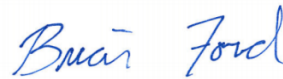


Cascade Corporation- Fairview, OR

Sample Delivery Group: L1197154
Samples Received: 03/10/2020
Project Number: PNG0564S19
Description: CASCADE TSA

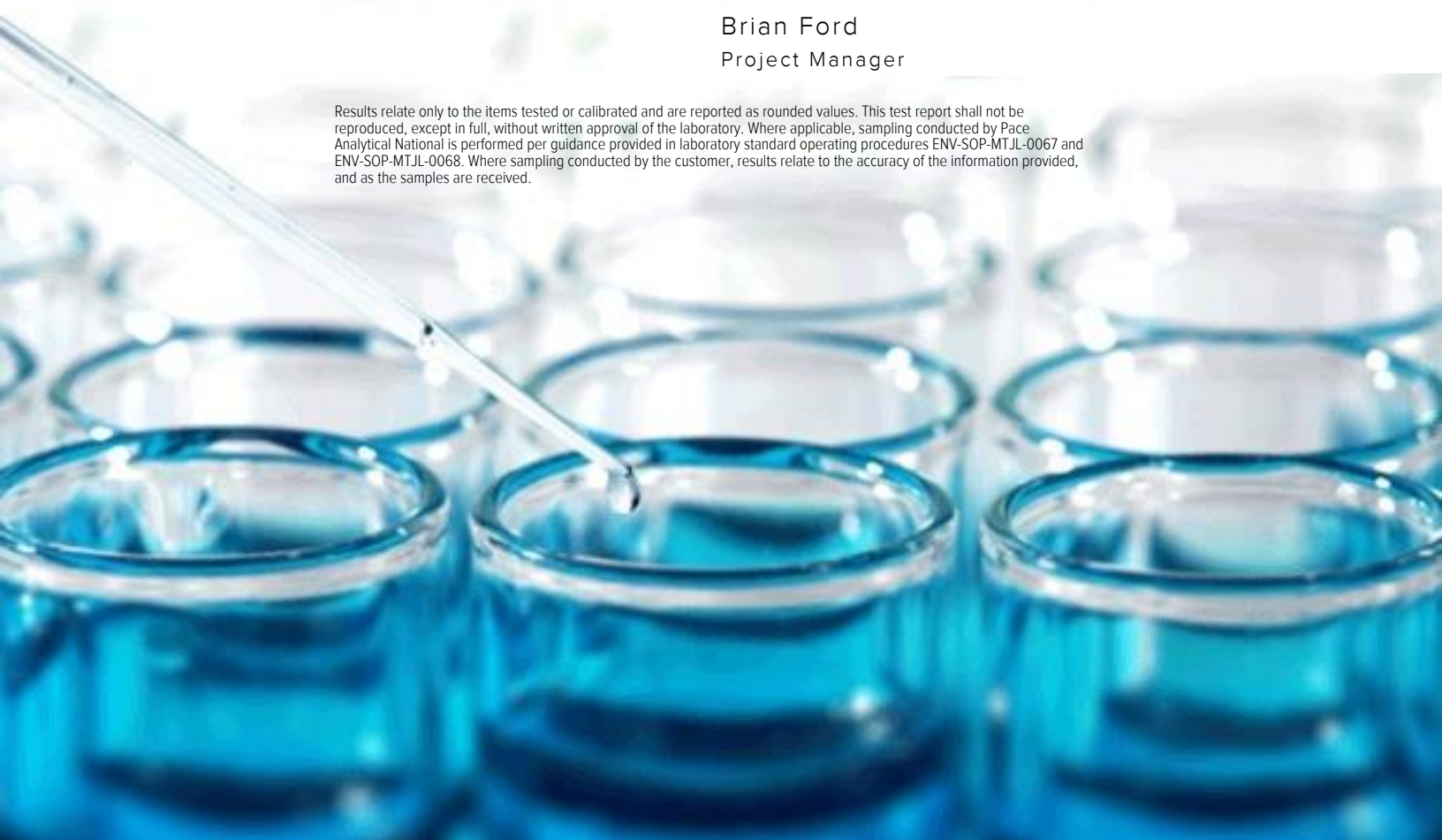
Report To: Cindy Bartlett
2201 NE 201st Avenue
Fairview, OR 97024-9718

Entire Report Reviewed By:



Brian Ford
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.





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CMW17DS-030920 L1197154-01 GW

Collected by
Pat YadonCollected date/time
03/09/20 13:50Received date/time
03/10/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1442408	1	03/11/20 22:55	03/11/20 22:55	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1444521	1	03/15/20 19:27	03/15/20 19:27	ACG	Mt. Juliet, TN

¹ Cp² Tc³ Ss

CMW17DS-030920-DUP L1197154-02 GW

Collected by
Pat YadonCollected date/time
03/09/20 13:51Received date/time
03/10/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1442408	1	03/11/20 23:15	03/11/20 23:15	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1444521	1	03/15/20 19:47	03/15/20 19:47	ACG	Mt. Juliet, TN

⁴ Cn⁵ Sr⁶ Qc

TRIP BLANK L1197154-03 GW

Collected by
Pat YadonCollected date/time
03/09/20 00:00Received date/time
03/10/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1444521	1	03/15/20 20:08	03/15/20 20:08	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1445279	1	03/17/20 11:41	03/17/20 11:41	BMB	Mt. Juliet, TN

⁷ Gl⁸ Al⁹ Sc



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.

Brian Ford
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	71.6		25.0	1	03/15/2020 19:27	WG1444521
Acrolein	ND		50.0	1	03/11/2020 22:55	WG1442408
Acrylonitrile	ND		5.00	1	03/11/2020 22:55	WG1442408
Benzene	ND		0.500	1	03/11/2020 22:55	WG1442408
Bromobenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
Bromodichloromethane	ND		0.500	1	03/11/2020 22:55	WG1442408
Bromoform	ND		0.500	1	03/11/2020 22:55	WG1442408
Bromomethane	ND		2.50	1	03/11/2020 22:55	WG1442408
n-Butylbenzene	ND	J4	0.500	1	03/11/2020 22:55	WG1442408
sec-Butylbenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
tert-Butylbenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
Carbon disulfide	ND		0.500	1	03/11/2020 22:55	WG1442408
Carbon tetrachloride	ND		0.500	1	03/11/2020 22:55	WG1442408
Chlorobenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
Chlorodibromomethane	ND		0.500	1	03/11/2020 22:55	WG1442408
Chloroethane	ND	JO	2.50	1	03/11/2020 22:55	WG1442408
Chloroform	0.636		0.500	1	03/11/2020 22:55	WG1442408
Chloromethane	ND		1.25	1	03/11/2020 22:55	WG1442408
2-Chlorotoluene	ND		0.500	1	03/11/2020 22:55	WG1442408
4-Chlorotoluene	ND	J4	0.500	1	03/11/2020 22:55	WG1442408
1,2-Dibromo-3-Chloropropane	ND		2.50	1	03/11/2020 22:55	WG1442408
1,2-Dibromoethane	ND		0.500	1	03/11/2020 22:55	WG1442408
Dibromomethane	ND		0.500	1	03/11/2020 22:55	WG1442408
1,2-Dichlorobenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,3-Dichlorobenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,4-Dichlorobenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
Dichlorodifluoromethane	ND		2.50	1	03/11/2020 22:55	WG1442408
1,1-Dichloroethane	ND		0.500	1	03/11/2020 22:55	WG1442408
1,2-Dichloroethane	ND		0.500	1	03/11/2020 22:55	WG1442408
1,1-Dichloroethene	ND		0.500	1	03/11/2020 22:55	WG1442408
cis-1,2-Dichloroethene	7.22		0.500	1	03/11/2020 22:55	WG1442408
trans-1,2-Dichloroethene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,2-Dichloropropane	ND		0.500	1	03/11/2020 22:55	WG1442408
1,1-Dichloropropene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,3-Dichloropropane	ND		1.00	1	03/11/2020 22:55	WG1442408
cis-1,3-Dichloropropene	ND		0.500	1	03/11/2020 22:55	WG1442408
trans-1,3-Dichloropropene	ND		0.500	1	03/11/2020 22:55	WG1442408
2,2-Dichloropropane	ND		0.500	1	03/11/2020 22:55	WG1442408
Di-isopropyl ether	ND		0.500	1	03/11/2020 22:55	WG1442408
Ethylbenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
Hexachloro-1,3-butadiene	ND		1.00	1	03/11/2020 22:55	WG1442408
Isopropylbenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
p-Isopropyltoluene	ND		0.500	1	03/11/2020 22:55	WG1442408
2-Butanone (MEK)	ND		5.00	1	03/11/2020 22:55	WG1442408
Methylene Chloride	ND		2.50	1	03/11/2020 22:55	WG1442408
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	03/11/2020 22:55	WG1442408
Methyl tert-butyl ether	ND		0.500	1	03/11/2020 22:55	WG1442408
Naphthalene	ND		2.50	1	03/11/2020 22:55	WG1442408
n-Propylbenzene	ND	J4	0.500	1	03/11/2020 22:55	WG1442408
Styrene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,1,1,2-Tetrachloroethane	ND		0.500	1	03/11/2020 22:55	WG1442408
1,1,2,2-Tetrachloroethane	ND		0.500	1	03/11/2020 22:55	WG1442408
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	03/11/2020 22:55	WG1442408
Tetrachloroethene	1.92		0.500	1	03/11/2020 22:55	WG1442408
Toluene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,2,3-Trichlorobenzene	ND		0.500	1	03/11/2020 22:55	WG1442408

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,1,1-Trichloroethane	ND		0.500	1	03/11/2020 22:55	WG1442408
1,1,2-Trichloroethane	ND		0.500	1	03/11/2020 22:55	WG1442408
Trichloroethene	49.8		0.500	1	03/11/2020 22:55	WG1442408
Trichlorofluoromethane	ND		2.50	1	03/11/2020 22:55	WG1442408
1,2,3-Trichloropropane	ND		2.50	1	03/11/2020 22:55	WG1442408
1,2,4-Trimethylbenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,2,3-Trimethylbenzene	ND		0.500	1	03/11/2020 22:55	WG1442408
1,3,5-Trimethylbenzene	ND	<u>J4</u>	0.500	1	03/11/2020 22:55	WG1442408
Vinyl chloride	ND		0.500	1	03/11/2020 22:55	WG1442408
Xylenes, Total	ND		1.50	1	03/11/2020 22:55	WG1442408
(S) Toluene-d8	114		80.0-120		03/11/2020 22:55	WG1442408
(S) Toluene-d8	114		80.0-120		03/15/2020 19:27	WG1444521
(S) 4-Bromofluorobenzene	103		77.0-126		03/11/2020 22:55	WG1442408
(S) 4-Bromofluorobenzene	92.4		77.0-126		03/15/2020 19:27	WG1444521
(S) 1,2-Dichloroethane-d4	105		70.0-130		03/11/2020 22:55	WG1442408
(S) 1,2-Dichloroethane-d4	113		70.0-130		03/15/2020 19:27	WG1444521

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	72.3		25.0	1	03/15/2020 19:47	WG1444521
Acrolein	ND		50.0	1	03/11/2020 23:15	WG1442408
Acrylonitrile	ND		5.00	1	03/11/2020 23:15	WG1442408
Benzene	ND		0.500	1	03/11/2020 23:15	WG1442408
Bromobenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
Bromodichloromethane	ND		0.500	1	03/11/2020 23:15	WG1442408
Bromoform	ND		0.500	1	03/11/2020 23:15	WG1442408
Bromomethane	ND		2.50	1	03/11/2020 23:15	WG1442408
n-Butylbenzene	ND	J4	0.500	1	03/11/2020 23:15	WG1442408
sec-Butylbenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
tert-Butylbenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
Carbon disulfide	ND		0.500	1	03/11/2020 23:15	WG1442408
Carbon tetrachloride	ND		0.500	1	03/11/2020 23:15	WG1442408
Chlorobenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
Chlorodibromomethane	ND		0.500	1	03/11/2020 23:15	WG1442408
Chloroethane	ND	JO	2.50	1	03/11/2020 23:15	WG1442408
Chloroform	0.690		0.500	1	03/11/2020 23:15	WG1442408
Chloromethane	ND		1.25	1	03/11/2020 23:15	WG1442408
2-Chlorotoluene	ND		0.500	1	03/11/2020 23:15	WG1442408
4-Chlorotoluene	ND	J4	0.500	1	03/11/2020 23:15	WG1442408
1,2-Dibromo-3-Chloropropane	ND		2.50	1	03/11/2020 23:15	WG1442408
1,2-Dibromoethane	ND		0.500	1	03/11/2020 23:15	WG1442408
Dibromomethane	ND		0.500	1	03/11/2020 23:15	WG1442408
1,2-Dichlorobenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,3-Dichlorobenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,4-Dichlorobenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
Dichlorodifluoromethane	ND		2.50	1	03/11/2020 23:15	WG1442408
1,1-Dichloroethane	ND		0.500	1	03/11/2020 23:15	WG1442408
1,2-Dichloroethane	ND		0.500	1	03/11/2020 23:15	WG1442408
1,1-Dichloroethene	ND		0.500	1	03/11/2020 23:15	WG1442408
cis-1,2-Dichloroethene	7.24		0.500	1	03/11/2020 23:15	WG1442408
trans-1,2-Dichloroethene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,2-Dichloropropane	ND		0.500	1	03/11/2020 23:15	WG1442408
1,1-Dichloropropene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,3-Dichloropropane	ND		1.00	1	03/11/2020 23:15	WG1442408
cis-1,3-Dichloropropene	ND		0.500	1	03/11/2020 23:15	WG1442408
trans-1,3-Dichloropropene	ND		0.500	1	03/11/2020 23:15	WG1442408
2,2-Dichloropropane	ND		0.500	1	03/11/2020 23:15	WG1442408
Di-isopropyl ether	ND		0.500	1	03/11/2020 23:15	WG1442408
Ethylbenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
Hexachloro-1,3-butadiene	ND		1.00	1	03/11/2020 23:15	WG1442408
Isopropylbenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
p-Isopropyltoluene	ND		0.500	1	03/11/2020 23:15	WG1442408
2-Butanone (MEK)	6.26		5.00	1	03/11/2020 23:15	WG1442408
Methylene Chloride	ND		2.50	1	03/11/2020 23:15	WG1442408
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	03/11/2020 23:15	WG1442408
Methyl tert-butyl ether	ND		0.500	1	03/11/2020 23:15	WG1442408
Naphthalene	ND		2.50	1	03/11/2020 23:15	WG1442408
n-Propylbenzene	ND	J4	0.500	1	03/11/2020 23:15	WG1442408
Styrene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,1,1,2-Tetrachloroethane	ND		0.500	1	03/11/2020 23:15	WG1442408
1,1,2,2-Tetrachloroethane	ND		0.500	1	03/11/2020 23:15	WG1442408
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	03/11/2020 23:15	WG1442408
Tetrachloroethene	2.09		0.500	1	03/11/2020 23:15	WG1442408
Toluene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,2,3-Trichlorobenzene	ND		0.500	1	03/11/2020 23:15	WG1442408

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,1,1-Trichloroethane	ND		0.500	1	03/11/2020 23:15	WG1442408
1,1,2-Trichloroethane	ND		0.500	1	03/11/2020 23:15	WG1442408
Trichloroethene	51.8		0.500	1	03/11/2020 23:15	WG1442408
Trichlorofluoromethane	ND		2.50	1	03/11/2020 23:15	WG1442408
1,2,3-Trichloropropane	ND		2.50	1	03/11/2020 23:15	WG1442408
1,2,4-Trimethylbenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,1,3-Trimethylbenzene	ND		0.500	1	03/11/2020 23:15	WG1442408
1,3,5-Trimethylbenzene	ND	<u>J4</u>	0.500	1	03/11/2020 23:15	WG1442408
Vinyl chloride	ND		0.500	1	03/11/2020 23:15	WG1442408
Xylenes, Total	ND		1.50	1	03/11/2020 23:15	WG1442408
(S) Toluene-d8	119		80.0-120		03/11/2020 23:15	WG1442408
(S) Toluene-d8	100		80.0-120		03/15/2020 19:47	WG1444521
(S) 4-Bromofluorobenzene	101		77.0-126		03/11/2020 23:15	WG1442408
(S) 4-Bromofluorobenzene	90.2		77.0-126		03/15/2020 19:47	WG1444521
(S) 1,2-Dichloroethane-d4	101		70.0-130		03/11/2020 23:15	WG1442408
(S) 1,2-Dichloroethane-d4	105		70.0-130		03/15/2020 19:47	WG1444521

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	03/15/2020 20:08	WG1444521
Acrolein	ND	<u>JO</u>	50.0	1	03/15/2020 20:08	WG1444521
Acrylonitrile	ND		5.00	1	03/15/2020 20:08	WG1444521
Benzene	ND		0.500	1	03/15/2020 20:08	WG1444521
Bromobenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
Bromodichloromethane	ND		0.500	1	03/15/2020 20:08	WG1444521
Bromoform	ND		0.500	1	03/15/2020 20:08	WG1444521
Bromomethane	ND		2.50	1	03/15/2020 20:08	WG1444521
n-Butylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
sec-Butylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
tert-Butylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
Carbon disulfide	ND		0.500	1	03/15/2020 20:08	WG1444521
Carbon tetrachloride	ND		0.500	1	03/15/2020 20:08	WG1444521
Chlorobenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
Chlorodibromomethane	ND		0.500	1	03/15/2020 20:08	WG1444521
Chloroethane	ND		2.50	1	03/15/2020 20:08	WG1444521
Chloroform	1.06		0.500	1	03/15/2020 20:08	WG1444521
Chloromethane	ND		1.25	1	03/15/2020 20:08	WG1444521
2-Chlorotoluene	ND		0.500	1	03/15/2020 20:08	WG1444521
4-Chlorotoluene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,2-Dibromo-3-Chloropropane	ND		2.50	1	03/15/2020 20:08	WG1444521
1,2-Dibromoethane	ND		0.500	1	03/15/2020 20:08	WG1444521
Dibromomethane	ND		0.500	1	03/15/2020 20:08	WG1444521
1,2-Dichlorobenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,3-Dichlorobenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,4-Dichlorobenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
Dichlorodifluoromethane	ND		2.50	1	03/15/2020 20:08	WG1444521
1,1-Dichloroethane	ND		0.500	1	03/15/2020 20:08	WG1444521
1,2-Dichloroethane	ND		0.500	1	03/15/2020 20:08	WG1444521
1,1-Dichloroethene	ND		0.500	1	03/15/2020 20:08	WG1444521
cis-1,2-Dichloroethene	ND		0.500	1	03/15/2020 20:08	WG1444521
trans-1,2-Dichloroethene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,2-Dichloropropane	ND		0.500	1	03/15/2020 20:08	WG1444521
1,1-Dichloropropene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,3-Dichloropropane	ND		1.00	1	03/15/2020 20:08	WG1444521
cis-1,3-Dichloropropene	ND		0.500	1	03/15/2020 20:08	WG1444521
trans-1,3-Dichloropropene	ND		0.500	1	03/15/2020 20:08	WG1444521
2,2-Dichloropropane	ND		0.500	1	03/15/2020 20:08	WG1444521
Di-isopropyl ether	ND		0.500	1	03/15/2020 20:08	WG1444521
Ethylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
Hexachloro-1,3-butadiene	ND		1.00	1	03/15/2020 20:08	WG1444521
Isopropylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
p-Isopropyltoluene	ND		0.500	1	03/15/2020 20:08	WG1444521
2-Butanone (MEK)	ND		5.00	1	03/15/2020 20:08	WG1444521
Methylene Chloride	ND		2.50	1	03/15/2020 20:08	WG1444521
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	03/15/2020 20:08	WG1444521
Methyl tert-butyl ether	ND		0.500	1	03/15/2020 20:08	WG1444521
Naphthalene	ND	<u>JO</u>	2.50	1	03/15/2020 20:08	WG1444521
n-Propylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
Styrene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,1,1,2-Tetrachloroethane	ND		0.500	1	03/15/2020 20:08	WG1444521
1,1,2,2-Tetrachloroethane	ND		0.500	1	03/15/2020 20:08	WG1444521
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	03/15/2020 20:08	WG1444521
Tetrachloroethene	ND		0.500	1	03/15/2020 20:08	WG1444521
Toluene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,2,3-Trichlorobenzene	ND		0.500	1	03/17/2020 11:41	WG1445279

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 03/09/20 00:00

L1197154

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	03/17/2020 11:41	WG1445279
1,1,1-Trichloroethane	ND		0.500	1	03/15/2020 20:08	WG1444521
1,1,2-Trichloroethane	ND		0.500	1	03/15/2020 20:08	WG1444521
Trichloroethene	ND		0.500	1	03/15/2020 20:08	WG1444521
Trichlorofluoromethane	ND		2.50	1	03/15/2020 20:08	WG1444521
1,2,3-Trichloropropane	ND		2.50	1	03/15/2020 20:08	WG1444521
1,2,4-Trimethylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,1,3-Trimethylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
1,3,5-Trimethylbenzene	ND		0.500	1	03/15/2020 20:08	WG1444521
Vinyl chloride	ND		0.500	1	03/15/2020 20:08	WG1444521
Xylenes, Total	ND		1.50	1	03/15/2020 20:08	WG1444521
(S) Toluene-d8	98.3		80.0-120		03/15/2020 20:08	WG1444521
(S) Toluene-d8	104		80.0-120		03/17/2020 11:41	WG1445279
(S) 4-Bromofluorobenzene	87.3		77.0-126		03/15/2020 20:08	WG1444521
(S) 4-Bromofluorobenzene	96.2		77.0-126		03/17/2020 11:41	WG1445279
(S) 1,2-Dichloroethane-d4	125		70.0-130		03/15/2020 20:08	WG1444521
(S) 1,2-Dichloroethane-d4	114		70.0-130		03/17/2020 11:41	WG1445279

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R3508801-3 03/11/20 20:24

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Acrolein	U		3.97	50.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500
Ethylbenzene	U		0.158	0.500
Hexachloro-1,3-butadiene	0.215	U	0.157	1.00

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

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Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R3508801-3 03/11/20 20:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	0.214	U	0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
1,2,3-Trichlorobenzene	0.229	U	0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	U		0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,2,4-Trimethylbenzene	U		0.123	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	113			80.0-120
(S) 4-Bromofluorobenzene	102			77.0-126
(S) 1,2-Dichloroethane-d4	104			70.0-130

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3508801-1 03/11/20 19:02 • (LCSD) R3508801-2 03/11/20 19:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acrolein	25.0	8.17	7.02	32.7	28.1	10.0-160			15.1	26
Acrylonitrile	25.0	26.1	27.0	104	108	55.0-149			3.39	20
Benzene	5.00	5.39	5.27	108	105	70.0-123			2.25	20
Bromobenzene	5.00	5.99	5.99	120	120	73.0-121			0.000	20

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

(LCS) R3508801-1 03/11/20 19:02 • (LCSD) R3508801-2 03/11/20 19:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Bromodichloromethane	5.00	5.21	5.10	104	102	75.0-120			2.13	20
Bromoform	5.00	4.66	4.87	93.2	97.4	68.0-132			4.41	20
Bromomethane	5.00	4.69	4.74	93.8	94.8	10.0-160			1.06	25
n-Butylbenzene	5.00	6.48	6.47	130	129	73.0-125	J4	J4	0.154	20
sec-Butylbenzene	5.00	6.06	5.92	121	118	75.0-125			2.34	20
tert-Butylbenzene	5.00	5.92	5.97	118	119	76.0-124			0.841	20
Carbon disulfide	5.00	5.85	5.46	117	109	61.0-128			6.90	20
Carbon tetrachloride	5.00	5.42	5.12	108	102	68.0-126			5.69	20
Chlorobenzene	5.00	5.32	5.37	106	107	80.0-121			0.935	20
Chlorodibromomethane	5.00	5.13	5.07	103	101	77.0-125			1.18	20
Chloroethane	5.00	3.86	4.24	77.2	84.8	47.0-150			9.38	20
Chloroform	5.00	5.20	5.16	104	103	73.0-120			0.772	20
Chloromethane	5.00	5.38	5.18	108	104	41.0-142			3.79	20
2-Chlorotoluene	5.00	5.98	6.06	120	121	76.0-123			1.33	20
4-Chlorotoluene	5.00	6.17	5.90	123	118	75.0-122	J4		4.47	20
1,2-Dibromo-3-Chloropropane	5.00	4.63	4.70	92.6	94.0	58.0-134			1.50	20
1,2-Dibromoethane	5.00	5.27	5.41	105	108	80.0-122			2.62	20
Dibromomethane	5.00	5.31	5.04	106	101	80.0-120			5.22	20
1,2-Dichlorobenzene	5.00	5.56	5.53	111	111	79.0-121			0.541	20
1,3-Dichlorobenzene	5.00	5.37	5.42	107	108	79.0-120			0.927	20
1,4-Dichlorobenzene	5.00	5.46	5.46	109	109	79.0-120			0.000	20
Dichlorodifluoromethane	5.00	5.55	5.71	111	114	51.0-149			2.84	20
1,1-Dichloroethane	5.00	5.43	5.37	109	107	70.0-126			1.11	20
1,2-Dichloroethane	5.00	5.05	5.00	101	100	70.0-128			0.995	20
1,1-Dichloroethene	5.00	5.51	4.93	110	98.6	71.0-124			11.1	20
cis-1,2-Dichloroethene	5.00	5.35	5.25	107	105	73.0-120			1.89	20
trans-1,2-Dichloroethene	5.00	5.34	4.92	107	98.4	73.0-120			8.19	20
1,2-Dichloropropane	5.00	5.31	5.17	106	103	77.0-125			2.67	20
1,1-Dichloropropene	5.00	5.85	5.47	117	109	74.0-126			6.71	20
1,3-Dichloropropane	5.00	5.58	5.56	112	111	80.0-120			0.359	20
cis-1,3-Dichloropropene	5.00	5.06	5.06	101	101	80.0-123			0.000	20
trans-1,3-Dichloropropene	5.00	5.02	4.98	100	99.6	78.0-124			0.800	20
2,2-Dichloropropane	5.00	5.80	5.57	116	111	58.0-130			4.05	20
Di-isopropyl ether	5.00	4.93	5.02	98.6	100	58.0-138			1.81	20
Ethylbenzene	5.00	5.27	5.31	105	106	79.0-123			0.756	20
Hexachloro-1,3-butadiene	5.00	5.71	6.02	114	120	54.0-138			5.29	20
Isopropylbenzene	5.00	5.54	5.65	111	113	76.0-127			1.97	20
p-Isopropyltoluene	5.00	5.66	5.54	113	111	76.0-125			2.14	20
2-Butanone (MEK)	25.0	30.0	29.3	120	117	44.0-160			2.36	20
Methylene Chloride	5.00	5.35	5.19	107	104	67.0-120			3.04	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3508801-1 03/11/20 19:02 • (LCSD) R3508801-2 03/11/20 19:22

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	25.0	25.1	25.3	100	101	68.0-142			0.794	20
Methyl tert-butyl ether	5.00	4.75	4.80	95.0	96.0	68.0-125			1.05	20
Naphthalene	5.00	4.85	5.32	97.0	106	54.0-135			9.24	20
n-Propylbenzene	5.00	6.32	6.23	126	125	77.0-124	J4	J4	1.43	20
Styrene	5.00	5.13	5.09	103	102	73.0-130			0.783	20
1,1,1,2-Tetrachloroethane	5.00	5.40	5.53	108	111	75.0-125			2.38	20
1,1,2,2-Tetrachloroethane	5.00	5.96	5.82	119	116	65.0-130			2.38	20
Tetrachloroethene	5.00	5.29	5.46	106	109	72.0-132			3.16	20
Toluene	5.00	5.50	5.54	110	111	79.0-120			0.725	20
1,1,2-Trichlorotrifluoroethane	5.00	4.82	4.76	96.4	95.2	69.0-132			1.25	20
1,2,3-Trichlorobenzene	5.00	5.10	5.57	102	111	50.0-138			8.81	20
1,2,4-Trichlorobenzene	5.00	5.41	5.82	108	116	57.0-137			7.30	20
1,1,1-Trichloroethane	5.00	5.65	5.43	113	109	73.0-124			3.97	20
1,1,2-Trichloroethane	5.00	5.26	5.46	105	109	80.0-120			3.73	20
Trichloroethene	5.00	5.39	5.00	108	100	78.0-124			7.51	20
Trichlorofluoromethane	5.00	6.50	6.36	130	127	59.0-147			2.18	20
1,2,3-Trichloropropane	5.00	6.43	6.09	129	122	73.0-130			5.43	20
1,2,3-Trimethylbenzene	5.00	5.48	5.54	110	111	77.0-120			1.09	20
1,2,4-Trimethylbenzene	5.00	5.76	5.66	115	113	76.0-121			1.75	20
1,3,5-Trimethylbenzene	5.00	6.04	6.20	121	124	76.0-122		J4	2.61	20
Vinyl chloride	5.00	5.27	5.02	105	100	67.0-131			4.86	20
Xylenes, Total	15.0	16.1	16.3	107	109	79.0-123			1.23	20
(S) Toluene-d8				110	112	80.0-120				
(S) 4-Bromofluorobenzene				103	106	77.0-126				
(S) 1,2-Dichloroethane-d4				106	106	70.0-130				

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Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R3508971-2 03/15/20 17:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		1.05	25.0
Acrolein	U		3.97	50.0
Acrylonitrile	U		0.873	5.00
Benzene	U		0.0896	0.500
Bromobenzene	U		0.133	0.500
Bromodichloromethane	U		0.0800	0.500
Bromoform	U		0.186	0.500
Bromomethane	U		0.157	2.50
n-Butylbenzene	U		0.143	0.500
sec-Butylbenzene	U		0.134	0.500
tert-Butylbenzene	U		0.183	0.500
Carbon disulfide	U		0.101	0.500
Carbon tetrachloride	U		0.159	0.500
Chlorobenzene	U		0.140	0.500
Chlorodibromomethane	U		0.128	0.500
Chloroethane	U		0.141	2.50
Chloroform	U		0.0860	0.500
Chloromethane	U		0.153	1.25
2-Chlorotoluene	U		0.111	0.500
4-Chlorotoluene	U		0.0972	0.500
1,2-Dibromo-3-Chloropropane	U		0.325	2.50
1,2-Dibromoethane	U		0.193	0.500
Dibromomethane	U		0.117	0.500
1,2-Dichlorobenzene	U		0.101	0.500
1,3-Dichlorobenzene	U		0.130	0.500
1,4-Dichlorobenzene	U		0.121	0.500
Dichlorodifluoromethane	U		0.127	2.50
1,1-Dichloroethane	U		0.114	0.500
1,2-Dichloroethane	U		0.108	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.0933	0.500
trans-1,2-Dichloroethene	U		0.152	0.500
1,2-Dichloropropane	U		0.190	0.500
1,1-Dichloropropene	U		0.128	0.500
1,3-Dichloropropane	U		0.147	1.00
cis-1,3-Dichloropropene	U		0.0976	0.500
trans-1,3-Dichloropropene	U		0.222	0.500
2,2-Dichloropropane	U		0.0929	0.500
Di-isopropyl ether	U		0.0924	0.500
Ethylbenzene	U		0.158	0.500

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Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R3508971-2 03/15/20 17:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.157	1.00
Isopropylbenzene	U		0.126	0.500
p-Isopropyltoluene	U		0.138	0.500
2-Butanone (MEK)	U		1.28	5.00
Methylene Chloride	U		1.07	2.50
4-Methyl-2-pentanone (MIBK)	U		0.823	5.00
Methyl tert-butyl ether	U		0.102	0.500
Naphthalene	U		0.174	2.50
n-Propylbenzene	U		0.162	0.500
Styrene	U		0.117	0.500
1,1,1,2-Tetrachloroethane	U		0.120	0.500
1,1,2,2-Tetrachloroethane	U		0.130	0.500
Tetrachloroethene	U		0.199	0.500
Toluene	U		0.412	0.500
1,1,2-Trichlorotrifluoroethane	U		0.164	0.500
1,1,1-Trichloroethane	U		0.0940	0.500
1,1,2-Trichloroethane	U		0.186	0.500
Trichloroethene	0.155	U	0.153	0.500
Trichlorofluoromethane	U		0.130	2.50
1,2,3-Trichloropropane	U		0.247	2.50
1,2,3-Trimethylbenzene	U		0.0739	0.500
1,2,4-Trimethylbenzene	U		0.123	0.500
1,3,5-Trimethylbenzene	U		0.124	0.500
Vinyl chloride	U		0.118	0.500
Xylenes, Total	U		0.316	1.50
(S) Toluene-d8	106			80.0-120
(S) 4-Bromofluorobenzene	92.3			77.0-126
(S) 1,2-Dichloroethane-d4	106			70.0-130

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Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Laboratory Control Sample (LCS)

(LCS) R3508971-1 03/15/20 16:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	21.2	84.8	19.0-160	
Acrolein	25.0	11.3	45.2	10.0-160	
Acrylonitrile	25.0	24.6	98.4	55.0-149	
Benzene	5.00	4.86	97.2	70.0-123	
Bromobenzene	5.00	4.90	98.0	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3508971-1 03/15/20 16:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Bromodichloromethane	5.00	5.00	100	75.0-120	
Bromoform	5.00	4.70	94.0	68.0-132	
Bromomethane	5.00	4.32	86.4	10.0-160	
n-Butylbenzene	5.00	4.58	91.6	73.0-125	
sec-Butylbenzene	5.00	4.79	95.8	75.0-125	
tert-Butylbenzene	5.00	4.50	90.0	76.0-124	
Carbon disulfide	5.00	4.77	95.4	61.0-128	
Carbon tetrachloride	5.00	4.99	99.8	68.0-126	
Chlorobenzene	5.00	4.95	99.0	80.0-121	
Chlorodibromomethane	5.00	4.62	92.4	77.0-125	
Chloroethane	5.00	4.31	86.2	47.0-150	
Chloroform	5.00	5.21	104	73.0-120	
Chloromethane	5.00	4.41	88.2	41.0-142	
2-Chlorotoluene	5.00	5.03	101	76.0-123	
4-Chlorotoluene	5.00	4.83	96.6	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	4.82	96.4	58.0-134	
1,2-Dibromoethane	5.00	4.94	98.8	80.0-122	
Dibromomethane	5.00	4.87	97.4	80.0-120	
1,2-Dichlorobenzene	5.00	4.86	97.2	79.0-121	
1,3-Dichlorobenzene	5.00	4.84	96.8	79.0-120	
1,4-Dichlorobenzene	5.00	4.69	93.8	79.0-120	
Dichlorodifluoromethane	5.00	3.98	79.6	51.0-149	
1,1-Dichloroethane	5.00	5.00	100	70.0-126	
1,2-Dichloroethane	5.00	5.37	107	70.0-128	
1,1-Dichloroethene	5.00	5.00	100	71.0-124	
cis-1,2-Dichloroethene	5.00	4.54	90.8	73.0-120	
trans-1,2-Dichloroethene	5.00	4.63	92.6	73.0-120	
1,2-Dichloropropane	5.00	5.18	104	77.0-125	
1,1-Dichloropropene	5.00	5.32	106	74.0-126	
1,3-Dichloropropane	5.00	5.00	100	80.0-120	
cis-1,3-Dichloropropene	5.00	4.67	93.4	80.0-123	
trans-1,3-Dichloropropene	5.00	4.96	99.2	78.0-124	
2,2-Dichloropropane	5.00	5.50	110	58.0-130	
Di-isopropyl ether	5.00	5.24	105	58.0-138	
Ethylbenzene	5.00	4.80	96.0	79.0-123	
Hexachloro-1,3-butadiene	5.00	4.11	82.2	54.0-138	
Isopropylbenzene	5.00	4.62	92.4	76.0-127	
p-Isopropyltoluene	5.00	4.61	92.2	76.0-125	
2-Butanone (MEK)	25.0	31.4	126	44.0-160	
Methylene Chloride	5.00	4.20	84.0	67.0-120	

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Laboratory Control Sample (LCS)

(LCS) R3508971-1 03/15/20 16:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
4-Methyl-2-pentanone (MIBK)	25.0	25.5	102	68.0-142	
Methyl tert-butyl ether	5.00	4.25	85.0	68.0-125	
Naphthalene	5.00	3.15	63.0	54.0-135	
n-Propylbenzene	5.00	4.86	97.2	77.0-124	
Styrene	5.00	4.48	89.6	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	4.85	97.0	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	5.07	101	65.0-130	
Tetrachloroethene	5.00	5.39	108	72.0-132	
Toluene	5.00	5.15	103	79.0-120	
1,1,2-Trichlorotrifluoroethane	5.00	5.51	110	69.0-132	
1,1,1-Trichloroethane	5.00	5.13	103	73.0-124	
1,1,2-Trichloroethane	5.00	4.95	99.0	80.0-120	
Trichloroethene	5.00	5.08	102	78.0-124	
Trichlorofluoromethane	5.00	4.46	89.2	59.0-147	
1,2,3-Trichloropropane	5.00	5.40	108	73.0-130	
1,2,3-Trimethylbenzene	5.00	4.77	95.4	77.0-120	
1,2,4-Trimethylbenzene	5.00	4.53	90.6	76.0-121	
1,3,5-Trimethylbenzene	5.00	4.82	96.4	76.0-122	
Vinyl chloride	5.00	4.27	85.4	67.0-131	
Xylenes, Total	15.0	14.3	95.3	79.0-123	
(S) Toluene-d8			107	80.0-120	
(S) 4-Bromofluorobenzene			101	77.0-126	
(S) 1,2-Dichloroethane-d4			119	70.0-130	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3509492-2 03/17/20 10:30

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,2,3-Trichlorobenzene	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.355	0.500
(S) Toluene-d8	104			80.0-120
(S) 4-Bromofluorobenzene	97.8			77.0-126
(S) 1,2-Dichloroethane-d4	115			70.0-130

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3509492-1 03/17/20 09:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,3-Trichlorobenzene	5.00	4.64	92.8	50.0-138	
1,2,4-Trichlorobenzene	5.00	4.64	92.8	57.0-137	
(S) Toluene-d8			102	80.0-120	
(S) 4-Bromofluorobenzene			98.1	77.0-126	
(S) 1,2-Dichloroethane-d4			118	70.0-130	



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.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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.
J0	J0: The identification of the analyte is acceptable, but the reported concentration is an estimate. The calibration method criteria.
J4	The associated batch QC was outside the established quality control range for accuracy.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
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}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

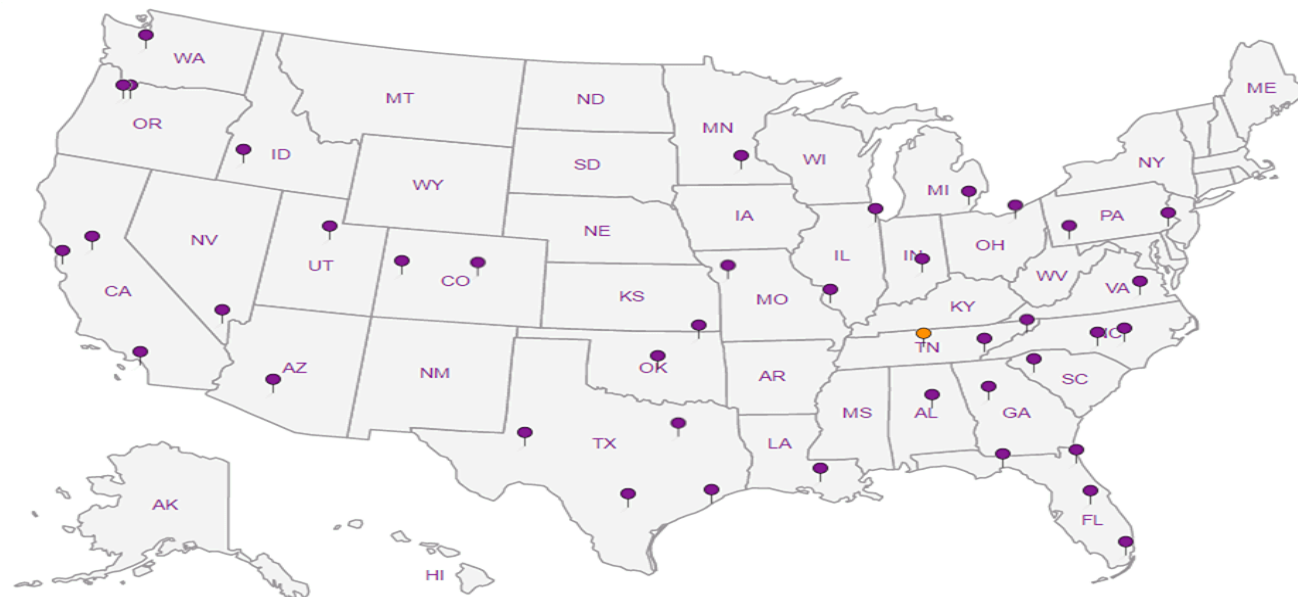
Third Party Federal Accreditations

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoSyntec, Inc. - OR

920 SW Sixth Avenue

Suite 600

Portland OR 97204

Report to:

Brian Webb

Billing Information:

Accounts Payable

920 SW Sixth Avenue

Suite 600

Portland, OR 97204

Email To:

bwebb@Geosyntec.com

Project

Cascade TSA

City/State

Fairview OR.

Please Circle:

PT MT CT ET

Description:

Client Project #

PNG0564S19

Lab Project #

GEOSYNPOR-PNG0564S19

Phone: 503-222-9518

Fax:

Collected by (print):

PAT YADON

Collected by (signature):

Immediately

Packed on Ice N Y X

Rush? (Lab MUST Be Notified)

Same Day Five Day

Next Day 5 Day (Rad Only)

Two Day 10 Day (Rad Only)

Three Day

Quote #

Date Results Needed

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

No of Cntrs

V8260 40mlAmb-HCl

CMW1725-030920

GW

3/9/20

13:50

3

X

CMW1725-030920-DUP

GW

↓

13:51

3

X

Trip BLANK LOT# 414

H2O

↓

NA

1

X

* Matrix:

SS - Soil AIR - Air F - Filter

GW - Groundwater B - Bioassay

WW - WasteWater

DW - Drinking Water

OT - Other

Remarks:

Samples returned via:

UPS FedEx Courier

Tracking #

7066 81239448

Relinquished by : (Signature)

Patrick Yodon

Date:

3/9/20

Time:

15:00

Received by: (Signature)

Fed ex

Trip Blank Received

Yes No

HCL / MeOH

TBR

Relinquished by : (Signature)

Date:

Time:

Received by: (Signature)

Temp:

18.12 °C

Bottles Received:

6

Hold:

Condition:

NCF / OK

Relinquished by : (Signature)

Date:

Time:

Received for lab by: (Signature)

Sandy yasserf

Date:

3/10/20

Time:

8:30

Analysis / Container / Preservative

Chain of Custody

Page 1 of 1

Pace Analytical

National Center for Testing & Innovation

12065 Lebanon Rd

Mount Juliet, TN 37122

Phone: 615-758-5858

Phone: 800-767-5859

Fax: 615-758-5859

SDG #

L1197154

Tabl

A001

Acctnum: GEOSYNPOR

Template: T162223

Prelogin: P752752

PM: 110 - Brian Ford

PB:

Shipped Via: FedEx Ground

Remarks

Sample # (lab only)

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N

COC Signed/Accurate: Y N

Bottles arrive intact: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

If Applicable

VOA Zero Headspace: Y N

Preservation Correct/Checked: Y N

RAD Screen <0.5 mR/hr: Y N

If preservation required by Login: Date/Time