

Cascade Corporation- Fairview, OR

Sample Delivery Group: L1324052
Samples Received: 03/06/2021
Project Number: PNG0564S20
Description: MW-26dg IDW

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

Entire Report Reviewed By:



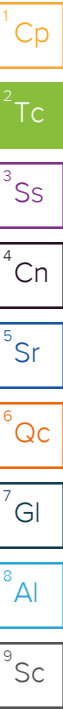
Brian Ford
Project Manager

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

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SAMPLE SUMMARY

MW26IDW_030221 L1324052-01 Solid

Collected by
Jon Laurance

Collected date/time
03/02/21 13:35

Received date/time
03/06/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1631659	1	03/09/21 17:21	03/09/21 17:30	CMK	Mt. Juliet, TN
Mercury by Method 7471B	WG1631581	1	03/09/21 10:24	03/09/21 17:41	BMF	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1631407	5	03/09/21 07:10	03/09/21 10:04	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1631554	1.1	03/02/21 13:35	03/09/21 18:32	BMB	Mt. Juliet, TN

TRIP BLANK L1324052-02 GW

Collected by
Jon Laurance

Collected date/time
03/02/21 13:40

Received date/time
03/06/21 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1632451	1	03/10/21 22:04	03/10/21 22:04	JAH	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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.



Brian Ford
Project Manager

- 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	41.6		1	03/09/2021 17:30	WG1631659

Mercury by Method 7471B

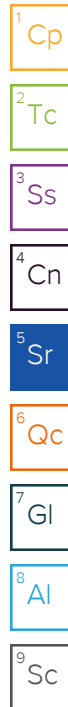
Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Mercury	ND		0.0961	1	03/09/2021 17:41	WG1631581

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Arsenic	3.37		2.40	5	03/09/2021 10:04	WG1631407
Barium	64.8		6.00	5	03/09/2021 10:04	WG1631407
Cadmium	ND		2.40	5	03/09/2021 10:04	WG1631407
Chromium	21.5		12.0	5	03/09/2021 10:04	WG1631407
Lead	7.54		4.80	5	03/09/2021 10:04	WG1631407
Selenium	ND		6.00	5	03/09/2021 10:04	WG1631407
Silver	ND		1.20	5	03/09/2021 10:04	WG1631407

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		0.202	1.1	03/09/2021 18:32	WG1631554
Acrylonitrile	ND		0.0508	1.1	03/09/2021 18:32	WG1631554
Benzene	ND		0.00405	1.1	03/09/2021 18:32	WG1631554
Bromobenzene	ND		0.0508	1.1	03/09/2021 18:32	WG1631554
Bromodichloromethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Bromoform	ND		0.101	1.1	03/09/2021 18:32	WG1631554
Bromomethane	ND		0.0508	1.1	03/09/2021 18:32	WG1631554
n-Butylbenzene	ND		0.0508	1.1	03/09/2021 18:32	WG1631554
sec-Butylbenzene	ND		0.0508	1.1	03/09/2021 18:32	WG1631554
tert-Butylbenzene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
Carbon tetrachloride	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
Chlorobenzene	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Chlorodibromomethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Chloroethane	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
Chloroform	0.0116		0.0101	1.1	03/09/2021 18:32	WG1631554
Chloromethane	ND		0.0508	1.1	03/09/2021 18:32	WG1631554
2-Chlorotoluene	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
4-Chlorotoluene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
1,2-Dibromo-3-Chloropropane	ND		0.101	1.1	03/09/2021 18:32	WG1631554
1,2-Dibromoethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Dibromomethane	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
1,2-Dichlorobenzene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
1,3-Dichlorobenzene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
1,4-Dichlorobenzene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
Dichlorodifluoromethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
1,1-Dichloroethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
1,2-Dichloroethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
1,1-Dichloroethene	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
cis-1,2-Dichloroethene	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
trans-1,2-Dichloroethene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
1,2-Dichloropropane	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
1,1-Dichloropropene	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
1,3-Dichloropropane	ND		0.0202	1.1	03/09/2021 18:32	WG1631554



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

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
cis-1,3-Dichloropropene	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
trans-1,3-Dichloropropene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
2,2-Dichloropropane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Di-isopropyl ether	ND		0.00405	1.1	03/09/2021 18:32	WG1631554
Ethylbenzene	0.0116		0.0101	1.1	03/09/2021 18:32	WG1631554
Hexachloro-1,3-butadiene	ND	C3	0.101	1.1	03/09/2021 18:32	WG1631554
Isopropylbenzene	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
p-Isopropyltoluene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
2-Butanone (MEK)	ND		0.405	1.1	03/09/2021 18:32	WG1631554
Methylene Chloride	ND		0.101	1.1	03/09/2021 18:32	WG1631554
4-Methyl-2-pentanone (MIBK)	ND		0.101	1.1	03/09/2021 18:32	WG1631554
Methyl tert-butyl ether	ND		0.00405	1.1	03/09/2021 18:32	WG1631554
Naphthalene	ND	C3	0.0508	1.1	03/09/2021 18:32	WG1631554
n-Propylbenzene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
Styrene	0.0832		0.0508	1.1	03/09/2021 18:32	WG1631554
1,1,1,2-Tetrachloroethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
1,1,2,2-Tetrachloroethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
1,1,2-Trichlorotrifluoroethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Tetrachloroethene	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Toluene	0.0986		0.0202	1.1	03/09/2021 18:32	WG1631554
1,2,3-Trichlorobenzene	ND	C3	0.0508	1.1	03/09/2021 18:32	WG1631554
1,2,4-Trichlorobenzene	ND	C3	0.0508	1.1	03/09/2021 18:32	WG1631554
1,1,1-Trichloroethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
1,1,2-Trichloroethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Trichloroethene	ND		0.00405	1.1	03/09/2021 18:32	WG1631554
Trichlorofluoromethane	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
1,2,3-Trichloropropane	ND		0.0508	1.1	03/09/2021 18:32	WG1631554
1,2,4-Trimethylbenzene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
1,2,3-Trimethylbenzene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
1,3,5-Trimethylbenzene	ND		0.0202	1.1	03/09/2021 18:32	WG1631554
Vinyl chloride	ND		0.0101	1.1	03/09/2021 18:32	WG1631554
Xylenes, Total	0.0522		0.0263	1.1	03/09/2021 18:32	WG1631554
(S) Toluene-d8	98.9		75.0-131		03/09/2021 18:32	WG1631554
(S) 4-Bromofluorobenzene	96.8		67.0-138		03/09/2021 18:32	WG1631554
(S) 1,2-Dichloroethane-d4	105		70.0-130		03/09/2021 18:32	WG1631554

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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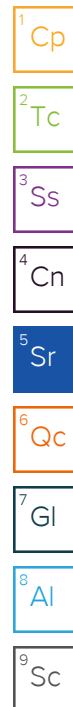
Collected date/time: 03/02/21 13:40

SAMPLE RESULTS - 02

L1324052

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	25.0	1	03/10/2021 22:04	WG1632451
Acrolein	ND		50.0	1	03/10/2021 22:04	WG1632451
Acrylonitrile	ND		5.00	1	03/10/2021 22:04	WG1632451
Benzene	ND		0.500	1	03/10/2021 22:04	WG1632451
Bromobenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
Bromodichloromethane	ND		0.500	1	03/10/2021 22:04	WG1632451
Bromoform	ND		0.500	1	03/10/2021 22:04	WG1632451
Bromomethane	ND		2.50	1	03/10/2021 22:04	WG1632451
n-Butylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
sec-Butylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
tert-Butylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
Carbon disulfide	ND		0.500	1	03/10/2021 22:04	WG1632451
Carbon tetrachloride	ND		0.500	1	03/10/2021 22:04	WG1632451
Chlorobenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
Chlorodibromomethane	ND		0.500	1	03/10/2021 22:04	WG1632451
Chloroethane	ND		2.50	1	03/10/2021 22:04	WG1632451
Chloroform	ND		0.500	1	03/10/2021 22:04	WG1632451
Chloromethane	ND		1.25	1	03/10/2021 22:04	WG1632451
2-Chlorotoluene	ND		0.500	1	03/10/2021 22:04	WG1632451
4-Chlorotoluene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,2-Dibromo-3-Chloropropane	ND	C3	2.50	1	03/10/2021 22:04	WG1632451
1,2-Dibromoethane	ND		0.500	1	03/10/2021 22:04	WG1632451
Dibromomethane	ND		0.500	1	03/10/2021 22:04	WG1632451
1,2-Dichlorobenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,3-Dichlorobenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,4-Dichlorobenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
Dichlorodifluoromethane	ND		2.50	1	03/10/2021 22:04	WG1632451
1,1-Dichloroethane	ND		0.500	1	03/10/2021 22:04	WG1632451
1,2-Dichloroethane	ND		0.500	1	03/10/2021 22:04	WG1632451
1,1-Dichloroethene	ND		0.500	1	03/10/2021 22:04	WG1632451
cis-1,2-Dichloroethene	ND		0.500	1	03/10/2021 22:04	WG1632451
trans-1,2-Dichloroethene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,2-Dichloropropane	ND		0.500	1	03/10/2021 22:04	WG1632451
1,1-Dichloropropene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,3-Dichloropropane	ND		1.00	1	03/10/2021 22:04	WG1632451
cis-1,3-Dichloropropene	ND		0.500	1	03/10/2021 22:04	WG1632451
trans-1,3-Dichloropropene	ND		0.500	1	03/10/2021 22:04	WG1632451
2,2-Dichloropropane	ND		0.500	1	03/10/2021 22:04	WG1632451
Di-isopropyl ether	ND		0.500	1	03/10/2021 22:04	WG1632451
Ethylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
Hexachloro-1,3-butadiene	ND	C3	1.00	1	03/10/2021 22:04	WG1632451
Isopropylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
p-Isopropyltoluene	ND		0.500	1	03/10/2021 22:04	WG1632451
2-Butanone (MEK)	ND		5.00	1	03/10/2021 22:04	WG1632451
Methylene Chloride	ND	J4	2.50	1	03/10/2021 22:04	WG1632451
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	03/10/2021 22:04	WG1632451
Methyl tert-butyl ether	ND		0.500	1	03/10/2021 22:04	WG1632451
Naphthalene	ND	C3	2.50	1	03/10/2021 22:04	WG1632451
n-Propylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
Styrene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,1,1,2-Tetrachloroethane	ND		0.500	1	03/10/2021 22:04	WG1632451
1,1,2,2-Tetrachloroethane	ND		0.500	1	03/10/2021 22:04	WG1632451
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	03/10/2021 22:04	WG1632451
Tetrachloroethene	ND		0.500	1	03/10/2021 22:04	WG1632451
Toluene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,2,3-Trichlorobenzene	ND	C4	0.500	1	03/10/2021 22:04	WG1632451



ACCOUNT:

Cascade Corporation- Fairview, OR

PROJECT:

PNG0564520

SDG:

L1324052

DATE/TIME:

03/12/21 10:09

PAGE:

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Collected date/time: 03/02/21 13:40

SAMPLE RESULTS - 02

L1324052

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	C3	1.00	1	03/10/2021 22:04	WG1632451
1,1,1-Trichloroethane	ND		0.500	1	03/10/2021 22:04	WG1632451
1,1,2-Trichloroethane	ND		0.500	1	03/10/2021 22:04	WG1632451
Trichloroethene	ND		0.500	1	03/10/2021 22:04	WG1632451
Trichlorofluoromethane	ND		2.50	1	03/10/2021 22:04	WG1632451
1,2,3-Trichloropropane	ND		2.50	1	03/10/2021 22:04	WG1632451
1,2,4-Trimethylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,2,3-Trimethylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
1,3,5-Trimethylbenzene	ND		0.500	1	03/10/2021 22:04	WG1632451
Vinyl chloride	ND		0.500	1	03/10/2021 22:04	WG1632451
Xylenes, Total	ND		1.50	1	03/10/2021 22:04	WG1632451
(S) Toluene-d8	104		80.0-120		03/10/2021 22:04	WG1632451
(S) 4-Bromofluorobenzene	98.6		77.0-126		03/10/2021 22:04	WG1632451
(S) 1,2-Dichloroethane-d4	104		70.0-130		03/10/2021 22:04	WG1632451

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R3629392-1 03/09/21 17:30

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

L1323844-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1323844-03 03/09/21 17:30 • (DUP) R3629392-3 03/09/21 17:30

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	86.8	87.2	1	0.398		10

Laboratory Control Sample (LCS)

(LCS) R3629392-2 03/09/21 17:30

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3628957-1 03/09/21 17:15

	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) R3628957-2 03/09/21 17:18

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Mercury	0.500	0.453	90.6	80.0-120	

L1324084-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1324084-08 03/09/21 17:20 • (MS) R3628957-3 03/09/21 17:23 • (MSD) R3628957-4 03/09/21 17:25

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Mercury	0.500	ND	0.463	0.460	92.7	92.1	1	75.0-125			0.634	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3628712-1 03/09/21 09:41

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Arsenic	U		0.100	1.00
Barium	U		0.152	2.50
Cadmium	U		0.0855	1.00
Chromium	U		0.297	5.00
Lead	U		0.0990	2.00
Selenium	U		0.180	2.50
Silver	U		0.0865	0.500

Laboratory Control Sample (LCS)

(LCS) R3628712-2 03/09/21 09:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	100	92.3	92.3	80.0-120	
Barium	100	93.1	93.1	80.0-120	
Cadmium	100	97.4	97.4	80.0-120	
Chromium	100	95.2	95.2	80.0-120	
Lead	100	94.6	94.6	80.0-120	
Selenium	100	96.3	96.3	80.0-120	
Silver	20.0	19.4	97.0	80.0-120	

L1324009-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1324009-02 03/09/21 09:48 • (MS) R3628712-5 03/09/21 09:58 • (MSD) R3628712-6 03/09/21 10:01

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	20.0	2.22	88.6	81.6	86.4	79.4	5	75.0-125			8.19	20
Barium	20.0	105	171	182	65.8	76.9	5	75.0-125	J6		6.26	20
Cadmium	20.0	ND	96.2	90.9	96.2	90.9	5	75.0-125			5.73	20
Chromium	20.0	35.0	119	113	84.5	78.2	5	75.0-125			5.41	20
Lead	20.0	23.1	118	104	94.9	81.0	5	75.0-125			12.4	20
Selenium	20.0	ND	88.6	81.5	88.0	80.9	5	75.0-125			8.31	20
Silver	4.00	ND	19.0	17.9	95.0	89.7	5	75.0-125			5.72	20

1

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) R3628806-3 03/09/21 09:25

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) R3628806-3 03/09/21 09:25

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	99.9			75.0-131
(S) 4-Bromofluorobenzene	93.1			67.0-138
(S) 1,2-Dichloroethane-d4	91.3			70.0-130

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

(LCS) R3628806-1 03/09/21 08:09 • (LCSD) R3628806-2 03/09/21 08:28

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	0.702	0.752	112	120	10.0-160			6.88	31
Acrylonitrile	0.625	0.527	0.568	84.3	90.9	45.0-153			7.49	22
Benzene	0.125	0.112	0.109	89.6	87.2	70.0-123			2.71	20
Bromobenzene	0.125	0.108	0.108	86.4	86.4	73.0-121			0.000	20
Bromodichloromethane	0.125	0.117	0.111	93.6	88.8	73.0-121			5.26	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3628806-1 03/09/21 08:09 • (LCSD) R3628806-2 03/09/21 08:28

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 %
Bromoform	0.125	0.115	0.108	92.0	86.4	64.0-132			6.28	20
Bromomethane	0.125	0.134	0.126	107	101	56.0-147			6.15	20
n-Butylbenzene	0.125	0.109	0.104	87.2	83.2	68.0-135			4.69	20
sec-Butylbenzene	0.125	0.119	0.114	95.2	91.2	74.0-130			4.29	20
tert-Butylbenzene	0.125	0.111	0.105	88.8	84.0	75.0-127			5.56	20
Carbon tetrachloride	0.125	0.114	0.110	91.2	88.0	66.0-128			3.57	20
Chlorobenzene	0.125	0.111	0.107	88.8	85.6	76.0-128			3.67	20
Chlorodibromomethane	0.125	0.112	0.106	89.6	84.8	74.0-127			5.50	20
Chloroethane	0.125	0.129	0.128	103	102	61.0-134			0.778	20
Chloroform	0.125	0.111	0.109	88.8	87.2	72.0-123			1.82	20
Chloromethane	0.125	0.127	0.121	102	96.8	51.0-138			4.84	20
2-Chlorotoluene	0.125	0.113	0.109	90.4	87.2	75.0-124			3.60	20
4-Chlorotoluene	0.125	0.119	0.111	95.2	88.8	75.0-124			6.96	20
1,2-Dibromo-3-Chloropropane	0.125	0.104	0.104	83.2	83.2	59.0-130			0.000	20
1,2-Dibromoethane	0.125	0.109	0.106	87.2	84.8	74.0-128			2.79	20
Dibromomethane	0.125	0.102	0.107	81.6	85.6	75.0-122			4.78	20
1,2-Dichlorobenzene	0.125	0.107	0.103	85.6	82.4	76.0-124			3.81	20
1,3-Dichlorobenzene	0.125	0.113	0.108	90.4	86.4	76.0-125			4.52	20
1,4-Dichlorobenzene	0.125	0.106	0.104	84.8	83.2	77.0-121			1.90	20
Dichlorodifluoromethane	0.125	0.134	0.123	107	98.4	43.0-156			8.56	20
1,1-Dichloroethane	0.125	0.112	0.114	89.6	91.2	70.0-127			1.77	20
1,2-Dichloroethane	0.125	0.110	0.111	88.0	88.8	65.0-131			0.905	20
1,1-Dichloroethene	0.125	0.124	0.115	99.2	92.0	65.0-131			7.53	20
cis-1,2-Dichloroethene	0.125	0.107	0.102	85.6	81.6	73.0-125			4.78	20
trans-1,2-Dichloroethene	0.125	0.115	0.111	92.0	88.8	71.0-125			3.54	20
1,2-Dichloropropane	0.125	0.122	0.118	97.6	94.4	74.0-125			3.33	20
1,1-Dichloropropene	0.125	0.117	0.116	93.6	92.8	73.0-125			0.858	20
1,3-Dichloropropane	0.125	0.113	0.109	90.4	87.2	80.0-125			3.60	20
cis-1,3-Dichloropropene	0.125	0.116	0.114	92.8	91.2	76.0-127			1.74	20
trans-1,3-Dichloropropene	0.125	0.121	0.113	96.8	90.4	73.0-127			6.84	20
2,2-Dichloropropane	0.125	0.131	0.129	105	103	59.0-135			1.54	20
Di-isopropyl ether	0.125	0.115	0.116	92.0	92.8	60.0-136			0.866	20
Ethylbenzene	0.125	0.112	0.106	89.6	84.8	74.0-126			5.50	20
Hexachloro-1,3-butadiene	0.125	0.0979	0.0958	78.3	76.6	57.0-150			2.17	20
Isopropylbenzene	0.125	0.109	0.101	87.2	80.8	72.0-127			7.62	20
p-Isopropyltoluene	0.125	0.111	0.108	88.8	86.4	72.0-133			2.74	20
2-Butanone (MEK)	0.625	0.679	0.732	109	117	30.0-160			7.51	24
Methylene Chloride	0.125	0.107	0.106	85.6	84.8	68.0-123			0.939	20
4-Methyl-2-pentanone (MIBK)	0.625	0.641	0.603	103	96.5	56.0-143			6.11	20
Methyl tert-butyl ether	0.125	0.101	0.101	80.8	80.8	66.0-132			0.000	20

¹Cp

²Tc

³Ss

⁴Cn

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⁶Qc

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⁸Al

⁹Sc

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

(LCS) R3628806-1 03/09/21 08:09 • (LCSD) R3628806-2 03/09/21 08:28

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 %
Naphthalene	0.125	0.0958	0.0940	76.6	75.2	59.0-130			1.90	20
n-Propylbenzene	0.125	0.123	0.117	98.4	93.6	74.0-126			5.00	20
Styrene	0.125	0.103	0.0994	82.4	79.5	72.0-127			3.56	20
1,1,1,2-Tetrachloroethane	0.125	0.100	0.0961	80.0	76.9	74.0-129			3.98	20
1,1,2,2-Tetrachloroethane	0.125	0.120	0.117	96.0	93.6	68.0-128			2.53	20
Tetrachloroethene	0.125	0.118	0.107	94.4	85.6	70.0-136			9.78	20
Toluene	0.125	0.113	0.106	90.4	84.8	75.0-121			6.39	20
1,1,2-Trichlorotrifluoroethane	0.125	0.117	0.113	93.6	90.4	61.0-139			3.48	20
1,2,3-Trichlorobenzene	0.125	0.0920	0.0901	73.6	72.1	59.0-139			2.09	20
1,2,4-Trichlorobenzene	0.125	0.0917	0.0867	73.4	69.4	62.0-137			5.61	20
1,1,1-Trichloroethane	0.125	0.108	0.104	86.4	83.2	69.0-126			3.77	20
1,1,2-Trichloroethane	0.125	0.107	0.103	85.6	82.4	78.0-123			3.81	20
Trichloroethene	0.125	0.114	0.107	91.2	85.6	76.0-126			6.33	20
Trichlorofluoromethane	0.125	0.111	0.105	88.8	84.0	61.0-142			5.56	20
1,2,3-Trichloropropane	0.125	0.122	0.114	97.6	91.2	67.0-129			6.78	20
1,2,3-Trimethylbenzene	0.125	0.112	0.107	89.6	85.6	74.0-124			4.57	20
1,2,4-Trimethylbenzene	0.125	0.112	0.109	89.6	87.2	70.0-126			2.71	20
1,3,5-Trimethylbenzene	0.125	0.115	0.109	92.0	87.2	73.0-127			5.36	20
Vinyl chloride	0.125	0.131	0.119	105	95.2	63.0-134			9.60	20
Xylenes, Total	0.375	0.333	0.302	88.8	80.5	72.0-127			9.76	20
(S) Toluene-d8				99.6	100	75.0-131				
(S) 4-Bromofluorobenzene				96.8	96.4	67.0-138				
(S) 1,2-Dichloroethane-d4				99.1	98.8	70.0-130				

L1323833-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1323833-04 03/09/21 19:10 • (MS) R3628806-4 03/09/21 19:48 • (MSD) R3628806-5 03/09/21 20:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	7.50	ND	28.6	24.7	381	329	12	10.0-160	J5	J5	14.6	40
Acrylonitrile	7.50	ND	10.4	10.3	139	137	12	10.0-160			0.966	40
Benzene	1.50	0.0657	1.47	0.975	93.6	60.6	12	10.0-149		J3	40.5	37
Bromobenzene	1.50	ND	1.53	1.24	102	82.7	12	10.0-156			20.9	38
Bromodichloromethane	1.50	ND	1.42	1.13	94.7	75.3	12	10.0-143			22.7	37
Bromoform	1.50	ND	1.93	1.72	129	115	12	10.0-146			11.5	36
Bromomethane	1.50	ND	1.24	0.875	82.7	58.3	12	10.0-149			34.5	38
n-Butylbenzene	1.50	2.00	3.44	2.97	96.0	64.7	12	10.0-160			14.7	40
sec-Butylbenzene	1.50	0.868	2.34	1.76	98.1	59.5	12	10.0-159			28.3	39
tert-Butylbenzene	1.50	ND	1.53	0.956	102	63.7	12	10.0-156		J3	46.2	39

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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

L1323833-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1323833-04 03/09/21 19:10 • (MS) R3628806-4 03/09/21 19:48 • (MSD) R3628806-5 03/09/21 20:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	1.50	ND	1.47	0.734	98.0	48.9	12	10.0-145		J3	66.8	37
Chlorobenzene	1.50	ND	1.72	1.41	115	94.0	12	10.0-152			19.8	39
Chlorodibromomethane	1.50	ND	1.84	1.59	123	106	12	10.0-146			14.6	37
Chloroethane	1.50	ND	1.08	0.693	72.0	46.2	12	10.0-146		J3	43.7	40
Chloroform	1.50	ND	1.70	1.34	113	89.3	12	10.0-146			23.7	37
Chloromethane	1.50	ND	1.31	0.723	87.3	48.2	12	10.0-159		J3	57.7	37
2-Chlorotoluene	1.50	ND	1.55	1.06	103	70.7	12	10.0-159			37.5	38
4-Chlorotoluene	1.50	ND	1.59	1.12	106	74.7	12	10.0-155			34.7	39
1,2-Dibromo-3-Chloropropane	1.50	ND	1.60	1.51	107	101	12	10.0-151			5.79	39
1,2-Dibromoethane	1.50	ND	1.80	1.57	120	105	12	10.0-148			13.6	34
Dibromomethane	1.50	ND	1.31	1.23	87.3	82.0	12	10.0-147			6.30	35
1,2-Dichlorobenzene	1.50	ND	1.59	1.26	106	84.0	12	10.0-155			23.2	37
1,3-Dichlorobenzene	1.50	ND	1.55	1.23	103	82.0	12	10.0-153			23.0	38
1,4-Dichlorobenzene	1.50	ND	1.52	1.22	101	81.3	12	10.0-151			21.9	38
Dichlorodifluoromethane	1.50	ND	1.06	0.416	70.7	27.7	12	10.0-160		J3	87.3	35
1,1-Dichloroethane	1.50	ND	1.49	1.03	99.3	68.7	12	10.0-147			36.5	37
1,2-Dichloroethane	1.50	ND	1.31	1.16	87.3	77.3	12	10.0-148			12.1	35
1,1-Dichloroethene	1.50	ND	1.45	0.772	96.7	51.5	12	10.0-155		J3	61.0	37
cis-1,2-Dichloroethene	1.50	ND	1.46	0.998	97.3	66.5	12	10.0-149		J3	37.6	37
trans-1,2-Dichloroethene	1.50	ND	1.38	0.871	92.0	58.1	12	10.0-150		J3	45.2	37
1,2-Dichloropropane	1.50	ND	1.86	1.18	124	78.7	12	10.0-148		J3	44.7	37
1,1-Dichloropropene	1.50	ND	1.45	0.761	96.7	50.7	12	10.0-153		J3	62.3	35
1,3-Dichloropropane	1.50	ND	1.69	1.52	113	101	12	10.0-154			10.6	35
cis-1,3-Dichloropropene	1.50	ND	1.43	1.17	95.3	78.0	12	10.0-151			20.0	37
trans-1,3-Dichloropropene	1.50	ND	1.87	1.62	125	108	12	10.0-148			14.3	37
2,2-Dichloropropane	1.50	ND	1.11	0.749	74.0	49.9	12	10.0-138		J3	38.8	36
Di-isopropyl ether	1.50	ND	1.45	1.16	96.7	77.3	12	10.0-147			22.2	36
Ethylbenzene	1.50	4.94	6.17	5.52	82.0	38.7	12	10.0-160			11.1	38
Hexachloro-1,3-butadiene	1.50	ND	1.73	1.16	115	77.3	12	10.0-160			39.4	40
Isopropylbenzene	1.50	1.29	2.84	2.19	103	60.0	12	10.0-155			25.8	38
p-Isopropyltoluene	1.50	1.04	2.65	2.01	107	64.7	12	10.0-160			27.5	40
2-Butanone (MEK)	7.50	ND	16.2	15.3	216	204	12	10.0-160	J5	J5	5.71	40
Methylene Chloride	1.50	ND	1.28	0.914	85.3	60.9	12	10.0-141			33.4	37
4-Methyl-2-pentanone (MIBK)	7.50	ND	20.9	20.0	279	267	12	10.0-160	J5	J5	4.40	35
Methyl tert-butyl ether	1.50	ND	1.26	1.04	84.0	69.3	12	11.0-147			19.1	35
Naphthalene	1.50	2.96	4.31	3.95	90.0	66.0	12	10.0-160			8.72	36
n-Propylbenzene	1.50	4.64	5.59	5.01	63.3	24.7	12	10.0-158			10.9	38
Styrene	1.50	ND	1.75	1.33	117	88.7	12	10.0-160			27.3	40
1,1,1,2-Tetrachloroethane	1.50	ND	1.64	1.20	109	80.0	12	10.0-149			31.0	39
1,1,2,2-Tetrachloroethane	1.50	ND	3.14	2.99	209	199	12	10.0-160	J5	J5	4.89	35

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1323833-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1323833-04 03/09/21 19:10 • (MS) R3628806-4 03/09/21 19:48 • (MSD) R3628806-5 03/09/21 20:07

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Tetrachloroethene	1.50	ND	1.78	1.01	119	67.3	12	10.0-156		J3	55.2	39
Toluene	1.50	0.161	1.82	1.26	111	73.3	12	10.0-156			36.4	38
1,1,2-Trichlorotrifluoroethane	1.50	ND	1.51	0.545	101	36.3	12	10.0-160		J3	93.9	36
1,2,3-Trichlorobenzene	1.50	ND	1.43	1.29	95.3	86.0	12	10.0-160			10.3	40
1,2,4-Trichlorobenzene	1.50	ND	1.49	1.27	99.3	84.7	12	10.0-160			15.9	40
1,1,1-Trichloroethane	1.50	ND	1.30	0.779	86.7	51.9	12	10.0-144		J3	50.1	35
1,1,2-Trichloroethane	1.50	ND	3.44	3.20	229	213	12	10.0-160	J5	J5	7.23	35
Trichloroethene	1.50	ND	1.44	0.937	96.0	62.5	12	10.0-156		J3	42.3	38
Trichlorofluoromethane	1.50	ND	0.668	0.538	44.5	35.9	12	10.0-160			21.6	40
1,2,3-Trichloropropane	1.50	ND	1.94	1.46	129	97.3	12	10.0-156			28.2	35
1,2,3-Trimethylbenzene	1.50	5.75	6.77	6.31	68.0	37.3	12	10.0-160			7.03	36
1,2,4-Trimethylbenzene	1.50	38.8	36.9	36.0	0.000	0.000	12	10.0-160	EV	EV	2.47	36
1,3,5-Trimethylbenzene	1.50	15.1	14.9	14.3	0.000	0.000	12	10.0-160	V	V	4.11	38
Vinyl chloride	1.50	ND	1.31	0.661	87.3	44.1	12	10.0-160		J3	65.9	37
Xylenes, Total	4.50	13.7	17.8	15.7	91.1	44.4	12	10.0-160			12.5	38
(S) Toluene-d8					116	115		75.0-131				
(S) 4-Bromofluorobenzene					126	128		67.0-138				
(S) 1,2-Dichloroethane-d4					107	112		70.0-130				

1

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

7

Gl

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Al

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Sc

Method Blank (MB)

(MB) R3629745-2 03/10/21 21:23

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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3629745-2 03/10/21 21:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	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	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	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	U		0.164	0.500
1,2,4-Trichlorobenzene	U		0.481	1.00
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	100			80.0-120
(S) 4-Bromofluorobenzene	97.8			77.0-126
(S) 1,2-Dichloroethane-d4	107			70.0-130

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3629745-1 03/10/21 20:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	41.1	164	19.0-160	J4
Acrolein	25.0	30.9	124	10.0-160	
Acrylonitrile	25.0	29.3	117	55.0-149	

Laboratory Control Sample (LCS)

(LCS) R3629745-1 03/10/21 20:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Benzene	5.00	5.79	116	70.0-123	
Bromobenzene	5.00	5.42	108	73.0-121	
Bromodichloromethane	5.00	5.50	110	75.0-120	
Bromoform	5.00	4.68	93.6	68.0-132	
Bromomethane	5.00	5.60	112	10.0-160	
n-Butylbenzene	5.00	4.88	97.6	73.0-125	
sec-Butylbenzene	5.00	5.72	114	75.0-125	
tert-Butylbenzene	5.00	5.56	111	76.0-124	
Carbon disulfide	5.00	5.16	103	61.0-128	
Carbon tetrachloride	5.00	5.44	109	68.0-126	
Chlorobenzene	5.00	5.29	106	80.0-121	
Chlorodibromomethane	5.00	4.93	98.6	77.0-125	
Chloroethane	5.00	5.43	109	47.0-150	
Chloroform	5.00	5.71	114	73.0-120	
Chloromethane	5.00	6.64	133	41.0-142	
2-Chlorotoluene	5.00	5.63	113	76.0-123	
4-Chlorotoluene	5.00	5.44	109	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	4.24	84.8	58.0-134	
1,2-Dibromoethane	5.00	5.57	111	80.0-122	
Dibromomethane	5.00	5.58	112	80.0-120	
1,2-Dichlorobenzene	5.00	5.24	105	79.0-121	
1,3-Dichlorobenzene	5.00	5.38	108	79.0-120	
1,4-Dichlorobenzene	5.00	5.32	106	79.0-120	
Dichlorodifluoromethane	5.00	6.29	126	51.0-149	
1,1-Dichloroethane	5.00	5.98	120	70.0-126	
1,2-Dichloroethane	5.00	5.55	111	70.0-128	
1,1-Dichloroethene	5.00	5.54	111	71.0-124	
cis-1,2-Dichloroethene	5.00	5.91	118	73.0-120	
trans-1,2-Dichloroethene	5.00	5.90	118	73.0-120	
1,2-Dichloropropane	5.00	5.71	114	77.0-125	
1,1-Dichloropropene	5.00	5.60	112	74.0-126	
1,3-Dichloropropane	5.00	5.57	111	80.0-120	
cis-1,3-Dichloropropene	5.00	5.55	111	80.0-123	
trans-1,3-Dichloropropene	5.00	5.31	106	78.0-124	
2,2-Dichloropropane	5.00	6.41	128	58.0-130	
Di-isopropyl ether	5.00	5.80	116	58.0-138	
Ethylbenzene	5.00	5.69	114	79.0-123	
Hexachloro-1,3-butadiene	5.00	4.04	80.8	54.0-138	
Isopropylbenzene	5.00	5.34	107	76.0-127	
p-Isopropyltoluene	5.00	5.35	107	76.0-125	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS)

(LCS) R3629745-1 03/10/21 20:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
2-Butanone (MEK)	25.0	29.0	116	44.0-160	
Methylene Chloride	5.00	6.13	123	67.0-120	J4
4-Methyl-2-pentanone (MIBK)	25.0	28.2	113	68.0-142	
Methyl tert-butyl ether	5.00	5.62	112	68.0-125	
Naphthalene	5.00	3.39	67.8	54.0-135	
n-Propylbenzene	5.00	5.81	116	77.0-124	
Styrene	5.00	5.19	104	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	5.01	100	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	5.92	118	65.0-130	
Tetrachloroethene	5.00	5.15	103	72.0-132	
Toluene	5.00	5.70	114	79.0-120	
1,1,2-Trichlorotrifluoroethane	5.00	5.59	112	69.0-132	
1,2,3-Trichlorobenzene	5.00	3.58	71.6	50.0-138	
1,2,4-Trichlorobenzene	5.00	3.63	72.6	57.0-137	
1,1,1-Trichloroethane	5.00	5.71	114	73.0-124	
1,1,2-Trichloroethane	5.00	5.40	108	80.0-120	
Trichloroethene	5.00	5.75	115	78.0-124	
Trichlorofluoromethane	5.00	6.39	128	59.0-147	
1,2,3-Trichloropropane	5.00	5.63	113	73.0-130	
1,2,3-Trimethylbenzene	5.00	5.03	101	77.0-120	
1,2,4-Trimethylbenzene	5.00	5.21	104	76.0-121	
1,3,5-Trimethylbenzene	5.00	5.40	108	76.0-122	
Vinyl chloride	5.00	5.36	107	67.0-131	
Xylenes, Total	15.0	16.1	107	79.0-123	
(S) Toluene-d8			102	80.0-120	
(S) 4-Bromofluorobenzene			100	77.0-126	
(S) 1,2-Dichloroethane-d4			107	70.0-130	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

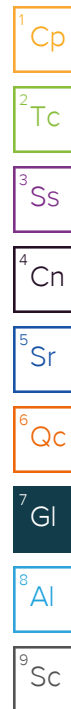
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

(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
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
C4	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
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.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.



GLOSSARY OF TERMS

Qualifier	Description
V	The sample concentration is too high to evaluate accurate spike recoveries.

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

ACCREDITATIONS & LOCATIONS

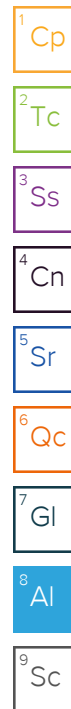
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



Company Name/Address: **GeoSyntec, Inc. - OR** *Cascade Corporation*
2201 NE 201st Avenue
Suite 600
Portland, OR 97204

Billing Information: *Accounts Payable*
920 SW Sixth Avenue
Suite 600
Portland, OR 97204

Report to: **Jon Laurance**, *Cindy Bartlett*

Project Description: **MW-26 IDW**

City/State Collected: **Fairview, OR**

Email To: **JLaurance@Geosyntec.com**

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page **1** of **1**

Client Project # **PNG0564520**

Lab Project # **GEOSYNPOR-LAURANCE**

Collected by (print): **Jon Laurance**

Collected by (signature): *[Signature]*

Immediately Packed on Ice **N** ☒ **Y** ☒

Rush? (Lab MUST Be Notified)

Same Day ☐ Five Day ☐

Next Day ☐ 5 Day (Rad Only) ☐

Two Day ☐ 10 Day (Rad Only) ☐

Three Day ☐ **Standard**

Date Results Needed

Quote #

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

No. of Cntrs

RCRA8 Metals 6020 4ozClr-NoPres

VOCs 8260D 40mlAmb/MeOH10ml/Syr

Remarks

Sample # (lab only)

MW26IDW_036221

Comp

SS

3/2/21

1335

2

X

X

OT

3/2/21

1340

1

X

X

01

02

3/2/21

* Matrix:

SS - Soil **AIR** - Air **F** - Filter

GW - Groundwater **B** - Bioassay

WW - WasteWater

DW - Drinking Water

OT - Other **Distilled water**

Remarks:

Samples returned via: ☐ UPS ☐ FedEx ☐ Courier

Tracking # **951757489000**

Relinquished by: (Signature) *Jon Laurance*

Date: **3/3/2021**

Time: **1206**

Received by: (Signature) *To FedEx*

Trip Blank Received: **Yes/No**

Temp: **7.3-4** °C

Bottles Received: **2**

Preservation Correct/Checked: ☒

RAD Screen <0.5 mR/hr: ☒

Sample Receipt Checklist

COC Seal Present/Intact: ☒ **Y** ☐ **N**

COC Signed/Accurate: ☒ **Y** ☐ **N**

Bottles arrive intact: ☒ **Y** ☐ **N**

Correct bottles used: ☒ **Y** ☐ **N**

Sufficient volume sent: ☒ **Y** ☐ **N**

If Applicable

VOL Zero Headspace: ☒ **Y** ☐ **N**

Preservation Correct/Checked: ☒ **Y** ☐ **N**

RAD Screen <0.5 mR/hr: ☒ **Y** ☐ **N**

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: **7.3-4** °C

Bottles Received: **2**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for Lab by: (Signature)

Date: **3/6/21**

Time: **0945**

Hold:

Condition: **NCF** ☒ **OK**