



March 12, 2024

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

RE: Project: City of Bristol
Pace Project No.: 92718220

Dear David Cochran:

Enclosed are the analytical results for sample(s) received by the laboratory on March 06, 2024. 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:

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

Sincerely,

Eben Buchanan
eben.buchanan@pacelabs.com
(770)734-4200
Project Manager

Enclosures

cc: Karen Culbertson, City of Bristol VA
Jonathan Hayes
Logan Howard, City of Bristol VA
Mehdi Mehrazaran, Geosyntec Consultants, Inc.
Jennifer Robb, City of Bristol VA



REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: City of Bristol

Pace Project No.: 92718220

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92718220001	March 24hr	Air	03/04/24 09:51	03/06/24 09:00

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project:

Pace Project No.:

Method:

Description:

Client:

Date:

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

REPORT OF LABORATORY ANALYSIS

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Pace

AIR CHAIN-OF-CUSTODY Analytical Request Document

USA USE ONLY: Airs Workorder/Log/Label Here

Company Name: Pace Analytical - Huntersville, NC

Street Address: 9800 Kinsey Avenue, Suite 100
Huntersville, NC 28078

City, State Zip

Customer Project #:

Project Name:

City of Bristol

Site Collection info/Activity ID (if applicable):

PACE-POULSONVA 001

Time Zone collected: AM PM MT CT ET

Date Delivered:

Level: I Level II Level IV

Level: I Level II Level IV

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WO#: 922718220



Field Information

Canister

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PUF / FILTER

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Total

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Sampled

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End

Pressure / Vacuum

Duration

Rate

Volume

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WO#: 922718220
PM: EDB
Due Date: 03/13/24
CLIENT: 92-BristolVA

Profile /
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Pace Analytical - Huntersville, NC

Sample Delivery Group: L1712365
Samples Received: 03/06/2024
Project Number:
Description: City of Bristol
Site: 001
Report To: Eben Buchanan
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078

Entire Report Reviewed By:



Nancy McLain
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

Page 5 of 17

ACCOUNT:

Pace Analytical - Huntersville, NC

PROJECT:

SDG:

L1712365

DATE/TIME:

03/08/24 16:40

PAGE:

1 of 13

TABLE OF CONTENTS

Cp: Cover Page	1	¹ Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	² Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³ Ss
MARCH 24HR L1712365-01	5	
Qc: Quality Control Summary	7	⁴ Cn
Volatile Organic Compounds (MS) by Method TO-15	7	⁵ Sr
Gl: Glossary of Terms	11	
Al: Accreditations & Locations	12	⁶ Qc
Sc: Sample Chain of Custody	13	⁷ Gl
		⁸ Al
		⁹ Sc

SAMPLE SUMMARY

MARCH 24HR L1712365-01 Air

Collected by
Franklin D.
Cochrane

Collected date/time
03/04/24 09:43

Received date/time
03/06/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2241834	1	03/08/24 01:40	03/08/24 01:40	GH	Mt. Juliet, TN

1 Cp

 ${}^2\text{Tc}$

³Ss

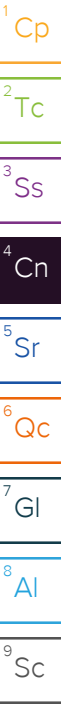
 ${}^4\text{Cn}$ ^5Sr ⁶Qc⁷Gl ${}^8\text{Al}$ ${}^9\text{Sc}$

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

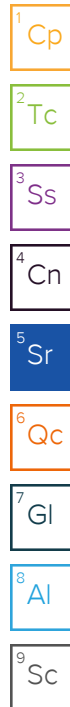


Nancy McLain
Project Manager



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	MDL ug/m3	RDL ug/m3	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.39	2.97	17.6		1	WG2241834
Allyl chloride	107-05-1	76.53	0.357	0.626	U		1	WG2241834
Benzene	71-43-2	78.10	0.228	0.639	1.06		1	WG2241834
Benzyl Chloride	100-44-7	127	0.311	1.04	U		1	WG2241834
Bromodichloromethane	75-27-4	164	0.471	1.34	U		1	WG2241834
Bromoform	75-25-2	253	0.757	6.21	U		1	WG2241834
Bromomethane	74-83-9	94.90	0.381	0.776	U		1	WG2241834
1,3-Butadiene	106-99-0	54.10	0.230	4.43	U		1	WG2241834
Carbon disulfide	75-15-0	76.10	0.317	0.622	U		1	WG2241834
Carbon tetrachloride	56-23-5	154	0.461	1.26	U		1	WG2241834
Chlorobenzene	108-90-7	113	0.385	0.924	U		1	WG2241834
Chloroethane	75-00-3	64.50	0.263	0.528	U		1	WG2241834
Chloroform	67-66-3	119	0.349	0.973	U		1	WG2241834
Chloromethane	74-87-3	50.50	0.213	0.413	1.16		1	WG2241834
2-Chlorotoluene	95-49-8	126	0.427	1.03	U		1	WG2241834
Cyclohexane	110-82-7	84.20	0.259	0.689	U		1	WG2241834
Dibromochloromethane	124-48-1	208	0.618	1.70	U		1	WG2241834
1,2-Dibromoethane	106-93-4	188	0.554	1.54	U		1	WG2241834
1,2-Dichlorobenzene	95-50-1	147	0.770	1.20	U		1	WG2241834
1,3-Dichlorobenzene	541-73-1	147	1.09	1.20	U		1	WG2241834
1,4-Dichlorobenzene	106-46-7	147	0.335	1.20	U		1	WG2241834
1,2-Dichloroethane	107-06-2	99	0.283	0.810	U		1	WG2241834
1,1-Dichloroethane	75-34-3	98	0.290	0.802	U		1	WG2241834
1,1-Dichloroethene	75-35-4	96.90	0.302	0.793	U		1	WG2241834
cis-1,2-Dichloroethene	156-59-2	96.90	0.311	0.793	U		1	WG2241834
trans-1,2-Dichloroethene	156-60-5	96.90	0.267	0.793	U		1	WG2241834
1,2-Dichloropropane	78-87-5	113	0.351	0.924	U		1	WG2241834
cis-1,3-Dichloropropene	10061-01-5	111	0.313	0.908	U		1	WG2241834
trans-1,3-Dichloropropene	10061-02-6	111	0.331	0.908	U		1	WG2241834
1,4-Dioxane	123-91-1	88.10	0.300	2.27	U		1	WG2241834
Ethanol	64-17-5	46.10	0.500	4.71	10.9		1	WG2241834
Ethylbenzene	100-41-4	106	0.362	0.867	0.559	J	1	WG2241834
Ethyl acetate	141-78-6	88	0.360	2.27	U		1	WG2241834
4-Ethyltoluene	622-96-8	120	0.384	0.982	U		1	WG2241834
Trichlorofluoromethane	75-69-4	137.40	0.460	1.12	1.15		1	WG2241834
Dichlorodifluoromethane	75-71-8	120.92	0.678	0.989	1.86		1	WG2241834
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.608	1.53	U		1	WG2241834
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.622	1.40	U		1	WG2241834
Heptane	142-82-5	100	0.425	0.818	3.46		1	WG2241834
Hexachloro-1,3-butadiene	87-68-3	261	1.12	6.73	U		1	WG2241834
n-Hexane	110-54-3	86.20	0.726	2.22	U		1	WG2241834
Isopropylbenzene	98-82-8	120.20	0.382	0.983	U		1	WG2241834
Methylene Chloride	75-09-2	84.90	0.340	0.694	1.45		1	WG2241834
Methyl Butyl Ketone	591-78-6	100	0.544	5.11	U		1	WG2241834
2-Butanone (MEK)	78-93-3	72.10	0.240	3.69	1.98	J	1	WG2241834
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.313	5.12	U		1	WG2241834
Methyl methacrylate	80-62-6	100.12	0.359	0.819	U		1	WG2241834
MTBE	1634-04-4	88.10	0.233	0.721	U		1	WG2241834
Naphthalene	91-20-3	128	1.83	3.30	U		1	WG2241834
2-Propanol	67-63-0	60.10	0.649	3.07	4.82		1	WG2241834
Propene	115-07-1	42.10	0.160	2.15	U		1	WG2241834
Styrene	100-42-5	104	0.335	0.851	U		1	WG2241834
1,1,2,2-Tetrachloroethane	79-34-5	168	0.511	1.37	U		1	WG2241834
Tetrachloroethylene	127-18-4	166	0.553	1.36	U		1	WG2241834
Tetrahydrofuran	109-99-9	72.10	0.216	0.590	U		1	WG2241834
Toluene	108-88-3	92.10	0.328	1.88	14.2		1	WG2241834



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	MDL ug/m3	RDL ug/m3	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	1.10	4.66	U		1	WG2241834
1,1,1-Trichloroethane	71-55-6	133	0.400	1.09	U		1	WG2241834
1,1,2-Trichloroethane	79-00-5	133	0.422	1.09	U		1	WG2241834
Trichloroethylene	79-01-6	131	0.364	1.07	U		1	WG2241834
1,2,4-Trimethylbenzene	95-63-6	120	0.375	0.982	U		1	WG2241834
1,3,5-Trimethylbenzene	108-67-8	120	0.382	0.982	U		1	WG2241834
2,2,4-Trimethylpentane	540-84-1	114.22	0.621	0.934	U		1	WG2241834
Vinyl chloride	75-01-4	62.50	0.243	0.511	U		1	WG2241834
Vinyl Bromide	593-60-2	106.95	0.373	0.875	U		1	WG2241834
Vinyl acetate	108-05-4	86.10	0.408	2.22	U		1	WG2241834
m&p-Xylene	179601-23-1	106	0.585	1.73	1.32	U	1	WG2241834
o-Xylene	95-47-6	106	0.359	0.867	0.451	U	1	WG2241834
Xylenes, Total	1330-20-7	106.16	0.586	2.61	1.77	U	1	WG2241834
(S) 1,4-Bromofluorobenzene	460-00-4	175			102		60.0-140	WG2241834

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4042992-3 03/07/24 11:49

Analyte	MB Result ug/m3	MB Qualifier	MB MDL ug/m3	MB RDL ug/m3
Acetone	U		1.39	2.97
Allyl chloride	U		0.357	0.626
Benzene	U		0.228	0.639
Benzyl Chloride	U		0.311	1.04
Bromodichloromethane	U		0.471	1.34
Bromoform	U		0.757	6.21
Bromomethane	U		0.381	0.776
1,3-Butadiene	U		0.230	4.43
Carbon disulfide	U		0.317	0.622
Carbon tetrachloride	U		0.461	1.26
Chlorobenzene	U		0.385	0.924
Chloroethane	U		0.263	0.528
Chloroform	U		0.349	0.973
Chloromethane	U		0.213	0.413
2-Chlorotoluene	U		0.427	1.03
Cyclohexane	U		0.259	0.689
Dibromochloromethane	U		0.618	1.70
1,2-Dibromoethane	U		0.554	1.54
1,2-Dichlorobenzene	U		0.770	1.20
1,3-Dichlorobenzene	U		1.09	1.20
1,4-Dichlorobenzene	U		0.335	1.20
1,2-Dichloroethane	U		0.283	0.810
1,1-Dichloroethane	U		0.290	0.802
1,1-Dichloroethene	U		0.302	0.793
cis-1,2-Dichloroethene	U		0.311	0.793
trans-1,2-Dichloroethene	U		0.267	0.793
1,2-Dichloropropane	U		0.351	0.924
cis-1,3-Dichloropropene	U		0.313	0.908
trans-1,3-Dichloropropene	U		0.331	0.908
1,4-Dioxane	U		0.300	2.27
Ethanol	U		0.500	4.71
Ethylbenzene	U		0.362	0.867
Ethyl acetate	U		0.360	2.27
4-Ethyltoluene	U		0.384	0.982
Trichlorofluoromethane	U		0.460	1.12
Dichlorodifluoromethane	U		0.678	0.989
1,1,2-Trichlorotrifluoroethane	U		0.608	1.53
1,2-Dichlorotetrafluoroethane	U		0.622	1.40
Heptane	U		0.425	0.818
Hexachloro-1,3-butadiene	U		1.12	6.73

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4042992-3 03/07/24 11:49

Analyte	MB Result ug/m3	MB Qualifier	MB MDL ug/m3	MB RDL ug/m3
n-Hexane	U		0.726	2.22
Isopropylbenzene	U		0.382	0.983
Methylene Chloride	U		0.340	0.694
Methyl Butyl Ketone	U		0.544	5.11
2-Butanone (MEK)	U		0.240	3.69
4-Methyl-2-pentanone (MIBK)	U		0.313	5.12
Methyl methacrylate	U		0.359	0.819
MTBE	U		0.233	0.721
Naphthalene	U		1.83	3.30
2-Propanol	U		0.649	3.07
Propene	U		0.160	2.15
Styrene	U		0.335	0.851
1,1,2,2-Tetrachloroethane	U		0.511	1.37
Tetrachloroethylene	U		0.553	1.36
Tetrahydrofuran	U		0.216	0.590
Toluene	U		0.328	1.88
1,2,4-Trichlorobenzene	U		1.10	4.66
1,1,1-Trichloroethane	U		0.400	1.09
1,1,2-Trichloroethane	U		0.422	1.09
Trichloroethylene	U		0.364	1.07
1,2,4-Trimethylbenzene	U		0.375	0.982
1,3,5-Trimethylbenzene	U		0.382	0.982
2,2,4-Trimethylpentane	U		0.621	0.934
Vinyl chloride	U		0.243	0.511
Vinyl Bromide	U		0.373	0.875
Vinyl acetate	U		0.408	2.22
m&p-Xylene	U		0.585	1.73
o-Xylene	U		0.359	0.867
Xylenes, Total	U		0.586	2.61
(S) 1,4-Bromofluorobenzene	98.3			60.0-140

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4042992-1 03/07/24 10:00 • (LCSD) R4042992-2 03/07/24 11:06

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	8.91	8.44	8.91	94.7	100	70.0-130			5.48	25
Allyl chloride	11.7	12.4	12.8	106	109	70.0-130			2.99	25
Benzene	12.0	12.1	12.2	101	102	70.0-130			0.526	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4042992-1 03/07/24 10:00 • (LCSD) R4042992-2 03/07/24 11:06

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzyl Chloride	19.5	20.5	21.0	105	108	70.0-152			2.25	25
Bromodichloromethane	25.2	23.1	23.5	92.0	93.6	70.0-130			1.72	25
Bromoform	38.8	37.9	38.8	97.6	100	70.0-130			2.43	25
Bromomethane	14.6	13.7	14.1	94.4	96.8	70.0-130			2.51	25
1,3-Butadiene	8.30	7.21	7.70	86.9	92.8	70.0-130			6.53	25
Carbon disulfide	11.7	10.1	10.6	86.7	90.7	70.0-130			4.51	25
Carbon tetrachloride	23.6	23.1	22.9	97.9	96.8	70.0-130			1.10	25
Chlorobenzene	17.3	18.3	18.7	106	108	70.0-130			2.25	25
Chloroethane	9.89	8.84	9.13	89.3	92.3	70.0-130			3.23	25
Chloroform	18.3	17.3	17.4	94.9	95.5	70.0-130			0.560	25
Chloromethane	7.75	7.04	7.39	90.9	95.5	70.0-130			4.86	25
2-Chlorotoluene	19.3	20.4	20.5	105	106	70.0-130			0.757	25
Cyclohexane	12.9	15.4	15.5	119	120	70.0-130			1.11	25
Dibromochloromethane	31.9	32.1	32.7	101	102	70.0-130			1.84	25
1,2-Dibromoethane	28.8	30.8	32.1	107	111	70.0-130			3.91	25
1,2-Dichlorobenzene	22.5	23.4	23.4	104	104	70.0-130			0.000	25
1,3-Dichlorobenzene	22.5	23.0	23.9	102	106	70.0-130			3.59	25
1,4-Dichlorobenzene	22.5	22.9	22.5	102	100	70.0-130			1.59	25
1,2-Dichloroethane	15.2	12.9	13.0	84.8	85.6	70.0-130			0.939	25
1,1-Dichloroethane	15.0	13.8	14.5	92.0	96.3	70.0-130			4.53	25
1,1-Dichloroethene	14.9	13.7	14.3	92.3	96.5	70.0-130			4.52	25
cis-1,2-Dichloroethene	14.9	15.0	15.3	101	103	70.0-130			1.83	25
trans-1,2-Dichloroethene	14.9	14.5	15.1	97.3	101	70.0-130			4.03	25
1,2-Dichloropropane	17.3	16.6	17.3	96.0	99.7	70.0-130			3.81	25
cis-1,3-Dichloropropene	17.0	19.2	19.5	113	115	70.0-130			1.88	25
trans-1,3-Dichloropropene	17.0	19.2	19.0	113	111	70.0-130			1.43	25
1,4-Dioxane	13.5	15.0	15.1	111	112	70.0-140			0.719	25
Ethanol	7.07	5.62	5.92	79.5	83.7	55.0-148			5.23	25
Ethylbenzene	16.3	17.4	18.3	107	113	70.0-130			5.34	25
Ethyl acetate	13.5	15.6	16.6	116	123	70.0-130			6.03	25
4-Ethyltoluene	18.4	22.2	22.5	121	122	70.0-130			1.54	25
Trichlorofluoromethane	21.1	20.2	20.6	96.0	97.6	70.0-130			1.65	25
Dichlorodifluoromethane	18.5	16.0	17.2	86.1	92.5	64.0-139			7.16	25
1,1,2-Trichlorotrifluoroethane	28.7	28.8	27.7	100	96.5	70.0-130			3.79	25
1,2-Dichlorotetrafluoroethane	26.2	26.4	27.3	101	104	70.0-130			3.13	25
Heptane	15.3	17.3	17.0	113	111	70.0-130			1.43	25
Hexachloro-1,3-butadiene	40.0	38.5	38.1	96.3	95.2	70.0-151			1.11	25
n-Hexane	13.2	14.5	15.0	109	114	70.0-130			3.83	25
Isopropylbenzene	18.4	22.2	23.2	121	126	70.0-130			4.33	25
Methylene Chloride	13.0	11.1	12.0	85.6	92.0	70.0-130			7.21	25

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4042992-1 03/07/24 10:00 • (LCSD) R4042992-2 03/07/24 11:06

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Methyl Butyl Ketone	15.3	16.0	16.6	105	109	70.0-149			3.75	25
2-Butanone (MEK)	11.1	11.9	12.1	108	110	70.0-130			1.71	25
4-Methyl-2-pentanone (MIBK)	15.4	15.0	15.7	97.6	102	70.0-139			4.80	25
Methyl methacrylate	15.4	16.8	17.3	110	113	70.0-130			2.64	25
MTBE	13.5	14.8	15.4	110	114	70.0-130			3.81	25
Naphthalene	19.6	21.3	21.2	109	108	70.0-159			0.493	25
2-Propanol	9.22	8.28	8.65	89.9	93.9	70.0-139			4.35	25
Propene	6.46	5.97	6.37	92.5	98.7	64.0-144			6.42	25
Styrene	16.0	17.9	18.9	112	119	70.0-130			5.54	25
1,1,2,2-Tetrachloroethane	25.8	24.7	25.1	95.7	97.6	70.0-130			1.93	25
Tetrachloroethylene	25.5	28.1	27.8	110	109	70.0-130			1.22	25
Tetrahydrofuran	11.1	11.0	11.8	99.2	107	70.0-137			7.50	25
Toluene	14.1	15.8	16.3	112	115	70.0-130			3.05	25
1,2,4-Trichlorobenzene	27.8	28.8	28.6	104	103	70.0-160			0.774	25
1,1,1-Trichloroethane	20.4	19.4	20.0	94.9	98.1	70.0-130			3.31	25
1,1,2-Trichloroethane	20.4	20.6	20.9	101	102	70.0-130			1.57	25
Trichloroethylene	20.1	20.3	20.6	101	103	70.0-130			1.57	25
1,2,4-Trimethylbenzene	18.4	21.2	21.1	115	115	70.0-130			0.464	25
1,3,5-Trimethylbenzene	18.4	20.4	20.6	111	112	70.0-130			0.957	25
2,2,4-Trimethylpentane	17.5	20.1	21.0	115	120	70.0-130			4.09	25
Vinyl chloride	9.59	8.77	9.05	91.5	94.4	70.0-130			3.16	25
Vinyl Bromide	16.4	16.1	16.4	97.9	100	70.0-130			2.42	25
Vinyl acetate	13.2	13.3	13.4	101	101	70.0-130			0.793	25
m&p-Xylene	32.5	36.0	38.8	111	119	70.0-130			7.42	25
o-Xylene	16.3	19.3	19.7	119	121	70.0-130			2.00	25
Xylenes, Total	49.1	55.6	58.6	113	119	70.0-130			5.32	25
(S) 1,4-Bromofluorobenzene				99.5	98.5	60.0-140				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

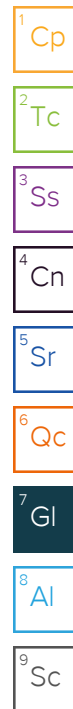
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
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ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

