

**ATTACHMENT 3
SAMPLING RESULTS
(DECEMBER 24-HOUR SAMPLE)**

December 14, 2022

David Cochran
City of Bristol VA
2655 Valley Dr
Bristol, VA 24201

RE: Project: City of Bristol
Pace Project No.: 92640477

Dear David Cochran:

Enclosed are the analytical results for sample(s) received by the laboratory on December 07, 2022. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

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

Sincerely,



Sara Poulson
sara.poulson@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Logan Howard, SCS Engineers
Mike Martin, City of Bristol VA
Ms. Jennifer Robb, SCS Engineers



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: City of Bristol

Pace Project No.: 92640477

Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification #: 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification #: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Virginia Certification #: VT2006

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

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SAMPLE SUMMARY

Project: City of Bristol

Pace Project No.: 92640477

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92640477001	December 24Hr	Air	12/05/22 12:14	12/07/22 09:30

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SAMPLE ANALYTE COUNT

Project: City of Bristol

Pace Project No.: 92640477

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92640477001	December 24Hr	TO-15	DAH	70	PAN

PAN = Pace National - Mt. Juliet

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: City of Bristol

Pace Project No.: 92640477

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92640477001	December 24Hr					
TO-15	Acetone	14.6	ug/m3	2.97	12/08/22 19:06	
TO-15	Benzene	22.2	ug/m3	0.639	12/08/22 19:06	
TO-15	Carbon tetrachloride	0.521J	ug/m3	1.26	12/08/22 19:06	J
TO-15	Chloromethane	1.27	ug/m3	0.413	12/08/22 19:06	
TO-15	Ethanol	24.7	ug/m3	2.36	12/08/22 19:06	
TO-15	Ethylbenzene	3.53	ug/m3	0.867	12/08/22 19:06	
TO-15	Ethyl acetate	3.17	ug/m3	0.720	12/08/22 19:06	
TO-15	4-Ethyltoluene	1.09	ug/m3	0.982	12/08/22 19:06	
TO-15	Trichlorofluoromethane	1.29	ug/m3	1.12	12/08/22 19:06	
TO-15	Dichlorodifluoromethane	1.99	ug/m3	0.989	12/08/22 19:06	
TO-15	n-Hexane	0.924J	ug/m3	2.22	12/08/22 19:06	J
TO-15	Methylene Chloride	1.18	ug/m3	0.694	12/08/22 19:06	
TO-15	2-Butanone (MEK)	4.07	ug/m3	3.69	12/08/22 19:06	
TO-15	2-Propanol	18.2	ug/m3	3.07	12/08/22 19:06	
TO-15	Styrene	0.727J	ug/m3	0.851	12/08/22 19:06	J
TO-15	Toluene	4.48	ug/m3	1.88	12/08/22 19:06	
TO-15	1,2,4-Trimethylbenzene	1.22	ug/m3	0.982	12/08/22 19:06	
TO-15	1,3,5-Trimethylbenzene	0.472J	ug/m3	0.982	12/08/22 19:06	J
TO-15	m&p-Xylene	3.23	ug/m3	1.73	12/08/22 19:06	
TO-15	o-Xylene	1.23	ug/m3	0.867	12/08/22 19:06	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: City of Bristol

Pace Project No.: 92640477

Method: TO-15

Description: VOA (MS) TO-15

Client: City of Bristol VA

Date: December 14, 2022

General Information:

1 sample was analyzed for TO-15 by Pace National Mt. Juliet. 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.

Additional Comments:

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

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: City of Bristol
Pace Project No.: 92640477

Sample: December 24Hr		Lab ID: 92640477001		Collected: 12/05/22 12:14		Received: 12/07/22 09:30		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
VOA (MS) TO-15 Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet									
Gasoline Range Organics	ND	ug/m3	826	164	1	12/09/22 18:24	12/09/22 18:24	8006-61-9	
Acetone	14.6	ug/m3	2.97	1.39	1	12/08/22 19:06	12/08/22 19:06	67-64-1	
Allyl chloride	ND	ug/m3	0.626	0.357	1	12/08/22 19:06	12/08/22 19:06	107-05-1	
Benzene	22.2	ug/m3	0.639	0.228	1	12/08/22 19:06	12/08/22 19:06	71-43-2	
Benzyl chloride	ND	ug/m3	1.04	0.311	1	12/08/22 19:06	12/08/22 19:06	100-44-7	
Bromodichloromethane	ND	ug/m3	1.34	0.471	1	12/08/22 19:06	12/08/22 19:06	75-27-4	
Bromoform	ND	ug/m3	6.21	0.757	1	12/08/22 19:06	12/08/22 19:06	75-25-2	
Bromomethane	ND	ug/m3	0.776	0.381	1	12/08/22 19:06	12/08/22 19:06	74-83-9	
1,3-Butadiene	ND	ug/m3	4.43	0.230	1	12/08/22 19:06	12/08/22 19:06	106-99-0	
Carbon disulfide	ND	ug/m3	0.622	0.317	1	12/08/22 19:06	12/08/22 19:06	75-15-0	
Carbon tetrachloride	0.521J	ug/m3	1.26	0.461	1	12/08/22 19:06	12/08/22 19:06	56-23-5	J
Chlorobenzene	ND	ug/m3	0.924	0.385	1	12/08/22 19:06	12/08/22 19:06	108-90-7	
Chloroethane	ND	ug/m3	0.528	0.263	1	12/08/22 19:06	12/08/22 19:06	75-00-3	
Chloroform	ND	ug/m3	0.973	0.349	1	12/08/22 19:06	12/08/22 19:06	67-66-3	
Chloromethane	1.27	ug/m3	0.413	0.213	1	12/08/22 19:06	12/08/22 19:06	74-87-3	
2-Chlorotoluene	ND	ug/m3	1.03	0.427	1	12/08/22 19:06	12/08/22 19:06	95-49-8	
Cyclohexane	ND	ug/m3	0.689	0.259	1	12/08/22 19:06	12/08/22 19:06	110-82-7	
Dibromochloromethane	ND	ug/m3	1.70	0.618	1	12/08/22 19:06	12/08/22 19:06	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.54	0.554	1	12/08/22 19:06	12/08/22 19:06	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.20	0.770	1	12/08/22 19:06	12/08/22 19:06	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.20	1.09	1	12/08/22 19:06	12/08/22 19:06	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.20	0.335	1	12/08/22 19:06	12/08/22 19:06	106-46-7	
1,2-Dichloroethane	ND	ug/m3	0.810	0.283	1	12/08/22 19:06	12/08/22 19:06	107-06-2	
1,1-Dichloroethane	ND	ug/m3	0.802	0.290	1	12/08/22 19:06	12/08/22 19:06	75-34-3	
1,1-Dichloroethene	ND	ug/m3	0.793	0.302	1	12/08/22 19:06	12/08/22 19:06	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.793	0.311	1	12/08/22 19:06	12/08/22 19:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.793	0.267	1	12/08/22 19:06	12/08/22 19:06	156-60-5	
1,2-Dichloropropane	ND	ug/m3	0.924	0.351	1	12/08/22 19:06	12/08/22 19:06	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	0.908	0.313	1	12/08/22 19:06	12/08/22 19:06	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	0.908	0.331	1	12/08/22 19:06	12/08/22 19:06	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/m3	0.721	0.300	1	12/08/22 19:06	12/08/22 19:06	123-91-1	
Ethanol	24.7	ug/m3	2.36	0.500	1	12/08/22 19:06	12/08/22 19:06	64-17-5	
Ethylbenzene	3.53	ug/m3	0.867	0.362	1	12/08/22 19:06	12/08/22 19:06	100-41-4	
Ethyl acetate	3.17	ug/m3	0.720	0.360	1	12/08/22 19:06	12/08/22 19:06	141-78-6	
4-Ethyltoluene	1.09	ug/m3	0.982	0.384	1	12/08/22 19:06	12/08/22 19:06	622-96-8	
Trichlorofluoromethane	1.29	ug/m3	1.12	0.460	1	12/08/22 19:06	12/08/22 19:06	75-69-4	
Dichlorodifluoromethane	1.99	ug/m3	0.989	0.678	1	12/08/22 19:06	12/08/22 19:06	75-71-8	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	1.53	0.608	1	12/08/22 19:06	12/08/22 19:06	76-13-1	
Dichlorotetrafluoroethane	ND	ug/m3	1.40	0.622	1	12/08/22 19:06	12/08/22 19:06	76-14-2	
n-Heptane	ND	ug/m3	0.818	0.425	1	12/08/22 19:06	12/08/22 19:06	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	6.73	1.12	1	12/08/22 19:06	12/08/22 19:06	87-68-3	
n-Hexane	0.924J	ug/m3	2.22	0.726	1	12/08/22 19:06	12/08/22 19:06	110-54-3	J
Isopropylbenzene (Cumene)	ND	ug/m3	0.983	0.382	1	12/08/22 19:06	12/08/22 19:06	98-82-8	
Methylene Chloride	1.18	ug/m3	0.694	0.340	1	12/08/22 19:06	12/08/22 19:06	75-09-2	
2-Hexanone	ND	ug/m3	5.11	0.544	1	12/08/22 19:06	12/08/22 19:06	591-78-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: City of Bristol
Pace Project No.: 92640477

Sample: December 24Hr		Lab ID: 92640477001		Collected: 12/05/22 12:14		Received: 12/07/22 09:30		Matrix: Air	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
VOA (MS) TO-15		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
2-Butanone (MEK)	4.07	ug/m3	3.69	0.240	1	12/08/22 19:06	12/08/22 19:06	78-93-3	
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	5.12	0.313	1	12/08/22 19:06	12/08/22 19:06	108-10-1	
Methyl methacrylate	ND	ug/m3	0.819	0.359	1	12/08/22 19:06	12/08/22 19:06	80-62-6	
Methyl-tert-butyl ether	ND	ug/m3	0.721	0.233	1	12/08/22 19:06	12/08/22 19:06	1634-04-4	
Naphthalene	ND	ug/m3	3.30	1.83	1	12/08/22 19:06	12/08/22 19:06	91-20-3	
2-Propanol	18.2	ug/m3	3.07	0.649	1	12/08/22 19:06	12/08/22 19:06	67-63-0	
Propylene	ND	ug/m3	2.15	0.160	1	12/08/22 19:06	12/08/22 19:06	115-07-1	
Styrene	0.727J	ug/m3	0.851	0.335	1	12/08/22 19:06	12/08/22 19:06	100-42-5	J
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.37	0.511	1	12/08/22 19:06	12/08/22 19:06	79-34-5	
Tetrachloroethene	ND	ug/m3	1.36	0.553	1	12/08/22 19:06	12/08/22 19:06	127-18-4	
Tetrahydrofuran	ND	ug/m3	0.590	0.216	1	12/08/22 19:06	12/08/22 19:06	109-99-9	
Toluene	4.48	ug/m3	1.88	0.328	1	12/08/22 19:06	12/08/22 19:06	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	4.66	1.10	1	12/08/22 19:06	12/08/22 19:06	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.09	0.400	1	12/08/22 19:06	12/08/22 19:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.09	0.422	1	12/08/22 19:06	12/08/22 19:06	79-00-5	
Trichloroethene	ND	ug/m3	1.07	0.364	1	12/08/22 19:06	12/08/22 19:06	79-01-6	
1,2,4-Trimethylbenzene	1.22	ug/m3	0.982	0.375	1	12/08/22 19:06	12/08/22 19:06	95-63-6	
1,3,5-Trimethylbenzene	0.472J	ug/m3	0.982	0.382	1	12/08/22 19:06	12/08/22 19:06	108-67-8	J
2,2,4-Trimethylpentane	ND	ug/m3	0.934	0.621	1	12/08/22 19:06	12/08/22 19:06	540-84-1	
Vinyl chloride	ND	ug/m3	0.511	0.243	1	12/08/22 19:06	12/08/22 19:06	75-01-4	
Vinyl bromide	ND	ug/m3	0.875	0.373	1	12/08/22 19:06	12/08/22 19:06	593-60-2	
Vinyl acetate	ND	ug/m3	0.704	0.408	1	12/08/22 19:06	12/08/22 19:06	108-05-4	
m&p-Xylene	3.23	ug/m3	1.73	0.585	1	12/08/22 19:06	12/08/22 19:06	179601-23-1	
o-Xylene	1.23	ug/m3	0.867	0.359	1	12/08/22 19:06	12/08/22 19:06	95-47-6	
Surrogates									
1,4-Dichlorobenzene-d4 (IS)	102	%	60.0-140		1	12/08/22 19:06	12/08/22 19:06	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	94.7	%	60.0-140		1	12/09/22 18:24	12/09/22 18:24	3855-82-1	

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QUALITY CONTROL DATA

Project: City of Bristol
Pace Project No.: 92640477

QC Batch:	1971315	Analysis Method:	TO-15
QC Batch Method:	M18-Mod/TO-15	Analysis Description:	VOA (MS) TO-15
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 92640477001

METHOD BLANK: R3870089-2 Matrix: Air
Associated Lab Samples: 92640477001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetone	ug/m3	ND	2.97	1.39	12/08/22 10:26	
Allyl chloride	ug/m3	ND	0.626	0.357	12/08/22 10:26	
Benzene	ug/m3	ND	0.639	0.228	12/08/22 10:26	
Benzyl chloride	ug/m3	ND	1.04	0.311	12/08/22 10:26	
Bromodichloromethane	ug/m3	ND	1.34	0.471	12/08/22 10:26	
Bromoform	ug/m3	ND	6.21	0.757	12/08/22 10:26	
Bromomethane	ug/m3	ND	0.776	0.381	12/08/22 10:26	
1,3-Butadiene	ug/m3	ND	4.43	0.230	12/08/22 10:26	
Carbon disulfide	ug/m3	ND	0.622	0.317	12/08/22 10:26	
Carbon tetrachloride	ug/m3	ND	1.26	0.461	12/08/22 10:26	
Chlorobenzene	ug/m3	ND	0.924	0.385	12/08/22 10:26	
Chloroethane	ug/m3	ND	0.528	0.263	12/08/22 10:26	
Chloroform	ug/m3	ND	0.973	0.349	12/08/22 10:26	
Chloromethane	ug/m3	ND	0.413	0.213	12/08/22 10:26	
2-Chlorotoluene	ug/m3	ND	1.03	0.427	12/08/22 10:26	
Cyclohexane	ug/m3	ND	0.689	0.259	12/08/22 10:26	
Dibromochloromethane	ug/m3	ND	1.70	0.618	12/08/22 10:26	
1,2-Dibromoethane (EDB)	ug/m3	ND	1.54	0.554	12/08/22 10:26	
1,2-Dichlorobenzene	ug/m3	ND	1.20	0.770	12/08/22 10:26	
1,3-Dichlorobenzene	ug/m3	ND	1.20	1.09	12/08/22 10:26	
1,4-Dichlorobenzene	ug/m3	ND	1.20	0.335	12/08/22 10:26	
1,2-Dichloroethane	ug/m3	ND	0.810	0.283	12/08/22 10:26	
1,1-Dichloroethane	ug/m3	ND	0.802	0.290	12/08/22 10:26	
1,1-Dichloroethene	ug/m3	ND	0.793	0.302	12/08/22 10:26	
cis-1,2-Dichloroethene	ug/m3	ND	0.793	0.311	12/08/22 10:26	
trans-1,2-Dichloroethene	ug/m3	ND	0.793	0.267	12/08/22 10:26	
1,2-Dichloropropane	ug/m3	ND	0.924	0.351	12/08/22 10:26	
cis-1,3-Dichloropropene	ug/m3	ND	0.908	0.313	12/08/22 10:26	
trans-1,3-Dichloropropene	ug/m3	ND	0.908	0.331	12/08/22 10:26	
1,4-Dioxane (p-Dioxane)	ug/m3	ND	0.721	0.300	12/08/22 10:26	
Ethanol	ug/m3	ND	2.36	0.500	12/08/22 10:26	
Ethylbenzene	ug/m3	ND	0.867	0.362	12/08/22 10:26	
Ethyl acetate	ug/m3	ND	0.720	0.360	12/08/22 10:26	
4-Ethyltoluene	ug/m3	ND	0.982	0.384	12/08/22 10:26	
Trichlorofluoromethane	ug/m3	ND	1.12	0.460	12/08/22 10:26	
Dichlorodifluoromethane	ug/m3	ND	0.989	0.678	12/08/22 10:26	
1,1,2-Trichlorotrifluoroethane	ug/m3	ND	1.53	0.608	12/08/22 10:26	
Dichlorotetrafluoroethane	ug/m3	ND	1.40	0.622	12/08/22 10:26	
n-Heptane	ug/m3	ND	0.818	0.425	12/08/22 10:26	
Hexachloro-1,3-butadiene	ug/m3	ND	6.73	1.12	12/08/22 10:26	

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.

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QUALITY CONTROL DATA

Project: City of Bristol
Pace Project No.: 92640477

METHOD BLANK: R3870089-2

Matrix: Air

Associated Lab Samples: 92640477001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
n-Hexane	ug/m3	ND	2.22	0.726	12/08/22 10:26	
Isopropylbenzene (Cumene)	ug/m3	ND	0.983	0.382	12/08/22 10:26	
Methylene Chloride	ug/m3	ND	0.694	0.340	12/08/22 10:26	
2-Hexanone	ug/m3	ND	5.11	0.544	12/08/22 10:26	
2-Butanone (MEK)	ug/m3	ND	3.69	0.240	12/08/22 10:26	
4-Methyl-2-pentanone (MIBK)	ug/m3	ND	5.12	0.313	12/08/22 10:26	
Methyl methacrylate	ug/m3	ND	0.819	0.359	12/08/22 10:26	
Methyl-tert-butyl ether	ug/m3	ND	0.721	0.233	12/08/22 10:26	
Naphthalene	ug/m3	ND	3.30	1.83	12/08/22 10:26	
2-Propanol	ug/m3	0.787J	3.07	0.649	12/08/22 10:26	J
Propylene	ug/m3	ND	2.15	0.160	12/08/22 10:26	
Styrene	ug/m3	ND	0.851	0.335	12/08/22 10:26	
1,1,2,2-Tetrachloroethane	ug/m3	ND	1.37	0.511	12/08/22 10:26	
Tetrachloroethene	ug/m3	ND	1.36	0.553	12/08/22 10:26	
Tetrahydrofuran	ug/m3	ND	0.590	0.216	12/08/22 10:26	
Toluene	ug/m3	ND	1.88	0.328	12/08/22 10:26	
1,2,4-Trichlorobenzene	ug/m3	ND	4.66	1.10	12/08/22 10:26	
1,1,1-Trichloroethane	ug/m3	ND	1.09	0.400	12/08/22 10:26	
1,1,2-Trichloroethane	ug/m3	ND	1.09	0.422	12/08/22 10:26	
Trichloroethene	ug/m3	ND	1.07	0.364	12/08/22 10:26	
1,2,4-Trimethylbenzene	ug/m3	ND	0.982	0.375	12/08/22 10:26	
1,3,5-Trimethylbenzene	ug/m3	ND	0.982	0.382	12/08/22 10:26	
2,2,4-Trimethylpentane	ug/m3	ND	0.934	0.621	12/08/22 10:26	
Vinyl chloride	ug/m3	ND	0.511	0.243	12/08/22 10:26	
Vinyl bromide	ug/m3	ND	0.875	0.373	12/08/22 10:26	
Vinyl acetate	ug/m3	ND	0.704	0.408	12/08/22 10:26	
m&p-Xylene	ug/m3	ND	1.73	0.585	12/08/22 10:26	
o-Xylene	ug/m3	ND	0.867	0.359	12/08/22 10:26	
1,4-Dichlorobenzene-d4 (IS)	%	93.4	60.0-140		12/08/22 10:26	

LABORATORY CONTROL SAMPLE & LCSD: R3870089-1

R3870089-3

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Acetone	ug/m3	8.91	9.41	9.36	106	105	70.0-130	0.506	25	
Allyl chloride	ug/m3	11.7	12.7	11.7	108	99.7	70.0-130	8.21	25	
Benzene	ug/m3	12.0	12.9	12.7	108	106	70.0-130	1.50	25	
Benzyl chloride	ug/m3	19.5	19.9	19.4	102	99.5	70.0-152	2.91	25	
Bromodichloromethane	ug/m3	25.2	27.5	28.0	109	111	70.0-130	1.69	25	
Bromoform	ug/m3	38.8	42.9	43.8	111	113	70.0-130	1.91	25	
Bromomethane	ug/m3	14.6	16.6	16.3	114	112	70.0-130	1.65	25	
1,3-Butadiene	ug/m3	8.30	9.54	9.07	115	109	70.0-130	4.99	25	
Carbon disulfide	ug/m3	11.7	12.9	12.5	111	107	70.0-130	2.93	25	
Carbon tetrachloride	ug/m3	23.6	25.7	25.8	109	109	70.0-130	0.245	25	
Chlorobenzene	ug/m3	17.3	19.2	18.7	111	108	70.0-130	2.69	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: City of Bristol

Pace Project No.: 92640477

LABORATORY CONTROL SAMPLE & LCSD: R3870089-1			R3870089-3							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Chloroethane	ug/m3	9.89	11.3	11.3	114	114	70.0-130	0.467	25	
Chloroform	ug/m3	18.3	19.5	19.7	107	108	70.0-130	0.745	25	
Chloromethane	ug/m3	7.75	8.06	8.06	104	104	70.0-130	0.00	25	
2-Chlorotoluene	ug/m3	19.3	20.1	20.1	104	104	70.0-130	0.256	25	
Cyclohexane	ug/m3	12.9	13.6	13.8	105	107	70.0-130	1.51	25	
Dibromochloromethane	ug/m3	31.9	36.1	35.5	113	111	70.0-130	1.66	25	
1,2-Dibromoethane (EDB)	ug/m3	28.8	32.4	32.1	113	111	70.0-130	1.19	25	
1,2-Dichlorobenzene	ug/m3	22.5	24.5	24.2	109	107	70.0-130	1.24	25	
1,3-Dichlorobenzene	ug/m3	22.5	24.2	23.3	107	103	70.0-130	3.79	25	
1,4-Dichlorobenzene	ug/m3	22.5	23.1	22.7	103	101	70.0-130	1.83	25	
1,2-Dichloroethane	ug/m3	15.2	16.8	16.6	111	110	70.0-130	1.21	25	
1,1-Dichloroethane	ug/m3	15.0	16.2	16.5	108	110	70.0-130	1.72	25	
1,1-Dichloroethene	ug/m3	14.9	16.1	15.9	108	107	70.0-130	0.993	25	
cis-1,2-Dichloroethene	ug/m3	14.9	15.9	15.9	107	107	70.0-130	0.250	25	
trans-1,2-Dichloroethene	ug/m3	14.9	16.2	16.1	109	109	70.0-130	0.245	25	
1,2-Dichloropropane	ug/m3	17.3	18.9	18.6	109	107	70.0-130	1.48	25	
cis-1,3-Dichloropropene	ug/m3	17.0	18.6	18.5	109	109	70.0-130	0.245	25	
trans-1,3-Dichloropropene	ug/m3	17.0	18.9	18.6	111	109	70.0-130	1.70	25	
1,4-Dioxane (p-Dioxane)	ug/m3	13.5	14.9	14.7	110	109	70.0-140	1.71	25	
Ethanol	ug/m3	7.07	8.90	8.81	126	125	55.0-148	1.06	25	
Ethylbenzene	ug/m3	16.3	18.0	17.7	111	109	70.0-130	1.70	25	
Ethyl acetate	ug/m3	13.5	16.0	15.5	118	115	70.0-130	3.20	25	
4-Ethyltoluene	ug/m3	18.4	19.6	19.3	107	105	70.0-130	1.77	25	
Trichlorofluoromethane	ug/m3	21.1	24.2	23.5	115	112	70.0-130	2.59	25	
Dichlorodifluoromethane	ug/m3	18.5	16.3	16.3	87.7	87.7	64.0-139	0.00	25	
1,1,2-Trichlorotrifluoroethane	ug/m3	28.7	32.3	31.5	112	110	70.0-130	2.40	25	
Dichlorotetrafluoroethane	ug/m3	26.2	28.3	27.9	108	106	70.0-130	1.49	25	
n-Heptane	ug/m3	15.3	15.5	15.5	101	101	70.0-130	0.264	25	
Hexachloro-1,3-butadiene	ug/m3	40.0	46.9	46.1	117	115	70.0-151	1.61	25	
n-Hexane	ug/m3	13.2	13.8	13.6	104	103	70.0-130	1.55	25	
Isopropylbenzene (Cumene)	ug/m3	18.4	20.1	19.9	109	108	70.0-130	0.983	25	
Methylene Chloride	ug/m3	13.0	13.0	12.8	99.7	98.4	70.0-130	1.35	25	
2-Hexanone	ug/m3	15.3	16.0	15.5	104	101	70.0-149	2.86	25	
2-Butanone (MEK)	ug/m3	11.1	12.1	12.0	110	108	70.0-130	1.47	25	
4-Methyl-2-pentanone (MIBK)	ug/m3	15.4	16.5	16.0	107	104	70.0-139	3.28	25	
Methyl methacrylate	ug/m3	15.4	16.6	16.7	108	109	70.0-130	0.493	25	
Methyl-tert-butyl ether	ug/m3	13.5	14.4	14.6	107	108	70.0-130	1.24	25	
Naphthalene	ug/m3	19.6	20.8	20.1	106	102	70.0-159	3.59	25	
2-Propanol	ug/m3	9.22	10.2	9.88	111	107	70.0-139	3.18	25	
Propylene	ug/m3	6.46	6.65	6.78	103	105	64.0-144	2.05	25	
Styrene	ug/m3	16.0	17.5	17.6	110	110	70.0-130	0.485	25	
1,1,2,2-Tetrachloroethane	ug/m3	25.8	27.9	27.3	108	106	70.0-130	1.99	25	
Tetrachloroethene	ug/m3	25.5	28.9	28.7	114	113	70.0-130	0.943	25	
Tetrahydrofuran	ug/m3	11.1	11.3	11.0	102	99.7	70.0-137	2.38	25	
Toluene	ug/m3	14.1	15.1	15.1	107	107	70.0-130	0.249	25	
1,2,4-Trichlorobenzene	ug/m3	27.8	30.4	29.3	110	106	70.0-160	3.72	25	
1,1,1-Trichloroethane	ug/m3	20.4	22.6	22.5	111	110	70.0-130	0.483	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: City of Bristol

Pace Project No.: 92640477

LABORATORY CONTROL SAMPLE & LCSD: R3870089-1			R3870089-3							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,2-Trichloroethane	ug/m3	20.4	22.1	22.7	109	111	70.0-130	2.43	25	
Trichloroethene	ug/m3	20.1	21.9	21.8	109	109	70.0-130	0.490	25	
1,2,4-Trimethylbenzene	ug/m3	18.4	19.9	19.8	108	108	70.0-130	0.494	25	
1,3,5-Trimethylbenzene	ug/m3	18.4	21.0	20.2	114	110	70.0-130	3.82	25	
2,2,4-Trimethylpentane	ug/m3	17.5	18.4	18.5	105	106	70.0-130	1.01	25	
Vinyl chloride	ug/m3	9.59	11.0	10.6	115	111	70.0-130	3.54	25	
Vinyl bromide	ug/m3	16.4	18.6	18.2	113	111	70.0-130	2.38	25	
Vinyl acetate	ug/m3	13.2	13.7	13.9	104	105	70.0-130	1.53	25	
m&p-Xylene	ug/m3	32.5	36.0	35.3	111	109	70.0-130	1.95	25	
o-Xylene	ug/m3	16.3	18.3	18.1	113	111	70.0-130	1.19	25	
1,4-Dichlorobenzene-d4 (IS)	%				95.9	97.5	60.0-140			

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QUALITY CONTROL DATA

Project: City of Bristol

Pace Project No.: 92640477

QC Batch: 1971905

Analysis Method: TO-15

QC Batch Method: M18-Mod/TO-15

Analysis Description: VOA (MS) TO-15

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 92640477001

METHOD BLANK: R3870330-3

Matrix: Air

Associated Lab Samples: 92640477001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Gasoline Range Organics	ug/m3	ND	826	164	12/09/22 09:34	
1,4-Dichlorobenzene-d4 (IS)	%	93.4	60.0-140		12/09/22 09:34	

LABORATORY CONTROL SAMPLE & LCSD: R3870330-1

R3870330-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Gasoline Range Organics	ug/m3	839	934	913	111	109	70.0-130	2.24	25	
1,4-Dichlorobenzene-d4 (IS)	%				97.5	95.7	60.0-140			

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QUALIFIERS

Project: City of Bristol
Pace Project No.: 92640477

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 adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

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.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: City of Bristol

Pace Project No.: 92640477

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92640477001	December 24Hr	TO-15	1971315	TO-15	1971315
92640477001	December 24Hr	TO-15	1971905	TO-15	1971905

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