14-2	
Ethanol	<b>319</b>	ug/m3	2.9	1.2	1.49		10/18/19 21:17	64-17-5	
Ethyl acetate	<b>&lt;0.28</b>	ug/m3	1.1	0.28	1.49		10/18/19 21:17	141-78-6	
Ethylbenzene	<b>2.4</b>	ug/m3	1.3	0.45	1.49		10/18/19 21:17	100-41-4	
4-Ethyltoluene	<b>&lt;0.85</b>	ug/m3	3.7	0.85	1.49		10/18/19 21:17	622-96-8	
n-Heptane	<b>6.9</b>	ug/m3	1.2	0.57	1.49		10/18/19 21:17	142-82-5	
Hexachloro-1,3-butadiene	<b>&lt;2.9</b>	ug/m3	8.1	2.9	1.49		10/18/19 21:17	87-68-3	
n-Hexane	<b>4.2</b>	ug/m3	1.1	0.46	1.49		10/18/19 21:17	110-54-3	
2-Hexanone	<b>&lt;1.1</b>	ug/m3	6.2	1.1	1.49		10/18/19 21:17	591-78-6	
Methylene Chloride	<b>2.1J</b>	ug/m3	5.3	1.8	1.49		10/18/19 21:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	<b>&lt;0.77</b>	ug/m3	6.2	0.77	1.49		10/18/19 21:17	108-10-1	
Methyl-tert-butyl ether	<b>&lt;0.99</b>	ug/m3	5.5	0.99	1.49		10/18/19 21:17	1634-04-4	
Naphthalene	<b>2.2J</b>	ug/m3	4.0	2.0	1.49		10/18/19 21:17	91-20-3	
2-Propanol	<b>348</b>	ug/m3	3.7	1.0	1.49		10/18/19 21:17	67-63-0	
Propylene	<b>&lt;0.21</b>	ug/m3	0.52	0.21	1.49		10/18/19 21:17	115-07-1	
Styrene	<b>&lt;0.51</b>	ug/m3	1.3	0.51	1.49		10/18/19 21:17	100-42-5	
1,1,2,2-Tetrachloroethane	<b>&lt;0.46</b>	ug/m3	1.0	0.46	1.49		10/18/19 21:17	79-34-5	

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### ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-3**      **Lab ID: 10495129003**      Collected: 10/08/19 07:30      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Tetrachloroethene	12.1	ug/m3	1.0	0.47	1.49		10/18/19 21:17	127-18-4	
Tetrahydrofuran	0.70J	ug/m3	0.89	0.39	1.49		10/18/19 21:17	109-99-9	
Toluene	6.3	ug/m3	1.1	0.52	1.49		10/18/19 21:17	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		10/18/19 21:17	120-82-1	
1,1,1-Trichloroethane	<0.46	ug/m3	1.7	0.46	1.49		10/18/19 21:17	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		10/18/19 21:17	79-00-5	
Trichloroethene	<0.38	ug/m3	0.81	0.38	1.49		10/18/19 21:17	79-01-6	
Trichlorofluoromethane	1.7	ug/m3	1.7	0.55	1.49		10/18/19 21:17	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		10/18/19 21:17	76-13-1	
1,2,4-Trimethylbenzene	2.5	ug/m3	1.5	0.67	1.49		10/18/19 21:17	95-63-6	
1,3,5-Trimethylbenzene	1.2J	ug/m3	1.5	0.59	1.49		10/18/19 21:17	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		10/18/19 21:17	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		10/18/19 21:17	75-01-4	
m&p-Xylene	6.5	ug/m3	2.6	1.0	1.49		10/18/19 21:17	179601-23-1	
o-Xylene	2.7	ug/m3	1.3	0.51	1.49		10/18/19 21:17	95-47-6	

**Sample: VP-4**      **Lab ID: 10495129004**      Collected: 10/08/19 08:17      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	43.0	ug/m3	3.6	1.8	1.49		10/18/19 21:46	67-64-1	
Benzene	1.7	ug/m3	0.48	0.23	1.49		10/18/19 21:46	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		10/18/19 21:46	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		10/18/19 21:46	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		10/18/19 21:46	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		10/18/19 21:46	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		10/18/19 21:46	106-99-0	
2-Butanone (MEK)	7.1	ug/m3	4.5	0.55	1.49		10/18/19 21:46	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.94	0.33	1.49		10/18/19 21:46	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		10/18/19 21:46	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		10/18/19 21:46	108-90-7	
Chloroethane	<0.39	ug/m3	0.80	0.39	1.49		10/18/19 21:46	75-00-3	
Chloroform	0.34J	ug/m3	0.74	0.29	1.49		10/18/19 21:46	67-66-3	
Chloromethane	<0.23	ug/m3	0.63	0.23	1.49		10/18/19 21:46	74-87-3	
Cyclohexane	2.5J	ug/m3	2.6	0.53	1.49		10/18/19 21:46	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		10/18/19 21:46	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		10/18/19 21:46	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		10/18/19 21:46	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		10/18/19 21:46	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		10/18/19 21:46	106-46-7	
Dichlorodifluoromethane	2.5	ug/m3	1.5	0.44	1.49		10/18/19 21:46	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.2	0.34	1.49		10/18/19 21:46	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		10/18/19 21:46	107-06-2	

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-4**      **Lab ID: 10495129004**      Collected: 10/08/19 08:17      Received: 10/10/19 11:45      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	<0.41	ug/m3	1.2	0.41	1.49		10/18/19 21:46	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		10/18/19 21:46	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		10/18/19 21:46	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		10/18/19 21:46	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		10/18/19 21:46	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		10/18/19 21:46	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		10/18/19 21:46	76-14-2	
Ethanol	267	ug/m3	2.9	1.2	1.49		10/18/19 21:46	64-17-5	
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		10/18/19 21:46	141-78-6	
Ethylbenzene	2.1	ug/m3	1.3	0.45	1.49		10/18/19 21:46	100-41-4	
4-Ethyltoluene	1.2J	ug/m3	3.7	0.85	1.49		10/18/19 21:46	622-96-8	
n-Heptane	6.0	ug/m3	1.2	0.57	1.49		10/18/19 21:46	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		10/18/19 21:46	87-68-3	
n-Hexane	4.0	ug/m3	1.1	0.46	1.49		10/18/19 21:46	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		10/18/19 21:46	591-78-6	
Methylene Chloride	2.6J	ug/m3	5.3	1.8	1.49		10/18/19 21:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		10/18/19 21:46	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		10/18/19 21:46	1634-04-4	
Naphthalene	2.4J	ug/m3	4.0	2.0	1.49		10/18/19 21:46	91-20-3	
2-Propanol	343	ug/m3	3.7	1.0	1.49		10/18/19 21:46	67-63-0	
Propylene	<0.21	ug/m3	0.52	0.21	1.49		10/18/19 21:46	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		10/18/19 21:46	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	ug/m3	1.0	0.46	1.49		10/18/19 21:46	79-34-5	
Tetrachloroethene	9.6	ug/m3	1.0	0.47	1.49		10/18/19 21:46	127-18-4	
Tetrahydrofuran	<0.39	ug/m3	0.89	0.39	1.49		10/18/19 21:46	109-99-9	
Toluene	4.6	ug/m3	1.1	0.52	1.49		10/18/19 21:46	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		10/18/19 21:46	120-82-1	
1,1,1-Trichloroethane	<0.46	ug/m3	1.7	0.46	1.49		10/18/19 21:46	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		10/18/19 21:46	79-00-5	
Trichloroethene	0.80J	ug/m3	0.81	0.38	1.49		10/18/19 21:46	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	1.7	0.55	1.49		10/18/19 21:46	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		10/18/19 21:46	76-13-1	
1,2,4-Trimethylbenzene	2.3	ug/m3	1.5	0.67	1.49		10/18/19 21:46	95-63-6	
1,3,5-Trimethylbenzene	1.1J	ug/m3	1.5	0.59	1.49		10/18/19 21:46	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		10/18/19 21:46	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		10/18/19 21:46	75-01-4	
m&p-Xylene	5.2	ug/m3	2.6	1.0	1.49		10/18/19 21:46	179601-23-1	
o-Xylene	2.3	ug/m3	1.3	0.51	1.49		10/18/19 21:46	95-47-6	

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-5**      **Lab ID: 10495129005**      Collected: 10/08/19 08:45      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	<b>29.6</b>	ug/m3	3.6	1.8	1.49		10/18/19 22:15	67-64-1	
Benzene	<b>&lt;0.23</b>	ug/m3	0.48	0.23	1.49		10/18/19 22:15	71-43-2	
Benzyl chloride	<b>&lt;1.8</b>	ug/m3	3.9	1.8	1.49		10/18/19 22:15	100-44-7	
Bromodichloromethane	<b>&lt;0.55</b>	ug/m3	2.0	0.55	1.49		10/18/19 22:15	75-27-4	
Bromoform	<b>&lt;2.1</b>	ug/m3	7.8	2.1	1.49		10/18/19 22:15	75-25-2	
Bromomethane	<b>&lt;0.34</b>	ug/m3	1.2	0.34	1.49		10/18/19 22:15	74-83-9	
1,3-Butadiene	<b>&lt;0.19</b>	ug/m3	0.67	0.19	1.49		10/18/19 22:15	106-99-0	
2-Butanone (MEK)	<b>4.2J</b>	ug/m3	4.5	0.55	1.49		10/18/19 22:15	78-93-3	
Carbon disulfide	<b>8.5</b>	ug/m3	0.94	0.33	1.49		10/18/19 22:15	75-15-0	
Carbon tetrachloride	<b>&lt;0.64</b>	ug/m3	1.9	0.64	1.49		10/18/19 22:15	56-23-5	
Chlorobenzene	<b>&lt;0.41</b>	ug/m3	1.4	0.41	1.49		10/18/19 22:15	108-90-7	
Chloroethane	<b>2.0</b>	ug/m3	0.80	0.39	1.49		10/18/19 22:15	75-00-3	
Chloroform	<b>0.72J</b>	ug/m3	0.74	0.29	1.49		10/18/19 22:15	67-66-3	
Chloromethane	<b>&lt;0.23</b>	ug/m3	0.63	0.23	1.49		10/18/19 22:15	74-87-3	
Cyclohexane	<b>&lt;0.53</b>	ug/m3	2.6	0.53	1.49		10/18/19 22:15	110-82-7	
Dibromochloromethane	<b>&lt;1.1</b>	ug/m3	2.6	1.1	1.49		10/18/19 22:15	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;0.55</b>	ug/m3	1.2	0.55	1.49		10/18/19 22:15	106-93-4	
1,2-Dichlorobenzene	<b>&lt;0.74</b>	ug/m3	1.8	0.74	1.49		10/18/19 22:15	95-50-1	
1,3-Dichlorobenzene	<b>&lt;0.87</b>	ug/m3	1.8	0.87	1.49		10/18/19 22:15	541-73-1	
1,4-Dichlorobenzene	<b>&lt;1.5</b>	ug/m3	4.6	1.5	1.49		10/18/19 22:15	106-46-7	
Dichlorodifluoromethane	<b>2.7</b>	ug/m3	1.5	0.44	1.49		10/18/19 22:15	75-71-8	
1,1-Dichloroethane	<b>0.58J</b>	ug/m3	1.2	0.34	1.49		10/18/19 22:15	75-34-3	
1,2-Dichloroethane	<b>&lt;0.22</b>	ug/m3	0.61	0.22	1.49		10/18/19 22:15	107-06-2	
1,1-Dichloroethene	<b>&lt;0.41</b>	ug/m3	1.2	0.41	1.49		10/18/19 22:15	75-35-4	
cis-1,2-Dichloroethene	<b>&lt;0.33</b>	ug/m3	1.2	0.33	1.49		10/18/19 22:15	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.42</b>	ug/m3	1.2	0.42	1.49		10/18/19 22:15	156-60-5	
1,2-Dichloropropane	<b>&lt;0.34</b>	ug/m3	1.4	0.34	1.49		10/18/19 22:15	78-87-5	
cis-1,3-Dichloropropene	<b>&lt;0.45</b>	ug/m3	1.4	0.45	1.49		10/18/19 22:15	10061-01-5	
trans-1,3-Dichloropropene	<b>&lt;0.66</b>	ug/m3	1.4	0.66	1.49		10/18/19 22:15	10061-02-6	
Dichlorotetrafluoroethane	<b>&lt;0.65</b>	ug/m3	2.1	0.65	1.49		10/18/19 22:15	76-14-2	
Ethanol	<b>93.1</b>	ug/m3	2.9	1.2	1.49		10/18/19 22:15	64-17-5	
Ethyl acetate	<b>&lt;0.28</b>	ug/m3	1.1	0.28	1.49		10/18/19 22:15	141-78-6	
Ethylbenzene	<b>0.83J</b>	ug/m3	1.3	0.45	1.49		10/18/19 22:15	100-41-4	
4-Ethyltoluene	<b>&lt;0.85</b>	ug/m3	3.7	0.85	1.49		10/18/19 22:15	622-96-8	
n-Heptane	<b>1.8</b>	ug/m3	1.2	0.57	1.49		10/18/19 22:15	142-82-5	
Hexachloro-1,3-butadiene	<b>&lt;2.9</b>	ug/m3	8.1	2.9	1.49		10/18/19 22:15	87-68-3	
n-Hexane	<b>0.98J</b>	ug/m3	1.1	0.46	1.49		10/18/19 22:15	110-54-3	
2-Hexanone	<b>&lt;1.1</b>	ug/m3	6.2	1.1	1.49		10/18/19 22:15	591-78-6	
Methylene Chloride	<b>2.9J</b>	ug/m3	5.3	1.8	1.49		10/18/19 22:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	<b>&lt;0.77</b>	ug/m3	6.2	0.77	1.49		10/18/19 22:15	108-10-1	
Methyl-tert-butyl ether	<b>&lt;0.99</b>	ug/m3	5.5	0.99	1.49		10/18/19 22:15	1634-04-4	
Naphthalene	<b>2.1J</b>	ug/m3	4.0	2.0	1.49		10/18/19 22:15	91-20-3	
2-Propanol	<b>35.5</b>	ug/m3	3.7	1.0	1.49		10/18/19 22:15	67-63-0	
Propylene	<b>&lt;0.21</b>	ug/m3	0.52	0.21	1.49		10/18/19 22:15	115-07-1	
Styrene	<b>&lt;0.51</b>	ug/m3	1.3	0.51	1.49		10/18/19 22:15	100-42-5	
1,1,2,2-Tetrachloroethane	<b>&lt;0.46</b>	ug/m3	1.0	0.46	1.49		10/18/19 22:15	79-34-5	

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### ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-5**      **Lab ID: 10495129005**      Collected: 10/08/19 08:45      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Tetrachloroethene	8.2	ug/m3	1.0	0.47	1.49		10/18/19 22:15	127-18-4	
Tetrahydrofuran	<0.39	ug/m3	0.89	0.39	1.49		10/18/19 22:15	109-99-9	
Toluene	1.9	ug/m3	1.1	0.52	1.49		10/18/19 22:15	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		10/18/19 22:15	120-82-1	
1,1,1-Trichloroethane	27.3	ug/m3	1.7	0.46	1.49		10/18/19 22:15	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		10/18/19 22:15	79-00-5	
Trichloroethene	3.1	ug/m3	0.81	0.38	1.49		10/18/19 22:15	79-01-6	
Trichlorofluoromethane	1.7J	ug/m3	1.7	0.55	1.49		10/18/19 22:15	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		10/18/19 22:15	76-13-1	
1,2,4-Trimethylbenzene	1.3J	ug/m3	1.5	0.67	1.49		10/18/19 22:15	95-63-6	
1,3,5-Trimethylbenzene	<0.59	ug/m3	1.5	0.59	1.49		10/18/19 22:15	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		10/18/19 22:15	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		10/18/19 22:15	75-01-4	
m&p-Xylene	3.0	ug/m3	2.6	1.0	1.49		10/18/19 22:15	179601-23-1	
o-Xylene	1.3J	ug/m3	1.3	0.51	1.49		10/18/19 22:15	95-47-6	

**Sample: VP-6**      **Lab ID: 10495129006**      Collected: 10/08/19 09:13      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	44.6	ug/m3	3.6	1.8	1.49		10/18/19 22:44	67-64-1	
Benzene	0.72	ug/m3	0.48	0.23	1.49		10/18/19 22:44	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		10/18/19 22:44	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		10/18/19 22:44	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		10/18/19 22:44	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		10/18/19 22:44	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		10/18/19 22:44	106-99-0	
2-Butanone (MEK)	2.9J	ug/m3	4.5	0.55	1.49		10/18/19 22:44	78-93-3	
Carbon disulfide	0.44J	ug/m3	0.94	0.33	1.49		10/18/19 22:44	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		10/18/19 22:44	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		10/18/19 22:44	108-90-7	
Chloroethane	<0.39	ug/m3	0.80	0.39	1.49		10/18/19 22:44	75-00-3	
Chloroform	1.1	ug/m3	0.74	0.29	1.49		10/18/19 22:44	67-66-3	
Chloromethane	<0.23	ug/m3	0.63	0.23	1.49		10/18/19 22:44	74-87-3	
Cyclohexane	<0.53	ug/m3	2.6	0.53	1.49		10/18/19 22:44	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		10/18/19 22:44	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		10/18/19 22:44	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		10/18/19 22:44	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		10/18/19 22:44	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		10/18/19 22:44	106-46-7	
Dichlorodifluoromethane	2.7	ug/m3	1.5	0.44	1.49		10/18/19 22:44	75-71-8	
1,1-Dichloroethane	3.1	ug/m3	1.2	0.34	1.49		10/18/19 22:44	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		10/18/19 22:44	107-06-2	

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-6**      **Lab ID: 10495129006**      Collected: 10/08/19 09:13      Received: 10/10/19 11:45      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	<0.41	ug/m3	1.2	0.41	1.49		10/18/19 22:44	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		10/18/19 22:44	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		10/18/19 22:44	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		10/18/19 22:44	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		10/18/19 22:44	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		10/18/19 22:44	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		10/18/19 22:44	76-14-2	
Ethanol	245	ug/m3	2.9	1.2	1.49		10/18/19 22:44	64-17-5	
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		10/18/19 22:44	141-78-6	
Ethylbenzene	1.5	ug/m3	1.3	0.45	1.49		10/18/19 22:44	100-41-4	
4-Ethyltoluene	<0.85	ug/m3	3.7	0.85	1.49		10/18/19 22:44	622-96-8	
n-Heptane	2.8	ug/m3	1.2	0.57	1.49		10/18/19 22:44	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		10/18/19 22:44	87-68-3	
n-Hexane	2.1	ug/m3	1.1	0.46	1.49		10/18/19 22:44	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		10/18/19 22:44	591-78-6	
Methylene Chloride	2.8J	ug/m3	5.3	1.8	1.49		10/18/19 22:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		10/18/19 22:44	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		10/18/19 22:44	1634-04-4	
Naphthalene	<2.0	ug/m3	4.0	2.0	1.49		10/18/19 22:44	91-20-3	
2-Propanol	355	ug/m3	3.7	1.0	1.49		10/18/19 22:44	67-63-0	
Propylene	<0.21	ug/m3	0.52	0.21	1.49		10/18/19 22:44	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		10/18/19 22:44	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	ug/m3	1.0	0.46	1.49		10/18/19 22:44	79-34-5	
Tetrachloroethene	7.5	ug/m3	1.0	0.47	1.49		10/18/19 22:44	127-18-4	
Tetrahydrofuran	<0.39	ug/m3	0.89	0.39	1.49		10/18/19 22:44	109-99-9	
Toluene	3.4	ug/m3	1.1	0.52	1.49		10/18/19 22:44	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		10/18/19 22:44	120-82-1	
1,1,1-Trichloroethane	35.0	ug/m3	1.7	0.46	1.49		10/18/19 22:44	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		10/18/19 22:44	79-00-5	
Trichloroethene	16.2	ug/m3	0.81	0.38	1.49		10/18/19 22:44	79-01-6	
Trichlorofluoromethane	<0.55	ug/m3	1.7	0.55	1.49		10/18/19 22:44	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		10/18/19 22:44	76-13-1	
1,2,4-Trimethylbenzene	1.6	ug/m3	1.5	0.67	1.49		10/18/19 22:44	95-63-6	
1,3,5-Trimethylbenzene	0.83J	ug/m3	1.5	0.59	1.49		10/18/19 22:44	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		10/18/19 22:44	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		10/18/19 22:44	75-01-4	
m&p-Xylene	3.1	ug/m3	2.6	1.0	1.49		10/18/19 22:44	179601-23-1	
o-Xylene	1.3J	ug/m3	1.3	0.51	1.49		10/18/19 22:44	95-47-6	

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-7**      **Lab ID: 10495129007**      Collected: 10/08/19 09:47      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	<b>81.6</b>	ug/m3	3.7	1.8	1.52		10/18/19 23:13	67-64-1	
Benzene	<b>0.33J</b>	ug/m3	0.49	0.23	1.52		10/18/19 23:13	71-43-2	
Benzyl chloride	<b>&lt;1.8</b>	ug/m3	4.0	1.8	1.52		10/18/19 23:13	100-44-7	
Bromodichloromethane	<b>&lt;0.56</b>	ug/m3	2.1	0.56	1.52		10/18/19 23:13	75-27-4	
Bromoform	<b>&lt;2.2</b>	ug/m3	8.0	2.2	1.52		10/18/19 23:13	75-25-2	
Bromomethane	<b>&lt;0.35</b>	ug/m3	1.2	0.35	1.52		10/18/19 23:13	74-83-9	
1,3-Butadiene	<b>&lt;0.19</b>	ug/m3	0.68	0.19	1.52		10/18/19 23:13	106-99-0	
2-Butanone (MEK)	<b>14.4</b>	ug/m3	4.6	0.56	1.52		10/18/19 23:13	78-93-3	
Carbon disulfide	<b>&lt;0.33</b>	ug/m3	0.96	0.33	1.52		10/18/19 23:13	75-15-0	
Carbon tetrachloride	<b>&lt;0.65</b>	ug/m3	1.9	0.65	1.52		10/18/19 23:13	56-23-5	
Chlorobenzene	<b>&lt;0.42</b>	ug/m3	1.4	0.42	1.52		10/18/19 23:13	108-90-7	
Chloroethane	<b>&lt;0.40</b>	ug/m3	0.81	0.40	1.52		10/18/19 23:13	75-00-3	
Chloroform	<b>&lt;0.30</b>	ug/m3	0.75	0.30	1.52		10/18/19 23:13	67-66-3	
Chloromethane	<b>&lt;0.24</b>	ug/m3	0.64	0.24	1.52		10/18/19 23:13	74-87-3	
Cyclohexane	<b>&lt;0.54</b>	ug/m3	2.7	0.54	1.52		10/18/19 23:13	110-82-7	
Dibromochloromethane	<b>&lt;1.1</b>	ug/m3	2.6	1.1	1.52		10/18/19 23:13	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;0.56</b>	ug/m3	1.2	0.56	1.52		10/18/19 23:13	106-93-4	
1,2-Dichlorobenzene	<b>&lt;0.76</b>	ug/m3	1.9	0.76	1.52		10/18/19 23:13	95-50-1	
1,3-Dichlorobenzene	<b>&lt;0.88</b>	ug/m3	1.9	0.88	1.52		10/18/19 23:13	541-73-1	
1,4-Dichlorobenzene	<b>&lt;1.5</b>	ug/m3	4.7	1.5	1.52		10/18/19 23:13	106-46-7	
Dichlorodifluoromethane	<b>2.8</b>	ug/m3	1.5	0.45	1.52		10/18/19 23:13	75-71-8	
1,1-Dichloroethane	<b>&lt;0.34</b>	ug/m3	1.3	0.34	1.52		10/18/19 23:13	75-34-3	
1,2-Dichloroethane	<b>&lt;0.23</b>	ug/m3	0.62	0.23	1.52		10/18/19 23:13	107-06-2	
1,1-Dichloroethene	<b>&lt;0.42</b>	ug/m3	1.2	0.42	1.52		10/18/19 23:13	75-35-4	
cis-1,2-Dichloroethene	<b>&lt;0.33</b>	ug/m3	1.2	0.33	1.52		10/18/19 23:13	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.43</b>	ug/m3	1.2	0.43	1.52		10/18/19 23:13	156-60-5	
1,2-Dichloropropane	<b>&lt;0.35</b>	ug/m3	1.4	0.35	1.52		10/18/19 23:13	78-87-5	
cis-1,3-Dichloropropene	<b>&lt;0.46</b>	ug/m3	1.4	0.46	1.52		10/18/19 23:13	10061-01-5	
trans-1,3-Dichloropropene	<b>&lt;0.67</b>	ug/m3	1.4	0.67	1.52		10/18/19 23:13	10061-02-6	
Dichlorotetrafluoroethane	<b>&lt;0.66</b>	ug/m3	2.2	0.66	1.52		10/18/19 23:13	76-14-2	
Ethanol	<b>96.1</b>	ug/m3	2.9	1.2	1.52		10/18/19 23:13	64-17-5	
Ethyl acetate	<b>&lt;0.29</b>	ug/m3	1.1	0.29	1.52		10/18/19 23:13	141-78-6	
Ethylbenzene	<b>0.66J</b>	ug/m3	1.3	0.46	1.52		10/18/19 23:13	100-41-4	
4-Ethyltoluene	<b>&lt;0.87</b>	ug/m3	3.8	0.87	1.52		10/18/19 23:13	622-96-8	
n-Heptane	<b>&lt;0.58</b>	ug/m3	1.3	0.58	1.52		10/18/19 23:13	142-82-5	
Hexachloro-1,3-butadiene	<b>&lt;3.0</b>	ug/m3	8.2	3.0	1.52		10/18/19 23:13	87-68-3	
n-Hexane	<b>1.6</b>	ug/m3	1.1	0.47	1.52		10/18/19 23:13	110-54-3	
2-Hexanone	<b>&lt;1.1</b>	ug/m3	6.3	1.1	1.52		10/18/19 23:13	591-78-6	
Methylene Chloride	<b>5.7</b>	ug/m3	5.4	1.8	1.52		10/18/19 23:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	<b>&lt;0.79</b>	ug/m3	6.3	0.79	1.52		10/18/19 23:13	108-10-1	
Methyl-tert-butyl ether	<b>&lt;1.0</b>	ug/m3	5.6	1.0	1.52		10/18/19 23:13	1634-04-4	
Naphthalene	<b>&lt;2.0</b>	ug/m3	4.0	2.0	1.52		10/18/19 23:13	91-20-3	
2-Propanol	<b>59.9</b>	ug/m3	3.8	1.1	1.52		10/18/19 23:13	67-63-0	
Propylene	<b>&lt;0.21</b>	ug/m3	0.53	0.21	1.52		10/18/19 23:13	115-07-1	
Styrene	<b>&lt;0.52</b>	ug/m3	1.3	0.52	1.52		10/18/19 23:13	100-42-5	
1,1,2,2-Tetrachloroethane	<b>&lt;0.47</b>	ug/m3	1.1	0.47	1.52		10/18/19 23:13	79-34-5	

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### ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

Sample: VP-7 Lab ID: 10495129007 Collected: 10/08/19 09:47 Received: 10/10/19 11:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Tetrachloroethene	4.4	ug/m3	1.0	0.48	1.52		10/18/19 23:13	127-18-4	
Tetrahydrofuran	<0.40	ug/m3	0.91	0.40	1.52		10/18/19 23:13	109-99-9	
Toluene	1.7	ug/m3	1.2	0.53	1.52		10/18/19 23:13	108-88-3	
1,2,4-Trichlorobenzene	<5.7	ug/m3	11.5	5.7	1.52		10/18/19 23:13	120-82-1	
1,1,1-Trichloroethane	0.60J	ug/m3	1.7	0.47	1.52		10/18/19 23:13	71-55-6	
1,1,2-Trichloroethane	<0.37	ug/m3	0.84	0.37	1.52		10/18/19 23:13	79-00-5	
Trichloroethene	0.96	ug/m3	0.83	0.38	1.52		10/18/19 23:13	79-01-6	
Trichlorofluoromethane	1.6J	ug/m3	1.7	0.56	1.52		10/18/19 23:13	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.86	ug/m3	2.4	0.86	1.52		10/18/19 23:13	76-13-1	
1,2,4-Trimethylbenzene	1.0J	ug/m3	1.5	0.69	1.52		10/18/19 23:13	95-63-6	
1,3,5-Trimethylbenzene	<0.61	ug/m3	1.5	0.61	1.52		10/18/19 23:13	108-67-8	
Vinyl acetate	<0.41	ug/m3	1.1	0.41	1.52		10/18/19 23:13	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.40	0.19	1.52		10/18/19 23:13	75-01-4	
m&p-Xylene	2.0J	ug/m3	2.7	1.1	1.52		10/18/19 23:13	179601-23-1	
o-Xylene	0.83J	ug/m3	1.3	0.52	1.52		10/18/19 23:13	95-47-6	

Sample: VP-8 Lab ID: 10495129008 Collected: 10/08/19 10:12 Received: 10/10/19 11:45 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Acetone	97.5	ug/m3	3.4	1.7	1.41		10/18/19 23:42	67-64-1	
Benzene	1.9	ug/m3	0.46	0.22	1.41		10/18/19 23:42	71-43-2	
Benzyl chloride	<1.7	ug/m3	3.7	1.7	1.41		10/18/19 23:42	100-44-7	
Bromodichloromethane	<0.52	ug/m3	1.9	0.52	1.41		10/18/19 23:42	75-27-4	
Bromoform	<2.0	ug/m3	7.4	2.0	1.41		10/18/19 23:42	75-25-2	
Bromomethane	<0.32	ug/m3	1.1	0.32	1.41		10/18/19 23:42	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.63	0.18	1.41		10/18/19 23:42	106-99-0	
2-Butanone (MEK)	5.0	ug/m3	4.2	0.52	1.41		10/18/19 23:42	78-93-3	
Carbon disulfide	<0.31	ug/m3	0.89	0.31	1.41		10/18/19 23:42	75-15-0	
Carbon tetrachloride	<0.60	ug/m3	1.8	0.60	1.41		10/18/19 23:42	56-23-5	
Chlorobenzene	<0.39	ug/m3	1.3	0.39	1.41		10/18/19 23:42	108-90-7	
Chloroethane	<0.37	ug/m3	0.76	0.37	1.41		10/18/19 23:42	75-00-3	
Chloroform	1.2	ug/m3	0.70	0.28	1.41		10/18/19 23:42	67-66-3	
Chloromethane	<0.22	ug/m3	0.59	0.22	1.41		10/18/19 23:42	74-87-3	
Cyclohexane	3.2	ug/m3	2.5	0.50	1.41		10/18/19 23:42	110-82-7	
Dibromochloromethane	<1.0	ug/m3	2.4	1.0	1.41		10/18/19 23:42	124-48-1	
1,2-Dibromoethane (EDB)	<0.52	ug/m3	1.1	0.52	1.41		10/18/19 23:42	106-93-4	
1,2-Dichlorobenzene	<0.70	ug/m3	1.7	0.70	1.41		10/18/19 23:42	95-50-1	
1,3-Dichlorobenzene	<0.82	ug/m3	1.7	0.82	1.41		10/18/19 23:42	541-73-1	
1,4-Dichlorobenzene	<1.4	ug/m3	4.3	1.4	1.41		10/18/19 23:42	106-46-7	
Dichlorodifluoromethane	2.7	ug/m3	1.4	0.41	1.41		10/18/19 23:42	75-71-8	
1,1-Dichloroethane	10.7	ug/m3	1.2	0.32	1.41		10/18/19 23:42	75-34-3	
1,2-Dichloroethane	<0.21	ug/m3	0.58	0.21	1.41		10/18/19 23:42	107-06-2	

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-8**      **Lab ID: 10495129008**      Collected: 10/08/19 10:12      Received: 10/10/19 11:45      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	<0.39	ug/m3	1.1	0.39	1.41		10/18/19 23:42	75-35-4	
cis-1,2-Dichloroethene	9.0	ug/m3	1.1	0.31	1.41		10/18/19 23:42	156-59-2	
trans-1,2-Dichloroethene	<0.40	ug/m3	1.1	0.40	1.41		10/18/19 23:42	156-60-5	
1,2-Dichloropropane	<0.32	ug/m3	1.3	0.32	1.41		10/18/19 23:42	78-87-5	
cis-1,3-Dichloropropene	<0.43	ug/m3	1.3	0.43	1.41		10/18/19 23:42	10061-01-5	
trans-1,3-Dichloropropene	<0.62	ug/m3	1.3	0.62	1.41		10/18/19 23:42	10061-02-6	
Dichlorotetrafluoroethane	<0.62	ug/m3	2.0	0.62	1.41		10/18/19 23:42	76-14-2	
Ethanol	225	ug/m3	2.7	1.1	1.41		10/18/19 23:42	64-17-5	
Ethyl acetate	<0.27	ug/m3	1.0	0.27	1.41		10/18/19 23:42	141-78-6	
Ethylbenzene	3.1	ug/m3	1.2	0.43	1.41		10/18/19 23:42	100-41-4	
4-Ethyltoluene	1.3J	ug/m3	3.5	0.80	1.41		10/18/19 23:42	622-96-8	
n-Heptane	5.0	ug/m3	1.2	0.54	1.41		10/18/19 23:42	142-82-5	
Hexachloro-1,3-butadiene	<2.8	ug/m3	7.6	2.8	1.41		10/18/19 23:42	87-68-3	
n-Hexane	4.6	ug/m3	1.0	0.44	1.41		10/18/19 23:42	110-54-3	
2-Hexanone	<1.1	ug/m3	5.9	1.1	1.41		10/18/19 23:42	591-78-6	
Methylene Chloride	2.3J	ug/m3	5.0	1.7	1.41		10/18/19 23:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.73	ug/m3	5.9	0.73	1.41		10/18/19 23:42	108-10-1	
Methyl-tert-butyl ether	<0.93	ug/m3	5.2	0.93	1.41		10/18/19 23:42	1634-04-4	
Naphthalene	2.1J	ug/m3	3.8	1.8	1.41		10/18/19 23:42	91-20-3	
2-Propanol	63.9	ug/m3	3.5	0.98	1.41		10/18/19 23:42	67-63-0	
Propylene	<0.20	ug/m3	0.49	0.20	1.41		10/18/19 23:42	115-07-1	
Styrene	<0.49	ug/m3	1.2	0.49	1.41		10/18/19 23:42	100-42-5	
1,1,2,2-Tetrachloroethane	<0.44	ug/m3	0.98	0.44	1.41		10/18/19 23:42	79-34-5	
Tetrachloroethene	17.8	ug/m3	0.97	0.44	1.41		10/18/19 23:42	127-18-4	
Tetrahydrofuran	<0.37	ug/m3	0.85	0.37	1.41		10/18/19 23:42	109-99-9	
Toluene	6.8	ug/m3	1.1	0.49	1.41		10/18/19 23:42	108-88-3	
1,2,4-Trichlorobenzene	<5.2	ug/m3	10.6	5.2	1.41		10/18/19 23:42	120-82-1	
1,1,1-Trichloroethane	175	ug/m3	1.6	0.44	1.41		10/18/19 23:42	71-55-6	
1,1,2-Trichloroethane	<0.34	ug/m3	0.78	0.34	1.41		10/18/19 23:42	79-00-5	
Trichloroethene	58.8	ug/m3	0.77	0.36	1.41		10/18/19 23:42	79-01-6	
Trichlorofluoromethane	1.9	ug/m3	1.6	0.52	1.41		10/18/19 23:42	75-69-4	
1,1,2-Trichlorotrifluoroethane	0.82J	ug/m3	2.2	0.80	1.41		10/18/19 23:42	76-13-1	
1,2,4-Trimethylbenzene	3.3	ug/m3	1.4	0.64	1.41		10/18/19 23:42	95-63-6	
1,3,5-Trimethylbenzene	1.4	ug/m3	1.4	0.56	1.41		10/18/19 23:42	108-67-8	
Vinyl acetate	<0.38	ug/m3	1.0	0.38	1.41		10/18/19 23:42	108-05-4	
Vinyl chloride	<0.18	ug/m3	0.37	0.18	1.41		10/18/19 23:42	75-01-4	
m&p-Xylene	5.3	ug/m3	2.5	0.99	1.41		10/18/19 23:42	179601-23-1	
o-Xylene	2.3	ug/m3	1.2	0.49	1.41		10/18/19 23:42	95-47-6	

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-9**      **Lab ID: 10495129009**      Collected: 10/08/19 10:36      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	65.8	ug/m3	3.5	1.7	1.44		10/19/19 00:11	67-64-1	
Benzene	1.4	ug/m3	0.47	0.22	1.44		10/19/19 00:11	71-43-2	
Benzyl chloride	<1.7	ug/m3	3.8	1.7	1.44		10/19/19 00:11	100-44-7	
Bromodichloromethane	<0.53	ug/m3	2.0	0.53	1.44		10/19/19 00:11	75-27-4	
Bromoform	<2.0	ug/m3	7.6	2.0	1.44		10/19/19 00:11	75-25-2	
Bromomethane	<0.33	ug/m3	1.1	0.33	1.44		10/19/19 00:11	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.65	0.18	1.44		10/19/19 00:11	106-99-0	
2-Butanone (MEK)	2.8J	ug/m3	4.3	0.53	1.44		10/19/19 00:11	78-93-3	
Carbon disulfide	<0.32	ug/m3	0.91	0.32	1.44		10/19/19 00:11	75-15-0	
Carbon tetrachloride	<0.62	ug/m3	1.8	0.62	1.44		10/19/19 00:11	56-23-5	
Chlorobenzene	<0.40	ug/m3	1.3	0.40	1.44		10/19/19 00:11	108-90-7	
Chloroethane	<0.37	ug/m3	0.77	0.37	1.44		10/19/19 00:11	75-00-3	
Chloroform	<0.28	ug/m3	0.71	0.28	1.44		10/19/19 00:11	67-66-3	
Chloromethane	1.1	ug/m3	0.60	0.22	1.44		10/19/19 00:11	74-87-3	
Cyclohexane	2.9	ug/m3	2.5	0.51	1.44		10/19/19 00:11	110-82-7	
Dibromochloromethane	<1.0	ug/m3	2.5	1.0	1.44		10/19/19 00:11	124-48-1	
1,2-Dibromoethane (EDB)	<0.53	ug/m3	1.1	0.53	1.44		10/19/19 00:11	106-93-4	
1,2-Dichlorobenzene	<0.72	ug/m3	1.8	0.72	1.44		10/19/19 00:11	95-50-1	
1,3-Dichlorobenzene	<0.84	ug/m3	1.8	0.84	1.44		10/19/19 00:11	541-73-1	
1,4-Dichlorobenzene	<1.4	ug/m3	4.4	1.4	1.44		10/19/19 00:11	106-46-7	
Dichlorodifluoromethane	2.7	ug/m3	1.5	0.42	1.44		10/19/19 00:11	75-71-8	
1,1-Dichloroethane	<0.32	ug/m3	1.2	0.32	1.44		10/19/19 00:11	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.59	0.22	1.44		10/19/19 00:11	107-06-2	
1,1-Dichloroethene	<0.39	ug/m3	1.2	0.39	1.44		10/19/19 00:11	75-35-4	
cis-1,2-Dichloroethene	<0.32	ug/m3	1.2	0.32	1.44		10/19/19 00:11	156-59-2	
trans-1,2-Dichloroethene	<0.41	ug/m3	1.2	0.41	1.44		10/19/19 00:11	156-60-5	
1,2-Dichloropropane	<0.33	ug/m3	1.4	0.33	1.44		10/19/19 00:11	78-87-5	
cis-1,3-Dichloropropene	<0.44	ug/m3	1.3	0.44	1.44		10/19/19 00:11	10061-01-5	
trans-1,3-Dichloropropene	<0.63	ug/m3	1.3	0.63	1.44		10/19/19 00:11	10061-02-6	
Dichlorotetrafluoroethane	<0.63	ug/m3	2.0	0.63	1.44		10/19/19 00:11	76-14-2	
Ethanol	81.5	ug/m3	2.8	1.2	1.44		10/19/19 00:11	64-17-5	
Ethyl acetate	<0.27	ug/m3	1.1	0.27	1.44		10/19/19 00:11	141-78-6	
Ethylbenzene	1.4	ug/m3	1.3	0.44	1.44		10/19/19 00:11	100-41-4	
4-Ethyltoluene	<0.82	ug/m3	3.6	0.82	1.44		10/19/19 00:11	622-96-8	
n-Heptane	3.6	ug/m3	1.2	0.55	1.44		10/19/19 00:11	142-82-5	
Hexachloro-1,3-butadiene	<2.8	ug/m3	7.8	2.8	1.44		10/19/19 00:11	87-68-3	
n-Hexane	4.1	ug/m3	1.0	0.45	1.44		10/19/19 00:11	110-54-3	
2-Hexanone	<1.1	ug/m3	6.0	1.1	1.44		10/19/19 00:11	591-78-6	
Methylene Chloride	2.3J	ug/m3	5.1	1.7	1.44		10/19/19 00:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.75	ug/m3	6.0	0.75	1.44		10/19/19 00:11	108-10-1	
Methyl-tert-butyl ether	<0.95	ug/m3	5.3	0.95	1.44		10/19/19 00:11	1634-04-4	
Naphthalene	2.0J	ug/m3	3.8	1.9	1.44		10/19/19 00:11	91-20-3	
2-Propanol	51.4	ug/m3	3.6	1.0	1.44		10/19/19 00:11	67-63-0	
Propylene	<0.20	ug/m3	0.50	0.20	1.44		10/19/19 00:11	115-07-1	
Styrene	<0.50	ug/m3	1.2	0.50	1.44		10/19/19 00:11	100-42-5	
1,1,2,2-Tetrachloroethane	<0.44	ug/m3	1.0	0.44	1.44		10/19/19 00:11	79-34-5	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

**Sample: VP-9**      **Lab ID: 10495129009**      Collected: 10/08/19 10:36      Received: 10/10/19 11:45      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Tetrachloroethene	<b>7.5</b>	ug/m3	0.99	0.45	1.44		10/19/19 00:11	127-18-4	
Tetrahydrofuran	<b>&lt;0.38</b>	ug/m3	0.86	0.38	1.44		10/19/19 00:11	109-99-9	
Toluene	<b>4.0</b>	ug/m3	1.1	0.51	1.44		10/19/19 00:11	108-88-3	
1,2,4-Trichlorobenzene	<b>&lt;5.4</b>	ug/m3	10.9	5.4	1.44		10/19/19 00:11	120-82-1	
1,1,1-Trichloroethane	<b>1.4J</b>	ug/m3	1.6	0.44	1.44		10/19/19 00:11	71-55-6	
1,1,2-Trichloroethane	<b>&lt;0.35</b>	ug/m3	0.80	0.35	1.44		10/19/19 00:11	79-00-5	
Trichloroethene	<b>4.9</b>	ug/m3	0.79	0.36	1.44		10/19/19 00:11	79-01-6	
Trichlorofluoromethane	<b>1.7</b>	ug/m3	1.6	0.53	1.44		10/19/19 00:11	75-69-4	
1,1,2-Trichlorotrifluoroethane	<b>&lt;0.81</b>	ug/m3	2.2	0.81	1.44		10/19/19 00:11	76-13-1	
1,2,4-Trimethylbenzene	<b>1.7</b>	ug/m3	1.4	0.65	1.44		10/19/19 00:11	95-63-6	
1,3,5-Trimethylbenzene	<b>0.90J</b>	ug/m3	1.4	0.57	1.44		10/19/19 00:11	108-67-8	
Vinyl acetate	<b>&lt;0.39</b>	ug/m3	1.0	0.39	1.44		10/19/19 00:11	108-05-4	
Vinyl chloride	<b>&lt;0.18</b>	ug/m3	0.37	0.18	1.44		10/19/19 00:11	75-01-4	
m&p-Xylene	<b>3.3</b>	ug/m3	2.5	1.0	1.44		10/19/19 00:11	179601-23-1	
o-Xylene	<b>1.3</b>	ug/m3	1.3	0.50	1.44		10/19/19 00:11	95-47-6	

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 18883 MPS-Vaughan Manufac  
Pace Project No.: 10495129

QC Batch: 639354 Analysis Method: TO-15  
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level  
Associated Lab Samples: 10495129001, 10495129002, 10495129003, 10495129004, 10495129005, 10495129006, 10495129007, 10495129008, 10495129009

METHOD BLANK: 3445192 Matrix: Air  
Associated Lab Samples: 10495129001, 10495129002, 10495129003, 10495129004, 10495129005, 10495129006, 10495129007, 10495129008, 10495129009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.31	1.1	10/18/19 13:36	
1,1,2,2-Tetrachloroethane	ug/m3	<0.31	0.70	10/18/19 13:36	
1,1,2-Trichloroethane	ug/m3	<0.24	0.56	10/18/19 13:36	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.56	1.6	10/18/19 13:36	
1,1-Dichloroethane	ug/m3	<0.22	0.82	10/18/19 13:36	
1,1-Dichloroethene	ug/m3	<0.27	0.81	10/18/19 13:36	
1,2,4-Trichlorobenzene	ug/m3	<3.7	7.5	10/18/19 13:36	
1,2,4-Trimethylbenzene	ug/m3	<0.45	1.0	10/18/19 13:36	
1,2-Dibromoethane (EDB)	ug/m3	<0.37	0.78	10/18/19 13:36	
1,2-Dichlorobenzene	ug/m3	<0.50	1.2	10/18/19 13:36	
1,2-Dichloroethane	ug/m3	<0.15	0.41	10/18/19 13:36	
1,2-Dichloropropane	ug/m3	<0.23	0.94	10/18/19 13:36	
1,3,5-Trimethylbenzene	ug/m3	<0.40	1.0	10/18/19 13:36	
1,3-Butadiene	ug/m3	<0.13	0.45	10/18/19 13:36	
1,3-Dichlorobenzene	ug/m3	<0.58	1.2	10/18/19 13:36	
1,4-Dichlorobenzene	ug/m3	<1.0	3.1	10/18/19 13:36	
2-Butanone (MEK)	ug/m3	<0.37	3.0	10/18/19 13:36	
2-Hexanone	ug/m3	<0.74	4.2	10/18/19 13:36	
2-Propanol	ug/m3	<0.70	2.5	10/18/19 13:36	
4-Ethyltoluene	ug/m3	<0.57	2.5	10/18/19 13:36	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.52	4.2	10/18/19 13:36	
Acetone	ug/m3	<1.2	2.4	10/18/19 13:36	
Benzene	ug/m3	<0.15	0.32	10/18/19 13:36	
Benzyl chloride	ug/m3	<1.2	2.6	10/18/19 13:36	
Bromodichloromethane	ug/m3	<0.37	1.4	10/18/19 13:36	
Bromoform	ug/m3	<1.4	5.2	10/18/19 13:36	
Bromomethane	ug/m3	<0.23	0.79	10/18/19 13:36	
Carbon disulfide	ug/m3	<0.22	0.63	10/18/19 13:36	
Carbon tetrachloride	ug/m3	<0.43	1.3	10/18/19 13:36	
Chlorobenzene	ug/m3	<0.28	0.94	10/18/19 13:36	
Chloroethane	ug/m3	<0.26	0.54	10/18/19 13:36	
Chloroform	ug/m3	<0.20	0.50	10/18/19 13:36	
Chloromethane	ug/m3	<0.16	0.42	10/18/19 13:36	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	10/18/19 13:36	
cis-1,3-Dichloropropene	ug/m3	<0.30	0.92	10/18/19 13:36	
Cyclohexane	ug/m3	<0.35	1.8	10/18/19 13:36	
Dibromochloromethane	ug/m3	<0.72	1.7	10/18/19 13:36	
Dichlorodifluoromethane	ug/m3	<0.29	1.0	10/18/19 13:36	
Dichlorotetrafluoroethane	ug/m3	<0.44	1.4	10/18/19 13:36	
Ethanol	ug/m3	<0.81	1.9	10/18/19 13:36	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 18883 MPS-Vaughan Manufac  
Pace Project No.: 10495129

METHOD BLANK: 3445192 Matrix: Air  
Associated Lab Samples: 10495129001, 10495129002, 10495129003, 10495129004, 10495129005, 10495129006, 10495129007, 10495129008, 10495129009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.19	0.73	10/18/19 13:36	
Ethylbenzene	ug/m3	<0.30	0.88	10/18/19 13:36	
Hexachloro-1,3-butadiene	ug/m3	<2.0	5.4	10/18/19 13:36	
m&p-Xylene	ug/m3	<0.70	1.8	10/18/19 13:36	
Methyl-tert-butyl ether	ug/m3	<0.66	3.7	10/18/19 13:36	
Methylene Chloride	ug/m3	<1.2	3.5	10/18/19 13:36	
n-Heptane	ug/m3	<0.38	0.83	10/18/19 13:36	
n-Hexane	ug/m3	<0.31	0.72	10/18/19 13:36	
Naphthalene	ug/m3	<1.3	2.7	10/18/19 13:36	
o-Xylene	ug/m3	<0.34	0.88	10/18/19 13:36	
Propylene	ug/m3	<0.14	0.35	10/18/19 13:36	
Styrene	ug/m3	<0.34	0.87	10/18/19 13:36	
Tetrachloroethene	ug/m3	<0.31	0.69	10/18/19 13:36	
Tetrahydrofuran	ug/m3	<0.26	0.60	10/18/19 13:36	
Toluene	ug/m3	<0.35	0.77	10/18/19 13:36	
trans-1,2-Dichloroethene	ug/m3	<0.28	0.81	10/18/19 13:36	
trans-1,3-Dichloropropene	ug/m3	<0.44	0.92	10/18/19 13:36	
Trichloroethene	ug/m3	<0.25	0.55	10/18/19 13:36	
Trichlorofluoromethane	ug/m3	<0.37	1.1	10/18/19 13:36	
Vinyl acetate	ug/m3	<0.27	0.72	10/18/19 13:36	
Vinyl chloride	ug/m3	<0.13	0.26	10/18/19 13:36	

LABORATORY CONTROL SAMPLE: 3445193

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	56.6	57.8	102	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	64.3	92	70-132	
1,1,2-Trichloroethane	ug/m3	58.2	55.3	95	70-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	84.9	65.0	77	70-130	
1,1-Dichloroethane	ug/m3	42.4	40.2	95	70-130	
1,1-Dichloroethene	ug/m3	43.5	37.2	86	70-130	
1,2,4-Trichlorobenzene	ug/m3	74.7	64.8	87	56-130	
1,2,4-Trimethylbenzene	ug/m3	53	51.1	96	70-134	
1,2-Dibromoethane (EDB)	ug/m3	83.6	84.7	101	70-130	
1,2-Dichlorobenzene	ug/m3	59.9	64.4	108	70-132	
1,2-Dichloroethane	ug/m3	42.8	43.9	103	70-130	
1,2-Dichloropropane	ug/m3	48.4	47.7	99	70-130	
1,3,5-Trimethylbenzene	ug/m3	53.5	50.8	95	70-132	
1,3-Butadiene	ug/m3	22.5	22.0	98	65-130	
1,3-Dichlorobenzene	ug/m3	65.4	61.4	94	70-137	
1,4-Dichlorobenzene	ug/m3	65.4	66.8	102	70-134	
2-Butanone (MEK)	ug/m3	32.4	30.4	94	70-130	
2-Hexanone	ug/m3	42.9	41.5	97	70-135	

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### QUALITY CONTROL DATA

Project: 18883 MPS-Vaughan Manufac  
Pace Project No.: 10495129

LABORATORY CONTROL SAMPLE: 3445193

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/m3	26.5	32.8	124	68-130	
4-Ethyltoluene	ug/m3	52	50.2	97	70-138	
4-Methyl-2-pentanone (MIBK)	ug/m3	42	44.7	106	70-131	
Acetone	ug/m3	26.6	27.2	103	67-130	
Benzene	ug/m3	34.4	32.8	95	70-130	
Benzyl chloride	ug/m3	56.3	49.7	88	70-130	
Bromodichloromethane	ug/m3	69.5	68.6	99	70-130	
Bromoform	ug/m3	97.7	71.4	73	70-132	
Bromomethane	ug/m3	40.6	39.2	96	69-130	
Carbon disulfide	ug/m3	32.9	31.1	95	56-137	
Carbon tetrachloride	ug/m3	65.9	61.3	93	66-131	
Chlorobenzene	ug/m3	49.6	46.6	94	70-130	
Chloroethane	ug/m3	26.8	27.8	104	70-130	
Chloroform	ug/m3	52.6	50.9	97	70-130	
Chloromethane	ug/m3	22.2	19.9	90	66-130	
cis-1,2-Dichloroethene	ug/m3	41.9	39.3	94	70-130	
cis-1,3-Dichloropropene	ug/m3	48	45.0	94	70-133	
Cyclohexane	ug/m3	35.3	36.6	104	68-132	
Dibromochloromethane	ug/m3	90	78.4	87	70-130	
Dichlorodifluoromethane	ug/m3	52.8	47.5	90	70-130	
Dichlorotetrafluoroethane	ug/m3	74.6	70.4	94	70-130	
Ethanol	ug/m3	21.1	27.9	132	68-133	
Ethyl acetate	ug/m3	38.8	34.0	88	69-130	
Ethylbenzene	ug/m3	45.5	50.2	111	67-131	
Hexachloro-1,3-butadiene	ug/m3	108	107	99	66-137	
m&p-Xylene	ug/m3	45.9	56.0	122	70-132	
Methyl-tert-butyl ether	ug/m3	37.4	37.7	101	70-130	
Methylene Chloride	ug/m3	38.1	46.6	122	65-130	
n-Heptane	ug/m3	43.7	42.3	97	65-130	
n-Hexane	ug/m3	37.6	32.8	87	66-130	
Naphthalene	ug/m3	52.7	38.5	73	56-130	
o-Xylene	ug/m3	44.1	46.8	106	70-130	
Propylene	ug/m3	19.2	15.6	81	67-130	
Styrene	ug/m3	44.2	43.0	97	69-136	
Tetrachloroethene	ug/m3	70.3	72.2	103	70-130	
Tetrahydrofuran	ug/m3	30.3	34.2	113	68-131	
Toluene	ug/m3	39.4	40.3	102	70-130	
trans-1,2-Dichloroethene	ug/m3	41.5	38.5	93	70-130	
trans-1,3-Dichloropropene	ug/m3	44.8	47.5	106	70-134	
Trichloroethene	ug/m3	56.3	63.8	113	70-130	
Trichlorofluoromethane	ug/m3	58.8	58.0	98	65-130	
Vinyl acetate	ug/m3	35.1	22.6	64	61-133	
Vinyl chloride	ug/m3	28.1	27.9	100	70-130	

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### QUALITY CONTROL DATA

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

SAMPLE DUPLICATE: 3445967

Parameter	Units	10494193011 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	3.8	3.7	4	25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.52		25	
1,1,2-Trichloroethane	ug/m3	ND	<0.41		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	4.9	4.8	3	25	
1,1-Dichloroethane	ug/m3	ND	0.64J		25	
1,1-Dichloroethene	ug/m3	ND	<0.46		25	
1,2,4-Trichlorobenzene	ug/m3	ND	<6.2		25	
1,2,4-Trimethylbenzene	ug/m3	ND	0.89J		25	
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.61		25	
1,2-Dichlorobenzene	ug/m3	ND	<0.84		25	
1,2-Dichloroethane	ug/m3	ND	<0.25		25	
1,2-Dichloropropane	ug/m3	ND	<0.39		25	
1,3,5-Trimethylbenzene	ug/m3	ND	<0.67		25	
1,3-Butadiene	ug/m3	ND	<0.22		25	
1,3-Dichlorobenzene	ug/m3	ND	<0.98		25	
1,4-Dichlorobenzene	ug/m3	ND	<1.7		25	
2-Butanone (MEK)	ug/m3	9.4	9.7	3	25	
2-Hexanone	ug/m3	ND	<1.3		25	
2-Propanol	ug/m3	75.2	76.2	1	25	
4-Ethyltoluene	ug/m3	ND	<0.96		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	1.3J		25	
Acetone	ug/m3	40.8	41.7	2	25	
Benzene	ug/m3	ND	0.44J		25	
Benzyl chloride	ug/m3	ND	<2.0		25	
Bromodichloromethane	ug/m3	ND	1.3J		25	
Bromoform	ug/m3	ND	<2.4		25	
Bromomethane	ug/m3	ND	<0.38		25	
Carbon disulfide	ug/m3	ND	0.49J		25	
Carbon tetrachloride	ug/m3	ND	<0.72		25	
Chlorobenzene	ug/m3	ND	<0.46		25	
Chloroethane	ug/m3	ND	<0.44		25	
Chloroform	ug/m3	90.2	90.4	0	25	
Chloromethane	ug/m3	1.2	1.2	0	25	
cis-1,2-Dichloroethene	ug/m3	ND	0.89J		25	
cis-1,3-Dichloropropene	ug/m3	ND	<0.51		25	
Cyclohexane	ug/m3	ND	2.1J		25	
Dibromochloromethane	ug/m3	ND	<1.2		25	
Dichlorodifluoromethane	ug/m3	8.1	8.1	0	25	
Dichlorotetrafluoroethane	ug/m3	ND	<0.73		25	
Ethanol	ug/m3	35.2	36.9	5	25	
Ethyl acetate	ug/m3	13.0	13.2	1	25	
Ethylbenzene	ug/m3	ND	1.3J		25	
Hexachloro-1,3-butadiene	ug/m3	ND	<3.3		25	
m&p-Xylene	ug/m3	3.9	4.1	5	25	
Methyl-tert-butyl ether	ug/m3	ND	<1.1		25	
Methylene Chloride	ug/m3	158	122	26	25	R1
n-Heptane	ug/m3	3.8	4.1	7	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: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

SAMPLE DUPLICATE: 3445967

Parameter	Units	10494193011 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	5.1	5.1	0	25	
Naphthalene	ug/m3	ND	<2.2		25	
o-Xylene	ug/m3	1.6	1.7	3	25	
Propylene	ug/m3	ND	<0.24		25	
Styrene	ug/m3	ND	1.4J		25	
Tetrachloroethene	ug/m3	53.1	53.0	0	25	
Tetrahydrofuran	ug/m3	ND	<0.44		25	
Toluene	ug/m3	28.2	28.4	1	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.48		25	
trans-1,3-Dichloropropene	ug/m3	ND	<0.74		25	
Trichloroethene	ug/m3	41.2	40.7	1	25	
Trichlorofluoromethane	ug/m3	2.9	3.1	8	25	
Vinyl acetate	ug/m3	ND	<0.45		25	
Vinyl chloride	ug/m3	ND	<0.21		25	

SAMPLE DUPLICATE: 3445968

Parameter	Units	10494193008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	ND	1.6J		25	
1,1,2,2-Tetrachloroethane	ug/m3	ND	<0.52		25	
1,1,2-Trichloroethane	ug/m3	ND	<0.41		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	<0.95		25	
1,1-Dichloroethane	ug/m3	ND	<0.38		25	
1,1-Dichloroethene	ug/m3	ND	<0.46		25	
1,2,4-Trichlorobenzene	ug/m3	ND	<6.2		25	
1,2,4-Trimethylbenzene	ug/m3	ND	<0.76		25	
1,2-Dibromoethane (EDB)	ug/m3	ND	<0.61		25	
1,2-Dichlorobenzene	ug/m3	ND	<0.84		25	
1,2-Dichloroethane	ug/m3	ND	<0.25		25	
1,2-Dichloropropane	ug/m3	ND	<0.39		25	
1,3,5-Trimethylbenzene	ug/m3	ND	<0.67		25	
1,3-Butadiene	ug/m3	ND	<0.22		25	
1,3-Dichlorobenzene	ug/m3	ND	<0.98		25	
1,4-Dichlorobenzene	ug/m3	ND	<1.7		25	
2-Butanone (MEK)	ug/m3	22.2	22.6	2	25	
2-Hexanone	ug/m3	ND	<1.3		25	
2-Propanol	ug/m3	287	279	3	25	
4-Ethyltoluene	ug/m3	ND	<0.96		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	<0.87		25	
Acetone	ug/m3	34.6	33.8	2	25	
Benzene	ug/m3	ND	<0.26		25	
Benzyl chloride	ug/m3	ND	<2.0		25	
Bromodichloromethane	ug/m3	ND	<0.61		25	
Bromoform	ug/m3	ND	<2.4		25	
Bromomethane	ug/m3	ND	<0.38		25	

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### QUALITY CONTROL DATA

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

SAMPLE DUPLICATE: 3445968

Parameter	Units	10494193008 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/m3	ND	<0.37		25	
Carbon tetrachloride	ug/m3	ND	<0.72		25	
Chlorobenzene	ug/m3	ND	<0.46		25	
Chloroethane	ug/m3	ND	<0.44		25	
Chloroform	ug/m3	7.9	8.0	2	25	
Chloromethane	ug/m3	ND	0.66J		25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.37		25	
cis-1,3-Dichloropropene	ug/m3	ND	<0.51		25	
Cyclohexane	ug/m3	ND	2.5J		25	
Dibromochloromethane	ug/m3	ND	<1.2		25	
Dichlorodifluoromethane	ug/m3	2.6	2.6	1	25	
Dichlorotetrafluoroethane	ug/m3	ND	<0.73		25	
Ethanol	ug/m3	121	115	5	25	
Ethyl acetate	ug/m3	2.7	2.7	1	25	
Ethylbenzene	ug/m3	ND	0.52J		25	
Hexachloro-1,3-butadiene	ug/m3	ND	<3.3		25	
m&p-Xylene	ug/m3	ND	2.2J		25	
Methyl-tert-butyl ether	ug/m3	ND	<1.1		25	
Methylene Chloride	ug/m3	261	209	22	25	
n-Heptane	ug/m3	ND	<0.64		25	
n-Hexane	ug/m3	ND	1.1J		25	
Naphthalene	ug/m3	ND	<2.2		25	
o-Xylene	ug/m3	ND	0.71J		25	
Propylene	ug/m3	ND	<0.24		25	
Styrene	ug/m3	ND	<0.58		25	
Tetrachloroethene	ug/m3	4.0	4.2	6	25	
Tetrahydrofuran	ug/m3	ND	<0.44		25	
Toluene	ug/m3	10.4	10.4	0	25	
trans-1,2-Dichloroethene	ug/m3	ND	<0.48		25	
trans-1,3-Dichloropropene	ug/m3	ND	<0.74		25	
Trichloroethene	ug/m3	9.2	9.3	2	25	
Trichlorofluoromethane	ug/m3	ND	1.8J		25	
Vinyl acetate	ug/m3	ND	<0.45		25	
Vinyl chloride	ug/m3	ND	<0.21		25	

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## QUALIFIERS

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

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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

R1 RPD value was outside control limits.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 18883 MPS-Vaughan Manufac

Pace Project No.: 10495129

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10495129001	VP-1	TO-15	639354		
10495129002	VP-2	TO-15	639354		
10495129003	VP-3	TO-15	639354		
10495129004	VP-4	TO-15	639354		
10495129005	VP-5	TO-15	639354		
10495129006	VP-6	TO-15	639354		
10495129007	VP-7	TO-15	639354		
10495129008	VP-8	TO-15	639354		
10495129009	VP-9	TO-15	639354		

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# AIR: CHAIN-OF-CUSTODY / A

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

## WO#: 10495129



45756

Page: 1 of 1

<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:
Company: <b>THE SIGMA GROUP, INC</b>	Report To: <b>smeeer@thesigmagroup.com</b>	Attention: <b>Stephen Meer</b>
Address: <b>1300 W CANAL STREET MILWAUKEE WI 53233</b>	Copy To: <b>epencake@thesigmagroup.com</b>	Company Name: <b>The Sigma Group, Inc</b>
Email To: <b>smeeer@thesigmagroup.com</b>	Purchase Order No.:	Address: <b>1300 W Canal Street, Milwaukee, WI</b>
Phone: <b>414 643 4200</b> Fax: <b>414 643 4210</b>	Project Name: <b>MPS - Vaughan Manufacturing</b>	Pace Quote Reference:
Requested Due Date/TAT:	Project Number: <b>18883</b>	Pace Project Manager/Sales Rep.
		Pace Profile #: <b>18109</b>

Program	
<input type="checkbox"/> UST <input type="checkbox"/> Superfund <input type="checkbox"/> Emissions <input type="checkbox"/> Clean Air Act	<input type="checkbox"/> Voluntary Clean Up <input type="checkbox"/> Dry Clean <input type="checkbox"/> RCRA <input checked="" type="checkbox"/> Other <b>State</b>
Location of Sampling by State: <b>WI</b>	Reporting Units ug/m <sup>3</sup> <input checked="" type="checkbox"/> mg/m <sup>3</sup> <input type="checkbox"/> PPBV <input type="checkbox"/> PPMV <input type="checkbox"/> Other <input type="checkbox"/>
Report Level: <input checked="" type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/> Other	

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						TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (Other)	PM10	3C - Fixed Gas (%)	TO-3 BTEX		TO-3M (Methane)		
					DATE	TIME	DATE	TIME																
1	VP-1	6LC			10/8	5:30	10/8	6:07	-30	-4	0690	0921											001	
2	VP-2	6LC			10/8	6:19	10/8	6:59	-27	-4	3483	0714												002
3	VP-3	6LC			10/8	6:53	10/8	7:30	-29	-4	1474	0953												003
4	VP-4	6LC			10/8	7:40	10/8	8:17	-30	-4	0567	2853												004
5	VP-5	6LC			10/8	8:08	10/8	8:45	-29	-2.5	18586	2837												005
6	VP-6	6LC			10/8	8:35	10/8	9:13	-29.5	-3.5	0146	2855												006
7	VP-7	6LC			10/8	9:09	10/8	9:47	-29	-3	1530	1586												007
8	VP-8	6LC			10/8	9:30	10/8	10:12	-29	-1	3533	1648												008
9	VP-9	6LC			10/8	9:56	10/8	10:36	-29	-2.5	0578	1901												009

Comments :	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
	<i>WSP</i>	10/09/19	10:45 AM	<i>WJL Pace</i>	10/10/19	11:45	-	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> Y
							<input type="checkbox"/> Y	<input type="checkbox"/> Y	<input type="checkbox"/> Y
							<input type="checkbox"/> Y	<input type="checkbox"/> Y	<input type="checkbox"/> Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
PRINT Name of SAMPLER: <b>EDWARD PENCOK</b>					
SIGNATURE of SAMPLER: <i>WSP</i>	DATE Signed (MM / DD / YY) <b>10/09/19</b>				

ORIGINAL



Document Name:  
Air Sample Condition Upon Receipt

Document No.:  
F-MN-A-106-rev.18

Document Revised: 31Jan2019  
Page 1 of 1  
Issuing Authority:

**WO#: 10495129**

PM: KNH

Due Date: 10/17/19

CLIENT: SIGMA ENV

Air Sample Condition Upon Receipt

Client Name: The Sigma Group

Project #:

Courier:  Fed Ex  UPS  USPS  Client  
 Pace  Speedee  Commercial See Exception

Tracking Number: 1083 0280 6391/2754/6390

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

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

Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_

Thermometer Used:  G87A9170600254  
 G87A9155100842

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

Date & Initials of Person Examining Contents: WD 10/16/19

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 N (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 (3C and ASTM 1946 DO NOT PRESSURIZE)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13.

Samples Received: \_\_\_\_\_ Pressure Gauge #  10AIR34  10AIR35 10AIR26

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
VP-1	0690	0921	-4	+5	VP-9	0578	1901	-2	+5
VP-2	3483	0719	-4	"					
VP-3	1474	0953	-3	"					
VP-4	0567	2853	-3	"					
VP-5	1586	2837	-3	"					
VP-6	0146	2855	-3.5	"					
VP-7	1530	1586	-3.5	"					
VP-8	3533	1648	-1.5	"					

CLIENT NOTIFICATION/RESOLUTION

Field Data Required?  Yes  No

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

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

Project Manager Review:

Kirsten Hooper

Date: 10/11/2019

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)

October 14, 2019

Steve Meer  
Sigma Environmental Services  
1300 W. Canal St.  
Milwaukee, WI 53233

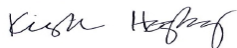
RE: Project: 18883 MPS  
Pace Project No.: 10494361

Dear Steve Meer:

Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 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.

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

Sincerely,



Kirsten Hogberg  
kirsten.hogberg@pacelabs.com  
(612)607-1700  
Project Manager

Enclosures

cc: Ed Pencak, Sigma Group



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 18883 MPS

Pace Project No.: 10494361

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### Minnesota Certification IDs

1700 Elm Street SE, Minneapolis, MN 55414-2485

A2LA Certification #: 2926.01

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

CNMI Saipan Certification #: MP0003

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605

Georgia Certification #: 959

Guam EPA Certification #: MN00064

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: 03086

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064

Maryland Certification #: 322

Massachusetts Certification #: M-MN064

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137

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

Minnesota Petrofund Certification #: 1240

Mississippi Certification #: MN00064

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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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: 18883 MPS

Pace Project No.: 10494361

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10494361001	IA-1	Air	10/03/19 16:00	10/04/19 12:00
10494361002	IA-2	Air	10/03/19 16:28	10/04/19 12:00
10494361003	IA-3	Air	10/03/19 17:07	10/04/19 12:00
10494361004	IA-4	Air	10/03/19 16:35	10/04/19 12:00
10494361005	IA-5	Air	10/03/19 16:39	10/04/19 12:00
10494361006	IA-6	Air	10/03/19 16:46	10/04/19 12:00
10494361007	IA-7	Air	10/03/19 17:11	10/04/19 12:00
10494361008	IA-8	Air	10/03/19 17:14	10/04/19 12:00
10494361009	IA-9	Air	10/03/19 16:57	10/04/19 12:00
10494361010	IA-10	Air	10/03/19 16:59	10/04/19 12:00
10494361011	AA-1	Air	10/03/19 17:02	10/04/19 12:00

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 18883 MPS

Pace Project No.: 10494361

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10494361001	IA-1	TO-15	MG2	61	PASI-M
10494361002	IA-2	TO-15	MG2	61	PASI-M
10494361004	IA-4	TO-15	MG2	61	PASI-M
10494361005	IA-5	TO-15	MG2	61	PASI-M
10494361006	IA-6	TO-15	MG2	61	PASI-M
10494361007	IA-7	TO-15	MG2	61	PASI-M
10494361008	IA-8	TO-15	MG2	61	PASI-M
10494361009	IA-9	TO-15	MG2	61	PASI-M
10494361010	IA-10	TO-15	MG2	61	PASI-M
10494361011	AA-1	TO-15	MG2	61	PASI-M

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample:** IA-1      **Lab ID:** 10494361001      Collected: 10/03/19 16:00      Received: 10/04/19 12:00      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	13.1	ug/m3	3.7	1.9	1.55		10/11/19 17:05	67-64-1	
Benzene	<0.24	ug/m3	0.50	0.24	1.55		10/11/19 17:05	71-43-2	
Benzyl chloride	<1.9	ug/m3	4.1	1.9	1.55		10/11/19 17:05	100-44-7	
Bromodichloromethane	<0.57	ug/m3	2.1	0.57	1.55		10/11/19 17:05	75-27-4	
Bromoform	<2.2	ug/m3	8.1	2.2	1.55		10/11/19 17:05	75-25-2	
Bromomethane	<0.35	ug/m3	1.2	0.35	1.55		10/11/19 17:05	74-83-9	
1,3-Butadiene	<0.20	ug/m3	0.70	0.20	1.55		10/11/19 17:05	106-99-0	
2-Butanone (MEK)	1.5J	ug/m3	4.6	0.57	1.55		10/11/19 17:05	78-93-3	
Carbon disulfide	<0.34	ug/m3	0.98	0.34	1.55		10/11/19 17:05	75-15-0	
Carbon tetrachloride	<0.66	ug/m3	2.0	0.66	1.55		10/11/19 17:05	56-23-5	
Chlorobenzene	<0.43	ug/m3	1.5	0.43	1.55		10/11/19 17:05	108-90-7	
Chloroethane	<0.40	ug/m3	0.83	0.40	1.55		10/11/19 17:05	75-00-3	
Chloroform	<0.30	ug/m3	0.77	0.30	1.55		10/11/19 17:05	67-66-3	
Chloromethane	0.75	ug/m3	0.65	0.24	1.55		10/11/19 17:05	74-87-3	
Cyclohexane	<0.55	ug/m3	2.7	0.55	1.55		10/11/19 17:05	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.7	1.1	1.55		10/11/19 17:05	124-48-1	
1,2-Dibromoethane (EDB)	<0.57	ug/m3	1.2	0.57	1.55		10/11/19 17:05	106-93-4	
1,2-Dichlorobenzene	<0.77	ug/m3	1.9	0.77	1.55		10/11/19 17:05	95-50-1	
1,3-Dichlorobenzene	<0.90	ug/m3	1.9	0.90	1.55		10/11/19 17:05	541-73-1	
1,4-Dichlorobenzene	<1.6	ug/m3	4.7	1.6	1.55		10/11/19 17:05	106-46-7	
Dichlorodifluoromethane	2.2	ug/m3	1.6	0.45	1.55		10/11/19 17:05	75-71-8	
1,1-Dichloroethane	<0.35	ug/m3	1.3	0.35	1.55		10/11/19 17:05	75-34-3	
1,2-Dichloroethane	<0.23	ug/m3	0.64	0.23	1.55		10/11/19 17:05	107-06-2	
1,1-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.55		10/11/19 17:05	75-35-4	
cis-1,2-Dichloroethene	<0.34	ug/m3	1.2	0.34	1.55		10/11/19 17:05	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.55		10/11/19 17:05	156-60-5	
1,2-Dichloropropane	<0.36	ug/m3	1.5	0.36	1.55		10/11/19 17:05	78-87-5	
cis-1,3-Dichloropropene	<0.47	ug/m3	1.4	0.47	1.55		10/11/19 17:05	10061-01-5	
trans-1,3-Dichloropropene	<0.68	ug/m3	1.4	0.68	1.55		10/11/19 17:05	10061-02-6	
Dichlorotetrafluoroethane	<0.68	ug/m3	2.2	0.68	1.55		10/11/19 17:05	76-14-2	
Ethanol	360	ug/m3	3.0	1.3	1.55		10/11/19 17:05	64-17-5	
Ethyl acetate	<0.29	ug/m3	1.1	0.29	1.55		10/11/19 17:05	141-78-6	
Ethylbenzene	<0.47	ug/m3	1.4	0.47	1.55		10/11/19 17:05	100-41-4	
4-Ethyltoluene	<0.88	ug/m3	3.9	0.88	1.55		10/11/19 17:05	622-96-8	
n-Heptane	<0.59	ug/m3	1.3	0.59	1.55		10/11/19 17:05	142-82-5	
Hexachloro-1,3-butadiene	<3.1	ug/m3	8.4	3.1	1.55		10/11/19 17:05	87-68-3	
n-Hexane	0.60J	ug/m3	1.1	0.48	1.55		10/11/19 17:05	110-54-3	
2-Hexanone	<1.2	ug/m3	6.4	1.2	1.55		10/11/19 17:05	591-78-6	
Methylene Chloride	2.9J	ug/m3	5.5	1.9	1.55		10/11/19 17:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/m3	6.4	0.80	1.55		10/11/19 17:05	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/m3	5.7	1.0	1.55		10/11/19 17:05	1634-04-4	
Naphthalene	<2.0	ug/m3	4.1	2.0	1.55		10/11/19 17:05	91-20-3	
2-Propanol	556	ug/m3	3.9	1.1	1.55		10/11/19 17:05	67-63-0	
Propylene	<0.22	ug/m3	0.54	0.22	1.55		10/11/19 17:05	115-07-1	
Styrene	<0.53	ug/m3	1.3	0.53	1.55		10/11/19 17:05	100-42-5	
1,1,2,2-Tetrachloroethane	<0.48	ug/m3	1.1	0.48	1.55		10/11/19 17:05	79-34-5	

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### ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

Sample: IA-1      Lab ID: 10494361001      Collected: 10/03/19 16:00      Received: 10/04/19 12:00      Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Tetrachloroethene	<0.49	ug/m3	1.1	0.49	1.55		10/11/19 17:05	127-18-4	
Tetrahydrofuran	<0.40	ug/m3	0.93	0.40	1.55		10/11/19 17:05	109-99-9	
Toluene	6.0	ug/m3	1.2	0.54	1.55		10/11/19 17:05	108-88-3	
1,2,4-Trichlorobenzene	<5.8	ug/m3	11.7	5.8	1.55		10/11/19 17:05	120-82-1	
1,1,1-Trichloroethane	0.53J	ug/m3	1.7	0.48	1.55		10/11/19 17:05	71-55-6	
1,1,2-Trichloroethane	<0.38	ug/m3	0.86	0.38	1.55		10/11/19 17:05	79-00-5	
Trichloroethene	0.52J	ug/m3	0.85	0.39	1.55		10/11/19 17:05	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.8	0.57	1.55		10/11/19 17:05	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.87	ug/m3	2.4	0.87	1.55		10/11/19 17:05	76-13-1	
1,2,4-Trimethylbenzene	<0.70	ug/m3	1.5	0.70	1.55		10/11/19 17:05	95-63-6	
1,3,5-Trimethylbenzene	<0.62	ug/m3	1.5	0.62	1.55		10/11/19 17:05	108-67-8	
Vinyl acetate	<0.42	ug/m3	1.1	0.42	1.55		10/11/19 17:05	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		10/11/19 17:05	75-01-4	
m&p-Xylene	<1.1	ug/m3	2.7	1.1	1.55		10/11/19 17:05	179601-23-1	
o-Xylene	<0.53	ug/m3	1.4	0.53	1.55		10/11/19 17:05	95-47-6	

Sample: IA-2      Lab ID: 10494361002      Collected: 10/03/19 16:28      Received: 10/04/19 12:00      Matrix: Air									
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	15.1	ug/m3	4.2	2.1	1.75		10/11/19 21:40	67-64-1	
Benzene	<0.27	ug/m3	0.57	0.27	1.75		10/11/19 21:40	71-43-2	
Benzyl chloride	<2.1	ug/m3	4.6	2.1	1.75		10/11/19 21:40	100-44-7	
Bromodichloromethane	<0.64	ug/m3	2.4	0.64	1.75		10/11/19 21:40	75-27-4	
Bromoform	<2.5	ug/m3	9.2	2.5	1.75		10/11/19 21:40	75-25-2	
Bromomethane	<0.40	ug/m3	1.4	0.40	1.75		10/11/19 21:40	74-83-9	
1,3-Butadiene	<0.22	ug/m3	0.79	0.22	1.75		10/11/19 21:40	106-99-0	
2-Butanone (MEK)	1.4J	ug/m3	5.2	0.65	1.75		10/11/19 21:40	78-93-3	
Carbon disulfide	<0.38	ug/m3	1.1	0.38	1.75		10/11/19 21:40	75-15-0	
Carbon tetrachloride	<0.75	ug/m3	2.2	0.75	1.75		10/11/19 21:40	56-23-5	
Chlorobenzene	<0.48	ug/m3	1.6	0.48	1.75		10/11/19 21:40	108-90-7	
Chloroethane	<0.46	ug/m3	0.94	0.46	1.75		10/11/19 21:40	75-00-3	
Chloroform	<0.34	ug/m3	0.87	0.34	1.75		10/11/19 21:40	67-66-3	
Chloromethane	0.72J	ug/m3	0.74	0.27	1.75		10/11/19 21:40	74-87-3	
Cyclohexane	<0.62	ug/m3	3.1	0.62	1.75		10/11/19 21:40	110-82-7	
Dibromochloromethane	<1.3	ug/m3	3.0	1.3	1.75		10/11/19 21:40	124-48-1	
1,2-Dibromoethane (EDB)	<0.64	ug/m3	1.4	0.64	1.75		10/11/19 21:40	106-93-4	
1,2-Dichlorobenzene	<0.87	ug/m3	2.1	0.87	1.75		10/11/19 21:40	95-50-1	
1,3-Dichlorobenzene	<1.0	ug/m3	2.1	1.0	1.75		10/11/19 21:40	541-73-1	
1,4-Dichlorobenzene	<1.8	ug/m3	5.4	1.8	1.75		10/11/19 21:40	106-46-7	
Dichlorodifluoromethane	2.2	ug/m3	1.8	0.51	1.75		10/11/19 21:40	75-71-8	
1,1-Dichloroethane	<0.39	ug/m3	1.4	0.39	1.75		10/11/19 21:40	75-34-3	
1,2-Dichloroethane	<0.26	ug/m3	0.72	0.26	1.75		10/11/19 21:40	107-06-2	

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## ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample: IA-2**      **Lab ID: 10494361002**      Collected: 10/03/19 16:28      Received: 10/04/19 12:00      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	<0.48	ug/m3	1.4	0.48	1.75		10/11/19 21:40	75-35-4	
cis-1,2-Dichloroethene	<0.38	ug/m3	1.4	0.38	1.75		10/11/19 21:40	156-59-2	
trans-1,2-Dichloroethene	<0.50	ug/m3	1.4	0.50	1.75		10/11/19 21:40	156-60-5	
1,2-Dichloropropane	<0.40	ug/m3	1.6	0.40	1.75		10/11/19 21:40	78-87-5	
cis-1,3-Dichloropropene	<0.53	ug/m3	1.6	0.53	1.75		10/11/19 21:40	10061-01-5	
trans-1,3-Dichloropropene	<0.77	ug/m3	1.6	0.77	1.75		10/11/19 21:40	10061-02-6	
Dichlorotetrafluoroethane	<0.76	ug/m3	2.5	0.76	1.75		10/11/19 21:40	76-14-2	
Ethanol	336	ug/m3	3.4	1.4	1.75		10/11/19 21:40	64-17-5	
Ethyl acetate	0.59J	ug/m3	1.3	0.33	1.75		10/11/19 21:40	141-78-6	
Ethylbenzene	<0.53	ug/m3	1.5	0.53	1.75		10/11/19 21:40	100-41-4	
4-Ethyltoluene	<1.0	ug/m3	4.4	1.0	1.75		10/11/19 21:40	622-96-8	
n-Heptane	<0.66	ug/m3	1.5	0.66	1.75		10/11/19 21:40	142-82-5	
Hexachloro-1,3-butadiene	<3.4	ug/m3	9.5	3.4	1.75		10/11/19 21:40	87-68-3	
n-Hexane	0.76J	ug/m3	1.3	0.54	1.75		10/11/19 21:40	110-54-3	
2-Hexanone	<1.3	ug/m3	7.3	1.3	1.75		10/11/19 21:40	591-78-6	
Methylene Chloride	4.8J	ug/m3	6.2	2.1	1.75		10/11/19 21:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.91	ug/m3	7.3	0.91	1.75		10/11/19 21:40	108-10-1	
Methyl-tert-butyl ether	<1.2	ug/m3	6.4	1.2	1.75		10/11/19 21:40	1634-04-4	
Naphthalene	<2.3	ug/m3	4.7	2.3	1.75		10/11/19 21:40	91-20-3	
2-Propanol	617	ug/m3	4.4	1.2	1.75		10/11/19 21:40	67-63-0	
Propylene	<0.24	ug/m3	0.61	0.24	1.75		10/11/19 21:40	115-07-1	
Styrene	<0.60	ug/m3	1.5	0.60	1.75		10/11/19 21:40	100-42-5	
1,1,2,2-Tetrachloroethane	<0.54	ug/m3	1.2	0.54	1.75		10/11/19 21:40	79-34-5	
Tetrachloroethene	<0.55	ug/m3	1.2	0.55	1.75		10/11/19 21:40	127-18-4	
Tetrahydrofuran	<0.46	ug/m3	1.0	0.46	1.75		10/11/19 21:40	109-99-9	
Toluene	6.2	ug/m3	1.3	0.61	1.75		10/11/19 21:40	108-88-3	
1,2,4-Trichlorobenzene	<6.5	ug/m3	13.2	6.5	1.75		10/11/19 21:40	120-82-1	
1,1,1-Trichloroethane	<0.54	ug/m3	1.9	0.54	1.75		10/11/19 21:40	71-55-6	
1,1,2-Trichloroethane	<0.42	ug/m3	0.97	0.42	1.75		10/11/19 21:40	79-00-5	
Trichloroethene	<0.44	ug/m3	0.96	0.44	1.75		10/11/19 21:40	79-01-6	
Trichlorofluoromethane	1.5J	ug/m3	2.0	0.64	1.75		10/11/19 21:40	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.99	ug/m3	2.7	0.99	1.75		10/11/19 21:40	76-13-1	
1,2,4-Trimethylbenzene	<0.79	ug/m3	1.7	0.79	1.75		10/11/19 21:40	95-63-6	
1,3,5-Trimethylbenzene	<0.70	ug/m3	1.7	0.70	1.75		10/11/19 21:40	108-67-8	
Vinyl acetate	<0.47	ug/m3	1.3	0.47	1.75		10/11/19 21:40	108-05-4	
Vinyl chloride	<0.22	ug/m3	0.46	0.22	1.75		10/11/19 21:40	75-01-4	
m&p-Xylene	<1.2	ug/m3	3.1	1.2	1.75		10/11/19 21:40	179601-23-1	
o-Xylene	<0.60	ug/m3	1.5	0.60	1.75		10/11/19 21:40	95-47-6	

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### ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

Sample: IA-4 Lab ID: 10494361004 Collected: 10/03/19 16:35 Received: 10/04/19 12:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>									
Analytical Method: TO-15									
Acetone	35.5	ug/m3	3.6	1.8	1.49		10/11/19 20:42	67-64-1	
Benzene	<0.23	ug/m3	0.48	0.23	1.49		10/11/19 20:42	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		10/11/19 20:42	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		10/11/19 20:42	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		10/11/19 20:42	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		10/11/19 20:42	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		10/11/19 20:42	106-99-0	
2-Butanone (MEK)	3.3J	ug/m3	4.5	0.55	1.49		10/11/19 20:42	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.94	0.33	1.49		10/11/19 20:42	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		10/11/19 20:42	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		10/11/19 20:42	108-90-7	
Chloroethane	<0.39	ug/m3	0.80	0.39	1.49		10/11/19 20:42	75-00-3	
Chloroform	<0.29	ug/m3	0.74	0.29	1.49		10/11/19 20:42	67-66-3	
Chloromethane	0.88	ug/m3	0.63	0.23	1.49		10/11/19 20:42	74-87-3	
Cyclohexane	<0.53	ug/m3	2.6	0.53	1.49		10/11/19 20:42	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		10/11/19 20:42	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		10/11/19 20:42	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		10/11/19 20:42	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		10/11/19 20:42	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		10/11/19 20:42	106-46-7	
Dichlorodifluoromethane	2.1	ug/m3	1.5	0.44	1.49		10/11/19 20:42	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.2	0.34	1.49		10/11/19 20:42	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		10/11/19 20:42	107-06-2	
1,1-Dichloroethene	<0.41	ug/m3	1.2	0.41	1.49		10/11/19 20:42	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		10/11/19 20:42	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		10/11/19 20:42	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		10/11/19 20:42	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		10/11/19 20:42	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		10/11/19 20:42	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		10/11/19 20:42	76-14-2	
Ethanol	1210	ug/m3	2.9	1.2	1.49		10/11/19 20:42	64-17-5	E
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		10/11/19 20:42	141-78-6	
Ethylbenzene	<0.45	ug/m3	1.3	0.45	1.49		10/11/19 20:42	100-41-4	
4-Ethyltoluene	<0.85	ug/m3	3.7	0.85	1.49		10/11/19 20:42	622-96-8	
n-Heptane	<0.57	ug/m3	1.2	0.57	1.49		10/11/19 20:42	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		10/11/19 20:42	87-68-3	
n-Hexane	<0.46	ug/m3	1.1	0.46	1.49		10/11/19 20:42	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		10/11/19 20:42	591-78-6	
Methylene Chloride	<1.8	ug/m3	5.3	1.8	1.49		10/11/19 20:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		10/11/19 20:42	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		10/11/19 20:42	1634-04-4	
Naphthalene	<2.0	ug/m3	4.0	2.0	1.49		10/11/19 20:42	91-20-3	
2-Propanol	1140	ug/m3	3.7	1.0	1.49		10/11/19 20:42	67-63-0	E
Propylene	<0.21	ug/m3	0.52	0.21	1.49		10/11/19 20:42	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		10/11/19 20:42	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	ug/m3	1.0	0.46	1.49		10/11/19 20:42	79-34-5	

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### ANALYTICAL RESULTS

Project: 18883 MPS  
Pace Project No.: 10494361

Sample: IA-4 Lab ID: 10494361004 Collected: 10/03/19 16:35 Received: 10/04/19 12:00 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		10/11/19 20:42	127-18-4	
Tetrahydrofuran	<0.39	ug/m3	0.89	0.39	1.49		10/11/19 20:42	109-99-9	
Toluene	1.2	ug/m3	1.1	0.52	1.49		10/11/19 20:42	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		10/11/19 20:42	120-82-1	
1,1,1-Trichloroethane	<0.46	ug/m3	1.7	0.46	1.49		10/11/19 20:42	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		10/11/19 20:42	79-00-5	
Trichloroethene	<0.38	ug/m3	0.81	0.38	1.49		10/11/19 20:42	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.7	0.55	1.49		10/11/19 20:42	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		10/11/19 20:42	76-13-1	
1,2,4-Trimethylbenzene	<0.67	ug/m3	1.5	0.67	1.49		10/11/19 20:42	95-63-6	
1,3,5-Trimethylbenzene	<0.59	ug/m3	1.5	0.59	1.49		10/11/19 20:42	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		10/11/19 20:42	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		10/11/19 20:42	75-01-4	
m&p-Xylene	<1.0	ug/m3	2.6	1.0	1.49		10/11/19 20:42	179601-23-1	
o-Xylene	<0.51	ug/m3	1.3	0.51	1.49		10/11/19 20:42	95-47-6	

Sample: IA-5 Lab ID: 10494361005 Collected: 10/03/19 16:39 Received: 10/04/19 12:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	21.0	ug/m3	3.7	1.9	1.55		10/11/19 19:21	67-64-1	
Benzene	<0.24	ug/m3	0.50	0.24	1.55		10/11/19 19:21	71-43-2	
Benzyl chloride	<1.9	ug/m3	4.1	1.9	1.55		10/11/19 19:21	100-44-7	
Bromodichloromethane	<0.57	ug/m3	2.1	0.57	1.55		10/11/19 19:21	75-27-4	
Bromoform	<2.2	ug/m3	8.1	2.2	1.55		10/11/19 19:21	75-25-2	
Bromomethane	<0.35	ug/m3	1.2	0.35	1.55		10/11/19 19:21	74-83-9	
1,3-Butadiene	<0.20	ug/m3	0.70	0.20	1.55		10/11/19 19:21	106-99-0	
2-Butanone (MEK)	3.6J	ug/m3	4.6	0.57	1.55		10/11/19 19:21	78-93-3	
Carbon disulfide	<0.34	ug/m3	0.98	0.34	1.55		10/11/19 19:21	75-15-0	
Carbon tetrachloride	<0.66	ug/m3	2.0	0.66	1.55		10/11/19 19:21	56-23-5	
Chlorobenzene	<0.43	ug/m3	1.5	0.43	1.55		10/11/19 19:21	108-90-7	
Chloroethane	<0.40	ug/m3	0.83	0.40	1.55		10/11/19 19:21	75-00-3	
Chloroform	<0.30	ug/m3	0.77	0.30	1.55		10/11/19 19:21	67-66-3	
Chloromethane	0.66	ug/m3	0.65	0.24	1.55		10/11/19 19:21	74-87-3	
Cyclohexane	<0.55	ug/m3	2.7	0.55	1.55		10/11/19 19:21	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.7	1.1	1.55		10/11/19 19:21	124-48-1	
1,2-Dibromoethane (EDB)	<0.57	ug/m3	1.2	0.57	1.55		10/11/19 19:21	106-93-4	
1,2-Dichlorobenzene	<0.77	ug/m3	1.9	0.77	1.55		10/11/19 19:21	95-50-1	
1,3-Dichlorobenzene	<0.90	ug/m3	1.9	0.90	1.55		10/11/19 19:21	541-73-1	
1,4-Dichlorobenzene	<1.6	ug/m3	4.7	1.6	1.55		10/11/19 19:21	106-46-7	
Dichlorodifluoromethane	2.3	ug/m3	1.6	0.45	1.55		10/11/19 19:21	75-71-8	
1,1-Dichloroethane	<0.35	ug/m3	1.3	0.35	1.55		10/11/19 19:21	75-34-3	
1,2-Dichloroethane	<0.23	ug/m3	0.64	0.23	1.55		10/11/19 19:21	107-06-2	

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### ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample:** IA-5      **Lab ID:** 10494361005      Collected: 10/03/19 16:39      Received: 10/04/19 12:00      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		10/11/19 19:21	75-35-4	
cis-1,2-Dichloroethene	<0.34	ug/m3	1.2	0.34	1.55		10/11/19 19:21	156-59-2	
trans-1,2-Dichloroethene	<0.44	ug/m3	1.2	0.44	1.55		10/11/19 19:21	156-60-5	
1,2-Dichloropropane	<0.36	ug/m3	1.5	0.36	1.55		10/11/19 19:21	78-87-5	
cis-1,3-Dichloropropene	<0.47	ug/m3	1.4	0.47	1.55		10/11/19 19:21	10061-01-5	
trans-1,3-Dichloropropene	<0.68	ug/m3	1.4	0.68	1.55		10/11/19 19:21	10061-02-6	
Dichlorotetrafluoroethane	<0.68	ug/m3	2.2	0.68	1.55		10/11/19 19:21	76-14-2	
Ethanol	491	ug/m3	3.0	1.3	1.55		10/11/19 19:21	64-17-5	E
Ethyl acetate	<0.29	ug/m3	1.1	0.29	1.55		10/11/19 19:21	141-78-6	
Ethylbenzene	<0.47	ug/m3	1.4	0.47	1.55		10/11/19 19:21	100-41-4	
4-Ethyltoluene	<0.88	ug/m3	3.9	0.88	1.55		10/11/19 19:21	622-96-8	
n-Heptane	<0.59	ug/m3	1.3	0.59	1.55		10/11/19 19:21	142-82-5	
Hexachloro-1,3-butadiene	<3.1	ug/m3	8.4	3.1	1.55		10/11/19 19:21	87-68-3	
n-Hexane	<0.48	ug/m3	1.1	0.48	1.55		10/11/19 19:21	110-54-3	
2-Hexanone	<1.2	ug/m3	6.4	1.2	1.55		10/11/19 19:21	591-78-6	
Methylene Chloride	<1.9	ug/m3	5.5	1.9	1.55		10/11/19 19:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.80	ug/m3	6.4	0.80	1.55		10/11/19 19:21	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/m3	5.7	1.0	1.55		10/11/19 19:21	1634-04-4	
Naphthalene	<2.0	ug/m3	4.1	2.0	1.55		10/11/19 19:21	91-20-3	
2-Propanol	1440	ug/m3	3.9	1.1	1.55		10/11/19 19:21	67-63-0	E
Propylene	<0.22	ug/m3	0.54	0.22	1.55		10/11/19 19:21	115-07-1	
Styrene	<0.53	ug/m3	1.3	0.53	1.55		10/11/19 19:21	100-42-5	
1,1,2,2-Tetrachloroethane	<0.48	ug/m3	1.1	0.48	1.55		10/11/19 19:21	79-34-5	
Tetrachloroethene	<0.49	ug/m3	1.1	0.49	1.55		10/11/19 19:21	127-18-4	
Tetrahydrofuran	<0.40	ug/m3	0.93	0.40	1.55		10/11/19 19:21	109-99-9	
Toluene	3.6	ug/m3	1.2	0.54	1.55		10/11/19 19:21	108-88-3	
1,2,4-Trichlorobenzene	<5.8	ug/m3	11.7	5.8	1.55		10/11/19 19:21	120-82-1	
1,1,1-Trichloroethane	<0.48	ug/m3	1.7	0.48	1.55		10/11/19 19:21	71-55-6	
1,1,2-Trichloroethane	<0.38	ug/m3	0.86	0.38	1.55		10/11/19 19:21	79-00-5	
Trichloroethene	<0.39	ug/m3	0.85	0.39	1.55		10/11/19 19:21	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	1.8	0.57	1.55		10/11/19 19:21	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.87	ug/m3	2.4	0.87	1.55		10/11/19 19:21	76-13-1	
1,2,4-Trimethylbenzene	<0.70	ug/m3	1.5	0.70	1.55		10/11/19 19:21	95-63-6	
1,3,5-Trimethylbenzene	<0.62	ug/m3	1.5	0.62	1.55		10/11/19 19:21	108-67-8	
Vinyl acetate	<0.42	ug/m3	1.1	0.42	1.55		10/11/19 19:21	108-05-4	
Vinyl chloride	<0.20	ug/m3	0.40	0.20	1.55		10/11/19 19:21	75-01-4	
m&p-Xylene	<1.1	ug/m3	2.7	1.1	1.55		10/11/19 19:21	179601-23-1	
o-Xylene	<0.53	ug/m3	1.4	0.53	1.55		10/11/19 19:21	95-47-6	

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## ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

Sample: IA-6 Lab ID: 10494361006 Collected: 10/03/19 16:46 Received: 10/04/19 12:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	7.7	ug/m3	3.6	1.8	1.49		10/11/19 20:15	67-64-1	
Benzene	<0.23	ug/m3	0.48	0.23	1.49		10/11/19 20:15	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		10/11/19 20:15	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		10/11/19 20:15	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		10/11/19 20:15	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		10/11/19 20:15	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		10/11/19 20:15	106-99-0	
2-Butanone (MEK)	<0.55	ug/m3	4.5	0.55	1.49		10/11/19 20:15	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.94	0.33	1.49		10/11/19 20:15	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		10/11/19 20:15	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		10/11/19 20:15	108-90-7	
Chloroethane	<0.39	ug/m3	0.80	0.39	1.49		10/11/19 20:15	75-00-3	
Chloroform	<0.29	ug/m3	0.74	0.29	1.49		10/11/19 20:15	67-66-3	
Chloromethane	0.76	ug/m3	0.63	0.23	1.49		10/11/19 20:15	74-87-3	
Cyclohexane	<0.53	ug/m3	2.6	0.53	1.49		10/11/19 20:15	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		10/11/19 20:15	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		10/11/19 20:15	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		10/11/19 20:15	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		10/11/19 20:15	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		10/11/19 20:15	106-46-7	
Dichlorodifluoromethane	2.5	ug/m3	1.5	0.44	1.49		10/11/19 20:15	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.2	0.34	1.49		10/11/19 20:15	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		10/11/19 20:15	107-06-2	
1,1-Dichloroethene	<0.41	ug/m3	1.2	0.41	1.49		10/11/19 20:15	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		10/11/19 20:15	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		10/11/19 20:15	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		10/11/19 20:15	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		10/11/19 20:15	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		10/11/19 20:15	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		10/11/19 20:15	76-14-2	
Ethanol	61.6	ug/m3	2.9	1.2	1.49		10/11/19 20:15	64-17-5	
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		10/11/19 20:15	141-78-6	
Ethylbenzene	<0.45	ug/m3	1.3	0.45	1.49		10/11/19 20:15	100-41-4	
4-Ethyltoluene	<0.85	ug/m3	3.7	0.85	1.49		10/11/19 20:15	622-96-8	
n-Heptane	0.87J	ug/m3	1.2	0.57	1.49		10/11/19 20:15	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		10/11/19 20:15	87-68-3	
n-Hexane	<0.46	ug/m3	1.1	0.46	1.49		10/11/19 20:15	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		10/11/19 20:15	591-78-6	
Methylene Chloride	<1.8	ug/m3	5.3	1.8	1.49		10/11/19 20:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		10/11/19 20:15	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		10/11/19 20:15	1634-04-4	
Naphthalene	<2.0	ug/m3	4.0	2.0	1.49		10/11/19 20:15	91-20-3	
2-Propanol	190	ug/m3	3.7	1.0	1.49		10/11/19 20:15	67-63-0	
Propylene	0.64	ug/m3	0.52	0.21	1.49		10/11/19 20:15	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		10/11/19 20:15	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	ug/m3	1.0	0.46	1.49		10/11/19 20:15	79-34-5	

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### ANALYTICAL RESULTS

Project: 18883 MPS  
Pace Project No.: 10494361

Sample: IA-6 Lab ID: 10494361006 Collected: 10/03/19 16:46 Received: 10/04/19 12:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Tetrachloroethene	<0.47	ug/m3	1.0	0.47	1.49		10/11/19 20:15	127-18-4	
Tetrahydrofuran	<0.39	ug/m3	0.89	0.39	1.49		10/11/19 20:15	109-99-9	
Toluene	0.58J	ug/m3	1.1	0.52	1.49		10/11/19 20:15	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		10/11/19 20:15	120-82-1	
1,1,1-Trichloroethane	<0.46	ug/m3	1.7	0.46	1.49		10/11/19 20:15	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		10/11/19 20:15	79-00-5	
Trichloroethene	<0.38	ug/m3	0.81	0.38	1.49		10/11/19 20:15	79-01-6	
Trichlorofluoromethane	1.6J	ug/m3	1.7	0.55	1.49		10/11/19 20:15	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		10/11/19 20:15	76-13-1	
1,2,4-Trimethylbenzene	<0.67	ug/m3	1.5	0.67	1.49		10/11/19 20:15	95-63-6	
1,3,5-Trimethylbenzene	<0.59	ug/m3	1.5	0.59	1.49		10/11/19 20:15	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		10/11/19 20:15	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		10/11/19 20:15	75-01-4	
m&p-Xylene	1.2J	ug/m3	2.6	1.0	1.49		10/11/19 20:15	179601-23-1	
o-Xylene	<0.51	ug/m3	1.3	0.51	1.49		10/11/19 20:15	95-47-6	

Sample: IA-7 Lab ID: 10494361007 Collected: 10/03/19 17:11 Received: 10/04/19 12:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Acetone	20.1	ug/m3	3.5	1.7	1.44		10/11/19 22:07	67-64-1	
Benzene	2.2	ug/m3	0.47	0.22	1.44		10/11/19 22:07	71-43-2	
Benzyl chloride	<1.7	ug/m3	3.8	1.7	1.44		10/11/19 22:07	100-44-7	
Bromodichloromethane	<0.53	ug/m3	2.0	0.53	1.44		10/11/19 22:07	75-27-4	
Bromoform	<2.0	ug/m3	7.6	2.0	1.44		10/11/19 22:07	75-25-2	
Bromomethane	<0.33	ug/m3	1.1	0.33	1.44		10/11/19 22:07	74-83-9	
1,3-Butadiene	<0.18	ug/m3	0.65	0.18	1.44		10/11/19 22:07	106-99-0	
2-Butanone (MEK)	0.75J	ug/m3	4.3	0.53	1.44		10/11/19 22:07	78-93-3	
Carbon disulfide	0.80J	ug/m3	0.91	0.32	1.44		10/11/19 22:07	75-15-0	
Carbon tetrachloride	<0.62	ug/m3	1.8	0.62	1.44		10/11/19 22:07	56-23-5	
Chlorobenzene	<0.40	ug/m3	1.3	0.40	1.44		10/11/19 22:07	108-90-7	
Chloroethane	<0.37	ug/m3	0.77	0.37	1.44		10/11/19 22:07	75-00-3	
Chloroform	<0.28	ug/m3	0.71	0.28	1.44		10/11/19 22:07	67-66-3	
Chloromethane	2.3	ug/m3	0.60	0.22	1.44		10/11/19 22:07	74-87-3	
Cyclohexane	<0.51	ug/m3	2.5	0.51	1.44		10/11/19 22:07	110-82-7	
Dibromochloromethane	<1.0	ug/m3	2.5	1.0	1.44		10/11/19 22:07	124-48-1	
1,2-Dibromoethane (EDB)	<0.53	ug/m3	1.1	0.53	1.44		10/11/19 22:07	106-93-4	
1,2-Dichlorobenzene	<0.72	ug/m3	1.8	0.72	1.44		10/11/19 22:07	95-50-1	
1,3-Dichlorobenzene	<0.84	ug/m3	1.8	0.84	1.44		10/11/19 22:07	541-73-1	
1,4-Dichlorobenzene	<1.4	ug/m3	4.4	1.4	1.44		10/11/19 22:07	106-46-7	
Dichlorodifluoromethane	2.2	ug/m3	1.5	0.42	1.44		10/11/19 22:07	75-71-8	
1,1-Dichloroethane	<0.32	ug/m3	1.2	0.32	1.44		10/11/19 22:07	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.59	0.22	1.44		10/11/19 22:07	107-06-2	

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## ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample: IA-7**      **Lab ID: 10494361007**      Collected: 10/03/19 17:11      Received: 10/04/19 12:00      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	<0.39	ug/m3	1.2	0.39	1.44		10/11/19 22:07	75-35-4	
cis-1,2-Dichloroethene	<0.32	ug/m3	1.2	0.32	1.44		10/11/19 22:07	156-59-2	
trans-1,2-Dichloroethene	<0.41	ug/m3	1.2	0.41	1.44		10/11/19 22:07	156-60-5	
1,2-Dichloropropane	<0.33	ug/m3	1.4	0.33	1.44		10/11/19 22:07	78-87-5	
cis-1,3-Dichloropropene	<0.44	ug/m3	1.3	0.44	1.44		10/11/19 22:07	10061-01-5	
trans-1,3-Dichloropropene	<0.63	ug/m3	1.3	0.63	1.44		10/11/19 22:07	10061-02-6	
Dichlorotetrafluoroethane	<0.63	ug/m3	2.0	0.63	1.44		10/11/19 22:07	76-14-2	
Ethanol	515	ug/m3	2.8	1.2	1.44		10/11/19 22:07	64-17-5	E
Ethyl acetate	<0.27	ug/m3	1.1	0.27	1.44		10/11/19 22:07	141-78-6	
Ethylbenzene	0.61J	ug/m3	1.3	0.44	1.44		10/11/19 22:07	100-41-4	
4-Ethyltoluene	1.4J	ug/m3	3.6	0.82	1.44		10/11/19 22:07	622-96-8	
n-Heptane	<0.55	ug/m3	1.2	0.55	1.44		10/11/19 22:07	142-82-5	
Hexachloro-1,3-butadiene	<2.8	ug/m3	7.8	2.8	1.44		10/11/19 22:07	87-68-3	
n-Hexane	1.2	ug/m3	1.0	0.45	1.44		10/11/19 22:07	110-54-3	
2-Hexanone	<1.1	ug/m3	6.0	1.1	1.44		10/11/19 22:07	591-78-6	
Methylene Chloride	14.6	ug/m3	5.1	1.7	1.44		10/11/19 22:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.75	ug/m3	6.0	0.75	1.44		10/11/19 22:07	108-10-1	
Methyl-tert-butyl ether	<0.95	ug/m3	5.3	0.95	1.44		10/11/19 22:07	1634-04-4	
Naphthalene	<1.9	ug/m3	3.8	1.9	1.44		10/11/19 22:07	91-20-3	
2-Propanol	640	ug/m3	3.6	1.0	1.44		10/11/19 22:07	67-63-0	E
Propylene	<0.20	ug/m3	0.50	0.20	1.44		10/11/19 22:07	115-07-1	
Styrene	2.7	ug/m3	1.2	0.50	1.44		10/11/19 22:07	100-42-5	
1,1,2,2-Tetrachloroethane	<0.44	ug/m3	1.0	0.44	1.44		10/11/19 22:07	79-34-5	
Tetrachloroethene	<0.45	ug/m3	0.99	0.45	1.44		10/11/19 22:07	127-18-4	
Tetrahydrofuran	<0.38	ug/m3	0.86	0.38	1.44		10/11/19 22:07	109-99-9	
Toluene	2.9	ug/m3	1.1	0.51	1.44		10/11/19 22:07	108-88-3	
1,2,4-Trichlorobenzene	<5.4	ug/m3	10.9	5.4	1.44		10/11/19 22:07	120-82-1	
1,1,1-Trichloroethane	<0.44	ug/m3	1.6	0.44	1.44		10/11/19 22:07	71-55-6	
1,1,2-Trichloroethane	<0.35	ug/m3	0.80	0.35	1.44		10/11/19 22:07	79-00-5	
Trichloroethene	<0.36	ug/m3	0.79	0.36	1.44		10/11/19 22:07	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.6	0.53	1.44		10/11/19 22:07	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.81	ug/m3	2.2	0.81	1.44		10/11/19 22:07	76-13-1	
1,2,4-Trimethylbenzene	3.7	ug/m3	1.4	0.65	1.44		10/11/19 22:07	95-63-6	
1,3,5-Trimethylbenzene	1.0J	ug/m3	1.4	0.57	1.44		10/11/19 22:07	108-67-8	
Vinyl acetate	<0.39	ug/m3	1.0	0.39	1.44		10/11/19 22:07	108-05-4	
Vinyl chloride	<0.18	ug/m3	0.37	0.18	1.44		10/11/19 22:07	75-01-4	
m&p-Xylene	2.9	ug/m3	2.5	1.0	1.44		10/11/19 22:07	179601-23-1	
o-Xylene	1.6	ug/m3	1.3	0.50	1.44		10/11/19 22:07	95-47-6	

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## ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample: IA-8**      **Lab ID: 10494361008**      Collected: 10/03/19 17:14      Received: 10/04/19 12:00      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	18.5	ug/m3	5.4	2.7	2.25		10/11/19 21:13	67-64-1	
Benzene	<0.34	ug/m3	0.73	0.34	2.25		10/11/19 21:13	71-43-2	
Benzyl chloride	<2.7	ug/m3	5.9	2.7	2.25		10/11/19 21:13	100-44-7	
Bromodichloromethane	<0.82	ug/m3	3.1	0.82	2.25		10/11/19 21:13	75-27-4	
Bromoform	<3.2	ug/m3	11.8	3.2	2.25		10/11/19 21:13	75-25-2	
Bromomethane	<0.51	ug/m3	1.8	0.51	2.25		10/11/19 21:13	74-83-9	
1,3-Butadiene	<0.29	ug/m3	1.0	0.29	2.25		10/11/19 21:13	106-99-0	
2-Butanone (MEK)	2.6J	ug/m3	6.8	0.83	2.25		10/11/19 21:13	78-93-3	
Carbon disulfide	<0.49	ug/m3	1.4	0.49	2.25		10/11/19 21:13	75-15-0	
Carbon tetrachloride	<0.97	ug/m3	2.9	0.97	2.25		10/11/19 21:13	56-23-5	
Chlorobenzene	<0.62	ug/m3	2.1	0.62	2.25		10/11/19 21:13	108-90-7	
Chloroethane	<0.58	ug/m3	1.2	0.58	2.25		10/11/19 21:13	75-00-3	
Chloroform	<0.44	ug/m3	1.1	0.44	2.25		10/11/19 21:13	67-66-3	
Chloromethane	0.76J	ug/m3	0.94	0.35	2.25		10/11/19 21:13	74-87-3	
Cyclohexane	<0.79	ug/m3	3.9	0.79	2.25		10/11/19 21:13	110-82-7	
Dibromochloromethane	<1.6	ug/m3	3.9	1.6	2.25		10/11/19 21:13	124-48-1	
1,2-Dibromoethane (EDB)	<0.82	ug/m3	1.8	0.82	2.25		10/11/19 21:13	106-93-4	
1,2-Dichlorobenzene	<1.1	ug/m3	2.7	1.1	2.25		10/11/19 21:13	95-50-1	
1,3-Dichlorobenzene	<1.3	ug/m3	2.7	1.3	2.25		10/11/19 21:13	541-73-1	
1,4-Dichlorobenzene	<2.2	ug/m3	6.9	2.2	2.25		10/11/19 21:13	106-46-7	
Dichlorodifluoromethane	1.9J	ug/m3	2.3	0.66	2.25		10/11/19 21:13	75-71-8	
1,1-Dichloroethane	<0.51	ug/m3	1.9	0.51	2.25		10/11/19 21:13	75-34-3	
1,2-Dichloroethane	<0.34	ug/m3	0.92	0.34	2.25		10/11/19 21:13	107-06-2	
1,1-Dichloroethene	<0.62	ug/m3	1.8	0.62	2.25		10/11/19 21:13	75-35-4	
cis-1,2-Dichloroethene	<0.49	ug/m3	1.8	0.49	2.25		10/11/19 21:13	156-59-2	
trans-1,2-Dichloroethene	<0.64	ug/m3	1.8	0.64	2.25		10/11/19 21:13	156-60-5	
1,2-Dichloropropane	<0.52	ug/m3	2.1	0.52	2.25		10/11/19 21:13	78-87-5	
cis-1,3-Dichloropropene	<0.68	ug/m3	2.1	0.68	2.25		10/11/19 21:13	10061-01-5	
trans-1,3-Dichloropropene	<0.99	ug/m3	2.1	0.99	2.25		10/11/19 21:13	10061-02-6	
Dichlorotetrafluoroethane	<0.98	ug/m3	3.2	0.98	2.25		10/11/19 21:13	76-14-2	
Ethanol	386	ug/m3	4.3	1.8	2.25		10/11/19 21:13	64-17-5	
Ethyl acetate	<0.43	ug/m3	1.6	0.43	2.25		10/11/19 21:13	141-78-6	
Ethylbenzene	<0.69	ug/m3	2.0	0.69	2.25		10/11/19 21:13	100-41-4	
4-Ethyltoluene	<1.3	ug/m3	5.6	1.3	2.25		10/11/19 21:13	622-96-8	
n-Heptane	<0.86	ug/m3	1.9	0.86	2.25		10/11/19 21:13	142-82-5	
Hexachloro-1,3-butadiene	<4.4	ug/m3	12.2	4.4	2.25		10/11/19 21:13	87-68-3	
n-Hexane	0.94J	ug/m3	1.6	0.70	2.25		10/11/19 21:13	110-54-3	
2-Hexanone	<1.7	ug/m3	9.4	1.7	2.25		10/11/19 21:13	591-78-6	
Methylene Chloride	7.4J	ug/m3	7.9	2.7	2.25		10/11/19 21:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	1.2J	ug/m3	9.4	1.2	2.25		10/11/19 21:13	108-10-1	
Methyl-tert-butyl ether	<1.5	ug/m3	8.2	1.5	2.25		10/11/19 21:13	1634-04-4	
Naphthalene	<2.9	ug/m3	6.0	2.9	2.25		10/11/19 21:13	91-20-3	
2-Propanol	733	ug/m3	5.6	1.6	2.25		10/11/19 21:13	67-63-0	
Propylene	1.1	ug/m3	0.79	0.32	2.25		10/11/19 21:13	115-07-1	
Styrene	<0.77	ug/m3	1.9	0.77	2.25		10/11/19 21:13	100-42-5	
1,1,2,2-Tetrachloroethane	<0.70	ug/m3	1.6	0.70	2.25		10/11/19 21:13	79-34-5	

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### ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

Sample: IA-8 Lab ID: 10494361008 Collected: 10/03/19 17:14 Received: 10/04/19 12:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Tetrachloroethene	<0.71	ug/m3	1.6	0.71	2.25		10/11/19 21:13	127-18-4	
Tetrahydrofuran	<0.59	ug/m3	1.4	0.59	2.25		10/11/19 21:13	109-99-9	
Toluene	6.7	ug/m3	1.7	0.79	2.25		10/11/19 21:13	108-88-3	
1,2,4-Trichlorobenzene	<8.4	ug/m3	17.0	8.4	2.25		10/11/19 21:13	120-82-1	
1,1,1-Trichloroethane	<0.70	ug/m3	2.5	0.70	2.25		10/11/19 21:13	71-55-6	
1,1,2-Trichloroethane	<0.54	ug/m3	1.2	0.54	2.25		10/11/19 21:13	79-00-5	
Trichloroethene	<0.57	ug/m3	1.2	0.57	2.25		10/11/19 21:13	79-01-6	
Trichlorofluoromethane	1.7J	ug/m3	2.6	0.82	2.25		10/11/19 21:13	75-69-4	
1,1,2-Trichlorotrifluoroethane	<1.3	ug/m3	3.5	1.3	2.25		10/11/19 21:13	76-13-1	
1,2,4-Trimethylbenzene	<1.0	ug/m3	2.2	1.0	2.25		10/11/19 21:13	95-63-6	
1,3,5-Trimethylbenzene	<0.90	ug/m3	2.2	0.90	2.25		10/11/19 21:13	108-67-8	
Vinyl acetate	<0.61	ug/m3	1.6	0.61	2.25		10/11/19 21:13	108-05-4	
Vinyl chloride	<0.28	ug/m3	0.58	0.28	2.25		10/11/19 21:13	75-01-4	
m&p-Xylene	<1.6	ug/m3	4.0	1.6	2.25		10/11/19 21:13	179601-23-1	
o-Xylene	<0.77	ug/m3	2.0	0.77	2.25		10/11/19 21:13	95-47-6	

Sample: IA-9 Lab ID: 10494361009 Collected: 10/03/19 16:57 Received: 10/04/19 12:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR Analytical Method: TO-15									
Acetone	39.1	ug/m3	3.7	1.8	1.52		10/11/19 19:48	67-64-1	
Benzene	<0.23	ug/m3	0.49	0.23	1.52		10/11/19 19:48	71-43-2	
Benzyl chloride	<1.8	ug/m3	4.0	1.8	1.52		10/11/19 19:48	100-44-7	
Bromodichloromethane	<0.56	ug/m3	2.1	0.56	1.52		10/11/19 19:48	75-27-4	
Bromoform	<2.2	ug/m3	8.0	2.2	1.52		10/11/19 19:48	75-25-2	
Bromomethane	<0.35	ug/m3	1.2	0.35	1.52		10/11/19 19:48	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.68	0.19	1.52		10/11/19 19:48	106-99-0	
2-Butanone (MEK)	2.0J	ug/m3	4.6	0.56	1.52		10/11/19 19:48	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.96	0.33	1.52		10/11/19 19:48	75-15-0	
Carbon tetrachloride	<0.65	ug/m3	1.9	0.65	1.52		10/11/19 19:48	56-23-5	
Chlorobenzene	<0.42	ug/m3	1.4	0.42	1.52		10/11/19 19:48	108-90-7	
Chloroethane	<0.40	ug/m3	0.81	0.40	1.52		10/11/19 19:48	75-00-3	
Chloroform	<0.30	ug/m3	0.75	0.30	1.52		10/11/19 19:48	67-66-3	
Chloromethane	0.76	ug/m3	0.64	0.24	1.52		10/11/19 19:48	74-87-3	
Cyclohexane	<0.54	ug/m3	2.7	0.54	1.52		10/11/19 19:48	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.52		10/11/19 19:48	124-48-1	
1,2-Dibromoethane (EDB)	<0.56	ug/m3	1.2	0.56	1.52		10/11/19 19:48	106-93-4	
1,2-Dichlorobenzene	<0.76	ug/m3	1.9	0.76	1.52		10/11/19 19:48	95-50-1	
1,3-Dichlorobenzene	<0.88	ug/m3	1.9	0.88	1.52		10/11/19 19:48	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.7	1.5	1.52		10/11/19 19:48	106-46-7	
Dichlorodifluoromethane	2.3	ug/m3	1.5	0.45	1.52		10/11/19 19:48	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.3	0.34	1.52		10/11/19 19:48	75-34-3	
1,2-Dichloroethane	<0.23	ug/m3	0.62	0.23	1.52		10/11/19 19:48	107-06-2	

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## ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample: IA-9**      **Lab ID: 10494361009**      Collected: 10/03/19 16:57      Received: 10/04/19 12:00      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	1.52		10/11/19 19:48	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.52		10/11/19 19:48	156-59-2	
trans-1,2-Dichloroethene	<0.43	ug/m3	1.2	0.43	1.52		10/11/19 19:48	156-60-5	
1,2-Dichloropropane	<0.35	ug/m3	1.4	0.35	1.52		10/11/19 19:48	78-87-5	
cis-1,3-Dichloropropene	<0.46	ug/m3	1.4	0.46	1.52		10/11/19 19:48	10061-01-5	
trans-1,3-Dichloropropene	<0.67	ug/m3	1.4	0.67	1.52		10/11/19 19:48	10061-02-6	
Dichlorotetrafluoroethane	<0.66	ug/m3	2.2	0.66	1.52		10/11/19 19:48	76-14-2	
Ethanol	1710	ug/m3	233	98.7	121.6		10/12/19 15:03	64-17-5	
Ethyl acetate	<0.29	ug/m3	1.1	0.29	1.52		10/11/19 19:48	141-78-6	
Ethylbenzene	<0.46	ug/m3	1.3	0.46	1.52		10/11/19 19:48	100-41-4	
4-Ethyltoluene	<0.87	ug/m3	3.8	0.87	1.52		10/11/19 19:48	622-96-8	
n-Heptane	<0.58	ug/m3	1.3	0.58	1.52		10/11/19 19:48	142-82-5	
Hexachloro-1,3-butadiene	<3.0	ug/m3	8.2	3.0	1.52		10/11/19 19:48	87-68-3	
n-Hexane	<0.47	ug/m3	1.1	0.47	1.52		10/11/19 19:48	110-54-3	
2-Hexanone	<1.1	ug/m3	6.3	1.1	1.52		10/11/19 19:48	591-78-6	
Methylene Chloride	<1.8	ug/m3	5.4	1.8	1.52		10/11/19 19:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.79	ug/m3	6.3	0.79	1.52		10/11/19 19:48	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/m3	5.6	1.0	1.52		10/11/19 19:48	1634-04-4	
Naphthalene	<2.0	ug/m3	4.0	2.0	1.52		10/11/19 19:48	91-20-3	
2-Propanol	25200	ug/m3	304	84.8	121.6		10/12/19 15:03	67-63-0	
Propylene	0.72	ug/m3	0.53	0.21	1.52		10/11/19 19:48	115-07-1	
Styrene	<0.52	ug/m3	1.3	0.52	1.52		10/11/19 19:48	100-42-5	
1,1,2,2-Tetrachloroethane	<0.47	ug/m3	1.1	0.47	1.52		10/11/19 19:48	79-34-5	
Tetrachloroethene	<0.48	ug/m3	1.0	0.48	1.52		10/11/19 19:48	127-18-4	
Tetrahydrofuran	<0.40	ug/m3	0.91	0.40	1.52		10/11/19 19:48	109-99-9	
Toluene	0.64J	ug/m3	1.2	0.53	1.52		10/11/19 19:48	108-88-3	
1,2,4-Trichlorobenzene	<5.7	ug/m3	11.5	5.7	1.52		10/11/19 19:48	120-82-1	
1,1,1-Trichloroethane	<0.47	ug/m3	1.7	0.47	1.52		10/11/19 19:48	71-55-6	
1,1,2-Trichloroethane	<0.37	ug/m3	0.84	0.37	1.52		10/11/19 19:48	79-00-5	
Trichloroethene	<0.38	ug/m3	0.83	0.38	1.52		10/11/19 19:48	79-01-6	
Trichlorofluoromethane	1.4J	ug/m3	1.7	0.56	1.52		10/11/19 19:48	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.86	ug/m3	2.4	0.86	1.52		10/11/19 19:48	76-13-1	
1,2,4-Trimethylbenzene	<0.69	ug/m3	1.5	0.69	1.52		10/11/19 19:48	95-63-6	
1,3,5-Trimethylbenzene	<0.61	ug/m3	1.5	0.61	1.52		10/11/19 19:48	108-67-8	
Vinyl acetate	<0.41	ug/m3	1.1	0.41	1.52		10/11/19 19:48	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.40	0.19	1.52		10/11/19 19:48	75-01-4	
m&p-Xylene	<1.1	ug/m3	2.7	1.1	1.52		10/11/19 19:48	179601-23-1	
o-Xylene	<0.52	ug/m3	1.3	0.52	1.52		10/11/19 19:48	95-47-6	

### REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample: IA-10**      **Lab ID: 10494361010**      Collected: 10/03/19 16:59      Received: 10/04/19 12:00      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b>		Analytical Method: TO-15							
Acetone	36.1	ug/m3	3.6	1.8	1.49		10/11/19 18:54	67-64-1	
Benzene	<0.23	ug/m3	0.48	0.23	1.49		10/11/19 18:54	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		10/11/19 18:54	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		10/11/19 18:54	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		10/11/19 18:54	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		10/11/19 18:54	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		10/11/19 18:54	106-99-0	
2-Butanone (MEK)	2.2J	ug/m3	4.5	0.55	1.49		10/11/19 18:54	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.94	0.33	1.49		10/11/19 18:54	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		10/11/19 18:54	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		10/11/19 18:54	108-90-7	
Chloroethane	<0.39	ug/m3	0.80	0.39	1.49		10/11/19 18:54	75-00-3	
Chloroform	<0.29	ug/m3	0.74	0.29	1.49		10/11/19 18:54	67-66-3	
Chloromethane	0.70	ug/m3	0.63	0.23	1.49		10/11/19 18:54	74-87-3	
Cyclohexane	<0.53	ug/m3	2.6	0.53	1.49		10/11/19 18:54	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		10/11/19 18:54	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		10/11/19 18:54	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		10/11/19 18:54	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		10/11/19 18:54	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		10/11/19 18:54	106-46-7	
Dichlorodifluoromethane	2.2	ug/m3	1.5	0.44	1.49		10/11/19 18:54	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.2	0.34	1.49		10/11/19 18:54	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		10/11/19 18:54	107-06-2	
1,1-Dichloroethene	<0.41	ug/m3	1.2	0.41	1.49		10/11/19 18:54	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		10/11/19 18:54	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		10/11/19 18:54	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		10/11/19 18:54	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		10/11/19 18:54	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		10/11/19 18:54	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		10/11/19 18:54	76-14-2	
Ethanol	1410	ug/m3	229	96.8	119.2		10/12/19 14:38	64-17-5	
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		10/11/19 18:54	141-78-6	
Ethylbenzene	<0.45	ug/m3	1.3	0.45	1.49		10/11/19 18:54	100-41-4	
4-Ethyltoluene	<0.85	ug/m3	3.7	0.85	1.49		10/11/19 18:54	622-96-8	
n-Heptane	<0.57	ug/m3	1.2	0.57	1.49		10/11/19 18:54	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		10/11/19 18:54	87-68-3	
n-Hexane	<0.46	ug/m3	1.1	0.46	1.49		10/11/19 18:54	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		10/11/19 18:54	591-78-6	
Methylene Chloride	<1.8	ug/m3	5.3	1.8	1.49		10/11/19 18:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		10/11/19 18:54	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		10/11/19 18:54	1634-04-4	
Naphthalene	<2.0	ug/m3	4.0	2.0	1.49		10/11/19 18:54	91-20-3	
2-Propanol	25000	ug/m3	298	83.1	119.2		10/12/19 14:38	67-63-0	
Propylene	0.66	ug/m3	0.52	0.21	1.49		10/11/19 18:54	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		10/11/19 18:54	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	ug/m3	1.0	0.46	1.49		10/11/19 18:54	79-34-5	

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### ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample: IA-10**      **Lab ID: 10494361010**      Collected: 10/03/19 16:59      Received: 10/04/19 12:00      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		10/11/19 18:54	127-18-4	
Tetrahydrofuran	<0.39	ug/m3	0.89	0.39	1.49		10/11/19 18:54	109-99-9	
Toluene	<0.52	ug/m3	1.1	0.52	1.49		10/11/19 18:54	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		10/11/19 18:54	120-82-1	
1,1,1-Trichloroethane	<0.46	ug/m3	1.7	0.46	1.49		10/11/19 18:54	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		10/11/19 18:54	79-00-5	
Trichloroethene	<0.38	ug/m3	0.81	0.38	1.49		10/11/19 18:54	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	1.7	0.55	1.49		10/11/19 18:54	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		10/11/19 18:54	76-13-1	
1,2,4-Trimethylbenzene	<0.67	ug/m3	1.5	0.67	1.49		10/11/19 18:54	95-63-6	
1,3,5-Trimethylbenzene	<0.59	ug/m3	1.5	0.59	1.49		10/11/19 18:54	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		10/11/19 18:54	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		10/11/19 18:54	75-01-4	
m&p-Xylene	<1.0	ug/m3	2.6	1.0	1.49		10/11/19 18:54	179601-23-1	
o-Xylene	<0.51	ug/m3	1.3	0.51	1.49		10/11/19 18:54	95-47-6	

**Sample: AA-1**      **Lab ID: 10494361011**      Collected: 10/03/19 17:02      Received: 10/04/19 12:00      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>TO15 MSV AIR</b> Analytical Method: TO-15									
Acetone	10.8	ug/m3	3.6	1.8	1.49		10/11/19 17:59	67-64-1	
Benzene	<0.23	ug/m3	0.48	0.23	1.49		10/11/19 17:59	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		10/11/19 17:59	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		10/11/19 17:59	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		10/11/19 17:59	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		10/11/19 17:59	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		10/11/19 17:59	106-99-0	
2-Butanone (MEK)	1.5J	ug/m3	4.5	0.55	1.49		10/11/19 17:59	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.94	0.33	1.49		10/11/19 17:59	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		10/11/19 17:59	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		10/11/19 17:59	108-90-7	
Chloroethane	<0.39	ug/m3	0.80	0.39	1.49		10/11/19 17:59	75-00-3	
Chloroform	<0.29	ug/m3	0.74	0.29	1.49		10/11/19 17:59	67-66-3	
Chloromethane	0.81	ug/m3	0.63	0.23	1.49		10/11/19 17:59	74-87-3	
Cyclohexane	<0.53	ug/m3	2.6	0.53	1.49		10/11/19 17:59	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		10/11/19 17:59	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		10/11/19 17:59	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		10/11/19 17:59	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		10/11/19 17:59	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		10/11/19 17:59	106-46-7	
Dichlorodifluoromethane	2.2	ug/m3	1.5	0.44	1.49		10/11/19 17:59	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.2	0.34	1.49		10/11/19 17:59	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		10/11/19 17:59	107-06-2	

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## ANALYTICAL RESULTS

Project: 18883 MPS

Pace Project No.: 10494361

**Sample: AA-1**      **Lab ID: 10494361011**      Collected: 10/03/19 17:02      Received: 10/04/19 12:00      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	<0.41	ug/m3	1.2	0.41	1.49		10/11/19 17:59	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		10/11/19 17:59	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		10/11/19 17:59	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		10/11/19 17:59	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		10/11/19 17:59	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		10/11/19 17:59	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		10/11/19 17:59	76-14-2	
Ethanol	6.7	ug/m3	2.9	1.2	1.49		10/11/19 17:59	64-17-5	
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		10/11/19 17:59	141-78-6	
Ethylbenzene	<0.45	ug/m3	1.3	0.45	1.49		10/11/19 17:59	100-41-4	
4-Ethyltoluene	<0.85	ug/m3	3.7	0.85	1.49		10/11/19 17:59	622-96-8	
n-Heptane	<0.57	ug/m3	1.2	0.57	1.49		10/11/19 17:59	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		10/11/19 17:59	87-68-3	
n-Hexane	<0.46	ug/m3	1.1	0.46	1.49		10/11/19 17:59	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		10/11/19 17:59	591-78-6	
Methylene Chloride	<1.8	ug/m3	5.3	1.8	1.49		10/11/19 17:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		10/11/19 17:59	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		10/11/19 17:59	1634-04-4	
Naphthalene	<2.0	ug/m3	4.0	2.0	1.49		10/11/19 17:59	91-20-3	
2-Propanol	9.8	ug/m3	3.7	1.0	1.49		10/11/19 17:59	67-63-0	
Propylene	0.76	ug/m3	0.52	0.21	1.49		10/11/19 17:59	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		10/11/19 17:59	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	ug/m3	1.0	0.46	1.49		10/11/19 17:59	79-34-5	
Tetrachloroethene	<0.47	ug/m3	1.0	0.47	1.49		10/11/19 17:59	127-18-4	
Tetrahydrofuran	<0.39	ug/m3	0.89	0.39	1.49		10/11/19 17:59	109-99-9	
Toluene	<0.52	ug/m3	1.1	0.52	1.49		10/11/19 17:59	108-88-3	
1,2,4-Trichlorobenzene	<5.5	ug/m3	11.2	5.5	1.49		10/11/19 17:59	120-82-1	
1,1,1-Trichloroethane	<0.46	ug/m3	1.7	0.46	1.49		10/11/19 17:59	71-55-6	
1,1,2-Trichloroethane	<0.36	ug/m3	0.83	0.36	1.49		10/11/19 17:59	79-00-5	
Trichloroethene	<0.38	ug/m3	0.81	0.38	1.49		10/11/19 17:59	79-01-6	
Trichlorofluoromethane	1.3J	ug/m3	1.7	0.55	1.49		10/11/19 17:59	75-69-4	
1,1,2-Trichlorotrifluoroethane	<0.84	ug/m3	2.3	0.84	1.49		10/11/19 17:59	76-13-1	
1,2,4-Trimethylbenzene	<0.67	ug/m3	1.5	0.67	1.49		10/11/19 17:59	95-63-6	
1,3,5-Trimethylbenzene	<0.59	ug/m3	1.5	0.59	1.49		10/11/19 17:59	108-67-8	
Vinyl acetate	<0.40	ug/m3	1.1	0.40	1.49		10/11/19 17:59	108-05-4	
Vinyl chloride	<0.19	ug/m3	0.39	0.19	1.49		10/11/19 17:59	75-01-4	
m&p-Xylene	<1.0	ug/m3	2.6	1.0	1.49		10/11/19 17:59	179601-23-1	
o-Xylene	<0.51	ug/m3	1.3	0.51	1.49		10/11/19 17:59	95-47-6	

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### QUALITY CONTROL DATA

Project: 18883 MPS  
Pace Project No.: 10494361

QC Batch: 637787 Analysis Method: TO-15  
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level  
Associated Lab Samples: 10494361001, 10494361002, 10494361004, 10494361005, 10494361006, 10494361007, 10494361008, 10494361009, 10494361010, 10494361011

METHOD BLANK: 3437894 Matrix: Air  
Associated Lab Samples: 10494361001, 10494361002, 10494361004, 10494361005, 10494361006, 10494361007, 10494361008, 10494361009, 10494361010, 10494361011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.15	0.56	10/11/19 08:44	
1,1,2,2-Tetrachloroethane	ug/m3	<0.15	0.35	10/11/19 08:44	
1,1,2-Trichloroethane	ug/m3	<0.12	0.28	10/11/19 08:44	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.28	0.78	10/11/19 08:44	
1,1-Dichloroethane	ug/m3	<0.11	0.41	10/11/19 08:44	
1,1-Dichloroethene	ug/m3	<0.14	0.40	10/11/19 08:44	
1,2,4-Trichlorobenzene	ug/m3	<1.9	3.8	10/11/19 08:44	
1,2,4-Trimethylbenzene	ug/m3	<0.23	0.50	10/11/19 08:44	
1,2-Dibromoethane (EDB)	ug/m3	<0.18	0.39	10/11/19 08:44	
1,2-Dichlorobenzene	ug/m3	<0.25	0.61	10/11/19 08:44	
1,2-Dichloroethane	ug/m3	<0.075	0.21	10/11/19 08:44	
1,2-Dichloropropane	ug/m3	<0.12	0.47	10/11/19 08:44	
1,3,5-Trimethylbenzene	ug/m3	<0.20	0.50	10/11/19 08:44	
1,3-Butadiene	ug/m3	<0.064	0.22	10/11/19 08:44	
1,3-Dichlorobenzene	ug/m3	<0.29	0.61	10/11/19 08:44	
1,4-Dichlorobenzene	ug/m3	<0.50	1.5	10/11/19 08:44	
2-Butanone (MEK)	ug/m3	<0.18	1.5	10/11/19 08:44	
2-Hexanone	ug/m3	<0.37	2.1	10/11/19 08:44	
2-Propanol	ug/m3	<0.35	1.2	10/11/19 08:44	
4-Ethyltoluene	ug/m3	<0.28	1.2	10/11/19 08:44	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.26	2.1	10/11/19 08:44	
Acetone	ug/m3	<0.60	1.2	10/11/19 08:44	
Benzene	ug/m3	<0.076	0.16	10/11/19 08:44	
Benzyl chloride	ug/m3	<0.60	1.3	10/11/19 08:44	
Bromodichloromethane	ug/m3	<0.18	0.68	10/11/19 08:44	
Bromoform	ug/m3	<0.71	2.6	10/11/19 08:44	
Bromomethane	ug/m3	<0.11	0.39	10/11/19 08:44	
Carbon disulfide	ug/m3	<0.11	0.32	10/11/19 08:44	
Carbon tetrachloride	ug/m3	<0.21	0.64	10/11/19 08:44	
Chlorobenzene	ug/m3	<0.14	0.47	10/11/19 08:44	
Chloroethane	ug/m3	<0.13	0.27	10/11/19 08:44	
Chloroform	ug/m3	<0.098	0.25	10/11/19 08:44	
Chloromethane	ug/m3	<0.078	0.21	10/11/19 08:44	
cis-1,2-Dichloroethene	ug/m3	<0.11	0.40	10/11/19 08:44	
cis-1,3-Dichloropropene	ug/m3	<0.15	0.46	10/11/19 08:44	
Cyclohexane	ug/m3	<0.18	0.88	10/11/19 08:44	
Dibromochloromethane	ug/m3	<0.36	0.86	10/11/19 08:44	
Dichlorodifluoromethane	ug/m3	<0.15	0.50	10/11/19 08:44	
Dichlorotetrafluoroethane	ug/m3	<0.22	0.71	10/11/19 08:44	
Ethanol	ug/m3	<0.41	0.96	10/11/19 08:44	

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### REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA

Project: 18883 MPS  
Pace Project No.: 10494361

METHOD BLANK: 3437894 Matrix: Air  
Associated Lab Samples: 10494361001, 10494361002, 10494361004, 10494361005, 10494361006, 10494361007, 10494361008, 10494361009, 10494361010, 10494361011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ethyl acetate	ug/m3	<0.095	0.37	10/11/19 08:44	
Ethylbenzene	ug/m3	<0.15	0.44	10/11/19 08:44	
Hexachloro-1,3-butadiene	ug/m3	<0.98	2.7	10/11/19 08:44	
m&p-Xylene	ug/m3	<0.35	0.88	10/11/19 08:44	
Methyl-tert-butyl ether	ug/m3	<0.33	1.8	10/11/19 08:44	
Methylene Chloride	ug/m3	<0.60	1.8	10/11/19 08:44	
n-Heptane	ug/m3	<0.19	0.42	10/11/19 08:44	
n-Hexane	ug/m3	<0.16	0.36	10/11/19 08:44	
Naphthalene	ug/m3	<0.66	1.3	10/11/19 08:44	
o-Xylene	ug/m3	<0.17	0.44	10/11/19 08:44	
Propylene	ug/m3	<0.070	0.18	10/11/19 08:44	
Styrene	ug/m3	<0.17	0.43	10/11/19 08:44	
Tetrachloroethene	ug/m3	<0.16	0.34	10/11/19 08:44	
Tetrahydrofuran	ug/m3	<0.13	0.30	10/11/19 08:44	
Toluene	ug/m3	<0.18	0.38	10/11/19 08:44	
trans-1,2-Dichloroethene	ug/m3	<0.14	0.40	10/11/19 08:44	
trans-1,3-Dichloropropene	ug/m3	<0.22	0.46	10/11/19 08:44	
Trichloroethene	ug/m3	<0.13	0.27	10/11/19 08:44	
Trichlorofluoromethane	ug/m3	<0.18	0.57	10/11/19 08:44	
Vinyl acetate	ug/m3	<0.14	0.36	10/11/19 08:44	
Vinyl chloride	ug/m3	<0.063	0.13	10/11/19 08:44	

LABORATORY CONTROL SAMPLE: 3437895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	60.8	110	70-130	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	72.6	104	70-132	
1,1,2-Trichloroethane	ug/m3	55.5	58.0	105	70-130	
1,1,2-Trichlorotrifluoroethane	ug/m3	77.9	77.8	100	70-130	
1,1-Dichloroethane	ug/m3	41.1	40.2	98	70-130	
1,1-Dichloroethene	ug/m3	40.3	43.5	108	70-130	
1,2,4-Trichlorobenzene	ug/m3	75.4	83.0	110	56-130	
1,2,4-Trimethylbenzene	ug/m3	50	58.6	117	70-134	
1,2-Dibromoethane (EDB)	ug/m3	78.1	81.8	105	70-130	
1,2-Dichlorobenzene	ug/m3	61.1	72.4	118	70-132	
1,2-Dichloroethane	ug/m3	41.1	45.1	110	70-130	
1,2-Dichloropropane	ug/m3	47	48.4	103	70-130	
1,3,5-Trimethylbenzene	ug/m3	50	57.4	115	70-132	
1,3-Butadiene	ug/m3	22.5	22.2	99	65-130	
1,3-Dichlorobenzene	ug/m3	61.1	73.1	120	70-137	
1,4-Dichlorobenzene	ug/m3	61.1	78.9	129	70-134	
2-Butanone (MEK)	ug/m3	30	29.6	99	70-130	
2-Hexanone	ug/m3	41.6	44.6	107	70-135	

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### QUALITY CONTROL DATA

Project: 18883 MPS  
Pace Project No.: 10494361

LABORATORY CONTROL SAMPLE: 3437895

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Propanol	ug/m3	125	129	103	68-130	
4-Ethyltoluene	ug/m3	50	60.6	121	70-138	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.6	42.1	101	70-131	
Acetone	ug/m3	121	115	95	67-130	
Benzene	ug/m3	32.5	35.4	109	70-130	
Benzyl chloride	ug/m3	52.6	65.9	125	70-130	
Bromodichloromethane	ug/m3	68.1	73.8	108	70-130	
Bromoform	ug/m3	105	113	108	70-132	
Bromomethane	ug/m3	39.5	40.2	102	69-130	
Carbon disulfide	ug/m3	31.6	32.9	104	56-137	
Carbon tetrachloride	ug/m3	64	70.6	110	66-131	
Chlorobenzene	ug/m3	46.8	51.5	110	70-130	
Chloroethane	ug/m3	26.8	27.4	102	70-130	
Chloroform	ug/m3	49.6	55.1	111	70-130	
Chloromethane	ug/m3	21	20.1	96	66-130	
cis-1,2-Dichloroethene	ug/m3	40.3	41.4	103	70-130	
cis-1,3-Dichloropropene	ug/m3	46.1	48.8	106	70-133	
Cyclohexane	ug/m3	35	38.6	110	68-132	
Dibromochloromethane	ug/m3	86.6	92.9	107	70-130	
Dichlorodifluoromethane	ug/m3	50.3	54.7	109	70-130	
Dichlorotetrafluoroethane	ug/m3	71	70.7	100	70-130	
Ethanol	ug/m3	95.8	94.5	99	68-133	
Ethyl acetate	ug/m3	36.6	35.3	96	69-130	
Ethylbenzene	ug/m3	44.1	48.4	110	67-131	
Hexachloro-1,3-butadiene	ug/m3	108	115	106	66-137	
m&p-Xylene	ug/m3	88.3	98.0	111	70-132	
Methyl-tert-butyl ether	ug/m3	36.6	39.4	108	70-130	
Methylene Chloride	ug/m3	177	188	107	65-130	
n-Heptane	ug/m3	41.7	40.7	98	65-130	
n-Hexane	ug/m3	35.8	35.8	100	66-130	
Naphthalene	ug/m3	53.3	55.5	104	56-130	
o-Xylene	ug/m3	44.1	47.4	107	70-130	
Propylene	ug/m3	17.5	17.5	100	67-130	
Styrene	ug/m3	43.3	52.2	121	69-136	
Tetrachloroethene	ug/m3	68.9	78.6	114	70-130	
Tetrahydrofuran	ug/m3	30	29.9	100	68-131	
Toluene	ug/m3	38.3	40.3	105	70-130	
trans-1,2-Dichloroethene	ug/m3	40.3	42.7	106	70-130	
trans-1,3-Dichloropropene	ug/m3	46.1	51.4	111	70-134	
Trichloroethene	ug/m3	54.6	57.0	104	70-130	
Trichlorofluoromethane	ug/m3	57.1	58.5	102	65-130	
Vinyl acetate	ug/m3	35.8	37.5	105	61-133	
Vinyl chloride	ug/m3	26	25.2	97	70-130	

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### QUALITY CONTROL DATA

Project: 18883 MPS  
Pace Project No.: 10494361

SAMPLE DUPLICATE: 3438765

Parameter	Units	10494361001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	0.53J	0.50J		25	
1,1,2,2-Tetrachloroethane	ug/m3	<0.48	<0.48		25	
1,1,2-Trichloroethane	ug/m3	<0.38	<0.38		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.87	<0.87		25	
1,1-Dichloroethane	ug/m3	<0.35	<0.35		25	
1,1-Dichloroethene	ug/m3	<0.42	<0.42		25	
1,2,4-Trichlorobenzene	ug/m3	<5.8	<5.8		25	
1,2,4-Trimethylbenzene	ug/m3	<0.70	<0.70		25	
1,2-Dibromoethane (EDB)	ug/m3	<0.57	<0.57		25	
1,2-Dichlorobenzene	ug/m3	<0.77	<0.77		25	
1,2-Dichloroethane	ug/m3	<0.23	<0.23		25	
1,2-Dichloropropane	ug/m3	<0.36	<0.36		25	
1,3,5-Trimethylbenzene	ug/m3	<0.62	<0.62		25	
1,3-Butadiene	ug/m3	<0.20	<0.20		25	
1,3-Dichlorobenzene	ug/m3	<0.90	<0.90		25	
1,4-Dichlorobenzene	ug/m3	<1.6	<1.6		25	
2-Butanone (MEK)	ug/m3	1.5J	1.4J		25	
2-Hexanone	ug/m3	<1.2	<1.2		25	
2-Propanol	ug/m3	556	571	3	25	
4-Ethyltoluene	ug/m3	<0.88	<0.88		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.80	<0.80		25	
Acetone	ug/m3	13.1	12.6	4	25	
Benzene	ug/m3	<0.24	<0.24		25	
Benzyl chloride	ug/m3	<1.9	<1.9		25	
Bromodichloromethane	ug/m3	<0.57	<0.57		25	
Bromoform	ug/m3	<2.2	<2.2		25	
Bromomethane	ug/m3	<0.35	<0.35		25	
Carbon disulfide	ug/m3	<0.34	<0.34		25	
Carbon tetrachloride	ug/m3	<0.66	<0.66		25	
Chlorobenzene	ug/m3	<0.43	<0.43		25	
Chloroethane	ug/m3	<0.40	<0.40		25	
Chloroform	ug/m3	<0.30	<0.30		25	
Chloromethane	ug/m3	0.75	0.77	3	25	
cis-1,2-Dichloroethene	ug/m3	<0.34	<0.34		25	
cis-1,3-Dichloropropene	ug/m3	<0.47	<0.47		25	
Cyclohexane	ug/m3	<0.55	<0.55		25	
Dibromochloromethane	ug/m3	<1.1	<1.1		25	
Dichlorodifluoromethane	ug/m3	2.2	2.0	10	25	
Dichlorotetrafluoroethane	ug/m3	<0.68	<0.68		25	
Ethanol	ug/m3	360	365	1	25	
Ethyl acetate	ug/m3	<0.29	<0.29		25	
Ethylbenzene	ug/m3	<0.47	<0.47		25	
Hexachloro-1,3-butadiene	ug/m3	<3.1	<3.1		25	
m&p-Xylene	ug/m3	<1.1	<1.1		25	
Methyl-tert-butyl ether	ug/m3	<1.0	<1.0		25	
Methylene Chloride	ug/m3	2.9J	2.8J		25	
n-Heptane	ug/m3	<0.59	<0.59		25	

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**QUALITY CONTROL DATA**

Project: 18883 MPS

Pace Project No.: 10494361

SAMPLE DUPLICATE: 3438765

Parameter	Units	10494361001 Result	Dup Result	RPD	Max RPD	Qualifiers
n-Hexane	ug/m3	0.60J	0.57J		25	
Naphthalene	ug/m3	<2.0	<2.0		25	
o-Xylene	ug/m3	<0.53	<0.53		25	
Propylene	ug/m3	<0.22	<0.22		25	
Styrene	ug/m3	<0.53	<0.53		25	
Tetrachloroethene	ug/m3	<0.49	<0.49		25	
Tetrahydrofuran	ug/m3	<0.40	<0.40		25	
Toluene	ug/m3	6.0	5.8	5	25	
trans-1,2-Dichloroethene	ug/m3	<0.44	<0.44		25	
trans-1,3-Dichloropropene	ug/m3	<0.68	<0.68		25	
Trichloroethene	ug/m3	0.52J	<0.39		25	
Trichlorofluoromethane	ug/m3	1.4J	1.4J		25	
Vinyl acetate	ug/m3	<0.42	<0.42		25	
Vinyl chloride	ug/m3	<0.20	<0.20		25	

SAMPLE DUPLICATE: 3438766

Parameter	Units	10494361011 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.46	<0.46		25	
1,1,2,2-Tetrachloroethane	ug/m3	<0.46	<0.46		25	
1,1,2-Trichloroethane	ug/m3	<0.36	<0.36		25	
1,1,2-Trichlorotrifluoroethane	ug/m3	<0.84	<0.84		25	
1,1-Dichloroethane	ug/m3	<0.34	<0.34		25	
1,1-Dichloroethene	ug/m3	<0.41	<0.41		25	
1,2,4-Trichlorobenzene	ug/m3	<5.5	<5.5		25	
1,2,4-Trimethylbenzene	ug/m3	<0.67	<0.67		25	
1,2-Dibromoethane (EDB)	ug/m3	<0.55	<0.55		25	
1,2-Dichlorobenzene	ug/m3	<0.74	<0.74		25	
1,2-Dichloroethane	ug/m3	<0.22	<0.22		25	
1,2-Dichloropropane	ug/m3	<0.34	<0.34		25	
1,3,5-Trimethylbenzene	ug/m3	<0.59	<0.59		25	
1,3-Butadiene	ug/m3	<0.19	<0.19		25	
1,3-Dichlorobenzene	ug/m3	<0.87	<0.87		25	
1,4-Dichlorobenzene	ug/m3	<1.5	<1.5		25	
2-Butanone (MEK)	ug/m3	1.5J	1.3J		25	
2-Hexanone	ug/m3	<1.1	<1.1		25	
2-Propanol	ug/m3	9.8	9.7	1	25	
4-Ethyltoluene	ug/m3	<0.85	<0.85		25	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.77	<0.77		25	
Acetone	ug/m3	10.8	11.7	7	25	
Benzene	ug/m3	<0.23	<0.23		25	
Benzyl chloride	ug/m3	<1.8	<1.8		25	
Bromodichloromethane	ug/m3	<0.55	<0.55		25	
Bromoform	ug/m3	<2.1	<2.1		25	
Bromomethane	ug/m3	<0.34	<0.34		25	

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### QUALITY CONTROL DATA

Project: 18883 MPS

Pace Project No.: 10494361

SAMPLE DUPLICATE: 3438766

Parameter	Units	10494361011 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon disulfide	ug/m3	<0.33	<0.33		25	
Carbon tetrachloride	ug/m3	<0.64	<0.64		25	
Chlorobenzene	ug/m3	<0.41	<0.41		25	
Chloroethane	ug/m3	<0.39	<0.39		25	
Chloroform	ug/m3	<0.29	<0.29		25	
Chloromethane	ug/m3	0.81	0.70	16	25	
cis-1,2-Dichloroethene	ug/m3	<0.33	<0.33		25	
cis-1,3-Dichloropropene	ug/m3	<0.45	<0.45		25	
Cyclohexane	ug/m3	<0.53	<0.53		25	
Dibromochloromethane	ug/m3	<1.1	<1.1		25	
Dichlorodifluoromethane	ug/m3	2.2	2.3	5	25	
Dichlorotetrafluoroethane	ug/m3	<0.65	<0.65		25	
Ethanol	ug/m3	6.7	6.1	9	25	
Ethyl acetate	ug/m3	<0.28	<0.28		25	
Ethylbenzene	ug/m3	<0.45	<0.45		25	
Hexachloro-1,3-butadiene	ug/m3	<2.9	<2.9		25	
m&p-Xylene	ug/m3	<1.0	<1.0		25	
Methyl-tert-butyl ether	ug/m3	<0.99	<0.99		25	
Methylene Chloride	ug/m3	<1.8	<1.8		25	
n-Heptane	ug/m3	<0.57	<0.57		25	
n-Hexane	ug/m3	<0.46	<0.46		25	
Naphthalene	ug/m3	<2.0	<2.0		25	
o-Xylene	ug/m3	<0.51	<0.51		25	
Propylene	ug/m3	0.76	0.75	1	25	
Styrene	ug/m3	<0.51	<0.51		25	
Tetrachloroethene	ug/m3	<0.47	<0.47		25	
Tetrahydrofuran	ug/m3	<0.39	<0.39		25	
Toluene	ug/m3	<0.52	<0.52		25	
trans-1,2-Dichloroethene	ug/m3	<0.42	<0.42		25	
trans-1,3-Dichloropropene	ug/m3	<0.66	<0.66		25	
Trichloroethene	ug/m3	<0.38	<0.38		25	
Trichlorofluoromethane	ug/m3	1.3J	1.5J		25	
Vinyl acetate	ug/m3	<0.40	<0.40		25	
Vinyl chloride	ug/m3	<0.19	<0.19		25	

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## QUALIFIERS

Project: 18883 MPS

Pace Project No.: 10494361

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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

E Analyte concentration exceeded the calibration range. The reported result is estimated.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 18883 MPS

Pace Project No.: 10494361

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10494361001	IA-1	TO-15	637787		
10494361002	IA-2	TO-15	637787		
10494361004	IA-4	TO-15	637787		
10494361005	IA-5	TO-15	637787		
10494361006	IA-6	TO-15	637787		
10494361007	IA-7	TO-15	637787		
10494361008	IA-8	TO-15	637787		
10494361009	IA-9	TO-15	637787		
10494361010	IA-10	TO-15	637787		
10494361011	AA-1	TO-15	637787		

### REPORT OF LABORATORY ANALYSIS

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# AIR: CHAIN-OF-CUSTODY

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

## WO#: 10494361



10494361

### 45339

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<b>Section A</b> Required Client Information:	<b>Section B</b> Required Project Information:	<b>Section C</b> Invoice Information:	
Company: <u>The Sigma Group</u>	Report To: <u>Steve Meier</u>	Attention: <u>SAME</u>	
Address: <u>1300 W. Canal St.</u> <u>Milwaukee, WI 53233</u>	Copy To:	Company Name:	
Email To: <u>smeeer@thesigmagroup.com</u>	Purchase Order No.:	Address:	
Phone: <u>414-643-4200</u> Fax: <u>414-643-4210</u>	Project Name: <u>MPS</u>	Pace Quote Reference:	
Requested Due Date/TAT:	Project Number: <u>18883</u>	Pace Project Manager/Sales Rep.:	
		Pace Profile #: <u>18109</u>	

Program

UST  Superfund  Emissions  Clean Air Act

Voluntary Clean Up  Dry Clean  RCRA  Other

Location of Sampling by State: WI

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

Report Level: II III IV Other

ITEM #	'Section D Required Client Information <b>AIR SAMPLE ID</b> Sample IDs MUST BE UNIQUE	Valid Media Codes MEDIA CODE	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- ENDIGRAB						PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX		TO-15 Short List Chlorinated
					DATE	TIME	DATE	TIME													
1	IA-1	6LL			10/3/19	0839	10/3/19	1600	-28	-4	1046	2011					X		001		
2	IA-2	6LL			10/3/19	0843	10/3/19	1628	-27	-5	1746	1796					X		002		
3	IA-3	6LL			10/3/19	0849	10/3/19	1707	-28	-21	2689	1800					X		003		
4	IA-4	6LL			10/3/19	0854	10/3/19	1635	-28	-2	2816	1789					X		004		
5	IA-5	6LL			10/3/19	0901	10/3/19	1639	-30	-3	2803	0256					X		005		
6	IA-6	6LL			10/3/19	0907	10/3/19	1646	-29	-3	3568	2060					X		006		
7	IA-7	6LL			10/3/19	0911	10/3/19	1711	-29	-1	0805	1275					X		007		
8	IA-8	6LL			10/3/19	0917	10/3/19	1714	-30	-20	2090	0112					X		008		
9	IA-9	6LL			10/3/19	0924	10/3/19	1657	-30	-3	3468	0078					X		009		
10	IA-10	6LL			10/3/19	0928	10/3/19	1659	-29	-3	3595	0370					X		010		
11	AA-1	6LL			10/3/19	0934	10/3/19	1702	-30	-3	2708	0317					X		011		
12																					

Comments:  
IA-3 & IA-8 only went to -21" and -20" respectively after 8 hours.

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS				
<u>[Signature]</u> / SIGMA	10/3	1742	<u>[Signature]</u> - PACE	10/4/19	1700	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JACKSON ROCK

SIGNATURE of SAMPLER: [Signature] DATE Signed (MM/DD/YY) 10/03/19

Temp in °C:    Received on Ice  Custody Sealed Cooler  Samples Intact

ORIGINAL

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Document Name:  
Air Sample Condition Upon Receipt  
Document No.:  
F-MN-A-106-rev.18

Document Revised: 31Jan2019  
Page 1 of 1  
Issuing Authority:

**WO#: 10494361**

**Air Sample Condition Upon Receipt**

Client Name: The Sigma Group Project #: \_\_\_\_\_

PM: KNH Due Date: 10/11/19  
CLIENT: SIGMA ENV

Courier:  Fed Ex  UPS  USPS  Client  
 Pace  Speedee  Commercial  See Exception

Tracking Number: 1083 0280 6358/6371/6369

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

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

Temp. (TO17 and TO13 samples only) (°C): \_\_\_\_\_ Corrected Temp (°C): \_\_\_\_\_ Thermometer Used:  G87A9170600254  G87A9155100842

Temp should be above freezing to 6°C Correction Factor: \_\_\_\_\_ Date & Initials of Person Examining Contents: 10/11/19

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 (3C and ASTM 1946 DO NOT PRESSURIZE)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13.

Samples Received: \_\_\_\_\_ Pressure Gauge #  10AIR34  10AIR35

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
1A-1	1046	2011	-4	5	1A-9	3468	0078	-3.5	5
1A-2	1746	1796	-7	11	1A-10	3595	0370	-3	11
1A-3	2689	1800	-22	11	AA-1	2708	0317	-3	11
1A-4	2816	1789	-3	11					
1A-5	2803	0256	-4	11					
1A-6	3564	2060	-3	11					
1A-7	0805	1275	-2	11					
1A-8	2090	0117	-2	11					

**CLIENT NOTIFICATION/RESOLUTION**

Field Data Required?  Yes  No

Person Contacted: Stephen Meer Date/Time: 10/7/2019

Comments/Resolution: Sample 10494361003 canceled.

Project Manager Review: Kirsten Hofer Date: 10/7/2019  
 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)