

**From:** Stephen Meer, P.E. <[smeer@thesigmagroup.com](mailto:smeer@thesigmagroup.com)>  
**Sent:** Monday, October 21, 2019 12:35 PM  
**To:** Ryan, Nancy D - DNR  
**Cc:** Kristin Kurzka, P.E.  
**Subject:** RE: MPS site lab data?  
**Attachments:** 2019.10.08 Sub slab vapor sampling locations.pdf; 10495129\_frc.pdf

Good afternoon, Nancy:

Sub-slab vapor sample results (and another copy of the sampling location map) are attached. Based on a quick once-over it does not appear that any VRSL exceedances were detected. Highest reported concentration of TCE was 58.8 ug/m3 (residential VRSL of 70 ug/m3) in sample VP-8. We'll tabulate with current VRSLs.

Please let us know your thoughts on the need for any additional sampling or if we can proceed with preparing the summary report.

Stephen R. Meer, P.E.  
Senior Engineer  
The Sigma Group, Inc.  
414-643-4124 (direct)  
414-588-8910 (mobile)  
1300 W. Canal Street, Milwaukee, WI 53233  
[www.thesigmagroup.com](http://www.thesigmagroup.com) | [smeer@thesigmagroup.com](mailto:smeer@thesigmagroup.com)



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**From:** Ryan, Nancy D - DNR <[Nancy.Ryan@wisconsin.gov](mailto:Nancy.Ryan@wisconsin.gov)>  
**Sent:** Monday, October 21, 2019 7:30 AM  
**To:** Stephen Meer, P.E. <[smeer@thesigmagroup.com](mailto:smeer@thesigmagroup.com)>  
**Subject:** RE: MPS site lab data?

Thanks for checking.

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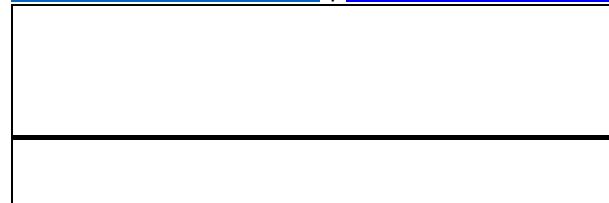
**From:** Stephen Meer, P.E. <[smeer@thesigmagroup.com](mailto:smeer@thesigmagroup.com)>  
**Sent:** Friday, October 18, 2019 1:53 PM  
**To:** Ryan, Nancy D - DNR <[Nancy.Ryan@wisconsin.gov](mailto:Nancy.Ryan@wisconsin.gov)>

**Cc:** Kristin Kurzka, P.E. <[kkurzka@thesigmagroup.com](mailto:kkurzka@thesigmagroup.com)>  
**Subject:** RE: MPS site lab data?

Hi, Nancy,

I checked with the lab regarding the sub-slab results and they are running a little behind, we should have the results on Monday next week.

Stephen R. Meer, P.E.  
Senior Engineer  
The Sigma Group, Inc.  
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**From:** Ryan, Nancy D - DNR <[Nancy.Ryan@wisconsin.gov](mailto:Nancy.Ryan@wisconsin.gov)>  
**Sent:** Monday, October 14, 2019 10:47 AM  
**To:** Stephen Meer, P.E. <[smeer@thesigmagroup.com](mailto:smeer@thesigmagroup.com)>  
**Subject:** RE: MPS site lab data?

Awesome. Thanks.

---

**From:** Stephen Meer, P.E. <[smeer@thesigmagroup.com](mailto:smeer@thesigmagroup.com)>  
**Sent:** Monday, October 14, 2019 10:24 AM  
**To:** Ryan, Nancy D - DNR <[Nancy.Ryan@wisconsin.gov](mailto:Nancy.Ryan@wisconsin.gov)>  
**Subject:** RE: MPS site lab data?

Nancy,

Lab report for indoor air attached. Quick review indicates no VAL exceedances with the exception of 2-Propanol (Isopropyl Alcohol) which makes sense given the current building use. We had a TCE J flagged detection in one sample and some low level PVOCs show up in IA-7, but not above VALs.

I'm guessing the delay in results was due to the required dilution for Ethanol/2-Propanol on a couple of the samples.

We can tabulate and send an summary table.

We should have the sub-slab data back by end of the day Thursday unless they have to run dilutions.

Stephen R. Meer, P.E.  
Senior Engineer  
The Sigma Group, Inc.  
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**From:** Ryan, Nancy D - DNR <[Nancy.Ryan@wisconsin.gov](mailto:Nancy.Ryan@wisconsin.gov)>  
**Sent:** Monday, October 14, 2019 9:14 AM  
**To:** Stephen Meer, P.E. <[smeer@thesigmagroup.com](mailto:smeer@thesigmagroup.com)>  
**Subject:** RE: MPS site lab data?

thanks

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**From:** Stephen Meer, P.E. <[smeer@thesigmagroup.com](mailto:smeer@thesigmagroup.com)>  
**Sent:** Monday, October 14, 2019 8:58 AM  
**To:** Ryan, Nancy D - DNR <[Nancy.Ryan@wisconsin.gov](mailto:Nancy.Ryan@wisconsin.gov)>  
**Subject:** Re: MPS site lab data?

Not yet, I'll check with them this morning

Sent from my iPhone

On Oct 14, 2019, at 8:57 AM, Ryan, Nancy D - DNR <[Nancy.Ryan@wisconsin.gov](mailto:Nancy.Ryan@wisconsin.gov)> wrote:

Morning Steve. I assume you haven't received lab report for the MPS site? sorry to bug you about it.

**We are committed to service excellence.**

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

**Nancy D. Ryan**

Hydrogeologist Coordinator, Bureau for Remediation and Redevelopment

Wisconsin Department of Natural Resources

2300 N. Dr. Martin Luther King, Jr. Dr.

Milwaukee, WI 53212

Phone: (414) 263-8533

Fax: (414) 263-8550

[nancy.ryan@wisconsin.gov](mailto:nancy.ryan@wisconsin.gov)

<image001.gif>

[dnr.wi.gov](http://dnr.wi.gov)

<image002.gif>

<image003.gif>

<image004.gif>

<image005.gif>

<image006.gif>

October 21, 2019

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

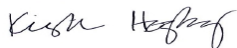
RE: Project: 18883 MPS-Vaughan Manufac  
Pace Project No.: 10495129

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

This report shall not be reproduced, except in full,  
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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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## REPORT OF LABORATORY ANALYSIS

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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	29.6	ug/m3	3.6	1.8	1.49		10/18/19 22:15	67-64-1	
Benzene	<0.23	ug/m3	0.48	0.23	1.49		10/18/19 22:15	71-43-2	
Benzyl chloride	<1.8	ug/m3	3.9	1.8	1.49		10/18/19 22:15	100-44-7	
Bromodichloromethane	<0.55	ug/m3	2.0	0.55	1.49		10/18/19 22:15	75-27-4	
Bromoform	<2.1	ug/m3	7.8	2.1	1.49		10/18/19 22:15	75-25-2	
Bromomethane	<0.34	ug/m3	1.2	0.34	1.49		10/18/19 22:15	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.67	0.19	1.49		10/18/19 22:15	106-99-0	
2-Butanone (MEK)	4.2J	ug/m3	4.5	0.55	1.49		10/18/19 22:15	78-93-3	
Carbon disulfide	8.5	ug/m3	0.94	0.33	1.49		10/18/19 22:15	75-15-0	
Carbon tetrachloride	<0.64	ug/m3	1.9	0.64	1.49		10/18/19 22:15	56-23-5	
Chlorobenzene	<0.41	ug/m3	1.4	0.41	1.49		10/18/19 22:15	108-90-7	
Chloroethane	2.0	ug/m3	0.80	0.39	1.49		10/18/19 22:15	75-00-3	
Chloroform	0.72J	ug/m3	0.74	0.29	1.49		10/18/19 22:15	67-66-3	
Chloromethane	<0.23	ug/m3	0.63	0.23	1.49		10/18/19 22:15	74-87-3	
Cyclohexane	<0.53	ug/m3	2.6	0.53	1.49		10/18/19 22:15	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.49		10/18/19 22:15	124-48-1	
1,2-Dibromoethane (EDB)	<0.55	ug/m3	1.2	0.55	1.49		10/18/19 22:15	106-93-4	
1,2-Dichlorobenzene	<0.74	ug/m3	1.8	0.74	1.49		10/18/19 22:15	95-50-1	
1,3-Dichlorobenzene	<0.87	ug/m3	1.8	0.87	1.49		10/18/19 22:15	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.6	1.5	1.49		10/18/19 22:15	106-46-7	
Dichlorodifluoromethane	2.7	ug/m3	1.5	0.44	1.49		10/18/19 22:15	75-71-8	
1,1-Dichloroethane	0.58J	ug/m3	1.2	0.34	1.49		10/18/19 22:15	75-34-3	
1,2-Dichloroethane	<0.22	ug/m3	0.61	0.22	1.49		10/18/19 22:15	107-06-2	
1,1-Dichloroethene	<0.41	ug/m3	1.2	0.41	1.49		10/18/19 22:15	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.49		10/18/19 22:15	156-59-2	
trans-1,2-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.49		10/18/19 22:15	156-60-5	
1,2-Dichloropropane	<0.34	ug/m3	1.4	0.34	1.49		10/18/19 22:15	78-87-5	
cis-1,3-Dichloropropene	<0.45	ug/m3	1.4	0.45	1.49		10/18/19 22:15	10061-01-5	
trans-1,3-Dichloropropene	<0.66	ug/m3	1.4	0.66	1.49		10/18/19 22:15	10061-02-6	
Dichlorotetrafluoroethane	<0.65	ug/m3	2.1	0.65	1.49		10/18/19 22:15	76-14-2	
Ethanol	93.1	ug/m3	2.9	1.2	1.49		10/18/19 22:15	64-17-5	
Ethyl acetate	<0.28	ug/m3	1.1	0.28	1.49		10/18/19 22:15	141-78-6	
Ethylbenzene	0.83J	ug/m3	1.3	0.45	1.49		10/18/19 22:15	100-41-4	
4-Ethyltoluene	<0.85	ug/m3	3.7	0.85	1.49		10/18/19 22:15	622-96-8	
n-Heptane	1.8	ug/m3	1.2	0.57	1.49		10/18/19 22:15	142-82-5	
Hexachloro-1,3-butadiene	<2.9	ug/m3	8.1	2.9	1.49		10/18/19 22:15	87-68-3	
n-Hexane	0.98J	ug/m3	1.1	0.46	1.49		10/18/19 22:15	110-54-3	
2-Hexanone	<1.1	ug/m3	6.2	1.1	1.49		10/18/19 22:15	591-78-6	
Methylene Chloride	2.9J	ug/m3	5.3	1.8	1.49		10/18/19 22:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.77	ug/m3	6.2	0.77	1.49		10/18/19 22:15	108-10-1	
Methyl-tert-butyl ether	<0.99	ug/m3	5.5	0.99	1.49		10/18/19 22:15	1634-04-4	
Naphthalene	2.1J	ug/m3	4.0	2.0	1.49		10/18/19 22:15	91-20-3	
2-Propanol	35.5	ug/m3	3.7	1.0	1.49		10/18/19 22:15	67-63-0	
Propylene	<0.21	ug/m3	0.52	0.21	1.49		10/18/19 22:15	115-07-1	
Styrene	<0.51	ug/m3	1.3	0.51	1.49		10/18/19 22:15	100-42-5	
1,1,2,2-Tetrachloroethane	<0.46	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
TO15 MSV AIR 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
TO15 MSV AIR 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	81.6	ug/m3	3.7	1.8	1.52		10/18/19 23:13	67-64-1	
Benzene	0.33J	ug/m3	0.49	0.23	1.52		10/18/19 23:13	71-43-2	
Benzyl chloride	<1.8	ug/m3	4.0	1.8	1.52		10/18/19 23:13	100-44-7	
Bromodichloromethane	<0.56	ug/m3	2.1	0.56	1.52		10/18/19 23:13	75-27-4	
Bromoform	<2.2	ug/m3	8.0	2.2	1.52		10/18/19 23:13	75-25-2	
Bromomethane	<0.35	ug/m3	1.2	0.35	1.52		10/18/19 23:13	74-83-9	
1,3-Butadiene	<0.19	ug/m3	0.68	0.19	1.52		10/18/19 23:13	106-99-0	
2-Butanone (MEK)	14.4	ug/m3	4.6	0.56	1.52		10/18/19 23:13	78-93-3	
Carbon disulfide	<0.33	ug/m3	0.96	0.33	1.52		10/18/19 23:13	75-15-0	
Carbon tetrachloride	<0.65	ug/m3	1.9	0.65	1.52		10/18/19 23:13	56-23-5	
Chlorobenzene	<0.42	ug/m3	1.4	0.42	1.52		10/18/19 23:13	108-90-7	
Chloroethane	<0.40	ug/m3	0.81	0.40	1.52		10/18/19 23:13	75-00-3	
Chloroform	<0.30	ug/m3	0.75	0.30	1.52		10/18/19 23:13	67-66-3	
Chloromethane	<0.24	ug/m3	0.64	0.24	1.52		10/18/19 23:13	74-87-3	
Cyclohexane	<0.54	ug/m3	2.7	0.54	1.52		10/18/19 23:13	110-82-7	
Dibromochloromethane	<1.1	ug/m3	2.6	1.1	1.52		10/18/19 23:13	124-48-1	
1,2-Dibromoethane (EDB)	<0.56	ug/m3	1.2	0.56	1.52		10/18/19 23:13	106-93-4	
1,2-Dichlorobenzene	<0.76	ug/m3	1.9	0.76	1.52		10/18/19 23:13	95-50-1	
1,3-Dichlorobenzene	<0.88	ug/m3	1.9	0.88	1.52		10/18/19 23:13	541-73-1	
1,4-Dichlorobenzene	<1.5	ug/m3	4.7	1.5	1.52		10/18/19 23:13	106-46-7	
Dichlorodifluoromethane	2.8	ug/m3	1.5	0.45	1.52		10/18/19 23:13	75-71-8	
1,1-Dichloroethane	<0.34	ug/m3	1.3	0.34	1.52		10/18/19 23:13	75-34-3	
1,2-Dichloroethane	<0.23	ug/m3	0.62	0.23	1.52		10/18/19 23:13	107-06-2	
1,1-Dichloroethene	<0.42	ug/m3	1.2	0.42	1.52		10/18/19 23:13	75-35-4	
cis-1,2-Dichloroethene	<0.33	ug/m3	1.2	0.33	1.52		10/18/19 23:13	156-59-2	
trans-1,2-Dichloroethene	<0.43	ug/m3	1.2	0.43	1.52		10/18/19 23:13	156-60-5	
1,2-Dichloropropane	<0.35	ug/m3	1.4	0.35	1.52		10/18/19 23:13	78-87-5	
cis-1,3-Dichloropropene	<0.46	ug/m3	1.4	0.46	1.52		10/18/19 23:13	10061-01-5	
trans-1,3-Dichloropropene	<0.67	ug/m3	1.4	0.67	1.52		10/18/19 23:13	10061-02-6	
Dichlorotetrafluoroethane	<0.66	ug/m3	2.2	0.66	1.52		10/18/19 23:13	76-14-2	
Ethanol	96.1	ug/m3	2.9	1.2	1.52		10/18/19 23:13	64-17-5	
Ethyl acetate	<0.29	ug/m3	1.1	0.29	1.52		10/18/19 23:13	141-78-6	
Ethylbenzene	0.66J	ug/m3	1.3	0.46	1.52		10/18/19 23:13	100-41-4	
4-Ethyltoluene	<0.87	ug/m3	3.8	0.87	1.52		10/18/19 23:13	622-96-8	
n-Heptane	<0.58	ug/m3	1.3	0.58	1.52		10/18/19 23:13	142-82-5	
Hexachloro-1,3-butadiene	<3.0	ug/m3	8.2	3.0	1.52		10/18/19 23:13	87-68-3	
n-Hexane	1.6	ug/m3	1.1	0.47	1.52		10/18/19 23:13	110-54-3	
2-Hexanone	<1.1	ug/m3	6.3	1.1	1.52		10/18/19 23:13	591-78-6	
Methylene Chloride	5.7	ug/m3	5.4	1.8	1.52		10/18/19 23:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.79	ug/m3	6.3	0.79	1.52		10/18/19 23:13	108-10-1	
Methyl-tert-butyl ether	<1.0	ug/m3	5.6	1.0	1.52		10/18/19 23:13	1634-04-4	
Naphthalene	<2.0	ug/m3	4.0	2.0	1.52		10/18/19 23:13	91-20-3	
2-Propanol	59.9	ug/m3	3.8	1.1	1.52		10/18/19 23:13	67-63-0	
Propylene	<0.21	ug/m3	0.53	0.21	1.52		10/18/19 23:13	115-07-1	
Styrene	<0.52	ug/m3	1.3	0.52	1.52		10/18/19 23:13	100-42-5	
1,1,2,2-Tetrachloroethane	<0.47	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
<b>TO15 MSV AIR</b> 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
<b>TO15 MSV AIR</b> 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	<b>65.8</b>	ug/m3	3.5	1.7	1.44		10/19/19 00:11	67-64-1	
Benzene	<b>1.4</b>	ug/m3	0.47	0.22	1.44		10/19/19 00:11	71-43-2	
Benzyl chloride	<b>&lt;1.7</b>	ug/m3	3.8	1.7	1.44		10/19/19 00:11	100-44-7	
Bromodichloromethane	<b>&lt;0.53</b>	ug/m3	2.0	0.53	1.44		10/19/19 00:11	75-27-4	
Bromoform	<b>&lt;2.0</b>	ug/m3	7.6	2.0	1.44		10/19/19 00:11	75-25-2	
Bromomethane	<b>&lt;0.33</b>	ug/m3	1.1	0.33	1.44		10/19/19 00:11	74-83-9	
1,3-Butadiene	<b>&lt;0.18</b>	ug/m3	0.65	0.18	1.44		10/19/19 00:11	106-99-0	
2-Butanone (MEK)	<b>2.8J</b>	ug/m3	4.3	0.53	1.44		10/19/19 00:11	78-93-3	
Carbon disulfide	<b>&lt;0.32</b>	ug/m3	0.91	0.32	1.44		10/19/19 00:11	75-15-0	
Carbon tetrachloride	<b>&lt;0.62</b>	ug/m3	1.8	0.62	1.44		10/19/19 00:11	56-23-5	
Chlorobenzene	<b>&lt;0.40</b>	ug/m3	1.3	0.40	1.44		10/19/19 00:11	108-90-7	
Chloroethane	<b>&lt;0.37</b>	ug/m3	0.77	0.37	1.44		10/19/19 00:11	75-00-3	
Chloroform	<b>&lt;0.28</b>	ug/m3	0.71	0.28	1.44		10/19/19 00:11	67-66-3	
Chloromethane	<b>1.1</b>	ug/m3	0.60	0.22	1.44		10/19/19 00:11	74-87-3	
Cyclohexane	<b>2.9</b>	ug/m3	2.5	0.51	1.44		10/19/19 00:11	110-82-7	
Dibromochloromethane	<b>&lt;1.0</b>	ug/m3	2.5	1.0	1.44		10/19/19 00:11	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;0.53</b>	ug/m3	1.1	0.53	1.44		10/19/19 00:11	106-93-4	
1,2-Dichlorobenzene	<b>&lt;0.72</b>	ug/m3	1.8	0.72	1.44		10/19/19 00:11	95-50-1	
1,3-Dichlorobenzene	<b>&lt;0.84</b>	ug/m3	1.8	0.84	1.44		10/19/19 00:11	541-73-1	
1,4-Dichlorobenzene	<b>&lt;1.4</b>	ug/m3	4.4	1.4	1.44		10/19/19 00:11	106-46-7	
Dichlorodifluoromethane	<b>2.7</b>	ug/m3	1.5	0.42	1.44		10/19/19 00:11	75-71-8	
1,1-Dichloroethane	<b>&lt;0.32</b>	ug/m3	1.2	0.32	1.44		10/19/19 00:11	75-34-3	
1,2-Dichloroethane	<b>&lt;0.22</b>	ug/m3	0.59	0.22	1.44		10/19/19 00:11	107-06-2	
1,1-Dichloroethene	<b>&lt;0.39</b>	ug/m3	1.2	0.39	1.44		10/19/19 00:11	75-35-4	
cis-1,2-Dichloroethene	<b>&lt;0.32</b>	ug/m3	1.2	0.32	1.44		10/19/19 00:11	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;0.41</b>	ug/m3	1.2	0.41	1.44		10/19/19 00:11	156-60-5	
1,2-Dichloropropane	<b>&lt;0.33</b>	ug/m3	1.4	0.33	1.44		10/19/19 00:11	78-87-5	
cis-1,3-Dichloropropene	<b>&lt;0.44</b>	ug/m3	1.3	0.44	1.44		10/19/19 00:11	10061-01-5	
trans-1,3-Dichloropropene	<b>&lt;0.63</b>	ug/m3	1.3	0.63	1.44		10/19/19 00:11	10061-02-6	
Dichlorotetrafluoroethane	<b>&lt;0.63</b>	ug/m3	2.0	0.63	1.44		10/19/19 00:11	76-14-2	
Ethanol	<b>81.5</b>	ug/m3	2.8	1.2	1.44		10/19/19 00:11	64-17-5	
Ethyl acetate	<b>&lt;0.27</b>	ug/m3	1.1	0.27	1.44		10/19/19 00:11	141-78-6	
Ethylbenzene	<b>1.4</b>	ug/m3	1.3	0.44	1.44		10/19/19 00:11	100-41-4	
4-Ethyltoluene	<b>&lt;0.82</b>	ug/m3	3.6	0.82	1.44		10/19/19 00:11	622-96-8	
n-Heptane	<b>3.6</b>	ug/m3	1.2	0.55	1.44		10/19/19 00:11	142-82-5	
Hexachloro-1,3-butadiene	<b>&lt;2.8</b>	ug/m3	7.8	2.8	1.44		10/19/19 00:11	87-68-3	
n-Hexane	<b>4.1</b>	ug/m3	1.0	0.45	1.44		10/19/19 00:11	110-54-3	
2-Hexanone	<b>&lt;1.1</b>	ug/m3	6.0	1.1	1.44		10/19/19 00:11	591-78-6	
Methylene Chloride	<b>2.3J</b>	ug/m3	5.1	1.7	1.44		10/19/19 00:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	<b>&lt;0.75</b>	ug/m3	6.0	0.75	1.44		10/19/19 00:11	108-10-1	
Methyl-tert-butyl ether	<b>&lt;0.95</b>	ug/m3	5.3	0.95	1.44		10/19/19 00:11	1634-04-4	
Naphthalene	<b>2.0J</b>	ug/m3	3.8	1.9	1.44		10/19/19 00:11	91-20-3	
2-Propanol	<b>51.4</b>	ug/m3	3.6	1.0	1.44		10/19/19 00:11	67-63-0	
Propylene	<b>&lt;0.20</b>	ug/m3	0.50	0.20	1.44		10/19/19 00:11	115-07-1	
Styrene	<b>&lt;0.50</b>	ug/m3	1.2	0.50	1.44		10/19/19 00:11	100-42-5	
1,1,2,2-Tetrachloroethane	<b>&lt;0.44</b>	ug/m3	1.0	0.44	1.44		10/19/19 00:11	79-34-5	

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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

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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

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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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### 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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### REPORT OF LABORATORY ANALYSIS

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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	

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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	

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: 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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### REPORT OF LABORATORY ANALYSIS

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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		

### REPORT OF LABORATORY ANALYSIS

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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#: 10495129**

**Air Sample Condition Upon Receipt**

Client Name: The Sigma Group

Project #:

PM: KNH

Due Date: 10/17/19

CLIENT: SIGMA ENV

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

Tracking Number: 1083 0280 6391/2754/6380

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: \_\_\_\_\_

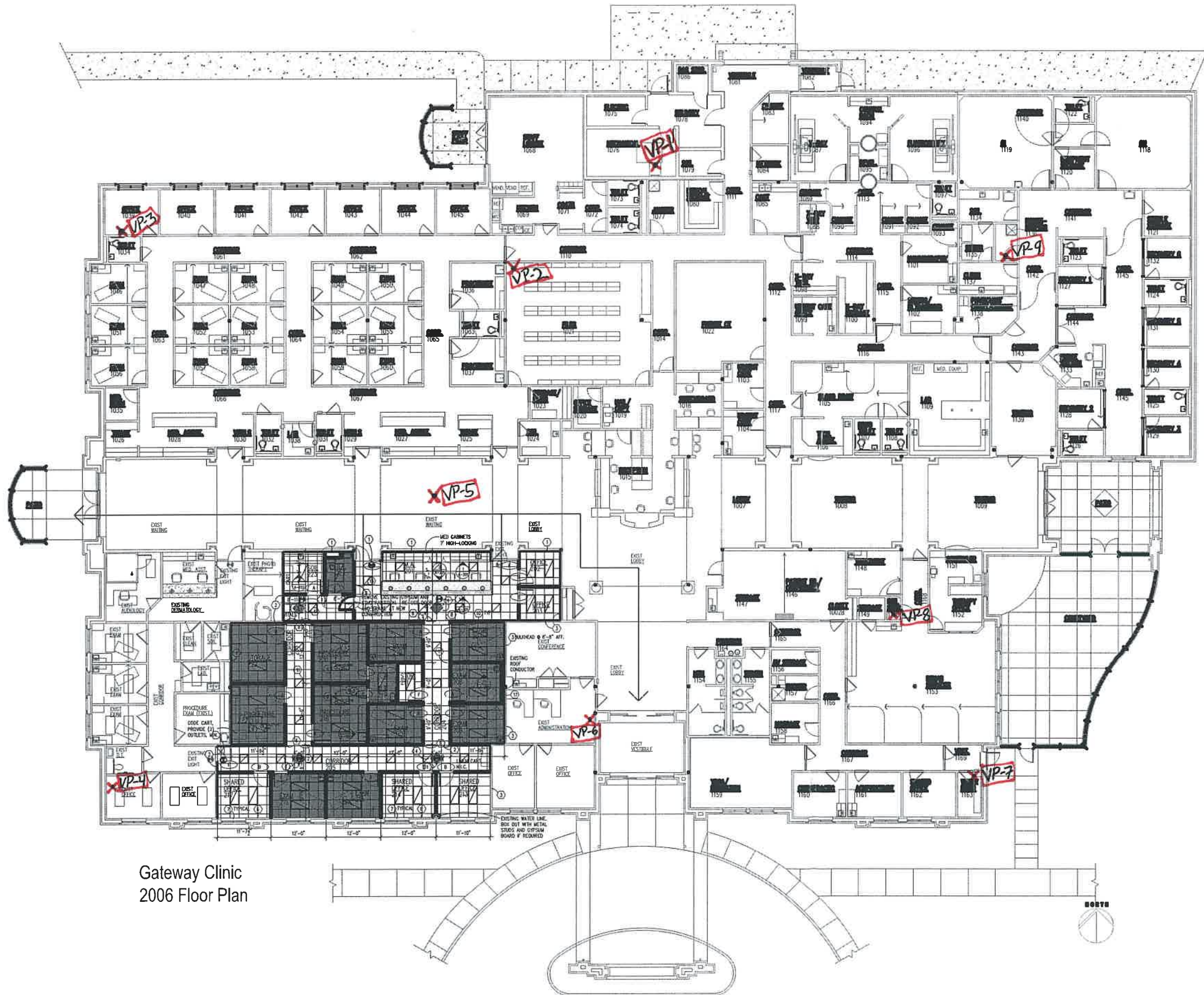
Comments/Resolution: \_\_\_\_\_

Project Manager Review: Kirsten Hofer

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)





Gateway Clinic  
2006 Floor Plan

Vapor Sample Locations  
10/08/2019  
ESP