

April 22, 2020

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Cascade Corporation- Fairview, OR

Sample Delivery Group: L1209161
Samples Received: 04/16/2020
Project Number:
Description: MW-26 IDW

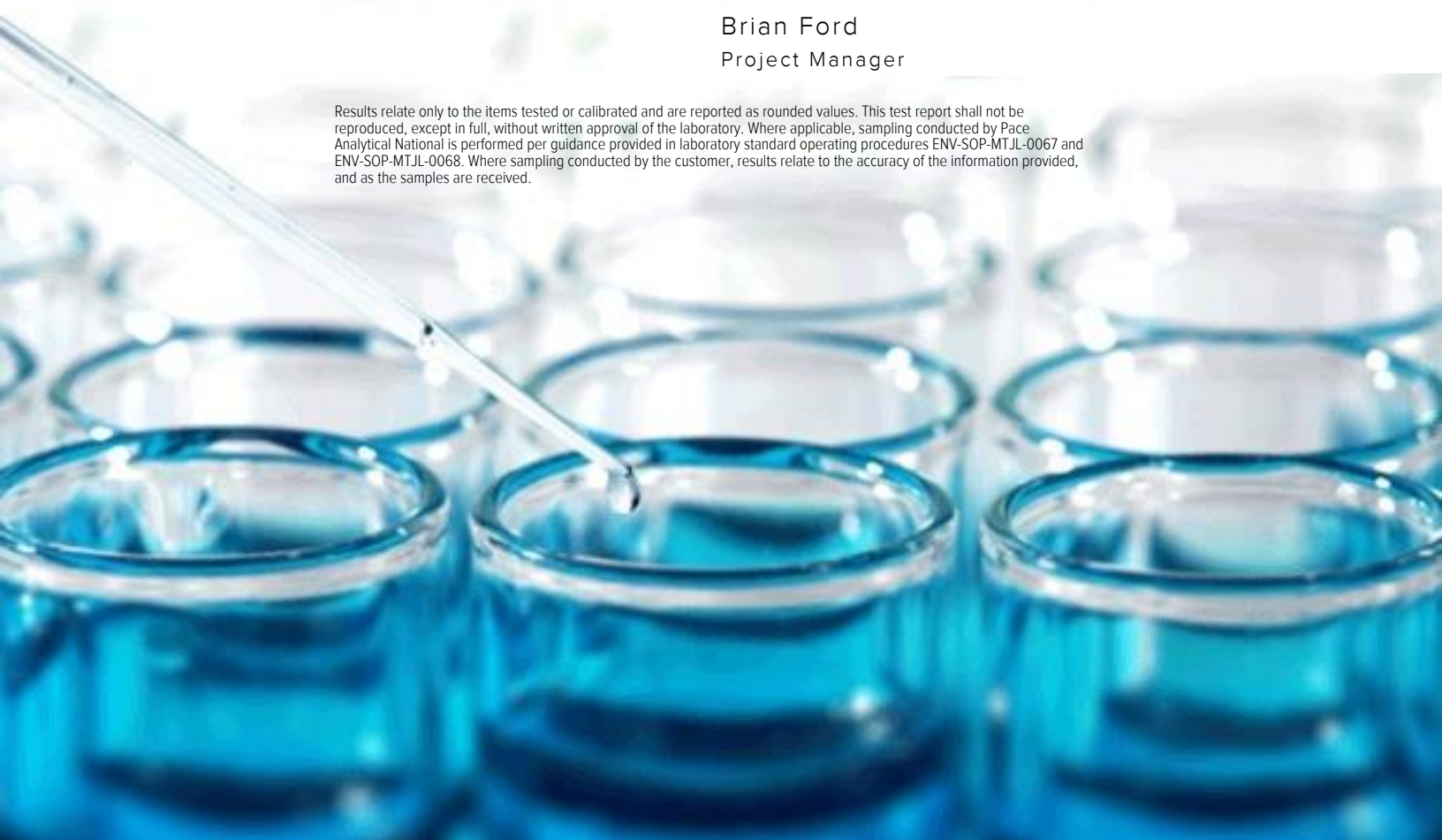
Report To: Cindy Bartlett
2201 NE 201st Avenue
Fairview, OR 97024-9718

Entire Report Reviewed By:

Brian Ford

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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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW26IDW_041520 L1209161-01 Solid

Collected by
Brian Webb

Collected date/time
04/15/20 15:30

Received date/time
04/16/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1461941	1	04/16/20 20:12	04/16/20 20:41	MMF	Mt. Juliet, TN
Mercury by Method 7471B	WG1462107	1	04/17/20 06:39	04/17/20 08:33	ABL	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1461747	5	04/16/20 17:35	04/16/20 21:20	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1461691	1	04/15/20 15:30	04/16/20 20:01	JAH	Mt. Juliet, TN

TRIP BLANK L1209161-02 GW

Collected by
Brian Webb

Collected date/time
04/15/20 15:30

Received date/time
04/16/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1461987	1	04/16/20 21:40	04/16/20 21:40	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1462414	1	04/17/20 15:54	04/17/20 15:54	ADM	Mt. Juliet, TN

¹ Cp

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ACCOUNT:

Cascade Corporation- Fairview, OR

PROJECT:

SDG:

L1209161

DATE/TIME:

04/22/20 16:14

PAGE:

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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

Report Revision History

Level II Report - Version 1: 04/17/20 17:45

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	9.62		1	04/16/2020 20:41	WG1461941

Mercury by Method 7471B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.416	1	04/17/2020 08:33	WG1462107

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Arsenic	ND		10.4	5	04/16/2020 21:20	WG1461747
Barium	124		26.0	5	04/16/2020 21:20	WG1461747
Cadmium	ND		10.4	5	04/16/2020 21:20	WG1461747
Chromium	ND		52.0	5	04/16/2020 21:20	WG1461747
Lead	20.9		20.8	5	04/16/2020 21:20	WG1461747
Selenium	ND		10.5	5	04/16/2020 21:20	WG1461747
Silver	ND		5.20	5	04/16/2020 21:20	WG1461747

Sample Narrative:

L1209161-01 WG1461747: Reporting Se to the mdl.

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

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.520	1	04/16/2020 20:01	WG1461691
Acrylonitrile	ND		0.130	1	04/16/2020 20:01	WG1461691
Benzene	ND		0.0104	1	04/16/2020 20:01	WG1461691
Bromobenzene	ND		0.130	1	04/16/2020 20:01	WG1461691
Bromodichloromethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
Bromoform	ND	J0	0.260	1	04/16/2020 20:01	WG1461691
Bromomethane	ND		0.130	1	04/16/2020 20:01	WG1461691
n-Butylbenzene	ND	J0	0.130	1	04/16/2020 20:01	WG1461691
sec-Butylbenzene	ND		0.130	1	04/16/2020 20:01	WG1461691
tert-Butylbenzene	ND		0.0520	1	04/16/2020 20:01	WG1461691
Carbon tetrachloride	ND	J3	0.0520	1	04/16/2020 20:01	WG1461691
Chlorobenzene	ND		0.0260	1	04/16/2020 20:01	WG1461691
Chlorodibromomethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
Chloroethane	ND		0.0520	1	04/16/2020 20:01	WG1461691
Chloroform	0.0634		0.0260	1	04/16/2020 20:01	WG1461691
Chloromethane	ND		0.130	1	04/16/2020 20:01	WG1461691
2-Chlorotoluene	ND		0.0260	1	04/16/2020 20:01	WG1461691
4-Chlorotoluene	ND		0.0520	1	04/16/2020 20:01	WG1461691
1,2-Dibromo-3-Chloropropane	ND	J0	0.260	1	04/16/2020 20:01	WG1461691
1,2-Dibromoethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
Dibromomethane	ND		0.0520	1	04/16/2020 20:01	WG1461691
1,2-Dichlorobenzene	ND		0.0520	1	04/16/2020 20:01	WG1461691
1,3-Dichlorobenzene	ND		0.0520	1	04/16/2020 20:01	WG1461691
1,4-Dichlorobenzene	ND	J4	0.0520	1	04/16/2020 20:01	WG1461691
Dichlorodifluoromethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
1,1-Dichloroethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
1,2-Dichloroethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
1,1-Dichloroethene	ND		0.0260	1	04/16/2020 20:01	WG1461691
cis-1,2-Dichloroethene	ND		0.0260	1	04/16/2020 20:01	WG1461691
trans-1,2-Dichloroethene	ND		0.0520	1	04/16/2020 20:01	WG1461691

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/15/20 15:30

L1209161

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

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
1,2-Dichloropropane	ND		0.0520	1	04/16/2020 20:01	WG1461691
1,1-Dichloropropene	ND		0.0260	1	04/16/2020 20:01	WG1461691
1,3-Dichloropropane	ND		0.0520	1	04/16/2020 20:01	WG1461691
cis-1,3-Dichloropropene	ND		0.0260	1	04/16/2020 20:01	WG1461691
trans-1,3-Dichloropropene	ND		0.0520	1	04/16/2020 20:01	WG1461691
2,2-Dichloropropane	ND	<u>J3</u>	0.0260	1	04/16/2020 20:01	WG1461691
Di-isopropyl ether	ND		0.0104	1	04/16/2020 20:01	WG1461691
Ethylbenzene	ND		0.0260	1	04/16/2020 20:01	WG1461691
Hexachloro-1,3-butadiene	ND	<u>JO</u>	0.260	1	04/16/2020 20:01	WG1461691
Isopropylbenzene	ND		0.0260	1	04/16/2020 20:01	WG1461691
p-Isopropyltoluene	ND		0.0520	1	04/16/2020 20:01	WG1461691
2-Butanone (MEK)	ND	<u>JO</u>	1.04	1	04/16/2020 20:01	WG1461691
Methylene Chloride	ND		0.260	1	04/16/2020 20:01	WG1461691
4-Methyl-2-pentanone (MIBK)	ND		0.260	1	04/16/2020 20:01	WG1461691
Methyl tert-butyl ether	ND		0.0104	1	04/16/2020 20:01	WG1461691
Naphthalene	ND	<u>JO</u>	0.130	1	04/16/2020 20:01	WG1461691
n-Propylbenzene	ND		0.0520	1	04/16/2020 20:01	WG1461691
Styrene	ND		0.130	1	04/16/2020 20:01	WG1461691
1,1,1,2-Tetrachloroethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
1,1,2,2-Tetrachloroethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
1,1,2-Trichlorotrifluoroethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
Tetrachloroethene	ND		0.0260	1	04/16/2020 20:01	WG1461691
Toluene	ND		0.0520	1	04/16/2020 20:01	WG1461691
1,2,3-Trichlorobenzene	ND	<u>JO</u>	0.130	1	04/16/2020 20:01	WG1461691
1,2,4-Trichlorobenzene	ND	<u>JO</u>	0.130	1	04/16/2020 20:01	WG1461691
1,1,1-Trichloroethane	ND	<u>J3</u>	0.0260	1	04/16/2020 20:01	WG1461691
1,1,2-Trichloroethane	ND	<u>J4</u>	0.0260	1	04/16/2020 20:01	WG1461691
Trichloroethene	ND		0.0104	1	04/16/2020 20:01	WG1461691
Trichlorofluoromethane	ND		0.0260	1	04/16/2020 20:01	WG1461691
1,2,3-Trichloropropane	ND		0.130	1	04/16/2020 20:01	WG1461691
1,2,4-Trimethylbenzene	ND		0.0520	1	04/16/2020 20:01	WG1461691
1,2,3-Trimethylbenzene	ND		0.0520	1	04/16/2020 20:01	WG1461691
1,3,5-Trimethylbenzene	ND		0.0520	1	04/16/2020 20:01	WG1461691
Vinyl chloride	ND		0.0260	1	04/16/2020 20:01	WG1461691
Xylenes, Total	ND		0.0676	1	04/16/2020 20:01	WG1461691
(S) Toluene-d8	103		75.0-131		04/16/2020 20:01	WG1461691
(S) 4-Bromofluorobenzene	101		67.0-138		04/16/2020 20:01	WG1461691
(S) 1,2-Dichloroethane-d4	86.5		70.0-130		04/16/2020 20:01	WG1461691

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	ND		25.0	1	04/16/2020 21:40	WG1461987	¹ Cp
Acrolein	ND		50.0	1	04/16/2020 21:40	WG1461987	² Tc
Acrylonitrile	ND		5.00	1	04/16/2020 21:40	WG1461987	³ Ss
Benzene	ND		0.500	1	04/16/2020 21:40	WG1461987	⁴ Cn
Bromobenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	⁵ Sr
Bromodichloromethane	ND		0.500	1	04/16/2020 21:40	WG1461987	⁶ Qc
Bromoform	ND		0.500	1	04/16/2020 21:40	WG1461987	⁷ Gl
Bromomethane	ND		2.50	1	04/16/2020 21:40	WG1461987	⁸ Al
n-Butylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	⁹ Sc
sec-Butylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
tert-Butylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
Carbon disulfide	ND		0.500	1	04/16/2020 21:40	WG1461987	
Carbon tetrachloride	ND		0.500	1	04/16/2020 21:40	WG1461987	
Chlorobenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
Chlorodibromomethane	ND		0.500	1	04/16/2020 21:40	WG1461987	
Chloroethane	ND		2.50	1	04/16/2020 21:40	WG1461987	
Chloroform	ND		0.500	1	04/16/2020 21:40	WG1461987	
Chloromethane	ND		1.25	1	04/16/2020 21:40	WG1461987	
2-Chlorotoluene	ND		0.500	1	04/16/2020 21:40	WG1461987	
4-Chlorotoluene	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,2-Dibromo-3-Chloropropane	ND	JO	2.50	1	04/16/2020 21:40	WG1461987	
1,2-Dibromoethane	ND		0.500	1	04/16/2020 21:40	WG1461987	
Dibromomethane	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,2-Dichlorobenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,3-Dichlorobenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,4-Dichlorobenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
Dichlorodifluoromethane	ND		2.50	1	04/16/2020 21:40	WG1461987	
1,1-Dichloroethane	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,2-Dichloroethane	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,1-Dichloroethene	ND		0.500	1	04/16/2020 21:40	WG1461987	
cis-1,2-Dichloroethene	ND		0.500	1	04/16/2020 21:40	WG1461987	
trans-1,2-Dichloroethene	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,2-Dichloropropane	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,1-Dichloropropene	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,3-Dichloropropane	ND		1.00	1	04/16/2020 21:40	WG1461987	
cis-1,3-Dichloropropene	ND		0.500	1	04/16/2020 21:40	WG1461987	
trans-1,3-Dichloropropene	ND		0.500	1	04/16/2020 21:40	WG1461987	
2,2-Dichloropropane	ND		0.500	1	04/16/2020 21:40	WG1461987	
Di-isopropyl ether	ND		0.500	1	04/16/2020 21:40	WG1461987	
Ethylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
Hexachloro-1,3-butadiene	ND	JO J3	1.00	1	04/16/2020 21:40	WG1461987	
Isopropylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
p-Isopropyltoluene	ND		0.500	1	04/16/2020 21:40	WG1461987	
2-Butanone (MEK)	ND		5.00	1	04/16/2020 21:40	WG1461987	
Methylene Chloride	ND		2.50	1	04/16/2020 21:40	WG1461987	
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	04/16/2020 21:40	WG1461987	
Methyl tert-butyl ether	ND		0.500	1	04/16/2020 21:40	WG1461987	
Naphthalene	ND	JO J3	2.50	1	04/16/2020 21:40	WG1461987	
n-Propylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987	
Styrene	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,1,1,2-Tetrachloroethane	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,1,2,2-Tetrachloroethane	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	04/16/2020 21:40	WG1461987	
Tetrachloroethene	ND		0.500	1	04/16/2020 21:40	WG1461987	
Toluene	ND		0.500	1	04/16/2020 21:40	WG1461987	
1,2,3-Trichlorobenzene	ND	JO J3	0.500	1	04/16/2020 21:40	WG1461987	



Collected date/time: 04/15/20 15:30

L1209161

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		1.00	1	04/17/2020 15:54	WG1462414
1,1,1-Trichloroethane	ND		0.500	1	04/16/2020 21:40	WG1461987
1,1,2-Trichloroethane	ND		0.500	1	04/16/2020 21:40	WG1461987
Trichloroethene	ND		0.500	1	04/16/2020 21:40	WG1461987
Trichlorofluoromethane	ND		2.50	1	04/16/2020 21:40	WG1461987
1,2,3-Trichloropropane	ND		2.50	1	04/16/2020 21:40	WG1461987
1,2,4-Trimethylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987
1,2,3-Trimethylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987
1,3,5-Trimethylbenzene	ND		0.500	1	04/16/2020 21:40	WG1461987
Vinyl chloride	ND		0.500	1	04/16/2020 21:40	WG1461987
Xylenes, Total	ND		1.50	1	04/16/2020 21:40	WG1461987
(S) Toluene-d8	107		80.0-120		04/16/2020 21:40	WG1461987
(S) Toluene-d8	106		80.0-120		04/17/2020 15:54	WG1462414
(S) 4-Bromofluorobenzene	88.2		77.0-126		04/16/2020 21:40	WG1461987
(S) 4-Bromofluorobenzene	109		77.0-126		04/17/2020 15:54	WG1462414
(S) 1,2-Dichloroethane-d4	95.6		70.0-130		04/16/2020 21:40	WG1461987
(S) 1,2-Dichloroethane-d4	104		70.0-130		04/17/2020 15:54	WG1462414

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

L1209161-01

Method Blank (MB)

(MB) R3519570-1 04/16/20 20:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Total Solids	0.000			

L1209161-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1209161-01 04/16/20 20:41 • (DUP) R3519570-3 04/16/20 20:41

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Total Solids	9.62	9.59	1	0.312		10

Laboratory Control Sample (LCS)

(LCS) R3519570-2 04/16/20 20:41

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Total Solids	50.0	49.9	99.8	85.0-115	



Method Blank (MB)

(MB) R3519490-1 04/17/20 08:13

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Mercury	U		0.0180	0.0400

Laboratory Control Sample (LCS)

(LCS) R3519490-2 04/17/20 08:15

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.514	103	80.0-120	

L1209159-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1209159-01 04/17/20 08:18 • (MS) R3519490-3 04/17/20 08:20 • (MSD) R3519490-4 04/17/20 08:23

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.577	U	0.540	0.557	93.5	96.5	1	75.0-125			3.10	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3519405-1 04/16/20 20:14

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.422	1.00
Barium	U		1.25	2.50
Cadmium	U		0.406	1.00
Chromium	U		2.24	5.00
Lead	U		1.00	2.00
Selenium	U		1.01	2.50
Silver	U		0.213	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS)

(LCS) R3519405-2 04/16/20 20:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	86.3	86.3	80.0-120	
Barium	100	88.7	88.7	80.0-120	
Cadmium	100	92.1	92.1	80.0-120	
Chromium	100	91.1	91.1	80.0-120	
Lead	100	87.7	87.7	80.0-120	
Selenium	100	92.0	92.0	80.0-120	
Silver	20.0	19.1	95.4	80.0-120	

L1209159-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1209159-01 04/16/20 20:21 • (MS) R3519405-5 04/16/20 20:31 • (MSD) R3519405-6 04/16/20 20:34

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	23.1	5.55	92.4	99.3	75.2	81.2	5	75.0-125			7.29	20
Barium	23.1	291	408	357	101	57.2	5	75.0-125		J6	13.2	20
Cadmium	23.1	U	109	108	94.1	93.9	5	75.0-125			0.209	20
Chromium	23.1	40.3	134	136	80.7	83.2	5	75.0-125			2.14	20
Lead	23.1	13.1	124	124	96.0	95.9	5	75.0-125			0.0720	20
Selenium	23.1	U	107	109	92.3	94.5	5	75.0-125			2.38	20
Silver	4.62	U	22.3	22.8	96.5	98.8	5	75.0-125			2.32	20



Method Blank (MB)

(MB) R3519565-3 04/16/20 11:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0365	0.0500
Acrylonitrile	U		0.00361	0.0125
Benzene	U		0.000467	0.00100
Bromobenzene	U		0.000900	0.0125
Bromodichloromethane	U		0.000725	0.00250
Bromoform	U		0.00117	0.0250
Bromomethane	U		0.00197	0.0125
n-Butylbenzene	U		0.00525	0.0125
sec-Butylbenzene	U		0.00288	0.0125
tert-Butylbenzene	U		0.00195	0.00500
Carbon tetrachloride	U		0.000898	0.00500
Chlorobenzene	U		0.000210	0.00250
Chlorodibromomethane	U		0.000612	0.00250
Chloroethane	U		0.00170	0.00500
Chloroform	U		0.00103	0.00250
Chloromethane	U		0.00435	0.0125
2-Chlorotoluene	U		0.000865	0.00250
4-Chlorotoluene	U		0.000450	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00390	0.0250
1,2-Dibromoethane	U		0.000648	0.00250
Dibromomethane	U		0.000750	0.00500
1,2-Dichlorobenzene	U		0.000425	0.00500
1,3-Dichlorobenzene	U		0.000600	0.00500
1,4-Dichlorobenzene	U		0.000700	0.00500
Dichlorodifluoromethane	U		0.00161	0.00250
1,1-Dichloroethane	U		0.000491	0.00250
1,2-Dichloroethane	U		0.000649	0.00250
1,1-Dichloroethene	U		0.000606	0.00250
cis-1,2-Dichloroethene	U		0.000734	0.00250
trans-1,2-Dichloroethene	U		0.00104	0.00500
1,2-Dichloropropane	U		0.00142	0.00500
1,1-Dichloropropene	U		0.000809	0.00250
1,3-Dichloropropane	U		0.000501	0.00500
cis-1,3-Dichloropropene	U		0.000757	0.00250
trans-1,3-Dichloropropene	U		0.00114	0.00500
2,2-Dichloropropane	U		0.00138	0.00250
Di-isopropyl ether	U		0.000410	0.00100
Ethylbenzene	U		0.000737	0.00250
Hexachloro-1,3-butadiene	U		0.00600	0.0250
Isopropylbenzene	U		0.000425	0.00250

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3519565-3 04/16/20 11:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00255	0.00500
2-Butanone (MEK)	U		0.0635	0.100
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.00228	0.0250
Methyl tert-butyl ether	U		0.000350	0.00100
Naphthalene	U		0.00488	0.0125
n-Propylbenzene	U		0.000950	0.00500
Styrene	U		0.000229	0.0125
1,1,1,2-Tetrachloroethane	U		0.000948	0.00250
1,1,2,2-Tetrachloroethane	U		0.000695	0.00250
Tetrachloroethene	U		0.000896	0.00250
Toluene	U		0.00130	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000754	0.00250
1,2,3-Trichlorobenzene	U		0.00733	0.0125
1,2,4-Trichlorobenzene	U		0.00440	0.0125
1,1,1-Trichloroethane	U		0.000923	0.00250
1,1,2-Trichloroethane	U		0.000597	0.00250
Trichloroethene	U		0.000584	0.00100
Trichlorofluoromethane	U		0.000827	0.00250
1,2,3-Trichloropropane	U		0.00162	0.0125
1,2,3-Trimethylbenzene	U		0.00158	0.00500
1,2,4-Trimethylbenzene	U		0.00158	0.00500
1,3,5-Trimethylbenzene	U		0.00200	0.00500
Vinyl chloride	U		0.00116	0.00250
Xylenes, Total	U		0.000880	0.00650
(S) Toluene-d8	101			75.0-131
(S) 4-Bromofluorobenzene	96.3			67.0-138
(S) 1,2-Dichloroethane-d4	83.8			70.0-130

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3519565-1 04/16/20 09:29 • (LCSD) R3519565-2 04/16/20 09:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.625	0.393	0.394	62.9	63.0	10.0-160			0.254	31
Acrylonitrile	0.625	0.538	0.458	86.1	73.3	45.0-153			16.1	22
Benzene	0.125	0.103	0.110	82.4	88.0	70.0-123			6.57	20
Bromobenzene	0.125	0.114	0.114	91.2	91.2	73.0-121			0.000	20
Bromodichloromethane	0.125	0.131	0.133	105	106	73.0-121			1.52	20

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

(LCS) R3519565-1 04/16/20 09:29 • (LCSD) R3519565-2 04/16/20 09:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	0.125	0.0946	0.104	75.7	83.2	64.0-132			9.47	20
Bromomethane	0.125	0.123	0.121	98.4	96.8	56.0-147			1.64	20
n-Butylbenzene	0.125	0.0906	0.0936	72.5	74.9	68.0-135			3.26	20
sec-Butylbenzene	0.125	0.101	0.106	80.8	84.8	74.0-130			4.83	20
tert-Butylbenzene	0.125	0.107	0.108	85.6	86.4	75.0-127			0.930	20
Carbon tetrachloride	0.125	0.104	0.134	83.2	107	66.0-128		J3	25.2	20
Chlorobenzene	0.125	0.0985	0.101	78.8	80.8	76.0-128			2.51	20
Chlorodibromomethane	0.125	0.105	0.107	84.0	85.6	74.0-127			1.89	20
Chloroethane	0.125	0.133	0.136	106	109	61.0-134			2.23	20
Chloroform	0.125	0.111	0.118	88.8	94.4	72.0-123			6.11	20
Chloromethane	0.125	0.122	0.124	97.6	99.2	51.0-138			1.63	20
2-Chlorotoluene	0.125	0.0958	0.0976	76.6	78.1	75.0-124			1.86	20
4-Chlorotoluene	0.125	0.104	0.104	83.2	83.2	75.0-124			0.000	20
1,2-Dibromo-3-Chloropropane	0.125	0.0774	0.0832	61.9	66.6	59.0-130			7.22	20
1,2-Dibromoethane	0.125	0.103	0.100	82.4	80.0	74.0-128			2.96	20
Dibromomethane	0.125	0.129	0.130	103	104	75.0-122			0.772	20
1,2-Dichlorobenzene	0.125	0.107	0.112	85.6	89.6	76.0-124			4.57	20
1,3-Dichlorobenzene	0.125	0.101	0.103	80.8	82.4	76.0-125			1.96	20
1,4-Dichlorobenzene	0.125	0.0918	0.0933	73.4	74.6	77.0-121	J4	J4	1.62	20
Dichlorodifluoromethane	0.125	0.127	0.132	102	106	43.0-156			3.86	20
1,1-Dichloroethane	0.125	0.116	0.128	92.8	102	70.0-127			9.84	20
1,2-Dichloroethane	0.125	0.112	0.109	89.6	87.2	65.0-131			2.71	20
1,1-Dichloroethene	0.125	0.103	0.106	82.4	84.8	65.0-131			2.87	20
cis-1,2-Dichloroethene	0.125	0.123	0.132	98.4	106	73.0-125			7.06	20
trans-1,2-Dichloroethene	0.125	0.109	0.117	87.2	93.6	71.0-125			7.08	20
1,2-Dichloropropane	0.125	0.104	0.101	83.2	80.8	74.0-125			2.93	20
1,1-Dichloropropene	0.125	0.0976	0.102	78.1	81.6	73.0-125			4.41	20
1,3-Dichloropropane	0.125	0.114	0.112	91.2	89.6	80.0-125			1.77	20
cis-1,3-Dichloropropene	0.125	0.0997	0.0980	79.8	78.4	76.0-127			1.72	20
trans-1,3-Dichloropropene	0.125	0.102	0.102	81.6	81.6	73.0-127			0.000	20
2,2-Dichloropropane	0.125	0.100	0.131	80.0	105	59.0-135		J3	26.8	20
Di-isopropyl ether	0.125	0.114	0.129	91.2	103	60.0-136			12.3	20
Ethylbenzene	0.125	0.102	0.106	81.6	84.8	74.0-126			3.85	20
Hexachloro-1,3-butadiene	0.125	0.108	0.110	86.4	88.0	57.0-150			1.83	20
Isopropylbenzene	0.125	0.0991	0.106	79.3	84.8	72.0-127			6.73	20
p-Isopropyltoluene	0.125	0.0945	0.0989	75.6	79.1	72.0-133			4.55	20
2-Butanone (MEK)	0.625	0.439	0.448	70.2	71.7	30.0-160			2.03	24
Methylene Chloride	0.125	0.107	0.110	85.6	88.0	68.0-123			2.76	20
4-Methyl-2-pentanone (MIBK)	0.625	0.516	0.540	82.6	86.4	56.0-143			4.55	20
Methyl tert-butyl ether	0.125	0.123	0.138	98.4	110	66.0-132			11.5	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



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

(LCS) R3519565-1 04/16/20 09:29 • (LCSD) R3519565-2 04/16/20 09:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Naphthalene	0.125	0.0889	0.0990	71.1	79.2	59.0-130			10.8	20
n-Propylbenzene	0.125	0.107	0.109	85.6	87.2	74.0-126			1.85	20
Styrene	0.125	0.114	0.117	91.2	93.6	72.0-127			2.60	20
1,1,1,2-Tetrachloroethane	0.125	0.0966	0.0995	77.3	79.6	74.0-129			2.96	20
1,1,2,2-Tetrachloroethane	0.125	0.115	0.118	92.0	94.4	68.0-128			2.58	20
Tetrachloroethene	0.125	0.149	0.149	119	119	70.0-136			0.000	20
Toluene	0.125	0.105	0.111	84.0	88.8	75.0-121			5.56	20
1,1,2-Trichlorotrifluoroethane	0.125	0.104	0.123	83.2	98.4	61.0-139			16.7	20
1,2,3-Trichlorobenzene	0.125	0.0945	0.108	75.6	86.4	59.0-139			13.3	20
1,2,4-Trichlorobenzene	0.125	0.0902	0.101	72.2	80.8	62.0-137			11.3	20
1,1,1-Trichloroethane	0.125	0.124	0.153	99.2	122	69.0-126		J3	20.9	20
1,1,2-Trichloroethane	0.125	0.0969	0.0976	77.5	78.1	78.0-123	J4		0.720	20
Trichloroethene	0.125	0.110	0.114	88.0	91.2	76.0-126			3.57	20
Trichlorofluoromethane	0.125	0.0936	0.102	74.9	81.6	61.0-142			8.59	20
1,2,3-Trichloropropane	0.125	0.111	0.113	88.8	90.4	67.0-129			1.79	20
1,2,3-Trimethylbenzene	0.125	0.0937	0.0984	75.0	78.7	74.0-124			4.89	20
1,2,4-Trimethylbenzene	0.125	0.116	0.121	92.8	96.8	70.0-126			4.22	20
1,3,5-Trimethylbenzene	0.125	0.111	0.113	88.8	90.4	73.0-127			1.79	20
Vinyl chloride	0.125	0.123	0.129	98.4	103	63.0-134			4.76	20
Xylenes, Total	0.375	0.316	0.330	84.3	88.0	72.0-127			4.33	20
(S) Toluene-d8				101	101	75.0-131				
(S) 4-Bromofluorobenzene				101	103	67.0-138				
(S) 1,2-Dichloroethane-d4				89.3	93.9	70.0-130				

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3519589-4 04/16/20 20:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	25.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	5.00
Benzene	U		0.0941	0.500
Bromobenzene	U		0.118	0.500
Bromodichloromethane	U		0.136	0.500
Bromoform	U		0.129	0.500
Bromomethane	U		0.605	2.50
n-Butylbenzene	U		0.157	0.500
sec-Butylbenzene	U		0.125	0.500
tert-Butylbenzene	U		0.127	0.500
Carbon disulfide	U		0.0962	0.500
Carbon tetrachloride	U		0.128	0.500
Chlorobenzene	U		0.117	0.500
Chlorodibromomethane	U		0.140	0.500
Chloroethane	U		0.192	2.50
Chloroform	U		0.111	0.500
Chloromethane	U		0.960	1.25
2-Chlorotoluene	U		0.106	0.500
4-Chlorotoluene	U		0.114	0.500
1,2-Dibromo-3-Chloropropane	U		0.276	2.50
1,2-Dibromoethane	U		0.126	0.500
Dibromomethane	U		0.122	0.500
1,2-Dichlorobenzene	U		0.107	0.500
1,3-Dichlorobenzene	U		0.299	0.500
1,4-Dichlorobenzene	U		0.120	0.500
Dichlorodifluoromethane	U		0.374	2.50
1,1-Dichloroethane	U		0.100	0.500
1,2-Dichloroethane	U		0.0819	0.500
1,1-Dichloroethene	U		0.188	0.500
cis-1,2-Dichloroethene	U		0.126	0.500
trans-1,2-Dichloroethene	U		0.149	0.500
1,2-Dichloropropane	U		0.149	0.500
1,1-Dichloropropene	U		0.142	0.500
1,3-Dichloropropane	U		0.109	1.00
cis-1,3-Dichloropropene	U		0.111	0.500
trans-1,3-Dichloropropene	U		0.118	0.500
2,2-Dichloropropane	U		0.161	0.500
Di-isopropyl ether	U		0.105	0.500
Ethylbenzene	U		0.137	0.500

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) R3519589-4 04/16/20 20:09

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	0.467	U	0.337	1.00
Isopropylbenzene	U		0.105	0.500
p-Isopropyltoluene	U		0.120	0.500
2-Butanone (MEK)	U		1.19	5.00
Methylene Chloride	0.750	U	0.430	2.50
4-Methyl-2-pentanone (MIBK)	U		0.478	5.00
Methyl tert-butyl ether	U		0.101	0.500
Naphthalene	0.551	U	0.174	2.50
n-Propylbenzene	U		0.0993	0.500
Styrene	U		0.118	0.500
1,1,1,2-Tetrachloroethane	U		0.147	0.500
1,1,2,2-Tetrachloroethane	U		0.133	0.500
Tetrachloroethene	U		0.300	0.500
Toluene	U		0.278	0.500
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500
1,2,3-Trichlorobenzene	0.412	U	0.164	0.500
1,1,1-Trichloroethane	U		0.149	0.500
1,1,2-Trichloroethane	U		0.158	0.500
Trichloroethene	U		0.190	0.500
Trichlorofluoromethane	U		0.160	2.50
1,2,3-Trichloropropane	U		0.237	2.50
1,2,3-Trimethylbenzene	U		0.104	0.500
1,2,4-Trimethylbenzene	U		0.322	0.500
1,3,5-Trimethylbenzene	U		0.104	0.500
Vinyl chloride	U		0.234	0.500
Xylenes, Total	U		0.174	1.50
(S) Toluene-d8	107			80.0-120
(S) 4-Bromofluorobenzene	91.0			77.0-126
(S) 1,2-Dichloroethane-d4	94.6			70.0-130

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3519589-1 04/16/20 18:47 • (LCSD) R3519589-2 04/16/20 19:08

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 %
Acetone	25.0	23.8	23.6	95.2	94.4	19.0-160			0.844	27
Acrolein	25.0	22.7	19.8	90.8	79.2	10.0-160			13.6	26
Acrylonitrile	25.0	26.2	26.0	105	104	55.0-149			0.766	20
Benzene	5.00	4.68	4.63	93.6	92.6	70.0-123			1.07	20



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

(LCS) R3519589-1 04/16/20 18:47 • (LCSD) R3519589-2 04/16/20 19:08

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 %
Bromobenzene	5.00	5.18	5.29	104	106	73.0-121			2.10	20
Bromodichloromethane	5.00	4.85	4.84	97.0	96.8	75.0-120			0.206	20
Bromoform	5.00	4.65	4.67	93.0	93.4	68.0-132			0.429	20
Bromomethane	5.00	4.20	4.19	84.0	83.8	10.0-160			0.238	25
n-Butylbenzene	5.00	5.60	5.39	112	108	73.0-125			3.82	20
sec-Butylbenzene	5.00	5.52	5.55	110	111	75.0-125			0.542	20
tert-Butylbenzene	5.00	5.31	5.37	106	107	76.0-124			1.12	20
Carbon disulfide	5.00	5.14	5.26	103	105	61.0-128			2.31	20
Carbon tetrachloride	5.00	5.14	5.15	103	103	68.0-126			0.194	20
Chlorobenzene	5.00	5.33	5.12	107	102	80.0-121			4.02	20
Chlorodibromomethane	5.00	5.48	5.12	110	102	77.0-125			6.79	20
Chloroethane	5.00	4.61	4.72	92.2	94.4	47.0-150			2.36	20
Chloroform	5.00	4.60	4.53	92.0	90.6	73.0-120			1.53	20
Chloromethane	5.00	4.93	5.04	98.6	101	41.0-142			2.21	20
2-Chlorotoluene	5.00	5.25	5.28	105	106	76.0-123			0.570	20
4-Chlorotoluene	5.00	5.48	5.31	110	106	75.0-122			3.15	20
1,2-Dibromo-3-Chloropropane	5.00	3.94	4.10	78.8	82.0	58.0-134			3.98	20
1,2-Dibromoethane	5.00	5.79	5.25	116	105	80.0-122			9.78	20
Dibromomethane	5.00	5.02	5.19	100	104	80.0-120			3.33	20
1,2-Dichlorobenzene	5.00	5.29	5.28	106	106	79.0-121			0.189	20
1,3-Dichlorobenzene	5.00	5.16	5.35	103	107	79.0-120			3.62	20
1,4-Dichlorobenzene	5.00	5.06	4.92	101	98.4	79.0-120			2.81	20
Dichlorodifluoromethane	5.00	5.95	5.63	119	113	51.0-149			5.53	20
1,1-Dichloroethane	5.00	5.11	5.17	102	103	70.0-126			1.17	20
1,2-Dichloroethane	5.00	4.75	4.88	95.0	97.6	70.0-128			2.70	20
1,1-Dichloroethene	5.00	5.59	5.43	112	109	71.0-124			2.90	20
cis-1,2-Dichloroethene	5.00	5.06	5.40	101	108	73.0-120			6.50	20
trans-1,2-Dichloroethene	5.00	5.06	4.98	101	99.6	73.0-120			1.59	20
1,2-Dichloropropane	5.00	4.60	4.68	92.0	93.6	77.0-125			1.72	20
1,1-Dichloropropene	5.00	4.74	4.68	94.8	93.6	74.0-126			1.27	20
1,3-Dichloropropane	5.00	5.21	4.85	104	97.0	80.0-120			7.16	20
cis-1,3-Dichloropropene	5.00	4.91	4.72	98.2	94.4	80.0-123			3.95	20
trans-1,3-Dichloropropene	5.00	5.81	5.04	116	101	78.0-124			14.2	20
2,2-Dichloropropane	5.00	5.15	4.89	103	97.8	58.0-130			5.18	20
Di-isopropyl ether	5.00	4.74	4.69	94.8	93.8	58.0-138			1.06	20
Ethylbenzene	5.00	5.05	4.92	101	98.4	79.0-123			2.61	20
Hexachloro-1,3-butadiene	5.00	2.91	3.88	58.2	77.6	54.0-138		J3	28.6	20
Isopropylbenzene	5.00	5.43	5.28	109	106	76.0-127			2.80	20
p-Isopropyltoluene	5.00	5.46	5.49	109	110	76.0-125			0.548	20
2-Butanone (MEK)	25.0	23.2	22.6	92.8	90.4	44.0-160			2.62	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R3519589-1 04/16/20 18:47 • (LCSD) R3519589-2 04/16/20 19:08

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 %
Methylene Chloride	5.00	5.06	5.22	101	104	67.0-120			3.11	20
4-Methyl-2-pentanone (MIBK)	25.0	26.5	24.8	106	99.2	68.0-142			6.63	20
Methyl tert-butyl ether	5.00	5.09	4.79	102	95.8	68.0-125			6.07	20
Naphthalene	5.00	3.17	5.10	63.4	102	54.0-135		J3	46.7	20
n-Propylbenzene	5.00	5.43	5.22	109	104	77.0-124			3.94	20
Styrene	5.00	4.54	4.44	90.8	88.8	73.0-130			2.23	20
1,1,1,2-Tetrachloroethane	5.00	5.74	5.45	115	109	75.0-125			5.18	20
1,1,2,2-Tetrachloroethane	5.00	5.41	5.10	108	102	65.0-130			5.90	20
Tetrachloroethene	5.00	5.83	5.48	117	110	72.0-132			6.19	20
Toluene	5.00	5.16	4.87	103	97.4	79.0-120			5.78	20
1,1,2-Trichlorotrifluoroethane	5.00	5.65	5.45	113	109	69.0-132			3.60	20
1,2,3-Trichlorobenzene	5.00	3.05	5.25	61.0	105	50.0-138		J3	53.0	20
1,1,1-Trichloroethane	5.00	5.16	5.03	103	101	73.0-124			2.55	20
1,1,2-Trichloroethane	5.00	5.73	5.59	115	112	80.0-120			2.47	20
Trichloroethene	5.00	5.40	5.08	108	102	78.0-124			6.11	20
Trichlorofluoromethane	5.00	5.30	5.24	106	105	59.0-147			1.14	20
1,2,3-Trichloropropane	5.00	5.53	5.61	111	112	73.0-130			1.44	20
1,2,3-Trimethylbenzene	5.00	5.59	5.33	112	107	77.0-120			4.76	20
1,2,4-Trimethylbenzene	5.00	5.33	5.39	107	108	76.0-121			1.12	20
1,3,5-Trimethylbenzene	5.00	5.04	5.19	101	104	76.0-122			2.93	20
Vinyl chloride	5.00	4.58	4.65	91.6	93.0	67.0-131			1.52	20
Xylenes, Total	15.0	15.7	15.1	105	101	79.0-123			3.90	20
(S) Toluene-d8				109	104	80.0-120				
(S) 4-Bromofluorobenzene				97.1	90.9	77.0-126				
(S) 1,2-Dichloroethane-d4				93.4	96.8	70.0-130				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3519663-3 04/17/20 11:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,2,4-Trichlorobenzene	U		0.481	1.00
(S) Toluene-d8	110			80.0-120
(S) 4-Bromofluorobenzene	105			77.0-126
(S) 1,2-Dichloroethane-d4	103			70.0-130

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

(LCS) R3519663-1 04/17/20 10:22 • (LCSD) R3519663-2 04/17/20 10:42

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 %
1,2,4-Trichlorobenzene	5.00	4.21	3.98	84.2	79.6	57.0-137			5.62	20
(S) Toluene-d8				110	111	80.0-120				
(S) 4-Bromofluorobenzene				107	110	77.0-126				
(S) 1,2-Dichloroethane-d4				103	104	70.0-130				

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Guide to Reading and Understanding Your Laboratory Report

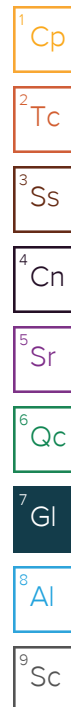
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.





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.

