March 26, 2020 Project #18883

Mr. James Walden
c/o Ms. Jennifer Dorman, Environmental Program Assistant
Wisconsin Department of Natural Resources
Remediation & Redevelopment Program
2300 N. Dr. Martin Luther King Jr. Drive
Milwaukee, WI 53212

Subject: **Vapor Intrusion Assessment**
MPS-Vaughan Manufacturing – 801 S. 70th Street, West Allis, WI
WDNR BRRTS #06-41-200024
FID #241193700

Dear Mr. Walden:

On behalf of the Wisconsin Department of Natural Resources (WDNR), The Sigma Group, Inc. (Sigma) has prepared this letter report for the above-referenced property (the "Site") to document vapor intrusion assessment activities completed at the Site. This work was conducted following a July 2019 Phase II Environmental Site Assessment (ESA) which suggested that shallow soil gas contained select volatile organic compounds (VOCs) at concentrations posing a potential vapor intrusion risk to occupants of the existing Site building. As a result, WDNR requested collection of subslab vapor and indoor air samples at the existing Site building to further assess the potential vapor intrusion pathway.

Based on the completed subslab and indoor air sampling activities, discussed below, the lack of indoor air or subslab vapor impacts greater than applicable standards indicates that no further vapor intrusion testing or mitigation is warranted for the Site at this time.

BACKGROUND

The Site was developed and operated as a manufacturing property up until the late 20th century, when the City of West Allis (the City) acquired it. The City completed subsurface investigation and remediation activities at the Site and pursued a Voluntary Party Liability Exemption (VPLE) for the Site. A VPLE Certificate of Completion (COC) was issued by the WDNR on November 11, 2003 and amended on May 17, 2004.

Shallow soil gas sampling completed at the Site in July 2019 as part of pre-purchase due diligence Phase II ESA work suggested a potential risk from vapor intrusion to occupants of the existing building, which is currently used as a medical office building, from select VOCs, specifically naphthalene and trichloroethene (TCE). Sigma was retained to evaluate vapor intrusion potential at the Site through sampling of subslab vapors as well as indoor air.

The entities involved with this project include:

Current Property Owner:
RMS ST ALLIS LLC
6600 France Avenue S, Suite 550
Minneapolis, MN 55435

Regulatory Agency:
Wisconsin Department of Natural Resources
PO Box 7921
Madison, WI 53707
Contact: James Walden
Telephone: (608) 267-3131
Email: jamese.walden@wisconsin.gov

Environmental Consultant:
The Sigma Group, Inc.
1300 West Canal Street
Milwaukee, WI 53233
Contact: Stephen Meer, P.E.
Telephone: (414) 643-4200
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VAPOR INTRUSION INVESTIGATION ACTIVITIES

Indoor Air Sampling. On October 3, 2019, Sigma completed the first round of indoor air sampling at 10 locations distributed throughout the building, designated IA-1 through IA-10 on **Figure 1**. The air samples were collected via 6-liter Summa canisters fitted with flow controllers set to collect over an 8-hour time period. For comparison purposes, an additional ambient air sample (AA-1) was collected from the exterior east patio area. Each air sample was submitted with a completed chain of custody for laboratory analysis of VOCs by EPA Method TO-15.

On January 23, 2020, Sigma returned to the Site to conduct a second round of indoor air sampling. The air samples were collected at the same locations as the first round of samples, with the exception of IA-1, which was moved to the southeast building corner, in a room containing a floor drain to evaluate potential preferential migration associated with utility entrances. The air samples were collected via 6-liter Summa canisters fitted with flow controllers set to collect over an 8-hour time period. For comparison purposes, an additional ambient air sample (AA-1) was collected from the exterior east patio area. Each air sample was submitted with a completed chain of custody for laboratory analysis of a shortlist of select VOCs as specified by the WDNR by EPA Method TO-15.

Subslab Vapor Sampling (Temporary Points). On October 8, 2019, Sigma installed 9 temporary vapor sampling points (VP-1 through VP-9) within the Site building in representative areas as shown in **Figure 2**. Each subslab vapor point was installed by drilling a 5/8-inch diameter hole through the concrete floor slab, which was approximately 6 inches thick, using a hammer drill. A high-efficiency particulate air (HEPA) filter-equipped shop-vac and air purifier were set up adjacent to each vapor sampling location to control dust generated during drilling activities. The hole was cleaned with the HEPA shop-vac and a brush and then a 1/2-inch diameter Vapor Pin® fitted with a silicone sleeve (to create an airtight seal) was installed in the drill hole with a dead blow hammer. Following the Vapor

Pin® installation, each sample point was evaluated with a water dam test for at least 5 minutes to verify the integrity of the surface seal; in each case the water dam test passed with no observable loss of water, indicating the seal around the Vapor Pin® was intact and sufficiently tight. Representative photographs are included in **Attachment 1**.

Short lengths of new nylon tubing and new compression fittings/valves were used to connect each subslab vapor point to a Summa canister supplied by the analytical laboratory. Each Summa canister was equipped with a flow regulator set to allow sample collection over a 30-minute period (limiting the rate of sample collection to less than 200 ml/minute). The tightness of the sampling line and connections between each vapor point and the Summa canister was confirmed using a hand-operated vacuum pump with pressure gauge; a minimum vacuum of 25 inches of mercury vacuum was maintained for a minimum of 2 minutes at each sampling location. Representative photographs are included in **Attachment 1**.

Following completion of the sample line tightness tests, each sampling point was purged with a photoionization detector for several minutes to evacuate stagnant air within the tubing and in the vicinity of each Vapor Pin®. Vapor sample collection was initiated by opening the Summa canister valve, and sample collection was terminated after approximately 30 minutes while a small level of vacuum (approximately less than 5 inches of mercury) remained in the Summa canister. Each Summa canister and associated tubing was disconnected from the Vapor Pin®. Following sample collection, the Vapor Pins® were removed and the holes in the concrete were patched with concrete grout flush with the floor surface. All 9 subslab vapor samples were submitted for laboratory analysis of VOCs by EPA Method TO-15.

Subslab Vapor Sampling (Flush-Mount Points). On February 3, 2020, Sigma installed nine flush-mount subslab vapor points (VP-1 through VP-3, VP-4-2R, VP-5, VP-6, VP-7-2R, VP-8, and VP-9) within the Site building in representative areas as shown in **Figure 2**. The points were installed at the same locations as the first round of sampling, with the exception of vapor points VP-4-2R and VP-7-2R, which were relocated at the request of WDNR to evaluate areas of the subslab space farther away from exterior foundation elements. Each subslab vapor point, with the exception of VP-5, was installed by drilling a 1.5-inch diameter by 1.75-inch deep hole in the concrete floor slab using a hammer drill. A 5/8-inch diameter hole was then drilled through the center of the larger hole to penetrate the concrete floor slab, which was typically 6 inches thick. At the VP-5 location, the concrete floor slab was found to be closer to 4 inches thick. Due to the relatively thin floor slab, Sigma was unable to install the Vapor Point® as a flush-mount, and had to install a stick-up point by drilling a 5/8-inch diameter hole through the slab. A high-efficiency particulate air (HEPA) filter-equipped shop-vac and air purifier were set up adjacent to each vapor sampling location to control dust generated during drilling activities. The hole was cleaned with a shop-vac and a brush and then a 1/2-inch diameter Vapor Pin® fitted with a silicone sleeve (to create an airtight seal) was installed in each of the drill holes with a dead blow hammer. Following the Vapor Pin® installation, each sample point was evaluated with a water dam test for at least 5 minutes to verify the integrity of the surface seal; in each case the water dam test passed with no observable loss of water, except at sample location VP-6, where a loss of water was observed. Following removal and re-setting of the Vapor Pin® with a new silicone sleeve, VP-6 passed the water dam test with no observable loss of water. Representative photographs are included in **Attachment 1**.

After an equilibration period of approximately 24 hours, Sigma returned to the Site on February 4, 2020 to collect subslab vapor samples from each of the Vapor Pin® locations. At the time of the testing, the floor slabs within the building were intact. Short lengths of new nylon tubing and new compression fittings/valves were used to connect each subslab vapor point to a Summa canister supplied by the analytical laboratory. Each Summa canister was equipped with a flow regulator set to allow sample collection over a 30-minute period (limiting the rate of sample collection to less than 200 ml/minute). The tightness of the sampling line and connections between each vapor point and the Summa canister was confirmed using a hand-operated vacuum pump with pressure gauge; a minimum vacuum of 25 inches of mercury vacuum was maintained for a minimum of 2 minutes at each sampling location. Representative photographs are included in **Attachment 1**.

Following completion of the sample line tightness tests, each sampling point was purged with a photoionization detector for several minutes to evacuate stagnant air within the tubing and in the vicinity of each Vapor Pin®. Vapor sample collection was initiated by opening the Summa canister valve, and sample collection was terminated after approximately 30 minutes while a small level of vacuum (less than 5 inches of mercury) remained in the Summa canister. Each Summa canister and associated tubing was disconnected from the Vapor Pin®, and the vapor points were left in place pending receipt of the laboratory analytical data. All nine subslab vapor samples were submitted for laboratory analysis of a shortlist of select VOCs as specified by the WDNR by EPA Method TO-15. Following receipt of the additional analytical results, WDNR indicated that no additional sampling was warranted; therefore, the Vapor Pins® were removed and the holes in the concrete were patched with concrete grout flush with the floor surface on March 3, 2020. Documentation of the abandonment is included in **Attachment 2**.

VAPOR INTRUSION INVESTIGATION RESULTS

Indoor Air Quality Results. Indoor air quality data are summarized in **Table 1** and the laboratory analytical reports are included in **Attachment 3.** Vapor Action Levels are based on the small commercial exposure pathway as referenced in the WDNR's document PUB-RR-800[1]. Although multiple VOCs were detected in each of the vapor samples, all concentrations of the compounds of concern (benzene, 1,1-dichloroethene, cis-1,2-dichloroethene, naphthalene, tetrachloroethene (PCE), TCE, and vinyl chloride) were reported below the Vapor Action Levels for a small commercial building. Relatively high detected concentrations of 2-propanol (isopropyl alcohol) at sample locations IA-4, IA-5, IA-9, and IA-10 are attributed to current Site building use as a medical office facility and are not a result of vapor intrusion.

Subslab Vapor Quality Results. Subslab vapor quality data are summarized in **Table 2** and the laboratory analytical reports are included in **Attachment 4**. Vapor Risk Screening Levels are based on Vapor Action Levels modified with a 0.03 subslab vapor-to-ambient air attenuation factor for a small commercial building as referenced in the WDNR's document PUB-RR-800. Although low concentrations of multiple VOCs were detected in each of the vapor samples, all concentrations of the compounds of concern (benzene, 1,1-

[1] *Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin* by WDNR (dated January 2018)

dichloroethene, cis-1,2-dichloroethene, naphthalene, PCE, TCE, and vinyl chloride) were reported below the Vapor Risk Screening Levels for a small commercial space.

CONCLUSIONS & RECOMMENDATIONS

Indoor air concentrations of the constituents of concern are below Vapor Action Levels, and subslab vapor concentrations of the constituents of concern are also below Vapor Risk Screening Levels. Based on the results of the completed sampling, residual subsurface impacts do not pose a significant vapor intrusion risk to the Site building. Thus, no further vapor intrusion testing or mitigation is warranted.

Please contact Sigma at (414) 643-4200 with any questions about this submittal or the project in general.

Sincerely,

THE SIGMA GROUP, INC.

Edward S. Pencak
Staff Geologist

Stephen Meer, P.E.
Senior Engineer

Adam J. Roder, P.E., P.G.
Senior Engineer

Enclosures:

Table 1 - Ambient / Indoor Air Analytical Data
Table 2 - Subslab Vapor Analytical Data - Shortlist

Figure 1 - Indoor Air Sampling Location Map
Figure 2 - Subslab Vapor Sampling Location Map

Attachment 1 - Photographs
Attachment 2 - Flush Mount Vapor Point Abandonment Notes
Attachment 3 - Laboratory Analytical Data (Indoor Air)
Attachment 4 - Laboratory Analytical Data (Subslab Vapor)

TABLES

Table 1
Ambient / Indoor Air Analytical Data
MPS/Vaughan Manufacturing - 801 S. 70th Street, West Allis, WI
Sigma Project No. 18883

Sample Type:		Ambient Air Samples																						VAL for Residential Indoor Air [2]	VAL for Small Commercial Indoor Air [3]	VAL for Large Commercial / Industrial Indoor Air [4]
Sample Identification:		IA-1	IA-1 - 2nd	IA-2		IA-3	IA-4		IA-5		IA-6		IA-7		IA-8		IA-9		IA-10		AA-1					
Date:		10/3/19	1/23/20	10/3/19	1/23/20	1/23/20	10/3/19	1/23/20	10/3/19	1/23/20	10/3/19	1/23/20	10/3/19	1/23/20	10/3/19	1/23/20	10/3/19	1/23/20	10/3/19	1/23/20	10/3/19	1/23/20			
Duration:		7 h 21 min	7 h 56 min	7 h 45 min	7 h 37 min	7 h 47 min	7 h 41 min	7 h 57 min	7 h 38 min	8 h 4 min	7 h 39 min	8 h 12 min	8 h 0 min	7 h 59 min	7 h 57 min	8 h 10 min	7 h 33 min	7 h 55 min	7 h 30 min	8 h 8 min	7 h 28 min	7 h 56 min			
VOCs (Summa canisters by EPA Method TO-15)																										
Acetone	µg/m^3	13.1	NA	15.1	NA	NA	35.5	NA	21	NA	7.7	NA	20.1	NA	18.5	NA	39.1	NA	36.1	NA	10.8	NA		32,000	140,000	140,000
Benzene	µg/m^3	<0.24	1.0	<0.27	0.93	0.76	<0.23	0.77	<0.24	0.90	<0.23	0.85	2.2	0.75	<0.34	0.77	<0.23	0.73	<0.23	0.86	<0.23	0.86		3.6	16	16
Benzyl Chloride	µg/m^3	<1.9	NA	<2.1	NA	NA	<1.8	NA	<1.9	NA	<1.8	NA	<1.7	NA	<2.7	NA	<1.8	NA	<1.8	NA	<1.8	NA		0.57	2.5	2.5
Bromodichloromethane	µg/m^3	<0.57	NA	<0.64	NA	NA	<0.55	NA	<0.57	NA	<0.55	NA	<0.53	NA	<0.82	NA	<0.56	NA	<0.55	NA	<0.55	NA		0.76	3.3	3.3
Bromoform	µg/m^3	<2.2	NA	<2.5	NA	NA	<2.1	NA	<2.2	NA	<2.1	NA	<2.0	NA	<3.2	NA	<2.2	NA	<2.1	NA	<2.1	NA		26	110	110
Bromomethane	µg/m^3	<0.35	NA	<0.40	NA	NA	<0.34	NA	<0.35	NA	<0.34	NA	<0.33	NA	<0.51	NA	<0.35	NA	<0.34	NA	<0.34	NA		5.2	22	22
1,3-Butadiene	µg/m^3	<0.20	NA	<0.22	NA	NA	<0.19	NA	<0.20	NA	<0.19	NA	<0.18	NA	<0.29	NA	<0.19	NA	<0.19	NA	<0.19	NA		0.94	4.1	4.1
2-Butanone (MEK)	µg/m^3	1.5 J	NA	1.4 J	NA	NA	3.3 J	NA	3.6 J	NA	<0.55	NA	0.75 J	NA	2.6 J	NA	2.0 J	NA	2.2 J	NA	1.5 J	NA		5,200	22,000	22,000
Carbon Disulfide	µg/m^3	<0.34	NA	<0.38	NA	NA	<0.33	NA	<0.34	NA	<0.33	NA	0.80 J	NA	<0.49	NA	<0.33	NA	<0.33	NA	<0.33	NA		730	3,100	3,100
Carbon Tetrachloride	µg/m^3	<0.66	NA	<0.75	NA	NA	<0.64	NA	<0.66	NA	<0.64	NA	<0.62	NA	<0.97	NA	<0.65	NA	<0.64	NA	<0.64	NA		4.7	20	20
Chlorobenzene	µg/m^3	<0.43	NA	<0.48	NA	NA	<0.41	NA	<0.43	NA	<0.41	NA	<0.40	NA	<0.62	NA	<0.42	NA	<0.41	NA	<0.41	NA		52	220	220
Chloroethane	µg/m^3	<0.40	NA	<0.46	NA	NA	<0.39	NA	<0.40	NA	<0.39	NA	<0.37	NA	<0.58	NA	<0.40	NA	<0.39	NA	<0.39	NA		NS	NS	NS
Chloroform	µg/m^3	<0.30	NA	<0.34	NA	NA	<0.29	NA	<0.30	NA	<0.29	NA	<0.28	NA	<0.44	NA	<0.30	NA	<0.29	NA	<0.29	NA		1.2	5.3	5.3
Chloromethane	µg/m^3	0.75	NA	0.72 J	NA	NA	0.88	NA	0.66	NA	0.76	NA	2.3	NA	0.76 J	NA	0.76	NA	0.7	NA	0.81	NA		94	390	390
Cyclohexane	µg/m^3	<0.55	NA	<0.62	NA	NA	<0.53	NA	<0.55	NA	<0.53	NA	<0.51	NA	<0.79	NA	<0.54	NA	<0.53	NA	<0.53	NA		6,300	26,000	26,000
Dibromochloromethane	µg/m^3	<1.1	NA	<1.3	NA	NA	<1.1	NA	<1.1	NA	<1.1	NA	<1.0	NA	<1.6	NA	<1.1	NA	<1.1	NA	<1.1	NA		NS	NS	NS
1,2-Dibromoethane (EDB)	µg/m^3	<0.57	NA	<0.64	NA	NA	<0.55	NA	<0.57	NA	<0.55	NA	<0.53	NA	<0.82	NA	<0.56	NA	<0.55	NA	<0.55	NA		0.047	0.2	0.2
1,2-Dichlorobenzene	µg/m^3	<0.77	NA	<0.87	NA	NA	<0.74	NA	<0.77	NA	<0.74	NA	<0.72	NA	<1.1	NA	<0.76	NA	<0.74	NA	<0.74	NA		210	880	880
1,3-Dichlorobenzene	µg/m^3	<0.90	NA	<1.0	NA	NA	<0.87	NA	<0.90	NA	<0.87	NA	<0.84	NA	<1.3	NA	<0.88	NA	<0.87	NA	<0.87	NA		NS	NS	NS
1,4-Dichlorobenzene	µg/m^3	<1.6	NA	<1.8	NA	NA	<1.5	NA	<1.6	NA	<1.5	NA	<1.4	NA	<2.2	NA	<1.5	NA	<1.5	NA	<1.5	NA		2.6	11	11
Dichlorodifluoromethane	µg/m^3	2.2	NA	2.2	NA	NA	2.1	NA	2.3	NA	2.5	NA	2.2	NA	1.9 J	NA	2.3	NA	2.2	NA	2.2	NA		100	440	440
1,1-Dichloroethane	µg/m^3	<0.35	1.2J	<0.39	<0.36	<0.38	<0.34	<0.38	<0.35	<0.36	<0.34	<0.34	<0.32	<0.38	<0.51	<0.36	<0.34	<0.38	<0.34	<0.36	<0.34	<0.34		18	77	77
1,2-Dichloroethane	µg/m^3	<0.23	NA	<0.26	NA	NA	<0.22	NA	<0.23	NA	<0.22	NA	<0.22	NA	<0.34	NA	<0.23	NA	<0.22	NA	<0.22	NA		1.1	4.7	4.7
1,1-Dichloroethene	µg/m^3	<0.42	NA	<0.48	NA	NA	<0.41	NA	<0.42	NA	<0.41	NA	<0.39	NA	<0.62	NA	<0.42	NA	<0.41	NA	<0.41	NA		210	880	880
cis-1,2-Dichloroethene	µg/m^3	<0.34	NA	<0.38	NA	NA	<0.33	NA	<0.34	NA	<0.33	NA	<0.32	NA	<0.49	NA	<0.33	NA	<0.33	NA	<0.33	NA		NS	NS	NS
trans-1,2-Dichloroethene	µg/m^3	<0.44	NA	<0.50	NA	NA	<0.42	NA	<0.44	NA	<0.42	NA	<0.41	NA	<0.64	NA	<0.43	NA	<0.42	NA	<0.42	NA		NS	NS	NS
1,2-Dichloropropane	µg/m^3	<0.36	NA	<0.40	NA	NA	<0.34	NA	<0.36	NA	<0.34	NA	<0.33	NA	<0.52	NA	<0.35	NA	<0.34	NA	<0.34	NA		7.6	33	33
cis-1,3-Dichloropropene	µg/m^3	<0.47	0.67J	<0.53	<0.35	<0.37	<0.45	<0.37	<0.47	<0.35	<0.45	<0.33	<0.44	<0.37	<0.68	<0.35	<0.46	<0.37	<0.45	<0.35	<0.45	<0.33		7.0	31	31
trans-1,3-Dichloropropene	µg/m^3	<0.68	NA	<0.77	NA	NA	<0.66	NA	<0.68	NA	<0.66	NA	<0.63	NA	<0.99	NA	<0.67	NA	<0.66	NA	<0.66	NA		7.0	31	31
Dichlorotetrafluoroethane	µg/m^3	<0.68	NA	<0.76	NA	NA	<0.65	NA	<0.68	NA	<0.65	NA	<0.63	NA	<0.98	NA	<0.66	NA	<0.65	NA	<0.65	NA		NS	NS	NS
Ethanol	µg/m^3	360	NA	336	NA	NA	1210	NA	491	NA	61.6	NA	515	NA	386	NA	1710	NA	1410	NA	6.7	NA		NS	NS	NS
Ethyl Acetate	µg/m^3	<0.29	NA	0.59 J	NA	NA	<0.28	NA	<0.29	NA	<0.28	NA	<0.27	NA	<0.43	NA	<0.29	NA	<0.28	NA	<0.28	NA		73	310	310
Ethylbenzene	µg/m^3	<0.47	NA	<0.53	NA	NA	<0.45	NA	<0.47	NA	<0.45	NA	0.61 J	NA	<0.69	NA	<0.46	NA	<0.45	NA	<0.45	NA		11	49	49
4-Ethyltoluene	µg/m^3	<0.88	NA	<1.0	NA	NA	<0.85	NA	<0.88	NA	<0.85	NA	1.4 J	NA	<1.3	NA	<0.87	NA	<0.85	NA	<0.85	NA		NS	NS	NS
n-Heptane	µg/m^3	<0.59	NA	<0.66	NA	NA	<0.57	NA	<0.59	NA	0.87 J	NA	<0.55	NA	<0.86	NA	<0.58	NA	<0.57	NA	<0.57	NA		420	1,800	1,800
Hexachloro-1,3-butadiene	µg/m^3	<3.1	NA	<3.4	NA	NA	<2.9	NA	<3.1	NA	<2.9	NA	<2.8	NA	<4.4	NA	<3.0	NA	<2.9	NA	<2.9	NA		1.3	5.6	5.6
n-Hexane	µg/m^3	0.60 J	NA	0.76 J	NA	NA	<0.46	NA	<0.48	NA	<0.46	NA	1.2	NA	0.94 J	NA	<0.47	NA	<0.46	NA	<0.46	NA		730	3,100	3,100
2-Hexanone	µg/m^3	<1.2	NA	<1.3	NA	NA	<1.1	NA	<1.2	NA	<1.1	NA	<1.1	NA	<1.7	NA	<1.1	NA	<1.1	NA	<1.1	NA		31	130	130
Methylene Chloride	µg/m^3	2.9 J	NA	4.8 J	NA	NA	<1.8	NA	<1.9	NA	<1.8	NA	14.6	NA	7.4 J	NA	<1.8	NA	<1.8	NA	<1.8	NA		630	2,600	2,600
4-Methyl-2-Pentanone (MIBK)	µg/m^3	<0.80	NA	<0.91	NA	NA	<0.77	NA	<0.80	NA	<0.77	NA	<0.75	NA	1.2 J	NA	<0.79	NA	<0.77	NA	<0.77	NA		3,100	13,000	13,000
Methyl-tert-butyl ether	µg/m^3	<1.0	NA	<1.2	NA	NA	<0.99	NA	<1.0	NA	<0.99	NA	<0.95	NA	<1.5	NA	<1.0	NA	<0.99	NA	<0.99	NA		110	470	470
Naphthalene	µg/m^3	<2.0	<2.1	<2.3	<2.1	<2.2	<2.0	<2.2	<2.0	<2.1	<2.0	<2.0	<1.9	<2.2	<2.9	<2.1	<2.0	<2.2	<2.0	<2.1	<2.0	<2.0		0.83	3.6	3.6
2-Propanol (Isopropyl Alcohol)	µg/m^3	556	NA	617	NA	NA	**1140**	NA	**1440**	NA	190	NA	640	NA	733	NA	**25200**	NA	**25000**	NA	9.8	NA		210	880	880
Propylene	µg/m^3	<0.22	NA	<0.24	NA	NA	<0.21	NA	<0.22	NA	0.64	NA	<0.20	NA	1.1	NA	0.72	NA	0.66	NA	0.76	NA		3,100	13,000	13,000
Styrene	µg/m^3	<0.53	NA	<0.60	NA	NA	<0.51	NA	<0.53	NA	<0.51	NA	2.7	NA	<0.77	NA	<0.52	NA	<0.51	NA	<0.51	NA		1,000	4,400	4,400
1,1,2,2-Tetrachloroethane	µg/m^3	<0.48	NA	<0.60	NA	NA	<0.46	NA	<0.48	NA	<0.46	NA	<0.44	NA	<0.70	NA	<0.47	NA	<0.46	NA	<0.46	NA		0.48	2.1	2.1
Tetrachloroethene (PCE)	µg/m^3	<0.49	<0.51	<0.55	<0.51	<0.53	<0.47	<0.53	<0.49	<0.51	<0.47	<0.48	<0.45	<0.53	<0.71	<0.51	<0.48	<0.53	<0.47	<0.51	<0.47	<0.47		42	180	180
Tetrahydrofuran	µg/m^3	<0.40	NA	<0.46	NA	NA	<0.39	NA	<0.40	NA	<0.39	NA	<0.38	NA	<0.59	NA	<0.40	NA	<0.39	NA	<0.39	NA		2,100	8,800	8,800
Toluene	µg/m^3	6.0	NA	6.2	NA	NA	1.2	NA	3.6	NA	0.58 J	NA	2.9	NA	6.7	NA	0.64 J	NA	<0.52	NA	<0.52	NA		5,200	22,000	22,000
1,2,4-Trichlorobenzene	µg/m^3	<5.8	NA	<6.5	NA	NA	<5.5	NA	<5.8	NA	<5.5	NA	<5.4	NA	<8.4	NA	<5.7	NA	<5.5	NA	<5.5	NA		2.1	8.8	8.8
1,1,1-Trichloroethane	µg/m^3	0.53 J	NA	<0.54	NA	NA	<0.46	NA	<0.48	NA	<0.46	NA	<0.44	NA	<0.70	NA	<0.47	NA	<0.46	NA	<0.46	NA		5,200	22,000	22,000
1,1,2-Trichlororethane	µg/m3	<0.38	NA	<0.42	NA	NA	<0.36	NA	<0.38	NA	<0.36	NA	<0.35	NA	<0.54	NA	<0.37	NA	<0.36	NA	<0.36	NA		1.8	7.7	7.7
Trichloroethene (TCE)	µg/m^3	0.52 J	3.2	<0.44	<0.41	<0.43	<0.38	<0.43	<0.39	<0.41	<0.38	<0.38	<0.36	<0.43	<0.57	<0.41	<0.38	<0.43	<0.38	<0.41	<0.38	<0.38		2.1	8.8	8.8
Trichlorofluoromethane	µg/m^3	1.4 J	NA	1.5 J	NA	NA	1.4 J	NA	1.3 J	NA	1.6 J	NA	1.4 J	NA	1.7 J	NA	1.4 J	NA	1.3 J	NA	1.3 J	NA		NS	NS	NS
1,1,2-Trichlorotrifluoroethane	µg/m^3	<0.87	NA	<0.99	NA	NA	<0.84	NA	<0.87	NA	<0.84	NA	<0.81	NA	<1.3	NA	<0.86	NA	<0.84	NA	<0.84	NA		NS	NS	NS
1,2,4-Trimethylbenzene	µg/m^3	<0.70	NA	<0.79	NA	NA	<0.67	NA	<0.70	NA	<0.67	NA	3.7	NA	<1.0	NA	<0.69	NA	<0.67	NA	<0.67	NA		63	260	260
1,3,5-Trimethylbenzene	µg/m^3	<0.62	NA	<0.70	NA	NA	<0.59	NA	<0.62	NA	<0.59	NA	1.0 J	NA	<0.90	NA	<0.61	NA	<0.59	NA	<0.59	NA		63	260	260
Vinyl Acetate	µg/m^3	<0.42	NA	<0.47	NA	NA	<0.40	NA	<0.42	NA	<0.40	NA	<0.39	NA	<0.61	NA	<0.41	NA	<0.40	NA	<0.40	NA		210	880	880
Vinyl Chloride	µg/m^3	<0.20	<0.20	<0.22	<0.20	<0.21	<0.19	<0.21	<0.20	<0.20	<0.19	<0.19	<0.18	<0.21	<0.28	<0.20	<0.19	<0.21	<0.19	<0.20	<0.19	<0.19		1.7	28	28
Xylenes, total	µg/m^3	<1.63	NA	<1.80	NA	NA	<1.51	NA	<1.63	NA	1.2 J	NA	4.5	NA	<2.37	NA	<1.62	NA	<1.51	NA	<1.51	NA		100	440	440

Notes:

1. Analytical units: µg/m^3 = micrograms per cubic meter

2. VAL for Residential Indoor Air = Vapor Action Level described in WDNR publication RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" (dated January 2018) which in turn references EPA Region 3 Risk-Based Concentrations for **residential** air [Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1) April 2019] and **residential** air in November 2017 "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels And Vapor Risk Screening Levels". VAL adjusted to 1-in-100,000 increase in lifetime cancer risk for carcinogens per WDNR publication RR-800; VAL is not adjusted for non-carcinogens (i.e., harzard index = 1).

3. VAL for Small Commercial Indoor Air = Vapor Action Level described in WDNR publication RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" (dated January 2018) which in turn references EPA Region 3 Risk-Based Concentrations for **industrial** air [Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1) April 2019] and **small commercial** air in November 2017 "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels And Vapor Risk Screening Levels". VAL adjusted to 1-in-100,000 increase in lifetime cancer risk for carcinogens per WDNR publication RR-800; VAL is not adjusted for non-carcinogens (i.e., harzard index = 1).

4. VAL for Large Commercial / Industrial Indoor Air = Vapor Action Level described in WDNR publication RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" (dated January 2018) which in turn references EPA Region 3 Risk-Based Concentrations for **industrial** air [Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1) April 2019] and **large commerical / industrial** air in November 2017 "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels And Vapor Risk Screening Levels". VAL adjusted to 1-in-100,000 increase in lifetime cancer risk for carcinogens per WDNR publication RR-800; VAL is not adjusted for non-carcinogens (i.e., harzard index = 1).

5. NA = not analyzed

6. Laboratory flags: J = Estimated concentration between laboratory limit of detection and limit of quantitation

7. Exceedances: **BOLD** = concentration exceeds Vapor Action Level (small commerical)

Table 2
Subslab Vapor Analytical Data - Shortlist
MPS/Vaughan Manufacturing - 801 S. 70th Street, West Allis, WI
Sigma Project No. 18883

Sample Type:		Subslab Air Samples																		Residential Vapor Risk Screening Level [2] (AF=0.03)	Small Commercial Vapor Risk Screening Level [3] (AF = 0.03)	Large Commercial / Industrial Vapor Risk Screening Level [4] (AF = 0.01)
Sample Identification:		VP-1		VP-2		VP-3		VP-4	VP-4-2R	VP-5		VP-6		VP-7	VP-7-2R	VP-8		VP-9				
Date:		10/8/19	2/4/20	10/8/19	2/4/20	10/8/19	2/4/20	10/8/19	2/4/20	10/8/19	2/4/20	10/8/19	2/4/20	10/8/19	2/4/20	10/8/19	2/4/20	10/8/19	2/4/20			
Duration:		37 min	40 min	40 min	42 min	37 min	45 min	37 min	38 min	37 min	42 min	38 min	47 min	38 min	35 min	42 min	39 min	40 min	38 min			
VOCs (Summa canisters by EPA Method TO-15)																						
Benzene	µg/m^3	0.68	0.27 J	<0.24	<0.21	1.4	0.62	1.7	0.79	<0.23	0.31 J	0.72	0.32 J	0.33 J	0.49	1.9	0.71	1.4	0.39 J	120	530	1,600
1,1-Dichloroethene	µg/m^3	<0.42	<0.38	<0.42	<0.38	<0.41	<0.39	<0.41	<0.39	<0.41	<0.39	<0.41	<0.39	<0.42	<0.38	<0.39	<0.40	<0.39	<0.39	7,000	29,000	88,000
cis-1,2-Dichloroethene	µg/m^3	<0.34	<0.30	<0.34	<0.30	<0.33	<0.32	<0.33	<0.32	<0.33	<0.32	<0.33	<0.31	<0.33	<0.30	9.0	12.5	<0.32	<0.32	NS	NS	NS
Naphthalene	µg/m^3	2.6 J	10.4	2.2 J	8.2	2.2 J	8.7	2.4 J	17.6	2.1 J	4.0	<2.0	2.9 J	<2.0	3.0 J	2.1 J	5.3	2.0 J	12.3	28	120	360
Tetrachloroethene (PCE)	µg/m^3	12.5	0.70 J	8.6	1.3	12.1	2.0	9.6	3.9	8.2	2.9	7.5	1.7	4.4	1.4	17.8	7.3	7.5	3.2	1,400	6,000	18,000
Trichloroethene (TCE)	µg/m^3	<0.39	0.57 J	1.7	1.7	<0.38	0.46 J	0.80 J	5.1	3.1	3.3	16.2	3.9	0.96	3.0	58.8	24.9	4.9	5.2	70	290	880
Vinyl Chloride	µg/m^3	<0.20	<0.18	<0.20	<0.18	<0.19	<0.18	<0.19	<0.18	<0.19	<0.18	<0.19	<0.18	<0.19	<0.18	<0.18	<0.18	<0.18	<0.18	57	930	2,800

Notes:

1. Analytical units: µg/m^3 = micrograms per cubic meter

2. Residential Vapor Risk Screening Level = Risk-based concentrations based on VALs for **residential** air which has been adjusted with an **Attenuation Factor of 0.03** for the subslab vapor to ambient air pathway in a **residential** building. VALs for residential indoor air based on WDNR publication RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" (dated January 2018) which in turn references EPA Region 3 Risk-Based Concentrations for residential air [Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1) April 2019] and residential air in November 2017 "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels And Vapor Risk Screening Levels". VAL adjusted to 1-in-100,000 increase in lifetime cancer risk for carcinogens per WDNR publication RR-800; VAL is not adjusted for non-carcinogens (i.e., hazard index = 1).

3. Small Commercial Vapor Risk Screening Level = Risk-based concentrations based on VALs for **small commercial** air which has been adjusted with an **Attenuation Factor of 0.03** for the subslab vapor to ambient air pathway in a **small commercial** building. VALs for small commercial building indoor air based on WDNR publication PUB-RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" (dated January 2018) which in turn references EPA Region 3 Risk-Based Concentrations for industrial air [Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1) April 2019] and small commercial air in November 2017 "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels And Vapor Risk Screening Levels". VAL adjusted to 1-in-100,000 increase in lifetime cancer risk for carcinogens per WDNR publication RR-800; VAL is not adjusted for non-carcinogens (i.e., hazard index = 1).

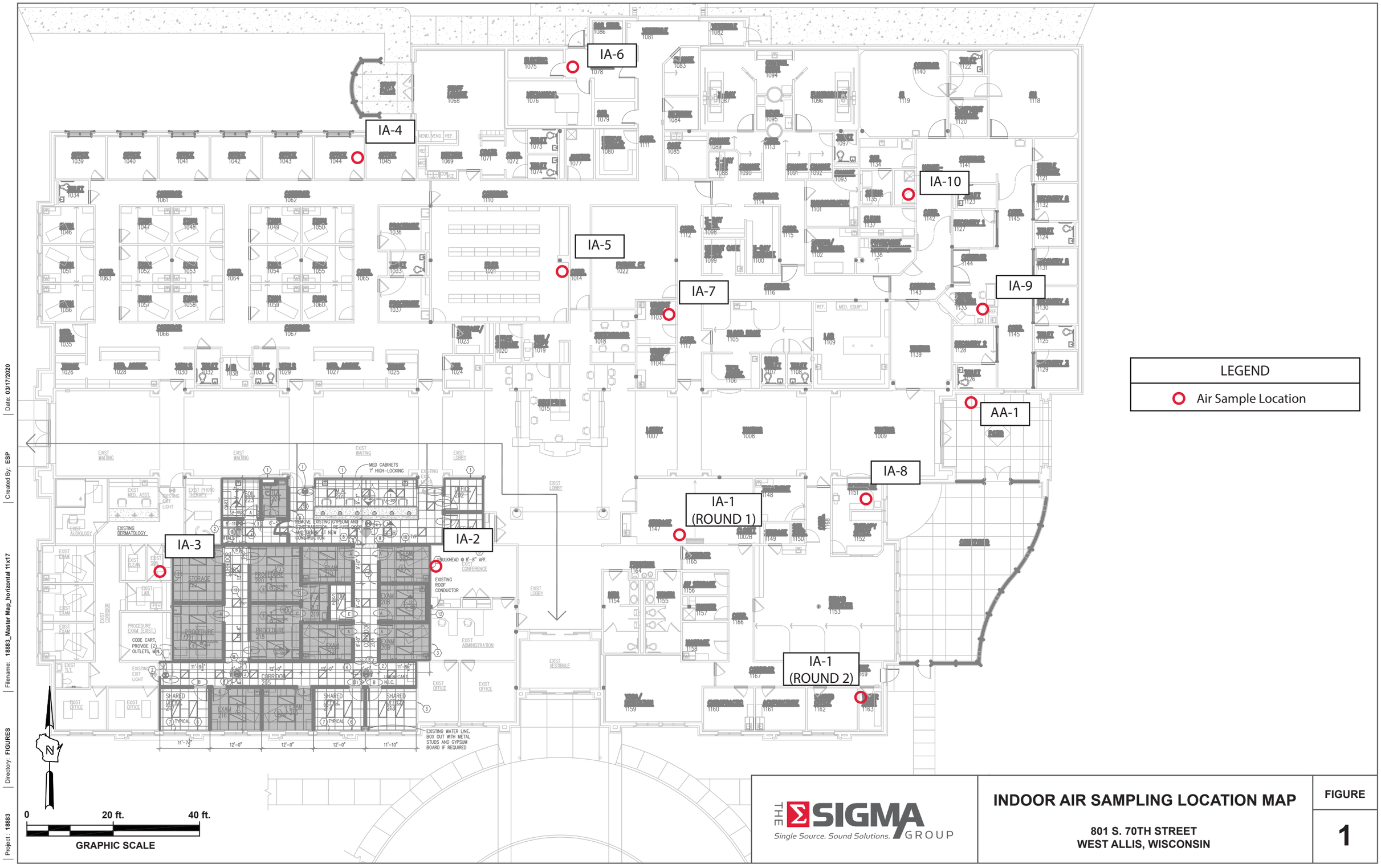
4. Large Commercial / Industrial Vapor Risk Screening Level = Risk-based concentrations based on VALs for **large commercial/industrial** air which has been adjusted with an **Attenuation Factor of 0.01** for the subslab vapor to ambient air pathway in a **large commercial/industrial** building. VALs for large commerical / industrial indoor air based on WDNR publication PUB-RR-800 "Addressing Vapor Intrusion at Remediation & Redevelopment Sites in Wisconsin" (dated January 2018) which in turn references EPA Region 3 Risk-Based Concentrations for industrial air [Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1) April 2019] and large commercial / industrial air in November 2017 "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels And Vapor Risk Screening Levels". VAL adjusted to 1-in-100,000 increase in lifetime cancer risk for carcinogens per WDNR publication RR-800; VAL is not adjusted for non-carcinogens (i.e., hazard index = 1).

5. NA = not analyzed

6. Laboratory flags: J = Estimated concentration between laboratory limit of detection and limit of quantitation

7. Exceedances: **BOLD** = concentration exceeds Vapor Risk Screening Level (small commerical)

FIGURES



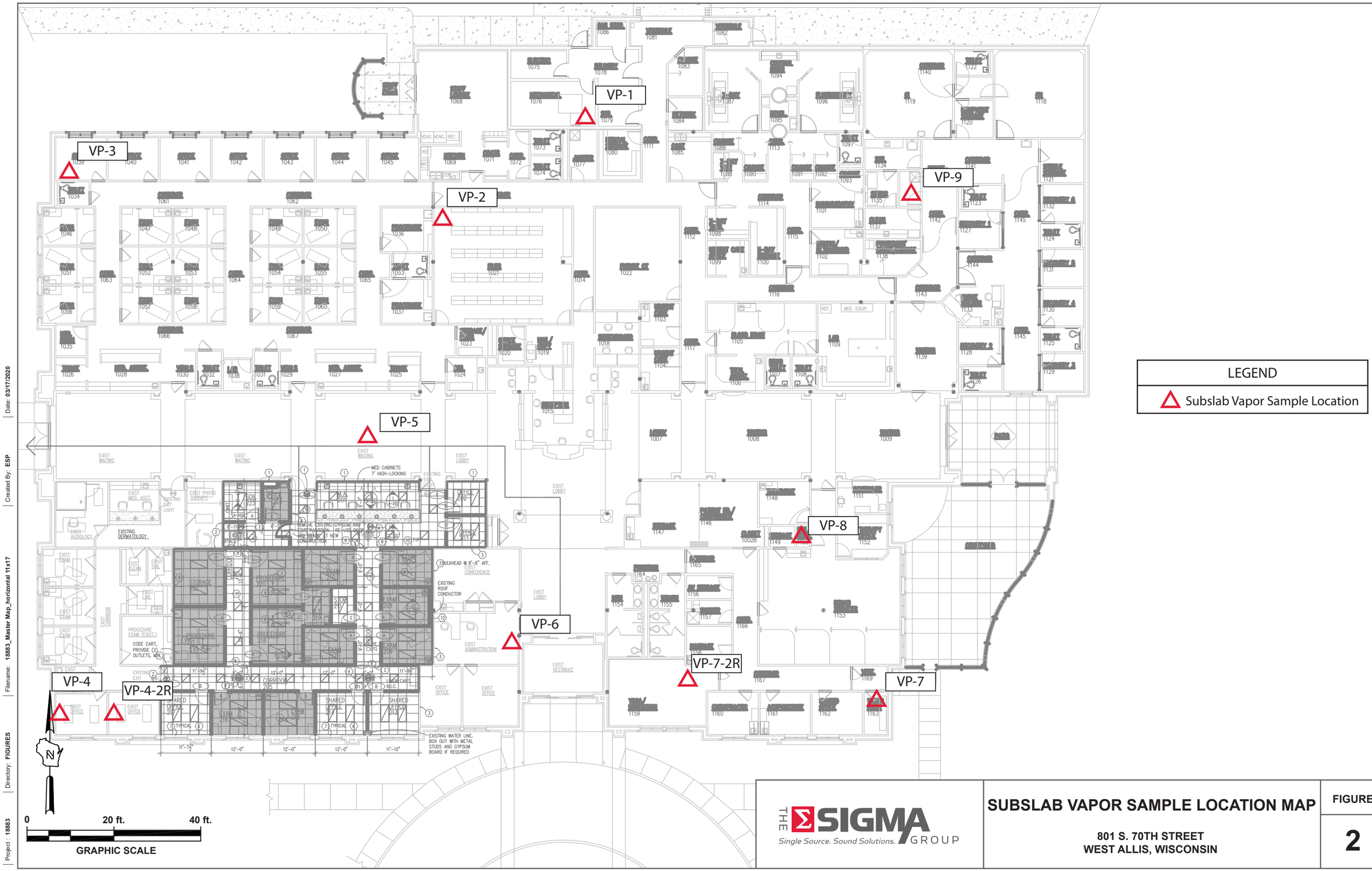
Date: 03/17/2020 | Created By: ESP | Filename: 18883_Master Map_horizontal 11x17 | Directory: FIGURES | Project: 18883

THE SIGMA GROUP
Single Source. Sound Solutions.

INDOOR AIR SAMPLING LOCATION MAP

801 S. 70TH STREET
WEST ALLIS, WISCONSIN

FIGURE
1



THE SIGMA GROUP
Single Source. Sound Solutions.

SUBSLAB VAPOR SAMPLE LOCATION MAP

801 S. 70TH STREET
WEST ALLIS, WISCONSIN

FIGURE
2

Project: 18883 | Directory: FIGURES | Filename: 18883_Master Map_horizontal 11x17 | Created By: ESP | Date: 03/17/2020

ATTACHMENT 1

PHOTOGRAPHS

Attachment 1: Photographs

Photo 1: Water dam test at temporary vapor point VP-1

Photo 2: Shut-in test for temporary vapor point sample VP-6

Attachment 1: Photographs

Photo 3: Installed flush mount vapor point VP-4-2R

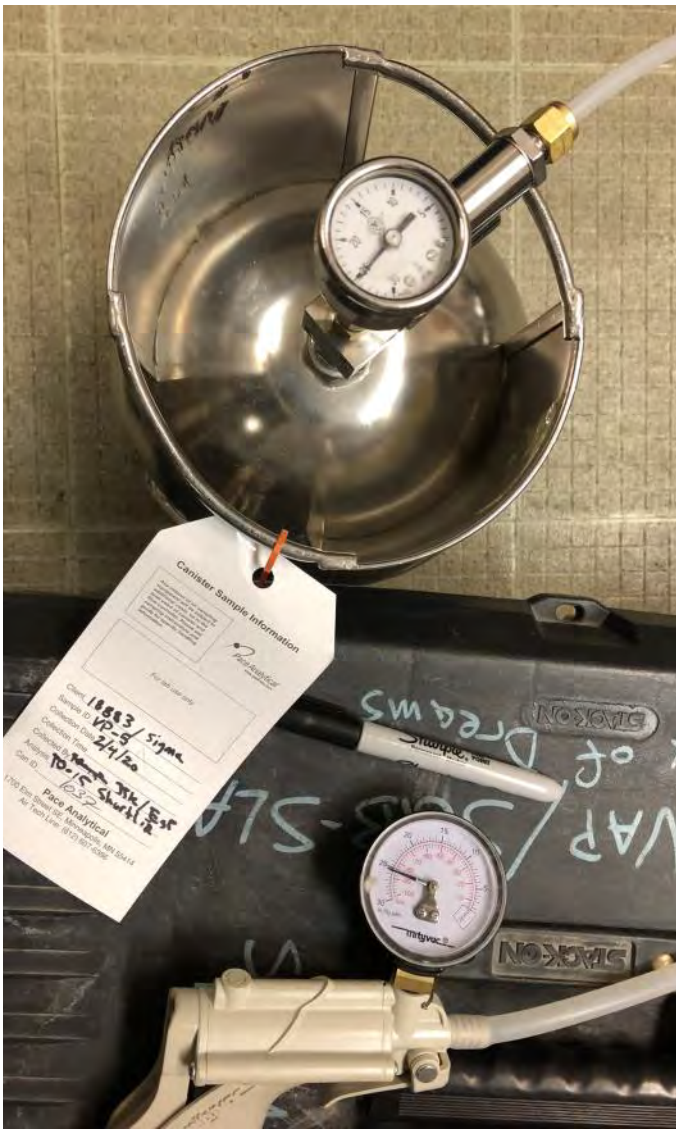


Photo 4: Shut-in test of Summa canister for subslab vapor sample VP-5

Attachment 1: Photographs

Photo 5: Abandoned temporary vapor point and installed and capped flush mount vapor point VP-8

ATTACHMENT 2

FLUSH MOUNT VAPOR POINT ABANDONMENT NOTES

SIGMA PROJECT # 18883 — 3/3/20

WDNR - UPS VAUGHAN MANUFACTURING

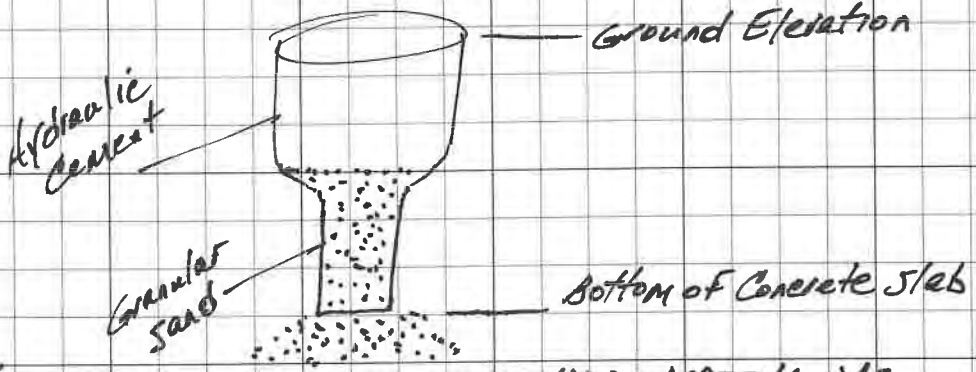
801 SOUTH 70TH STREET — WEST ALLIS, WI

PERSONNEL - TOM McCOY — JIM ZAPFEL - 414-639-9456

TOM NAGEL - 262-202-5562

TASKS & VAPOR PIN ABANDONMENT

- MET WITH TOM NAGEL, MAINTENANCE, UPON ARRIVAL.
- ABANDONED VAPOR POINTS VP-1, VP-2, VP-3, VP-4-2R, VP-5, VP-6, VP-7-2R, VP-8 AND VP-9.
- ABANDONMENT INCLUDED:
  - REMOVAL OF "VAPOR PIN"
  - APPLIED GRANULAR SAND TO THE BASE OF "CORE"
  - FILLED "CORE HOLE" FROM SAND BASE TO GROUND ELEVATION WITH HYDRAULIC CEMENT



  - ANY VAPOR POINTS THAT WERE UNDER CARPETING WAS SPRAYED WITH ADHESIVE GLUE AND TACKED DOWN.

3/3/20

ATTACHMENT 3

LABORATORY ANALYTICAL DATA (INDOOR AIR)

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

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

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

CERTIFICATIONS

Project: 18883 MPS
Pace Project No.: 10494361

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

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

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

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

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

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

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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

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

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
TO15 MSV AIR	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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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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
TO15 MSV AIR	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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414
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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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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								
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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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	

REPORT OF LABORATORY ANALYSIS

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

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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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								
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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
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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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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
TO15 MSV AIR	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

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

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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

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

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
TO15 MSV AIR	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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

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

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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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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

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

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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REPORT OF LABORATORY ANALYSIS

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

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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REPORT OF LABORATORY ANALYSIS

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

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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REPORT OF LABORATORY ANALYSIS

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

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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REPORT OF LABORATORY ANALYSIS

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

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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(612)607-1700

QUALIFIERS

Project: 18883 MPS
Pace Project No.: 10494361

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.

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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		

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AIR: CHAIN-OF-CUSTOD

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

WO# : 10494361

10494361

45339

Page: 1 of 1

Section A Required Client Information:

Company:	The Sigma Group
Address:	1300 W. Canal St. Milwaukee, WI 53233
Email To:	smeer@thesigmagroup.com
Phone:	414-643-4200
Fax:	414-643-4210
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	Steve Meer
Copy To:	
Purchase Order No.:	
Project Name:	MPS
Project Number:	18883

Section C Invoice Information:

Attention:	SAME
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager/Sales Rep.	
Pace Profile #:	18109

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

Location of Sampling by State: WI

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

Report Level II.___ III.___ IV.___ Other ___

Section D Required Client Information

AIR SAMPLE ID

Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	Section D AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	IA-1	6LC		10/3/19	0839	10/3/19	1600	-28	-4	10946	20111					X					001
2	IA-2	6LC		10/3/19	0893	10/3/19	1628	-27	-5	17466	17996					X					002
3	IA-3	6LC		10/3/19	0849	10/3/19	1707	-28	-21	26891	18000					X					003
4	IA-4	6LC		10/3/19	0854	10/3/19	1635	-28	-2	28161	17899					X					004
5	IA-5	6LC		10/3/19	0901	10/3/19	1639	-30	-3	28036	62566					X					005
6	IA-6	6LC		10/3/19	0907	10/3/19	1646	-29	-3	35688	20600					X					006
7	IA-7	6LC		10/3/19	0911	10/3/19	1711	-29	-1	08054	12755					X					007
8	IA-8	6LC		10/3/19	0917	10/3/19	1714	-30	-20	20900	01112					X					008
9	IA-9	6LC		10/3/19	0924	10/3/19	1657	-30	-3	34688	00788					X					009
10	IA-10	6LC		10/3/19	0929	10/3/19	1659	-29	-3	35950	03700					X					010
11	AA-1	6LC		10/3/19	0934	10/3/19	1702	-30	-3	27088	03177					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
/SIGMA	10/3	1742	-PACE	10/4/19	17 00

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JACKSON ROCK

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

Page 28 of 29

ORIGINAL

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 31Jan2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.18	Issuing Authority:

Air Sample Condition Upon Receipt

Client Name: The Sigma Group **Project #:**

WO#: 10494361

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 6358/6370/6369

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:** 10/8/19 LT

Type of ice Received ☐ Blue ☐ Wet ☒ None

		Comments:
Chain of Custody Present?	☒ Yes ☐ No	1.
Chain of Custody Filled Out?	☒ Yes ☐ No	2.
Chain of Custody Relinquished?	☒ Yes ☐ No	3.
Sampler Name and/or Signature on COC?	☒ Yes ☐ No ☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes ☐ No	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes ☒ No	6.
Rush Turn Around Time Requested?	☐ Yes ☒ No	7.
Sufficient Volume?	☒ Yes ☐ No	8.
Correct Containers Used?	☒ Yes ☐ No	9.
-Pace Containers Used?	☒ Yes ☐ No	
Containers Intact?	☒ Yes ☐ No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒ Yes ☐ No	12.
Do cans need to be pressurized (3C and ASTM 1946 DO NOT PRESSURIZE)?	☒ Yes ☐ 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	1096	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	1400	-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 Hoffer **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)

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

January 30, 2020

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

RE: Project: 18883 MPS
Pace Project No.: 10506529

Dear Steve Meer:
Enclosed are the analytical results for sample(s) received by the laboratory on January 27, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

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CERTIFICATIONS

Project: 18883 MPS
Pace Project No.: 10506529

Pace Analytical Services Minneapolis

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

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SAMPLE SUMMARY

Project: 18883 MPS
Pace Project No.: 10506529

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10506529001	**IA-1**	Air	01/23/20 16:47	01/27/20 10:35
10506529002	**IA-2**	Air	01/23/20 16:00	01/27/20 10:35
10506529003	**IA-3**	Air	01/23/20 16:04	01/27/20 10:35
10506529004	**IA-4**	Air	01/23/20 16:24	01/27/20 10:35
10506529005	**IA-5**	Air	01/23/20 16:27	01/27/20 10:35
10506529006	**IA-6**	Air	01/23/20 16:39	01/27/20 10:35
10506529007	**IA-7**	Air	01/23/20 16:31	01/27/20 10:35
10506529008	**IA-8**	Air	01/23/20 16:53	01/27/20 10:35
10506529009	**IA-9**	Air	01/23/20 16:35	01/27/20 10:35
10506529010	**IA-10**	Air	01/23/20 16:44	01/27/20 10:35
10506529011	**AA-1**	Air	01/23/20 16:50	01/27/20 10:35

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SAMPLE ANALYTE COUNT

Project: 18883 MPS
Pace Project No.: 10506529

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10506529001	**IA-1**	TO-15	MLS	7	PASI-M
10506529002	**IA-2**	TO-15	MLS	7	PASI-M
10506529003	**IA-3**	TO-15	MLS	7	PASI-M
10506529004	**IA-4**	TO-15	MLS	7	PASI-M
10506529005	**IA-5**	TO-15	MLS	7	PASI-M
10506529006	**IA-6**	TO-15	MLS	7	PASI-M
10506529007	**IA-7**	TO-15	MLS	7	PASI-M
10506529008	**IA-8**	TO-15	MLS	7	PASI-M
10506529009	**IA-9**	TO-15	MLS	7	PASI-M
10506529010	**IA-10**	TO-15	MLS	7	PASI-M
10506529011	**AA-1**	TO-15	MLS	7	PASI-M

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SUMMARY OF DETECTION

Project: 18883 MPS
Pace Project No.: 10506529

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10506529001	**IA-1**					
TO-15	Benzene	1.0	ug/m3	0.52	01/29/20 19:22	
TO-15	1,1-Dichloroethane	1.2J	ug/m3	1.3	01/29/20 19:22	
TO-15	cis-1,2-Dichloroethene	0.67J	ug/m3	1.3	01/29/20 19:22	
TO-15	Trichloroethene	3.2	ug/m3	0.88	01/29/20 19:22	
10506529002	**IA-2**					
TO-15	Benzene	0.93	ug/m3	0.52	01/29/20 21:21	
10506529003	**IA-3**					
TO-15	Benzene	0.76	ug/m3	0.55	01/29/20 22:21	
10506529004	**IA-4**					
TO-15	Benzene	0.77	ug/m3	0.55	01/29/20 17:23	
10506529005	**IA-5**					
TO-15	Benzene	0.90	ug/m3	0.52	01/29/20 20:21	
10506529006	**IA-6**					
TO-15	Benzene	0.85	ug/m3	0.49	01/29/20 18:52	
10506529007	**IA-7**					
TO-15	Benzene	0.75	ug/m3	0.55	01/29/20 18:22	
10506529008	**IA-8**					
TO-15	Benzene	0.77	ug/m3	0.52	01/29/20 21:51	
10506529009	**IA-9**					
TO-15	Benzene	0.73	ug/m3	0.55	01/29/20 19:52	
10506529010	**IA-10**					
TO-15	Benzene	0.68	ug/m3	0.52	01/29/20 20:51	
10506529011	**AA-1**					
TO-15	Benzene	0.86	ug/m3	0.48	01/29/20 17:53	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: 18883 MPS
Pace Project No.: 10506529

Method: **TO-15**
Description: TO15 MSV AIR
Client: Sigma Group
Date: January 30, 2020

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

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

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 18883 MPS
Pace Project No.: 10506529

Sample: IA-1 **Lab ID: 10506529001** Collected: 01/23/20 16:47 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**1.0**	ug/m3	0.52	0.25	1.61		01/29/20 19:22	71-43-2	
1,1-Dichloroethane	**1.2J**	ug/m3	1.3	0.36	1.61		01/29/20 19:22	75-34-3	
cis-1,2-Dichloroethene	**0.67J**	ug/m3	1.3	0.35	1.61		01/29/20 19:22	156-59-2	
Naphthalene	**<2.1**	ug/m3	4.3	2.1	1.61		01/29/20 19:22	91-20-3	
Tetrachloroethene	**<0.51**	ug/m3	1.1	0.51	1.61		01/29/20 19:22	127-18-4	
Trichloroethene	**3.2**	ug/m3	0.88	0.41	1.61		01/29/20 19:22	79-01-6	
Vinyl chloride	**<0.20**	ug/m3	0.42	0.20	1.61		01/29/20 19:22	75-01-4	

Sample: IA-2 **Lab ID: 10506529002** Collected: 01/23/20 16:00 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.93**	ug/m3	0.52	0.25	1.61		01/29/20 21:21	71-43-2	
1,1-Dichloroethane	**<0.36**	ug/m3	1.3	0.36	1.61		01/29/20 21:21	75-34-3	
cis-1,2-Dichloroethene	**<0.35**	ug/m3	1.3	0.35	1.61		01/29/20 21:21	156-59-2	
Naphthalene	**<2.1**	ug/m3	4.3	2.1	1.61		01/29/20 21:21	91-20-3	
Tetrachloroethene	**<0.51**	ug/m3	1.1	0.51	1.61		01/29/20 21:21	127-18-4	
Trichloroethene	**<0.41**	ug/m3	0.88	0.41	1.61		01/29/20 21:21	79-01-6	
Vinyl chloride	**<0.20**	ug/m3	0.42	0.20	1.61		01/29/20 21:21	75-01-4	

Sample: IA-3 **Lab ID: 10506529003** Collected: 01/23/20 16:04 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.76**	ug/m3	0.55	0.26	1.68		01/29/20 22:21	71-43-2	
1,1-Dichloroethane	**<0.38**	ug/m3	1.4	0.38	1.68		01/29/20 22:21	75-34-3	
cis-1,2-Dichloroethene	**<0.37**	ug/m3	1.4	0.37	1.68		01/29/20 22:21	156-59-2	
Naphthalene	**<2.2**	ug/m3	4.5	2.2	1.68		01/29/20 22:21	91-20-3	
Tetrachloroethene	**<0.53**	ug/m3	1.2	0.53	1.68		01/29/20 22:21	127-18-4	
Trichloroethene	**<0.43**	ug/m3	0.92	0.43	1.68		01/29/20 22:21	79-01-6	
Vinyl chloride	**<0.21**	ug/m3	0.44	0.21	1.68		01/29/20 22:21	75-01-4	

Sample: IA-4 **Lab ID: 10506529004** Collected: 01/23/20 16:24 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.77**	ug/m3	0.55	0.26	1.68		01/29/20 17:23	71-43-2	
1,1-Dichloroethane	**<0.38**	ug/m3	1.4	0.38	1.68		01/29/20 17:23	75-34-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 18883 MPS
Pace Project No.: 10506529

Sample: IA-4 **Lab ID: 10506529004** Collected: 01/23/20 16:24 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.37**	ug/m3	1.4	0.37	1.68		01/29/20 17:23	156-59-2	
Naphthalene	**<2.2**	ug/m3	4.5	2.2	1.68		01/29/20 17:23	91-20-3	
Tetrachloroethene	**<0.53**	ug/m3	1.2	0.53	1.68		01/29/20 17:23	127-18-4	
Trichloroethene	**<0.43**	ug/m3	0.92	0.43	1.68		01/29/20 17:23	79-01-6	
Vinyl chloride	**<0.21**	ug/m3	0.44	0.21	1.68		01/29/20 17:23	75-01-4	

Sample: IA-5 **Lab ID: 10506529005** Collected: 01/23/20 16:27 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.90**	ug/m3	0.52	0.25	1.61		01/29/20 20:21	71-43-2	
1,1-Dichloroethane	**<0.36**	ug/m3	1.3	0.36	1.61		01/29/20 20:21	75-34-3	
cis-1,2-Dichloroethene	**<0.35**	ug/m3	1.3	0.35	1.61		01/29/20 20:21	156-59-2	
Naphthalene	**<2.1**	ug/m3	4.3	2.1	1.61		01/29/20 20:21	91-20-3	
Tetrachloroethene	**<0.51**	ug/m3	1.1	0.51	1.61		01/29/20 20:21	127-18-4	
Trichloroethene	**<0.41**	ug/m3	0.88	0.41	1.61		01/29/20 20:21	79-01-6	
Vinyl chloride	**<0.20**	ug/m3	0.42	0.20	1.61		01/29/20 20:21	75-01-4	

Sample: IA-6 **Lab ID: 10506529006** Collected: 01/23/20 16:39 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.85**	ug/m3	0.49	0.23	1.52		01/29/20 18:52	71-43-2	
1,1-Dichloroethane	**<0.34**	ug/m3	1.3	0.34	1.52		01/29/20 18:52	75-34-3	
cis-1,2-Dichloroethene	**<0.33**	ug/m3	1.2	0.33	1.52		01/29/20 18:52	156-59-2	
Naphthalene	**<2.0**	ug/m3	4.0	2.0	1.52		01/29/20 18:52	91-20-3	
Tetrachloroethene	**<0.48**	ug/m3	1.0	0.48	1.52		01/29/20 18:52	127-18-4	
Trichloroethene	**<0.38**	ug/m3	0.83	0.38	1.52		01/29/20 18:52	79-01-6	
Vinyl chloride	**<0.19**	ug/m3	0.40	0.19	1.52		01/29/20 18:52	75-01-4	

Sample: IA-7 **Lab ID: 10506529007** Collected: 01/23/20 16:31 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.75**	ug/m3	0.55	0.26	1.68		01/29/20 18:22	71-43-2	
1,1-Dichloroethane	**<0.38**	ug/m3	1.4	0.38	1.68		01/29/20 18:22	75-34-3	
cis-1,2-Dichloroethene	**<0.37**	ug/m3	1.4	0.37	1.68		01/29/20 18:22	156-59-2	
Naphthalene	**<2.2**	ug/m3	4.5	2.2	1.68		01/29/20 18:22	91-20-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 18883 MPS
Pace Project No.: 10506529

Sample: IA-7 **Lab ID: 10506529007** Collected: 01/23/20 16:31 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**<0.53**	ug/m3	1.2	0.53	1.68		01/29/20 18:22	127-18-4	
Trichloroethene	**<0.43**	ug/m3	0.92	0.43	1.68		01/29/20 18:22	79-01-6	
Vinyl chloride	**<0.21**	ug/m3	0.44	0.21	1.68		01/29/20 18:22	75-01-4	

Sample: IA-8 **Lab ID: 10506529008** Collected: 01/23/20 16:53 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.77**	ug/m3	0.52	0.25	1.61		01/29/20 21:51	71-43-2	
1,1-Dichloroethane	**<0.36**	ug/m3	1.3	0.36	1.61		01/29/20 21:51	75-34-3	
cis-1,2-Dichloroethene	**<0.35**	ug/m3	1.3	0.35	1.61		01/29/20 21:51	156-59-2	
Naphthalene	**<2.1**	ug/m3	4.3	2.1	1.61		01/29/20 21:51	91-20-3	
Tetrachloroethene	**<0.51**	ug/m3	1.1	0.51	1.61		01/29/20 21:51	127-18-4	
Trichloroethene	**<0.41**	ug/m3	0.88	0.41	1.61		01/29/20 21:51	79-01-6	
Vinyl chloride	**<0.20**	ug/m3	0.42	0.20	1.61		01/29/20 21:51	75-01-4	

Sample: IA-9 **Lab ID: 10506529009** Collected: 01/23/20 16:35 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.73**	ug/m3	0.55	0.26	1.68		01/29/20 19:52	71-43-2	
1,1-Dichloroethane	**<0.38**	ug/m3	1.4	0.38	1.68		01/29/20 19:52	75-34-3	
cis-1,2-Dichloroethene	**<0.37**	ug/m3	1.4	0.37	1.68		01/29/20 19:52	156-59-2	
Naphthalene	**<2.2**	ug/m3	4.5	2.2	1.68		01/29/20 19:52	91-20-3	
Tetrachloroethene	**<0.53**	ug/m3	1.2	0.53	1.68		01/29/20 19:52	127-18-4	
Trichloroethene	**<0.43**	ug/m3	0.92	0.43	1.68		01/29/20 19:52	79-01-6	
Vinyl chloride	**<0.21**	ug/m3	0.44	0.21	1.68		01/29/20 19:52	75-01-4	

Sample: IA-10 **Lab ID: 10506529010** Collected: 01/23/20 16:44 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.68**	ug/m3	0.52	0.25	1.61		01/29/20 20:51	71-43-2	
1,1-Dichloroethane	**<0.36**	ug/m3	1.3	0.36	1.61		01/29/20 20:51	75-34-3	
cis-1,2-Dichloroethene	**<0.35**	ug/m3	1.3	0.35	1.61		01/29/20 20:51	156-59-2	
Naphthalene	**<2.1**	ug/m3	4.3	2.1	1.61		01/29/20 20:51	91-20-3	
Tetrachloroethene	**<0.51**	ug/m3	1.1	0.51	1.61		01/29/20 20:51	127-18-4	
Trichloroethene	**<0.41**	ug/m3	0.88	0.41	1.61		01/29/20 20:51	79-01-6	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 18883 MPS
Pace Project No.: 10506529

Sample: IA-10 **Lab ID: 10506529010** Collected: 01/23/20 16:44 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Vinyl chloride	**<0.20**	ug/m3	0.42	0.20	1.61		01/29/20 20:51	75-01-4	

Sample: AA-1 **Lab ID: 10506529011** Collected: 01/23/20 16:50 Received: 01/27/20 10:35 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.86**	ug/m3	0.48	0.23	1.49		01/29/20 17:53	71-43-2	
1,1-Dichloroethane	**<0.34**	ug/m3	1.2	0.34	1.49		01/29/20 17:53	75-34-3	
cis-1,2-Dichloroethene	**<0.33**	ug/m3	1.2	0.33	1.49		01/29/20 17:53	156-59-2	
Naphthalene	**<2.0**	ug/m3	4.0	2.0	1.49		01/29/20 17:53	91-20-3	
Tetrachloroethene	**<0.47**	ug/m3	1.0	0.47	1.49		01/29/20 17:53	127-18-4	
Trichloroethene	**<0.38**	ug/m3	0.81	0.38	1.49		01/29/20 17:53	79-01-6	
Vinyl chloride	**<0.19**	ug/m3	0.39	0.19	1.49		01/29/20 17:53	75-01-4	

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: 18883 MPS
Pace Project No.: 10506529

QC Batch: 657170 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10506529001, 10506529002, 10506529003, 10506529004, 10506529005, 10506529006, 10506529007, 10506529008, 10506529009, 10506529010, 10506529011

METHOD BLANK: 3529169 Matrix: Air
Associated Lab Samples: 10506529001, 10506529002, 10506529003, 10506529004, 10506529005, 10506529006, 10506529007, 10506529008, 10506529009, 10506529010, 10506529011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethane	ug/m3	<0.22	0.82	01/29/20 09:24	
Benzene	ug/m3	<0.15	0.32	01/29/20 09:24	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	01/29/20 09:24	
Naphthalene	ug/m3	<1.3	2.7	01/29/20 09:24	
Tetrachloroethene	ug/m3	<0.31	0.69	01/29/20 09:24	
Trichloroethene	ug/m3	<0.25	0.55	01/29/20 09:24	
Vinyl chloride	ug/m3	<0.13	0.26	01/29/20 09:24	

LABORATORY CONTROL SAMPLE: 3529170

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethane	ug/m3	41.1	38.3	93	70-130	
Benzene	ug/m3	32.5	29.1	90	70-133	
cis-1,2-Dichloroethene	ug/m3	40.3	38.4	95	70-132	
Naphthalene	ug/m3	53.3	48.3	91	63-130	
Tetrachloroethene	ug/m3	68.9	64.0	93	70-136	
Trichloroethene	ug/m3	54.6	52.7	97	70-132	
Vinyl chloride	ug/m3	26	23.7	91	68-141	

SAMPLE DUPLICATE: 3529956

Parameter	Units	10506524001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethane	ug/m3	<0.36	<0.36		25	
Benzene	ug/m3	1.9	1.8	5	25	
cis-1,2-Dichloroethene	ug/m3	<0.35	<0.35		25	
Naphthalene	ug/m3	<2.1	<2.1		25	
Tetrachloroethene	ug/m3	<0.51	<0.51		25	
Trichloroethene	ug/m3	<0.41	<0.41		25	
Vinyl chloride	ug/m3	<0.20	<0.20		25	

SAMPLE DUPLICATE: 3529957

Parameter	Units	10506524002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethane	ug/m3	<0.32	<0.32		25	
Benzene	ug/m3	0.50	0.46J		25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 18883 MPS
Pace Project No.: 10506529

SAMPLE DUPLICATE: 3529957

Parameter	Units	10506524002 Result	Dup Result	RPD	Max RPD	Qualifiers
cis-1,2-Dichloroethene	ug/m3	<0.32	<0.32		25	
Naphthalene	ug/m3	<1.9	<1.9		25	
Tetrachloroethene	ug/m3	<0.45	<0.45		25	
Trichloroethene	ug/m3	<0.36	<0.36		25	
Vinyl chloride	ug/m3	<0.18	<0.18		25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 18883 MPS
Pace Project No.: 10506529

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 18883 MPS
Pace Project No.: 10506529

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10506529001	**IA-1**	TO-15	657170		
10506529002	**IA-2**	TO-15	657170		
10506529003	**IA-3**	TO-15	657170		
10506529004	**IA-4**	TO-15	657170		
10506529005	**IA-5**	TO-15	657170		
10506529006	**IA-6**	TO-15	657170		
10506529007	**IA-7**	TO-15	657170		
10506529008	**IA-8**	TO-15	657170		
10506529009	**IA-9**	TO-15	657170		
10506529010	**IA-10**	TO-15	657170		
10506529011	**AA-1**	TO-15	657170		

Pace Analytical®
www.pacelabs.com

WO# : 10506529

10506529

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

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

43514

Page: 1 of 1

Section A Required Client Information:

Company: The Sigma Group
Address: 1300 W. Canal St.
Milwaukee, WI 53233
Email To: Smeer@thesigmagroup.com
Phone: 414-643-4200 Fax: 414-643-4210
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Steve Meer
Copy To:
Purchase Order No.:
Project Name: MPS
Project Number: 18883

Section C Invoice Information:

Attention: SAME
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 18109

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

Location of Sampling by State: WI

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

Report Level: II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

Method: PM10 | 3C - Fixed Gas (%) | TO-3 BTEX | TO-3M (Methane) | TO-14 | TO-15 Full List VOCs | TO-15 Short List BTEX | TO-15 Short List Chlorinated | TO-15 Short List (other) | listed in comments

ITEM #	'Section D Required Client Information / AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	TO-15 Short List (other)	Pace Lab ID
1	IA-1	6LC		1/23/20	0851	1/23/20	1647	-29	-4	00062861		X	001
2	IA-2	6LC		1/23/20	0813	1/23/20	1600	-24	-3	15851990		X	002
3	IA-3	6LC		1/23/20	0817	1/23/20	1604	-30	-5	05891863		X	003
4	IA-4	6LC		1/23/20	0821	1/23/20	1624	-29	-4	05401867		X	004
5	IA-5	6LC		1/23/20	0823	1/23/20	1627	-28	-3	03331797		X	005
6	IA-6	6LC		1/23/20	0827	1/23/20	1639	-28	-2	06682011		X	006
7	IA-7	6LC		1/23/20	0832	1/23/20	1631	-30	-4	15621874		X	007
8	IA-8	6LC		1/23/20	0843	1/23/20	1653	-30	-5	05420322		X	008
9	IA-9	6LC		1/23/20	0840	1/23/20	1635	-30	-4	00501120		X	009
10	IA-10	6LC		1/23/20	0836	1/23/20	1644	-30	-5	06561073		X	010
11	AA-1	6LC		1/23/20	0854	1/23/20	1650	-26	-2	03012066		X	011
12													

Comments: Please analyze for:
Benzene
1,1-dichloroethane
CIS-1,2-DCE
Naphthalene
PCE
TCE
Vinyl Chloride

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Sigma	1/24	0745	Mike Pace	1/27/20	1035

SAMPLE CONDITIONS

	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
1MB		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: JACKSON ROCK

SIGNATURE of SAMPLER: DATE Signed (MM / DD / YY): 01/24/20

ORIGINAL

Page 15 of 16

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Nov2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.20	Pace Analytical Services - Minneapolis

Air Sample Condition Upon Receipt **Client Name:** Sigma **Project #:** **WO#: 10506529**

PM: KNH **Due Date: 02/03/20**

CLIENT: SIGMA ENV

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

Tracking Number: 1083 6284 0813/0862/0798

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:** MKZ 1-27-20

Type of ice Received ☐Blue ☐Wet ☒None

		Comments:
Chain of Custody Present?	☒Yes ☐No	1.
Chain of Custody Filled Out?	☒Yes ☐No	2.
Chain of Custody Relinquished?	☒Yes ☐No	3.
Sampler Name and/or Signature on COC?	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time?	☒Yes ☐No	5.
Short Hold Time Analysis (<72 hr)?	☐Yes ☒No	6.
Rush Turn Around Time Requested?	☐Yes ☒No	7.
Sufficient Volume?	☒Yes ☐No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☒Yes ☐No ☒Yes ☐No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☐Yes ☒No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒Yes ☐No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒Yes ☐No	13.

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

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
IA-1	0006	2861	-5	+5	IA-9	0051	0120	-6	+5
IA-2	1585	1990	-5	+5	IA-10	0656	1073	-5	+5
IA-3	0589	1863	-6	+5	AA-1	0301	2066	-3	+5
IA-4	0540	1867	-6	+5					
IA-5	0333	1797	-5	+5					
IA-6	0668	2011	-3.5	+5					
IA-7	1562	1874	-6	+5					
IA-8	0542	0322	-5	+5					

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

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Kirsten Hoffberg **Date:** 1/28/2020

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)

ATTACHMENT 4

LABORATORY ANALYTICAL DATA (SUBSLAB VAPOR)

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

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

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

CERTIFICATIONS

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

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

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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

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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
TO15 MSV AIR	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
TO15 MSV AIR	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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

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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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

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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
TO15 MSV AIR	Analytical Method: TO-15								
Acetone	**58.3**	ug/m3	3.6	1.8	1.49		10/18/19 21:17	67-64-1	
Benzene	**1.4**	ug/m3	0.48	0.23	1.49		10/18/19 21:17	71-43-2	
Benzyl chloride	**<1.8**	ug/m3	3.9	1.8	1.49		10/18/19 21:17	100-44-7	
Bromodichloromethane	**<0.55**	ug/m3	2.0	0.55	1.49		10/18/19 21:17	75-27-4	
Bromoform	**<2.1**	ug/m3	7.8	2.1	1.49		10/18/19 21:17	75-25-2	
Bromomethane	**<0.34**	ug/m3	1.2	0.34	1.49		10/18/19 21:17	74-83-9	
1,3-Butadiene	**<0.19**	ug/m3	0.67	0.19	1.49		10/18/19 21:17	106-99-0	
2-Butanone (MEK)	**2.2J**	ug/m3	4.5	0.55	1.49		10/18/19 21:17	78-93-3	
Carbon disulfide	**<0.33**	ug/m3	0.94	0.33	1.49		10/18/19 21:17	75-15-0	
Carbon tetrachloride	**<0.64**	ug/m3	1.9	0.64	1.49		10/18/19 21:17	56-23-5	
Chlorobenzene	**<0.41**	ug/m3	1.4	0.41	1.49		10/18/19 21:17	108-90-7	
Chloroethane	**<0.39**	ug/m3	0.80	0.39	1.49		10/18/19 21:17	75-00-3	
Chloroform	**<0.29**	ug/m3	0.74	0.29	1.49		10/18/19 21:17	67-66-3	
Chloromethane	**<0.23**	ug/m3	0.63	0.23	1.49		10/18/19 21:17	74-87-3	
Cyclohexane	**3.3**	ug/m3	2.6	0.53	1.49		10/18/19 21:17	110-82-7	
Dibromochloromethane	**<1.1**	ug/m3	2.6	1.1	1.49		10/18/19 21:17	124-48-1	
1,2-Dibromoethane (EDB)	**<0.55**	ug/m3	1.2	0.55	1.49		10/18/19 21:17	106-93-4	
1,2-Dichlorobenzene	**<0.74**	ug/m3	1.8	0.74	1.49		10/18/19 21:17	95-50-1	
1,3-Dichlorobenzene	**<0.87**	ug/m3	1.8	0.87	1.49		10/18/19 21:17	541-73-1	
1,4-Dichlorobenzene	**<1.5**	ug/m3	4.6	1.5	1.49		10/18/19 21:17	106-46-7	
Dichlorodifluoromethane	**2.7**	ug/m3	1.5	0.44	1.49		10/18/19 21:17	75-71-8	
1,1-Dichloroethane	**<0.34**	ug/m3	1.2	0.34	1.49		10/18/19 21:17	75-34-3	
1,2-Dichloroethane	**<0.22**	ug/m3	0.61	0.22	1.49		10/18/19 21:17	107-06-2	
1,1-Dichloroethene	**<0.41**	ug/m3	1.2	0.41	1.49		10/18/19 21:17	75-35-4	
cis-1,2-Dichloroethene	**<0.33**	ug/m3	1.2	0.33	1.49		10/18/19 21:17	156-59-2	
trans-1,2-Dichloroethene	**<0.42**	ug/m3	1.2	0.42	1.49		10/18/19 21:17	156-60-5	
1,2-Dichloropropane	**<0.34**	ug/m3	1.4	0.34	1.49		10/18/19 21:17	78-87-5	
cis-1,3-Dichloropropene	**<0.45**	ug/m3	1.4	0.45	1.49		10/18/19 21:17	10061-01-5	
trans-1,3-Dichloropropene	**<0.66**	ug/m3	1.4	0.66	1.49		10/18/19 21:17	10061-02-6	
Dichlorotetrafluoroethane	**<0.65**	ug/m3	2.1	0.65	1.49		10/18/19 21:17	76-14-2	
Ethanol	**319**	ug/m3	2.9	1.2	1.49		10/18/19 21:17	64-17-5	
Ethyl acetate	**<0.28**	ug/m3	1.1	0.28	1.49		10/18/19 21:17	141-78-6	
Ethylbenzene	**2.4**	ug/m3	1.3	0.45	1.49		10/18/19 21:17	100-41-4	
4-Ethyltoluene	**<0.85**	ug/m3	3.7	0.85	1.49		10/18/19 21:17	622-96-8	
n-Heptane	**6.9**	ug/m3	1.2	0.57	1.49		10/18/19 21:17	142-82-5	
Hexachloro-1,3-butadiene	**<2.9**	ug/m3	8.1	2.9	1.49		10/18/19 21:17	87-68-3	
n-Hexane	**4.2**	ug/m3	1.1	0.46	1.49		10/18/19 21:17	110-54-3	
2-Hexanone	**<1.1**	ug/m3	6.2	1.1	1.49		10/18/19 21:17	591-78-6	
Methylene Chloride	**2.1J**	ug/m3	5.3	1.8	1.49		10/18/19 21:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.77**	ug/m3	6.2	0.77	1.49		10/18/19 21:17	108-10-1	
Methyl-tert-butyl ether	**<0.99**	ug/m3	5.5	0.99	1.49		10/18/19 21:17	1634-04-4	
Naphthalene	**2.2J**	ug/m3	4.0	2.0	1.49		10/18/19 21:17	91-20-3	
2-Propanol	**348**	ug/m3	3.7	1.0	1.49		10/18/19 21:17	67-63-0	
Propylene	**<0.21**	ug/m3	0.52	0.21	1.49		10/18/19 21:17	115-07-1	
Styrene	**<0.51**	ug/m3	1.3	0.51	1.49		10/18/19 21:17	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.46**	ug/m3	1.0	0.46	1.49		10/18/19 21:17	79-34-5	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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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
TO15 MSV AIR	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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

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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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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								
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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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	

REPORT OF LABORATORY ANALYSIS

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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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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								
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	

REPORT OF LABORATORY ANALYSIS

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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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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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
TO15 MSV AIR	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	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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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
TO15 MSV AIR	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

Pace Analytical Services, LLC
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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
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**7.5**	ug/m3	0.99	0.45	1.44		10/19/19 00:11	127-18-4	
Tetrahydrofuran	**<0.38**	ug/m3	0.86	0.38	1.44		10/19/19 00:11	109-99-9	
Toluene	**4.0**	ug/m3	1.1	0.51	1.44		10/19/19 00:11	108-88-3	
1,2,4-Trichlorobenzene	**<5.4**	ug/m3	10.9	5.4	1.44		10/19/19 00:11	120-82-1	
1,1,1-Trichloroethane	**1.4J**	ug/m3	1.6	0.44	1.44		10/19/19 00:11	71-55-6	
1,1,2-Trichloroethane	**<0.35**	ug/m3	0.80	0.35	1.44		10/19/19 00:11	79-00-5	
Trichloroethene	**4.9**	ug/m3	0.79	0.36	1.44		10/19/19 00:11	79-01-6	
Trichlorofluoromethane	**1.7**	ug/m3	1.6	0.53	1.44		10/19/19 00:11	75-69-4	
1,1,2-Trichlorotrifluoroethane	**<0.81**	ug/m3	2.2	0.81	1.44		10/19/19 00:11	76-13-1	
1,2,4-Trimethylbenzene	**1.7**	ug/m3	1.4	0.65	1.44		10/19/19 00:11	95-63-6	
1,3,5-Trimethylbenzene	**0.90J**	ug/m3	1.4	0.57	1.44		10/19/19 00:11	108-67-8	
Vinyl acetate	**<0.39**	ug/m3	1.0	0.39	1.44		10/19/19 00:11	108-05-4	
Vinyl chloride	**<0.18**	ug/m3	0.37	0.18	1.44		10/19/19 00:11	75-01-4	
m&p-Xylene	**3.3**	ug/m3	2.5	1.0	1.44		10/19/19 00:11	179601-23-1	
o-Xylene	**1.3**	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

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

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

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

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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REPORT OF LABORATORY ANALYSIS

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

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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REPORT OF LABORATORY ANALYSIS

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

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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REPORT OF LABORATORY ANALYSIS

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

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

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

QUALIFIERS

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

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.

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

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 f

WO# : 10495129

10495129

45756

Page: 1 of 1

Section A Required Client Information:

Company: THE SIGMA GROUP, INC
Address: 1300 W CANAL STREET
MILWAUKEE WI 53233
Email To: smeer@thesigmagroup.com
Phone: 414 643 4200 Fax: 414 643 4210
Requested Due Date/TAT:

Section B Required Project Information:

Report To: smeer@thesigmagroup.com
Copy To: epencak@thesigmagroup.com
Purchase Order No.:
Project Name: MPS-Vaughan Manufacturing
Project Number: 18883

Section C Invoice Information:

Attention: Stephen Meer
Company Name: The Sigma Group, Inc
Address: 1300 W Canal Street, Milwaukee, WI
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 18109

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

Location of Sampling by State: WI

Reporting Units: ug/m³ ☒ mg/m³ ☐ PPBV ☐ PPMV ☐ Other ☐

Report Level: II. ☒ III. ☐ IV. ☐ Other ☐

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information / AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE - END/GRAB DATE	COMPOSITE - END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	VP-1	6LC		10/8	5:30	10/8	6:07	-30	-4	0690	0921					X					001
2	VP-2	6LC		10/8	6:19	10/8	6:59	-27	-4	3483	0714					X					002
3	VP-3	6LC		10/8	6:53	10/8	7:30	-29	-4	1474	0953					X					003
4	VP-4	6LC		10/8	7:40	10/8	8:17	-30	-4	0567	2853					X					004
5	VP-5	6LC		10/8	8:08	10/8	8:45	-29	-2.5	1586	2837					X					005
6	VP-6	6LC		10/8	8:35	10/8	9:13	-29.5	-3.5	0146	2855					X					006
7	VP-7	6LC		10/8	9:09	10/8	9:47	-29	-3	1530	1586					X					007
8	VP-8	6LC		10/8	9:30	10/8	10:12	-29	-1	3533	1648					X					008
9	VP-9	6LC		10/8	9:56	10/8	10:36	-29	-2.5	0578	1901					X					009
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
EW SPE	10/09/19	10:45AM	WJ PC Pace	10/10/19	11:45

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: EDWARD PENCAK
SIGNATURE of SAMPLER: EW SPE
DATE Signed (MM / DD / YY): 10/09/19

ORIGINAL

Pace Analytical	Document Name: Air Sample Condition Upon Receipt	Document Revised: 31Jan2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.18	Issuing Authority:

Air Sample Condition Upon Receipt

Client Name: The Sigma Group **Project #:**

WO#: 10495129

PM: KNH **Due Date: 10/17/19**

CLIENT: SIGMA ENV

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ 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 10/10/19

Type of ice Received ☐ Blue ☐ Wet ☑ None

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

Samples Received: Pressure Gauge # ☐ 10AIR34 ☑ ~~10AIR35~~ 10AIR26 WD 10/10/19

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~~ WD 10/10/19 -3	"					
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: Kristen Hoffberg **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)

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

February 11, 2020

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

RE: Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

Dear Steve Meer:
Enclosed are the analytical results for sample(s) received by the laboratory on February 06, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

cc: Ed Pencak, Sigma Group

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

Pace Analytical Services Minneapolis

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

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SAMPLE SUMMARY

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10507708001	**VP-1**	Air	02/04/20 17:17	02/06/20 11:30
10507708002	**VP-2**	Air	02/04/20 17:32	02/06/20 11:30
10507708003	**VP-3**	Air	02/04/20 17:45	02/06/20 11:30
10507708004	**VP-4-2R**	Air	02/04/20 18:41	02/06/20 11:30
10507708005	**VP-5**	Air	02/04/20 17:52	02/06/20 11:30
10507708006	**VP-6**	Air	02/04/20 18:09	02/06/20 11:30
10507708007	**VP-7-2R**	Air	02/04/20 18:08	02/06/20 11:30
10507708008	**VP-8**	Air	02/04/20 18:22	02/06/20 11:30
10507708009	**VP-9**	Air	02/04/20 18:30	02/06/20 11:30

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SAMPLE ANALYTE COUNT

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10507708001	**VP-1**	TO-15	MJL	7	PASI-M
10507708002	**VP-2**	TO-15	MJL	7	PASI-M
10507708003	**VP-3**	TO-15	MJL	7	PASI-M
10507708004	**VP-4-2R**	TO-15	MJL	7	PASI-M
10507708005	**VP-5**	TO-15	AC1	7	PASI-M
10507708006	**VP-6**	TO-15	AC1	7	PASI-M
10507708007	**VP-7-2R**	TO-15	AC1	7	PASI-M
10507708008	**VP-8**	TO-15	AC1	7	PASI-M
10507708009	**VP-9**	TO-15	AC1	7	PASI-M

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SUMMARY OF DETECTION

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10507708001	**VP-1**					
TO-15	Benzene	0.27J	ug/m3	0.45	02/07/20 17:52	
TO-15	Naphthalene	10.4	ug/m3	7.4	02/07/20 17:52	
TO-15	Tetrachloroethene	0.70J	ug/m3	0.96	02/07/20 17:52	
TO-15	Trichloroethene	0.57J	ug/m3	0.76	02/07/20 17:52	
10507708002	**VP-2**					
TO-15	Naphthalene	8.2	ug/m3	7.4	02/07/20 18:21	
TO-15	Tetrachloroethene	1.3	ug/m3	0.96	02/07/20 18:21	
TO-15	Trichloroethene	1.7	ug/m3	0.76	02/07/20 18:21	
10507708003	**VP-3**					
TO-15	Benzene	0.62	ug/m3	0.47	02/07/20 17:24	
TO-15	Naphthalene	8.7	ug/m3	7.7	02/07/20 17:24	
TO-15	Tetrachloroethene	2.0	ug/m3	0.99	02/07/20 17:24	
TO-15	Trichloroethene	0.46J	ug/m3	0.79	02/07/20 17:24	
10507708004	**VP-4-2R**					
TO-15	Benzene	0.79	ug/m3	0.47	02/07/20 18:50	
TO-15	Naphthalene	17.6	ug/m3	7.7	02/07/20 18:50	
TO-15	Tetrachloroethene	3.9	ug/m3	0.99	02/07/20 18:50	
TO-15	Trichloroethene	5.1	ug/m3	0.79	02/07/20 18:50	
10507708005	**VP-5**					
TO-15	Benzene	0.31J	ug/m3	0.47	02/08/20 19:11	
TO-15	Naphthalene	4.0	ug/m3	3.8	02/08/20 19:11	
TO-15	Tetrachloroethene	2.9	ug/m3	0.99	02/08/20 19:11	
TO-15	Trichloroethene	3.3	ug/m3	0.79	02/08/20 19:11	
10507708006	**VP-6**					
TO-15	Benzene	0.32J	ug/m3	0.46	02/08/20 21:32	
TO-15	Naphthalene	2.9J	ug/m3	3.8	02/08/20 21:32	
TO-15	Tetrachloroethene	1.7	ug/m3	0.97	02/08/20 21:32	
TO-15	Trichloroethene	3.9	ug/m3	0.77	02/08/20 21:32	
10507708007	**VP-7-2R**					
TO-15	Benzene	0.49	ug/m3	0.45	02/08/20 20:08	
TO-15	Naphthalene	3.0J	ug/m3	3.7	02/08/20 20:08	
TO-15	Tetrachloroethene	1.4	ug/m3	0.96	02/08/20 20:08	
TO-15	Trichloroethene	3.0	ug/m3	0.76	02/08/20 20:08	
10507708008	**VP-8**					
TO-15	Benzene	0.71	ug/m3	0.47	02/08/20 20:36	
TO-15	cis-1,2-Dichloroethene	12.5	ug/m3	1.2	02/08/20 20:36	
TO-15	Naphthalene	5.3	ug/m3	3.9	02/08/20 20:36	
TO-15	Tetrachloroethene	7.3	ug/m3	1.0	02/08/20 20:36	
TO-15	Trichloroethene	24.9	ug/m3	0.80	02/08/20 20:36	
10507708009	**VP-9**					
TO-15	Benzene	0.39J	ug/m3	0.47	02/08/20 21:04	
TO-15	Naphthalene	12.3	ug/m3	3.8	02/08/20 21:04	

REPORT OF LABORATORY ANALYSIS

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

SUMMARY OF DETECTION

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10507708009	**VP-9**					
TO-15	Tetrachloroethene	3.2	ug/m3	0.99	02/08/20 21:04	
TO-15	Trichloroethene	5.2	ug/m3	0.79	02/08/20 21:04	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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PROJECT NARRATIVE

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

Method: **TO-15**
Description: TO15 MSV AIR
Client: Sigma Group
Date: February 11, 2020

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

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

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

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

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

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

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

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

Additional Comments:

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

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ANALYTICAL RESULTS

Project: 18883-MPS-Vaughan Manufacturin
Pace Project No.: 10507708

Sample: VP-1 **Lab ID: 10507708001** Collected: 02/04/20 17:17 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.27J**	ug/m3	0.45	0.21	1.39		02/07/20 17:52	71-43-2	
1,1-Dichloroethene	**<0.38**	ug/m3	1.1	0.38	1.39		02/07/20 17:52	75-35-4	
cis-1,2-Dichloroethene	**<0.30**	ug/m3	1.1	0.30	1.39		02/07/20 17:52	156-59-2	
Naphthalene	**10.4**	ug/m3	7.4	1.8	1.39		02/07/20 17:52	91-20-3	
Tetrachloroethene	**0.70J**	ug/m3	0.96	0.44	1.39		02/07/20 17:52	127-18-4	
Trichloroethene	**0.57J**	ug/m3	0.76	0.35	1.39		02/07/20 17:52	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.36	0.18	1.39		02/07/20 17:52	75-01-4	

Sample: VP-2 **Lab ID: 10507708002** Collected: 02/04/20 17:32 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**<0.21**	ug/m3	0.45	0.21	1.39		02/07/20 18:21	71-43-2	
1,1-Dichloroethene	**<0.38**	ug/m3	1.1	0.38	1.39		02/07/20 18:21	75-35-4	
cis-1,2-Dichloroethene	**<0.30**	ug/m3	1.1	0.30	1.39		02/07/20 18:21	156-59-2	
Naphthalene	**8.2**	ug/m3	7.4	1.8	1.39		02/07/20 18:21	91-20-3	
Tetrachloroethene	**1.3**	ug/m3	0.96	0.44	1.39		02/07/20 18:21	127-18-4	
Trichloroethene	**1.7**	ug/m3	0.76	0.35	1.39		02/07/20 18:21	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.36	0.18	1.39		02/07/20 18:21	75-01-4	

Sample: VP-3 **Lab ID: 10507708003** Collected: 02/04/20 17:45 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.62**	ug/m3	0.47	0.22	1.44		02/07/20 17:24	71-43-2	
1,1-Dichloroethene	**<0.39**	ug/m3	1.2	0.39	1.44		02/07/20 17:24	75-35-4	
cis-1,2-Dichloroethene	**<0.32**	ug/m3	1.2	0.32	1.44		02/07/20 17:24	156-59-2	
Naphthalene	**8.7**	ug/m3	7.7	1.9	1.44		02/07/20 17:24	91-20-3	
Tetrachloroethene	**2.0**	ug/m3	0.99	0.45	1.44		02/07/20 17:24	127-18-4	
Trichloroethene	**0.46J**	ug/m3	0.79	0.36	1.44		02/07/20 17:24	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.37	0.18	1.44		02/07/20 17:24	75-01-4	

Sample: VP-4-2R **Lab ID: 10507708004** Collected: 02/04/20 18:41 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.79**	ug/m3	0.47	0.22	1.44		02/07/20 18:50	71-43-2	
1,1-Dichloroethene	**<0.39**	ug/m3	1.2	0.39	1.44		02/07/20 18:50	75-35-4	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
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ANALYTICAL RESULTS

Project: 18883-MPS-Vaughan Manufacturin
Pace Project No.: 10507708

Sample: VP-4-2R **Lab ID: 10507708004** Collected: 02/04/20 18:41 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
cis-1,2-Dichloroethene	**<0.32**	ug/m3	1.2	0.32	1.44		02/07/20 18:50	156-59-2	
Naphthalene	**17.6**	ug/m3	7.7	1.9	1.44		02/07/20 18:50	91-20-3	
Tetrachloroethene	**3.9**	ug/m3	0.99	0.45	1.44		02/07/20 18:50	127-18-4	
Trichloroethene	**5.1**	ug/m3	0.79	0.36	1.44		02/07/20 18:50	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.37	0.18	1.44		02/07/20 18:50	75-01-4	

Sample: VP-5 **Lab ID: 10507708005** Collected: 02/04/20 17:52 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.31J**	ug/m3	0.47	0.22	1.44		02/08/20 19:11	71-43-2	
1,1-Dichloroethene	**<0.39**	ug/m3	2.9	0.39	1.44		02/08/20 19:11	75-35-4	
cis-1,2-Dichloroethene	**<0.32**	ug/m3	1.2	0.32	1.44		02/08/20 19:11	156-59-2	
Naphthalene	**4.0**	ug/m3	3.8	1.9	1.44		02/08/20 19:11	91-20-3	
Tetrachloroethene	**2.9**	ug/m3	0.99	0.45	1.44		02/08/20 19:11	127-18-4	
Trichloroethene	**3.3**	ug/m3	0.79	0.36	1.44		02/08/20 19:11	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.37	0.18	1.44		02/08/20 19:11	75-01-4	

Sample: VP-6 **Lab ID: 10507708006** Collected: 02/04/20 18:09 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.32J**	ug/m3	0.46	0.22	1.41		02/08/20 21:32	71-43-2	
1,1-Dichloroethene	**<0.39**	ug/m3	2.8	0.39	1.41		02/08/20 21:32	75-35-4	
cis-1,2-Dichloroethene	**<0.31**	ug/m3	1.1	0.31	1.41		02/08/20 21:32	156-59-2	
Naphthalene	**2.9J**	ug/m3	3.8	1.8	1.41		02/08/20 21:32	91-20-3	
Tetrachloroethene	**1.7**	ug/m3	0.97	0.44	1.41		02/08/20 21:32	127-18-4	
Trichloroethene	**3.9**	ug/m3	0.77	0.36	1.41		02/08/20 21:32	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.37	0.18	1.41		02/08/20 21:32	75-01-4	

Sample: VP-7-2R **Lab ID: 10507708007** Collected: 02/04/20 18:08 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.49**	ug/m3	0.45	0.21	1.39		02/08/20 20:08	71-43-2	
1,1-Dichloroethene	**<0.38**	ug/m3	2.8	0.38	1.39		02/08/20 20:08	75-35-4	
cis-1,2-Dichloroethene	**<0.30**	ug/m3	1.1	0.30	1.39		02/08/20 20:08	156-59-2	
Naphthalene	**3.0J**	ug/m3	3.7	1.8	1.39		02/08/20 20:08	91-20-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: 18883-MPS-Vaughan Manufacturin
Pace Project No.: 10507708

Sample: VP-7-2R **Lab ID: 10507708007** Collected: 02/04/20 18:08 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Tetrachloroethene	**1.4**	ug/m3	0.96	0.44	1.39		02/08/20 20:08	127-18-4	
Trichloroethene	**3.0**	ug/m3	0.76	0.35	1.39		02/08/20 20:08	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.36	0.18	1.39		02/08/20 20:08	75-01-4	

Sample: VP-8 **Lab ID: 10507708008** Collected: 02/04/20 18:22 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.71**	ug/m3	0.47	0.22	1.46		02/08/20 20:36	71-43-2	
1,1-Dichloroethene	**<0.40**	ug/m3	2.9	0.40	1.46		02/08/20 20:36	75-35-4	
cis-1,2-Dichloroethene	**12.5**	ug/m3	1.2	0.32	1.46		02/08/20 20:36	156-59-2	
Naphthalene	**5.3**	ug/m3	3.9	1.9	1.46		02/08/20 20:36	91-20-3	
Tetrachloroethene	**7.3**	ug/m3	1.0	0.46	1.46		02/08/20 20:36	127-18-4	
Trichloroethene	**24.9**	ug/m3	0.80	0.37	1.46		02/08/20 20:36	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.38	0.18	1.46		02/08/20 20:36	75-01-4	

Sample: VP-9 **Lab ID: 10507708009** Collected: 02/04/20 18:30 Received: 02/06/20 11:30 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Benzene	**0.39J**	ug/m3	0.47	0.22	1.44		02/08/20 21:04	71-43-2	
1,1-Dichloroethene	**<0.39**	ug/m3	2.9	0.39	1.44		02/08/20 21:04	75-35-4	
cis-1,2-Dichloroethene	**<0.32**	ug/m3	1.2	0.32	1.44		02/08/20 21:04	156-59-2	
Naphthalene	**12.3**	ug/m3	3.8	1.9	1.44		02/08/20 21:04	91-20-3	
Tetrachloroethene	**3.2**	ug/m3	0.99	0.45	1.44		02/08/20 21:04	127-18-4	
Trichloroethene	**5.2**	ug/m3	0.79	0.36	1.44		02/08/20 21:04	79-01-6	
Vinyl chloride	**<0.18**	ug/m3	0.37	0.18	1.44		02/08/20 21:04	75-01-4	

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QUALITY CONTROL DATA

Project: 18883-MPS-Vaughan Manufacturin
Pace Project No.: 10507708

QC Batch: 658849 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10507708001, 10507708002, 10507708003, 10507708004

METHOD BLANK: 3536614 Matrix: Air
Associated Lab Samples: 10507708001, 10507708002, 10507708003, 10507708004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/m3	<0.27	0.81	02/07/20 09:26	
Benzene	ug/m3	<0.15	0.32	02/07/20 09:26	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	02/07/20 09:26	
Naphthalene	ug/m3	3.9J	5.3	02/07/20 09:26	
Tetrachloroethene	ug/m3	<0.31	0.69	02/07/20 09:26	
Trichloroethene	ug/m3	<0.25	0.55	02/07/20 09:26	
Vinyl chloride	ug/m3	<0.13	0.26	02/07/20 09:26	

LABORATORY CONTROL SAMPLE: 3536615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/m3	41.4	41.8	101	69-137	
Benzene	ug/m3	33.5	41.6	124	70-133	
cis-1,2-Dichloroethene	ug/m3	41.6	50.8	122	70-132	
Naphthalene	ug/m3	57.7	61.8	107	63-130	
Tetrachloroethene	ug/m3	71	86.2	121	70-136	
Trichloroethene	ug/m3	56.3	67.6	120	70-132	
Vinyl chloride	ug/m3	26.7	28.5	107	68-141	

SAMPLE DUPLICATE: 3537387

Parameter	Units	10507679023 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	<0.43		25	
Benzene	ug/m3	1.1	1.1	3	25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.35		25	
Naphthalene	ug/m3	ND	7.3J		25	
Tetrachloroethene	ug/m3	2.2	2.1	3	25	
Trichloroethene	ug/m3	36.1	34.7	4	25	
Vinyl chloride	ug/m3	ND	<0.20		25	

SAMPLE DUPLICATE: 3537388

Parameter	Units	10507679031 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	<0.27		25	
Benzene	ug/m3	ND	<0.15		25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.22		25	
Naphthalene	ug/m3	ND	<1.3		25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

SAMPLE DUPLICATE: 3537388

Parameter	Units	10507679031 Result	Dup Result	RPD	Max RPD	Qualifiers
Tetrachloroethene	ug/m3	ND	<0.31		25	
Trichloroethene	ug/m3	ND	<0.25		25	
Vinyl chloride	ug/m3	ND	<0.13		25	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 18883-MPS-Vaughan Manufacturin
Pace Project No.: 10507708

QC Batch: 659024 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10507708005, 10507708006, 10507708007, 10507708008, 10507708009

METHOD BLANK: 3537409 Matrix: Air
Associated Lab Samples: 10507708005, 10507708006, 10507708007, 10507708008, 10507708009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/m3	<0.27	2.0	02/08/20 11:18	
Benzene	ug/m3	<0.15	0.32	02/08/20 11:18	
cis-1,2-Dichloroethene	ug/m3	<0.22	0.81	02/08/20 11:18	
Naphthalene	ug/m3	<1.3	2.7	02/08/20 11:18	
Tetrachloroethene	ug/m3	<0.31	0.69	02/08/20 11:18	
Trichloroethene	ug/m3	<0.25	0.55	02/08/20 11:18	
Vinyl chloride	ug/m3	<0.13	0.26	02/08/20 11:18	

LABORATORY CONTROL SAMPLE: 3537410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/m3	40.3	35.0	87	69-137	
Benzene	ug/m3	32.5	29.9	92	70-133	
cis-1,2-Dichloroethene	ug/m3	40.3	39.0	97	70-132	
Naphthalene	ug/m3	53.3	49.6	93	63-130	
Tetrachloroethene	ug/m3	68.9	76.1	110	70-136	
Trichloroethene	ug/m3	54.6	60.5	111	70-132	
Vinyl chloride	ug/m3	26	21.9	84	68-141	

SAMPLE DUPLICATE: 3537566

Parameter	Units	10507479001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	<0.42		25	
Benzene	ug/m3	0.85	0.86	1	25	
cis-1,2-Dichloroethene	ug/m3	ND	<0.34		25	
Naphthalene	ug/m3	5.8	6.3	8	25	
Tetrachloroethene	ug/m3	ND	<0.49		25	
Trichloroethene	ug/m3	ND	<0.39		25	
Vinyl chloride	ug/m3	ND	<0.20		25	

SAMPLE DUPLICATE: 3537567

Parameter	Units	10507708005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	<0.39	<0.39		25	
Benzene	ug/m3	0.31J	0.34J		25	
cis-1,2-Dichloroethene	ug/m3	<0.32	<0.32		25	
Naphthalene	ug/m3	4.0	3.9	1	25	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

SAMPLE DUPLICATE: 3537567

Parameter	Units	10507708005 Result	Dup Result	RPD	Max RPD	Qualifiers
Tetrachloroethene	ug/m3	2.9	2.8	3	25	
Trichloroethene	ug/m3	3.3	3.3	1	25	
Vinyl chloride	ug/m3	<0.18	<0.18		25	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 18883-MPS-Vaughan Manufucturin
Pace Project No.: 10507708

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10507708001	**VP-1**	TO-15	658849		
10507708002	**VP-2**	TO-15	658849		
10507708003	**VP-3**	TO-15	658849		
10507708004	**VP-4-2R**	TO-15	658849		
10507708005	**VP-5**	TO-15	659024		
10507708006	**VP-6**	TO-15	659024		
10507708007	**VP-7-2R**	TO-15	659024		
10507708008	**VP-8**	TO-15	659024		
10507708009	**VP-9**	TO-15	659024		

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AIR: CHAIN-OF-CUSTO

The Chain-of-Custody is a LEGAL DOCUMENT.

WO# : 10507708

10507708

43511

Page: 1 of 1

Section A Required Client Information:

Company: THE SIGMA GROUP, INC.
Address: 1300 W CANAL STREET
MILWAUKEE WI 53233
Email To: smeer@thesigmagroup.com
Phone: 414 643 4200 Fax: 414 643 4210
Requested Due Date/TAT:

Section B Required Project Information:

Report To: smeer@thesigmagroup.com
Copy To: espencak@thesigmagroup.com
Purchase Order No.:
Project Name: MPS-Vaughan Manufacturing
Project Number: 18583-

Section C Invoice Information:

Attention: Stephen Meer
Company Name: The Sigma Group, Inc
Address: 1300 W Canal Street, Milwaukee WI
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #: 18189

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

Location of Sampling by State: WI

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

Report Level: II. ☒ III. ___ IV. ___ Other ___

Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - in Hg)	Canister Pressure (Final Field - in Hg)	Summa Can Number	Flow Control Number	Method: PM10	3C - Fixed Gas (%)	TO-3 BTEX	TO-3M (Methane)	TO-14	TO-15 Full List VOCs	TO-15 Short List BTEX	TO-15 Short List Chlorinated	TO-15 Short List (other)	Pace Lab ID
1	VP-1	6LC		2/4/20	16:37	2/4/20	17:17	-28	-2	1581	1811									X	001
2	VP-2	6LC		2/4/20	16:50	2/4/20	17:32	-30	-2	0002	0718									X	002
3	VP-3	6LC		2/4/20	17:00	2/4/20	17:45	-30	-3	0300	0617									X	003
4	VP-4-2R	6LC		2/4/20	1703	2/4/20	1841	-28	-1.5	0505	1902									X	004
5	VP-5	6LC		2/4/20	17:10	2/4/20	17:52	-29	-3	1037	1736									X	005
6	VP-6	6LC		2/4/20	17:22	2/4/20	18:09	-30	-3	1714	1659									X	006
7	VP-7-2R*	6LC		2/4/20	17:33	2/4/20	18:08	-25	-2	3529	0675									X	007
8	VP-8	6LC		2/4/20	17:43	2/4/20	18:22	-29	-3	0625	1233									X	008
9	VP-9	6LC		2/4/20	17:52	2/4/20	18:30	-29	-3	3680	1552									X	009
10																					
11																					
12																					

Comments : *VP-7-2R

Short list: benzene, 1,1-DCE, cis-1,2-DCE, Naphthalene, PCE, TCE, vinyl chloride

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
ES / SIGMA	2/4/20	19:30	GM / PACE	2/6/20	1130

SAMPLE CONDITIONS

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: EDWARD S PENCAK

SIGNATURE of SAMPLER: ES / S P

DATE Signed (MM / DD / YY): 02/04/20

ORIGINAL

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

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 19Nov2019 Page 1 of 1
	Document No.: F-MN-A-106-rev.20	Pace Analytical Services - Minneapolis

Air Sample Condition Upon Receipt **Client Name:** SIGMA **Project #:** **WO#: 10507708**

PM: KNH **Due Date: 02/13/20**

CLIENT: SIGMA ENV

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

Tracking Number:

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

Packing Material: ☐Bubble Wrap ☐Bubble Bags ☒Foam ☐None ☐Tin Can ☐Other: **Temp Blank rec:** ☐Yes ☒No

Temp. (TO17 and TO13 samples only) (°C): X **Corrected Temp (°C):** X **Thermometer Used:** ☐G87A9170600254 ☐G87A9155100842

Temp should be above freezing to 6°C **Correction Factor:** X **Date & Initials of Person Examining Contents:** 2/6/20 CMY

Type of ice Received ☐Blue ☐Wet ☒None

		Comments:
Chain of Custody Present?	☒Yes ☐No	1.
Chain of Custody Filled Out?	☒Yes ☐No	2.
Chain of Custody Relinquished?	☒Yes ☐No	3.
Sampler Name and/or Signature on COC?	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time?	☒Yes ☐No	5.
Short Hold Time Analysis (<72 hr)?	☐Yes ☒No	6.
Rush Turn Around Time Requested?	☐Yes ☒No	7.
Sufficient Volume?	☒Yes ☐No	8.
Correct Containers Used? **(Tedlar bags not acceptable container for TO-14, TO-15 or APH)** -Pace Containers Used?	☒Yes ☐No ☒Yes ☐No	9.
Containers Intact? **(visual inspection/no leaks when pressurized)**	☒Yes ☐No	10.
Media: (Air Can) Airbag Filter TDT Passive		11. Individually Certified Cans Y (N) (list which samples)
Is sufficient information available to reconcile samples to the COC?	☒Yes ☐No	12.
Do cans need to be pressurized? **(DO NOT PRESSURIZE 3C or ASTM 1946!!!)**	☒Yes ☐No	13.

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

Canisters					Canisters				
Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure	Sample Number	Can ID	Flow Controller	Initial Pressure	Final Pressure
VP-1	1581	1811	-1	-5	VP-9	3680	1552	-2	-5
VP-2	0002	0718	-1	-5					
VP-3	0300	0617	-2	-5					
VP-4-2R	0505	1902	-2	-5					
VP-5	1037	1736	-2	-5					
VP-6	1714	1659	-1.5	-5					
VP-7-2R	3529	0675	-1	-5					
VP-8	0625	1233	-2.5	-5					

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

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Carolyne Trout **Date:** 2/7/20

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

Pace Analytical	Document Name: SCUR Exception Form – Coolers Above 6°C	Document Revised: 08Apr2019 Page 1 of 1
	Document No.: F-MN-C-298-Rev.02	Issuing Authority: Pace Minnesota Quality Office

During sample triage, this form is to be placed in each cooler that arrives above 6.0 degrees Celsius

SCUR Exceptions: **Workorder #:**

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank

Read Temp	Corrected Temp	Average Temp

Tracking Number/Temperature	
1093 0294 0835	
" 0824	
1320 7519 5330	

Other Issues

Issue Type: Sample ID	Container Type	# of Containers

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	