

June 08, 2021

Sam Hess
Bristol Solid Waste Management Facility
2125 Shakesville Rd
Bristol, VA 24201

RE: Project: CITY OF BRISTOL AIR
Pace Project No.: 92540483

Dear Sam Hess:

Enclosed are the analytical results for sample(s) received by the laboratory on May 24, 2021. 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,



Ryan Brumfield
ryan.brumfield@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Ms. Carrie Blankenship, Draper Aden Associates
Ms. Janet Frazier, Draper Aden Associates
Kathy Olsen, Draper Aden Associates



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

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 Certification #: T 104704245-17-14

Texas Mold Certification #: LAB0152

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 AIR

Pace Project No.: 92540483

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92540483001	24 hrs Sample	Air	05/20/21 09:50	05/24/21 09:00

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SAMPLE ANALYTE COUNT

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92540483001	24 hrs Sample	TO-15	FKG	69	PAN

PAN = Pace National - Mt. Juliet

REPORT OF LABORATORY ANALYSIS

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SUMMARY OF DETECTION

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92540483001	24 hrs Sample					
TO-15	Acetone	20.0	ug/m3	2.97	05/24/21 22:52	
TO-15	Benzene	11.8	ug/m3	0.639	05/24/21 22:52	
TO-15	Chloromethane	1.63	ug/m3	0.413	05/24/21 22:52	
TO-15	Ethanol	42.4	ug/m3	2.36	05/24/21 22:52	
TO-15	Ethylbenzene	1.98	ug/m3	0.867	05/24/21 22:52	
TO-15	Trichlorofluoromethane	1.61	ug/m3	1.12	05/24/21 22:52	
TO-15	Dichlorodifluoromethane	2.96	ug/m3	0.989	05/24/21 22:52	
TO-15	Methylene Chloride	1.26	ug/m3	0.694	05/24/21 22:52	
TO-15	2-Propanol	3.29	ug/m3	3.07	05/24/21 22:52	
TO-15	Propylene	3.05	ug/m3	2.15	05/24/21 22:52	B
TO-15	Tetrahydrofuran	1.34	ug/m3	0.590	05/24/21 22:52	
TO-15	Toluene	4.52	ug/m3	1.88	05/24/21 22:52	
TO-15	Trichloroethene	1.27	ug/m3	1.07	05/24/21 22:52	
TO-15	1,2,4-Trimethylbenzene	1.11	ug/m3	0.982	05/24/21 22:52	
TO-15	m&p-Xylene	3.91	ug/m3	1.73	05/24/21 22:52	
TO-15	o-Xylene	1.34	ug/m3	0.867	05/24/21 22:52	

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

Method: TO-15

Description: VOA (MS) TO-15

Client: Draper Aden - Virginia

Date: June 08, 2021

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.

QC Batch: 1676512

B: Analyte was detected in the associated method blank.

- R3659267-2 (Lab ID: R3659267-2)
- Propylene

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 AIR

Pace Project No.: 92540483

Sample: 24 hrs Sample		Lab ID: 92540483001		Collected: 05/20/21 09:50		Received: 05/24/21 09:00		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	39.70	1	05/24/21 22:52	05/24/21 22:52	8006-61-9	
Acetone	20.0	ug/m3	2.97	0.5840	1	05/24/21 22:52	05/24/21 22:52	67-64-1	
Allyl chloride	ND	ug/m3	0.626	0.1140	1	05/24/21 22:52	05/24/21 22:52	107-05-1	
Benzene	11.8	ug/m3	0.639	0.0715	1	05/24/21 22:52	05/24/21 22:52	71-43-2	
Benzyl chloride	ND	ug/m3	1.04	0.0598	1	05/24/21 22:52	05/24/21 22:52	100-44-7	
Bromodichloromethane	ND	ug/m3	1.34	0.0702	1	05/24/21 22:52	05/24/21 22:52	75-27-4	
Bromoform	ND	ug/m3	6.21	0.0732	1	05/24/21 22:52	05/24/21 22:52	75-25-2	
Bromomethane	ND	ug/m3	0.776	0.0982	1	05/24/21 22:52	05/24/21 22:52	74-83-9	
1,3-Butadiene	ND	ug/m3	4.43	0.1040	1	05/24/21 22:52	05/24/21 22:52	106-99-0	
Carbon disulfide	ND	ug/m3	0.622	0.1020	1	05/24/21 22:52	05/24/21 22:52	75-15-0	
Carbon tetrachloride	ND	ug/m3	1.26	0.0732	1	05/24/21 22:52	05/24/21 22:52	56-23-5	
Chlorobenzene	ND	ug/m3	0.924	0.0832	1	05/24/21 22:52	05/24/21 22:52	108-90-7	
Chloroethane	ND	ug/m3	0.528	0.0996	1	05/24/21 22:52	05/24/21 22:52	75-00-3	
Chloroform	ND	ug/m3	0.973	0.0717	1	05/24/21 22:52	05/24/21 22:52	67-66-3	
Chloromethane	1.63	ug/m3	0.413	0.1030	1	05/24/21 22:52	05/24/21 22:52	74-87-3	
2-Chlorotoluene	ND	ug/m3	1.03	0.0828	1	05/24/21 22:52	05/24/21 22:52	95-49-8	
Cyclohexane	ND	ug/m3	0.689	0.0753	1	05/24/21 22:52	05/24/21 22:52	110-82-7	
Dibromochloromethane	ND	ug/m3	1.70	0.0727	1	05/24/21 22:52	05/24/21 22:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/m3	1.54	0.0721	1	05/24/21 22:52	05/24/21 22:52	106-93-4	
1,2-Dichlorobenzene	ND	ug/m3	1.20	0.1280	1	05/24/21 22:52	05/24/21 22:52	95-50-1	
1,3-Dichlorobenzene	ND	ug/m3	1.20	0.1820	1	05/24/21 22:52	05/24/21 22:52	541-73-1	
1,4-Dichlorobenzene	ND	ug/m3	1.20	0.0557	1	05/24/21 22:52	05/24/21 22:52	106-46-7	
1,2-Dichloroethane	ND	ug/m3	0.810	0.07	1	05/24/21 22:52	05/24/21 22:52	107-06-2	
1,1-Dichloroethane	ND	ug/m3	0.802	0.0723	1	05/24/21 22:52	05/24/21 22:52	75-34-3	
1,1-Dichloroethene	ND	ug/m3	0.793	0.0762	1	05/24/21 22:52	05/24/21 22:52	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.793	0.0784	1	05/24/21 22:52	05/24/21 22:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.793	0.0673	1	05/24/21 22:52	05/24/21 22:52	156-60-5	
1,2-Dichloropropane	ND	ug/m3	0.924	0.0760	1	05/24/21 22:52	05/24/21 22:52	78-87-5	
cis-1,3-Dichloropropene	ND	ug/m3	0.908	0.0689	1	05/24/21 22:52	05/24/21 22:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/m3	0.908	0.0728	1	05/24/21 22:52	05/24/21 22:52	10061-02-6	
1,4-Dioxane (p-Dioxane)	ND	ug/m3	0.721	0.0833	1	05/24/21 22:52	05/24/21 22:52	123-91-1	
Ethanol	42.4	ug/m3	2.36	0.2650	1	05/24/21 22:52	05/24/21 22:52	64-17-5	
Ethylbenzene	1.98	ug/m3	0.867	0.0835	1	05/24/21 22:52	05/24/21 22:52	100-41-4	
4-Ethyltoluene	ND	ug/m3	0.982	0.0783	1	05/24/21 22:52	05/24/21 22:52	622-96-8	
Trichlorofluoromethane	1.61	ug/m3	1.12	0.0819	1	05/24/21 22:52	05/24/21 22:52	75-69-4	
Dichlorodifluoromethane	2.96	ug/m3	0.989	0.1370	1	05/24/21 22:52	05/24/21 22:52	75-71-8	
1,1,2-Trichlorotrifluoroethane	ND	ug/m3	1.53	0.0793	1	05/24/21 22:52	05/24/21 22:52	76-13-1	
Dichlorotetrafluoroethane	ND	ug/m3	1.40	0.0890	1	05/24/21 22:52	05/24/21 22:52	76-14-2	
n-Heptane	ND	ug/m3	0.818	0.1040	1	05/24/21 22:52	05/24/21 22:52	142-82-5	
Hexachloro-1,3-butadiene	ND	ug/m3	6.73	0.1050	1	05/24/21 22:52	05/24/21 22:52	87-68-3	
n-Hexane	ND	ug/m3	2.22	0.2060	1	05/24/21 22:52	05/24/21 22:52	110-54-3	
Isopropylbenzene (Cumene)	ND	ug/m3	0.983	0.0777	1	05/24/21 22:52	05/24/21 22:52	98-82-8	
Methylene Chloride	1.26	ug/m3	0.694	0.0979	1	05/24/21 22:52	05/24/21 22:52	75-09-2	
2-Hexanone	ND	ug/m3	5.11	0.1330	1	05/24/21 22:52	05/24/21 22:52	591-78-6	
2-Butanone (MEK)	ND	ug/m3	3.69	0.0814	1	05/24/21 22:52	05/24/21 22:52	78-93-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

Sample: 24 hrs Sample		Lab ID: 92540483001		Collected: 05/20/21 09:50		Received: 05/24/21 09:00		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							
4-Methyl-2-pentanone (MIBK)	ND	ug/m3	5.12	0.0765	1	05/24/21 22:52	05/24/21 22:52	108-10-1	
Methyl methacrylate	ND	ug/m3	0.819	0.0876	1	05/24/21 22:52	05/24/21 22:52	80-62-6	
Methyl-tert-butyl ether	ND	ug/m3	0.721	0.0647	1	05/24/21 22:52	05/24/21 22:52	1634-04-4	
Naphthalene	ND	ug/m3	3.30	0.35	1	05/24/21 22:52	05/24/21 22:52	91-20-3	
2-Propanol	3.29	ug/m3	3.07	0.2640	1	05/24/21 22:52	05/24/21 22:52	67-63-0	
Propylene	3.05	ug/m3	2.15	0.0932	1	05/24/21 22:52	05/24/21 22:52	115-07-1	B
Styrene	ND	ug/m3	0.851	0.0788	1	05/24/21 22:52	05/24/21 22:52	100-42-5	
1,1,2,2-Tetrachloroethane	ND	ug/m3	1.37	0.0743	1	05/24/21 22:52	05/24/21 22:52	79-34-5	
Tetrachloroethene	ND	ug/m3	1.36	0.0814	1	05/24/21 22:52	05/24/21 22:52	127-18-4	
Tetrahydrofuran	1.34	ug/m3	0.590	0.0734	1	05/24/21 22:52	05/24/21 22:52	109-99-9	
Toluene	4.52	ug/m3	1.88	0.0870	1	05/24/21 22:52	05/24/21 22:52	108-88-3	
1,2,4-Trichlorobenzene	ND	ug/m3	4.66	0.1480	1	05/24/21 22:52	05/24/21 22:52	120-82-1	
1,1,1-Trichloroethane	ND	ug/m3	1.09	0.0736	1	05/24/21 22:52	05/24/21 22:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/m3	1.09	0.0775	1	05/24/21 22:52	05/24/21 22:52	79-00-5	
Trichloroethene	1.27	ug/m3	1.07	0.0680	1	05/24/21 22:52	05/24/21 22:52	79-01-6	
1,2,4-Trimethylbenzene	1.11	ug/m3	0.982	0.0764	1	05/24/21 22:52	05/24/21 22:52	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/m3	0.982	0.0779	1	05/24/21 22:52	05/24/21 22:52	108-67-8	
2,2,4-Trimethylpentane	ND	ug/m3	0.934	0.1330	1	05/24/21 22:52	05/24/21 22:52	540-84-1	
Vinyl chloride	ND	ug/m3	0.511	0.0949	1	05/24/21 22:52	05/24/21 22:52	75-01-4	
Vinyl bromide	ND	ug/m3	0.875	0.0852	1	05/24/21 22:52	05/24/21 22:52	593-60-2	
Vinyl acetate	ND	ug/m3	0.704	0.1160	1	05/24/21 22:52	05/24/21 22:52	108-05-4	
m&p-Xylene	3.91	ug/m3	1.73	0.1350	1	05/24/21 22:52	05/24/21 22:52	179601-23-1	
o-Xylene	1.34	ug/m3	0.867	0.0828	1	05/24/21 22:52	05/24/21 22:52	95-47-6	
Surrogates									
1,4-Dichlorobenzene-d4 (IS)	97.3	%	60.0-140		1	05/24/21 22:52	05/24/21 22:52	3855-82-1	

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QUALITY CONTROL DATA

Project: CITY OF BRISTOL AIR
Pace Project No.: 92540483

QC Batch:	1676512	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	VOA (MS) TO-15
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 92540483001

METHOD BLANK: R3659267-2 Matrix: Air
Associated Lab Samples: 92540483001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Acetone	ppbv	ND	1.25	0.584	05/24/21 10:34	
Allyl chloride	ppbv	ND	0.200	0.114	05/24/21 10:34	
Benzene	ppbv	ND	0.200	0.0715	05/24/21 10:34	
Benzyl chloride	ppbv	ND	0.200	0.0598	05/24/21 10:34	
Bromodichloromethane	ppbv	ND	0.200	0.0702	05/24/21 10:34	
Bromoform	ppbv	ND	0.600	0.0732	05/24/21 10:34	
Bromomethane	ppbv	ND	0.200	0.0982	05/24/21 10:34	
1,3-Butadiene	ppbv	ND	2.00	0.104	05/24/21 10:34	
Carbon disulfide	ppbv	ND	0.200	0.102	05/24/21 10:34	
Carbon tetrachloride	ppbv	ND	0.200	0.0732	05/24/21 10:34	
Chlorobenzene	ppbv	ND	0.200	0.0832	05/24/21 10:34	
Chloroethane	ppbv	ND	0.200	0.0996	05/24/21 10:34	
Chloroform	ppbv	ND	0.200	0.0717	05/24/21 10:34	
Chloromethane	ppbv	ND	0.200	0.103	05/24/21 10:34	
2-Chlorotoluene	ppbv	ND	0.200	0.0828	05/24/21 10:34	
Cyclohexane	ppbv	ND	0.200	0.0753	05/24/21 10:34	
Dibromochloromethane	ppbv	ND	0.200	0.0727	05/24/21 10:34	
1,2-Dibromoethane (EDB)	ppbv	ND	0.200	0.0721	05/24/21 10:34	
1,2-Dichlorobenzene	ppbv	ND	0.200	0.128	05/24/21 10:34	
1,3-Dichlorobenzene	ppbv	ND	0.200	0.182	05/24/21 10:34	
1,4-Dichlorobenzene	ppbv	ND	0.200	0.0557	05/24/21 10:34	
1,2-Dichloroethane	ppbv	ND	0.200	0.0700	05/24/21 10:34	
1,1-Dichloroethane	ppbv	ND	0.200	0.0723	05/24/21 10:34	
1,1-Dichloroethene	ppbv	ND	0.200	0.0762	05/24/21 10:34	
cis-1,2-Dichloroethene	ppbv	ND	0.200	0.0784	05/24/21 10:34	
trans-1,2-Dichloroethene	ppbv	ND	0.200	0.0673	05/24/21 10:34	
1,2-Dichloropropane	ppbv	ND	0.200	0.0760	05/24/21 10:34	
cis-1,3-Dichloropropene	ppbv	ND	0.200	0.0689	05/24/21 10:34	
trans-1,3-Dichloropropene	ppbv	ND	0.200	0.0728	05/24/21 10:34	
1,4-Dioxane (p-Dioxane)	ppbv	ND	0.200	0.0833	05/24/21 10:34	
Ethylbenzene	ppbv	ND	0.200	0.0835	05/24/21 10:34	
4-Ethyltoluene	ppbv	ND	0.200	0.0783	05/24/21 10:34	
Trichlorofluoromethane	ppbv	ND	0.200	0.0819	05/24/21 10:34	
Dichlorodifluoromethane	ppbv	ND	0.200	0.137	05/24/21 10:34	
1,1,2-Trichlorotrifluoroethane	ppbv	ND	0.200	0.0793	05/24/21 10:34	
Dichlorotetrafluoroethane	ppbv	ND	0.200	0.0890	05/24/21 10:34	
n-Heptane	ppbv	ND	0.200	0.104	05/24/21 10:34	
Hexachloro-1,3-butadiene	ppbv	ND	0.630	0.105	05/24/21 10:34	
n-Hexane	ppbv	ND	0.630	0.206	05/24/21 10:34	
Isopropylbenzene (Cumene)	ppbv	ND	0.200	0.0777	05/24/21 10:34	

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 AIR
Pace Project No.: 92540483

METHOD BLANK: R3659267-2

Matrix: Air

Associated Lab Samples: 92540483001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methylene Chloride	ppbv	ND	0.200	0.0979	05/24/21 10:34	
2-Hexanone	ppbv	ND	1.25	0.133	05/24/21 10:34	
2-Butanone (MEK)	ppbv	ND	1.25	0.0814	05/24/21 10:34	
4-Methyl-2-pentanone (MIBK)	ppbv	ND	1.25	0.0765	05/24/21 10:34	
Methyl methacrylate	ppbv	ND	0.200	0.0876	05/24/21 10:34	
Methyl-tert-butyl ether	ppbv	ND	0.200	0.0647	05/24/21 10:34	
Naphthalene	ppbv	ND	0.630	0.350	05/24/21 10:34	
2-Propanol	ppbv	ND	1.25	0.264	05/24/21 10:34	
Propylene	ppbv	0.238J	1.25	0.0932	05/24/21 10:34	J
Styrene	ppbv	ND	0.200	0.0788	05/24/21 10:34	
1,1,2,2-Tetrachloroethane	ppbv	ND	0.200	0.0743	05/24/21 10:34	
Tetrachloroethene	ppbv	ND	0.200	0.0814	05/24/21 10:34	
Tetrahydrofuran	ppbv	ND	0.200	0.0734	05/24/21 10:34	
Toluene	ppbv	ND	0.500	0.0870	05/24/21 10:34	
1,2,4-Trichlorobenzene	ppbv	ND	0.630	0.148	05/24/21 10:34	
1,1,1-Trichloroethane	ppbv	ND	0.200	0.0736	05/24/21 10:34	
1,1,2-Trichloroethane	ppbv	ND	0.200	0.0775	05/24/21 10:34	
Trichloroethene	ppbv	ND	0.200	0.0680	05/24/21 10:34	
1,2,4-Trimethylbenzene	ppbv	ND	0.200	0.0764	05/24/21 10:34	
1,3,5-Trimethylbenzene	ppbv	ND	0.200	0.0779	05/24/21 10:34	
2,2,4-Trimethylpentane	ppbv	ND	0.200	0.133	05/24/21 10:34	
Vinyl chloride	ppbv	ND	0.200	0.0949	05/24/21 10:34	
Vinyl bromide	ppbv	ND	0.200	0.0852	05/24/21 10:34	
Vinyl acetate	ppbv	ND	0.200	0.116	05/24/21 10:34	
m&p-Xylene	ppbv	ND	0.400	0.135	05/24/21 10:34	
o-Xylene	ppbv	ND	0.200	0.0828	05/24/21 10:34	
Ethanol	ppbv	ND	1.25	0.265	05/24/21 10:34	
Gasoline Range Organics	ppbv	ND	200	39.7	05/24/21 10:34	
1,4-Dichlorobenzene-d4 (IS)	%	94.8	60.0-140		05/24/21 10:34	

LABORATORY CONTROL SAMPLE & LCSD: R3659267-1

R3659267-3

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Ethanol	ppbv	3.75	3.61	3.57	96.3	95.2	55.0-148	1.11	25	
Propylene	ppbv	3.75	3.72	3.79	99.2	101	64.0-144	1.86	25	
Dichlorodifluoromethane	ppbv	3.75	4.22	4.21	113	112	64.0-139	0.237	25	
Dichlorotetrafluoroethane	ppbv	3.75	4.04	4.10	108	109	70.0-130	1.47	25	
Chloromethane	ppbv	3.75	3.95	3.99	105	106	70.0-130	1.01	25	
Vinyl chloride	ppbv	3.75	4.10	4.19	109	112	70.0-130	2.17	25	
1,3-Butadiene	ppbv	3.75	3.91	4.13	104	110	70.0-130	5.47	25	
Bromomethane	ppbv	3.75	4.06	4.16	108	111	70.0-130	2.43	25	
Chloroethane	ppbv	3.75	4.05	4.09	108	109	70.0-130	0.983	25	
Trichlorofluoromethane	ppbv	3.75	4.06	4.10	108	109	70.0-130	0.980	25	
1,1,2-Trichlorotrifluoroethane	ppbv	3.75	4.12	4.14	110	110	70.0-130	0.484	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

LABORATORY CONTROL SAMPLE & LCSD: R3659267-1

R3659267-3

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ppbv	3.75	4.03	4.08	107	109	70.0-130	1.23	25	
1,1-Dichloroethane	ppbv	3.75	4.03	4.06	107	108	70.0-130	0.742	25	
Acetone	ppbv	3.75	3.85	3.88	103	103	70.0-130	0.776	25	
2-Propanol	ppbv	3.75	3.77	3.80	101	101	70.0-139	0.793	25	
Carbon disulfide	ppbv	3.75	4.03	4.08	107	109	70.0-130	1.23	25	
Methylene Chloride	ppbv	3.75	3.86	3.90	103	104	70.0-130	1.03	25	
Methyl-tert-butyl ether	ppbv	3.75	4.08	4.08	109	109	70.0-130	0.00	25	
trans-1,2-Dichloroethene	ppbv	3.75	4.02	4.06	107	108	70.0-130	0.990	25	
n-Hexane	ppbv	3.75	4.00	4.07	107	109	70.0-130	1.73	25	
Vinyl acetate	ppbv	3.75	3.75	3.76	100	100	70.0-130	0.266	25	
2-Butanone (MEK)	ppbv	3.75	4.08	4.24	109	113	70.0-130	3.85	25	
cis-1,2-Dichloroethene	ppbv	3.75	3.96	4.01	106	107	70.0-130	1.25	25	
Chloroform	ppbv	3.75	4.00	4.05	107	108	70.0-130	1.24	25	
Cyclohexane	ppbv	3.75	4.08	4.15	109	111	70.0-130	1.70	25	
1,1,1-Trichloroethane	ppbv	3.75	4.09	4.15	109	111	70.0-130	1.46	25	
Carbon tetrachloride	ppbv	3.75	4.05	4.13	108	110	70.0-130	1.96	25	
Benzene	ppbv	3.75	3.99	4.03	106	107	70.0-130	0.998	25	
1,2-Dichloroethane	ppbv	3.75	3.88	3.95	103	105	70.0-130	1.79	25	
n-Heptane	ppbv	3.75	3.89	3.97	104	106	70.0-130	2.04	25	
Trichloroethene	ppbv	3.75	3.97	3.99	106	106	70.0-130	0.503	25	
1,2-Dichloropropane	ppbv	3.75	3.87	3.89	103	104	70.0-130	0.515	25	
1,4-Dioxane (p-Dioxane)	ppbv	3.75	3.62	3.72	96.5	99.2	70.0-140	2.72	25	
Bromodichloromethane	ppbv	3.75	3.92	4.01	105	107	70.0-130	2.27	25	
cis-1,3-Dichloropropene	ppbv	3.75	3.95	4.01	105	107	70.0-130	1.51	25	
4-Methyl-2-pentanone (MIBK)	ppbv	3.75	3.81	3.87	102	103	70.0-139	1.56	25	
Toluene	ppbv	3.75	3.99	4.02	106	107	70.0-130	0.749	25	
trans-1,3-Dichloropropene	ppbv	3.75	3.96	4.07	106	109	70.0-130	2.74	25	
1,1,2-Trichloroethane	ppbv	3.75	3.91	3.99	104	106	70.0-130	2.03	25	
Tetrachloroethene	ppbv	3.75	4.00	4.09	107	109	70.0-130	2.22	25	
2-Hexanone	ppbv	3.75	3.91	3.93	104	105	70.0-149	0.510	25	
Dibromochloromethane	ppbv	3.75	4.04	4.11	108	110	70.0-130	1.72	25	
1,2-Dibromoethane (EDB)	ppbv	3.75	4.04	4.11	108	110	70.0-130	1.72	25	
Chlorobenzene	ppbv	3.75	4.10	4.13	109	110	70.0-130	0.729	25	
Ethylbenzene	ppbv	3.75	4.06	4.08	108	109	70.0-130	0.491	25	
m&p-Xylene	ppbv	7.50	8.17	8.24	109	110	70.0-130	0.853	25	
o-Xylene	ppbv	3.75	4.00	3.99	107	106	70.0-130	0.250	25	
Styrene	ppbv	3.75	4.06	4.10	108	109	70.0-130	0.980	25	
Bromoform	ppbv	3.75	4.07	4.12	109	110	70.0-130	1.22	25	
1,1,2,2-Tetrachloroethane	ppbv	3.75	3.94	3.96	105	106	70.0-130	0.506	25	
4-Ethyltoluene	ppbv	3.75	4.18	4.17	111	111	70.0-130	0.240	25	
1,3,5-Trimethylbenzene	ppbv	3.75	4.09	4.13	109	110	70.0-130	0.973	25	
1,2,4-Trimethylbenzene	ppbv	3.75	4.09	4.11	109	110	70.0-130	0.488	25	
1,3-Dichlorobenzene	ppbv	3.75	4.16	4.20	111	112	70.0-130	0.957	25	
1,4-Dichlorobenzene	ppbv	3.75	4.26	4.26	114	114	70.0-130	0.00	25	
Benzyl chloride	ppbv	3.75	4.64	4.69	124	125	70.0-152	1.07	25	
1,2-Dichlorobenzene	ppbv	3.75	4.11	4.13	110	110	70.0-130	0.485	25	
1,2,4-Trichlorobenzene	ppbv	3.75	3.82	3.33	102	88.8	70.0-160	13.7	25	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

LABORATORY CONTROL SAMPLE & LCSD: R3659267-1			R3659267-3							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Hexachloro-1,3-butadiene	ppbv	3.75	4.09	3.58	109	95.5	70.0-151	13.3	25	
Naphthalene	ppbv	3.75	3.86	3.23	103	86.1	70.0-159	17.8	25	
Gasoline Range Organics	ppbv	203	224	221	110	109	70.0-130	1.35	25	
Allyl chloride	ppbv	3.75	4.08	4.10	109	109	70.0-130	0.489	25	
2-Chlorotoluene	ppbv	3.75	4.07	4.10	109	109	70.0-130	0.734	25	
Methyl methacrylate	ppbv	3.75	4.00	4.03	107	107	70.0-130	0.747	25	
Tetrahydrofuran	ppbv	3.75	3.95	3.92	105	105	70.0-137	0.762	25	
2,2,4-Trimethylpentane	ppbv	3.75	4.01	4.03	107	107	70.0-130	0.498	25	
Vinyl bromide	ppbv	3.75	4.06	4.09	108	109	70.0-130	0.736	25	
Isopropylbenzene (Cumene)	ppbv	3.75	4.06	4.09	108	109	70.0-130	0.736	25	
1,4-Dichlorobenzene-d4 (IS)	%				97.7	97.5	60.0-140			

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QUALIFIERS

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

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.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: CITY OF BRISTOL AIR

Pace Project No.: 92540483

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92540483001	24 hrs Sample	TO-15	1676512	TO-15	1676512

REPORT OF LABORATORY ANALYSIS

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