

September 26, 2018

Cascade Corporation- Fairview, OR

Sample Delivery Group: L1028320
Samples Received: 09/22/2018
Project Number: PNG0564S18
Description:

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

Entire Report Reviewed By:



Jason Romer
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 National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	1 Cp
Tc: Table of Contents	2	2 Tc
Ss: Sample Summary	3	3 Ss
Cn: Case Narrative	4	4 Cn
Sr: Sample Results	5	5 Sr
CMW36DG-092018 L1028320-01	5	
PWB1LTS-092018 L1028320-02	7	
PWB1UTS-092018 L1028320-03	9	
Qc: Quality Control Summary	11	6 Qc
Volatile Organic Compounds (GC/MS) by Method 8260B	11	
Gl: Glossary of Terms	17	7 Gl
Al: Accreditations & Locations	18	8 Al
Sc: Sample Chain of Custody	19	9 Sc

SAMPLE SUMMARY



CMW36DG-092018 L1028320-01 GW

Collected by Pat Yadon	Collected date/time 09/20/18 12:15	Received date/time 09/22/18 08:45
---------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1171023	1	09/25/18 16:37	09/25/18 16:37	JHH

1
Cp

2
Tc

3
Ss

PWB1LTS-092018 L1028320-02 GW

Collected by Pat Yadon	Collected date/time 09/20/18 15:00	Received date/time 09/22/18 08:45
---------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1171023	1	09/25/18 16:57	09/25/18 16:57	JHH

4
Cn

5
Sr

PWB1UTS-092018 L1028320-03 GW

Collected by Pat Yadon	Collected date/time 09/20/18 15:50	Received date/time 09/22/18 08:45
---------------------------	---------------------------------------	--------------------------------------

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1171023	1	09/25/18 17:17	09/25/18 17:17	JHH

6
Qc

7
Gl

8
Al

9
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.

Jason Romer
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 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	09/25/2018 16:37	WG1171023
Acrolein	ND		50.0	1	09/25/2018 16:37	WG1171023
Acrylonitrile	ND		5.00	1	09/25/2018 16:37	WG1171023
Benzene	ND		0.500	1	09/25/2018 16:37	WG1171023
Bromobenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
Bromodichloromethane	ND		0.500	1	09/25/2018 16:37	WG1171023
Bromoform	ND		0.500	1	09/25/2018 16:37	WG1171023
Bromomethane	ND		2.50	1	09/25/2018 16:37	WG1171023
n-Butylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
sec-Butylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
tert-Butylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
Carbon disulfide	ND		0.500	1	09/25/2018 16:37	WG1171023
Carbon tetrachloride	ND		0.500	1	09/25/2018 16:37	WG1171023
Chlorobenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
Chlorodibromomethane	ND		0.500	1	09/25/2018 16:37	WG1171023
Chloroethane	ND		2.50	1	09/25/2018 16:37	WG1171023
Chloroform	ND		0.500	1	09/25/2018 16:37	WG1171023
Chloromethane	ND		1.25	1	09/25/2018 16:37	WG1171023
2-Chlorotoluene	ND		0.500	1	09/25/2018 16:37	WG1171023
4-Chlorotoluene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,2-Dibromo-3-Chloropropane	ND		2.50	1	09/25/2018 16:37	WG1171023
1,2-Dibromoethane	ND		0.500	1	09/25/2018 16:37	WG1171023
Dibromomethane	ND		0.500	1	09/25/2018 16:37	WG1171023
1,2-Dichlorobenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,3-Dichlorobenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,4-Dichlorobenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
Dichlorodifluoromethane	ND		2.50	1	09/25/2018 16:37	WG1171023
1,1-Dichloroethane	ND		0.500	1	09/25/2018 16:37	WG1171023
1,2-Dichloroethane	ND		0.500	1	09/25/2018 16:37	WG1171023
1,1-Dichloroethene	ND		0.500	1	09/25/2018 16:37	WG1171023
cis-1,2-Dichloroethene	ND		0.500	1	09/25/2018 16:37	WG1171023
trans-1,2-Dichloroethene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,2-Dichloropropane	ND		0.500	1	09/25/2018 16:37	WG1171023
1,1-Dichloropropene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,3-Dichloropropane	ND		1.00	1	09/25/2018 16:37	WG1171023
cis-1,3-Dichloropropene	ND		0.500	1	09/25/2018 16:37	WG1171023
trans-1,3-Dichloropropene	ND		0.500	1	09/25/2018 16:37	WG1171023
2,2-Dichloropropane	ND		0.500	1	09/25/2018 16:37	WG1171023
Di-isopropyl ether	ND		0.500	1	09/25/2018 16:37	WG1171023
Ethylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
Hexachloro-1,3-butadiene	ND		1.00	1	09/25/2018 16:37	WG1171023
Isopropylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
p-Isopropyltoluene	ND		0.500	1	09/25/2018 16:37	WG1171023
2-Butanone (MEK)	ND		5.00	1	09/25/2018 16:37	WG1171023
Methylene Chloride	ND		2.50	1	09/25/2018 16:37	WG1171023
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	09/25/2018 16:37	WG1171023
Methyl tert-butyl ether	ND		0.500	1	09/25/2018 16:37	WG1171023
Naphthalene	ND		2.50	1	09/25/2018 16:37	WG1171023
n-Propylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
Styrene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,1,1,2-Tetrachloroethane	ND		0.500	1	09/25/2018 16:37	WG1171023
1,1,2,2-Tetrachloroethane	ND		0.500	1	09/25/2018 16:37	WG1171023
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	09/25/2018 16:37	WG1171023
Tetrachloroethene	ND		0.500	1	09/25/2018 16:37	WG1171023
Toluene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,2,3-Trichlorobenzene	ND		0.500	1	09/25/2018 16:37	WG1171023

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 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,1,1-Trichloroethane	ND		0.500	1	09/25/2018 16:37	WG1171023
1,1,2-Trichloroethane	ND		0.500	1	09/25/2018 16:37	WG1171023
Trichloroethene	ND		0.500	1	09/25/2018 16:37	WG1171023
Trichlorofluoromethane	ND		2.50	1	09/25/2018 16:37	WG1171023
1,2,3-Trichloropropane	ND		2.50	1	09/25/2018 16:37	WG1171023
1,2,4-Trimethylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,2,3-Trimethylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
1,3,5-Trimethylbenzene	ND		0.500	1	09/25/2018 16:37	WG1171023
Vinyl chloride	ND		0.500	1	09/25/2018 16:37	WG1171023
Xylenes, Total	ND		1.50	1	09/25/2018 16:37	WG1171023
(S) Toluene-d8	102		80.0-120		09/25/2018 16:37	WG1171023
(S) Dibromofluoromethane	103		75.0-120		09/25/2018 16:37	WG1171023
(S) 4-Bromofluorobenzene	84.2		77.0-126		09/25/2018 16:37	WG1171023

- 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 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	09/25/2018 16:57	WG1171023
Acrolein	ND		50.0	1	09/25/2018 16:57	WG1171023
Acrylonitrile	ND		5.00	1	09/25/2018 16:57	WG1171023
Benzene	ND		0.500	1	09/25/2018 16:57	WG1171023
Bromobenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
Bromodichloromethane	ND		0.500	1	09/25/2018 16:57	WG1171023
Bromoform	ND		0.500	1	09/25/2018 16:57	WG1171023
Bromomethane	ND		2.50	1	09/25/2018 16:57	WG1171023
n-Butylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
sec-Butylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
tert-Butylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
Carbon disulfide	ND		0.500	1	09/25/2018 16:57	WG1171023
Carbon tetrachloride	ND		0.500	1	09/25/2018 16:57	WG1171023
Chlorobenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
Chlorodibromomethane	ND		0.500	1	09/25/2018 16:57	WG1171023
Chloroethane	ND		2.50	1	09/25/2018 16:57	WG1171023
Chloroform	ND		0.500	1	09/25/2018 16:57	WG1171023
Chloromethane	ND		1.25	1	09/25/2018 16:57	WG1171023
2-Chlorotoluene	ND		0.500	1	09/25/2018 16:57	WG1171023
4-Chlorotoluene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,2-Dibromo-3-Chloropropane	ND		2.50	1	09/25/2018 16:57	WG1171023
1,2-Dibromoethane	ND		0.500	1	09/25/2018 16:57	WG1171023
Dibromomethane	ND		0.500	1	09/25/2018 16:57	WG1171023
1,2-Dichlorobenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,3-Dichlorobenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,4-Dichlorobenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
Dichlorodifluoromethane	ND		2.50	1	09/25/2018 16:57	WG1171023
1,1-Dichloroethane	ND		0.500	1	09/25/2018 16:57	WG1171023
1,2-Dichloroethane	ND		0.500	1	09/25/2018 16:57	WG1171023
1,1-Dichloroethene	ND		0.500	1	09/25/2018 16:57	WG1171023
cis-1,2-Dichloroethene	ND		0.500	1	09/25/2018 16:57	WG1171023
trans-1,2-Dichloroethene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,2-Dichloropropane	ND		0.500	1	09/25/2018 16:57	WG1171023
1,1-Dichloropropene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,3-Dichloropropane	ND		1.00	1	09/25/2018 16:57	WG1171023
cis-1,3-Dichloropropene	ND		0.500	1	09/25/2018 16:57	WG1171023
trans-1,3-Dichloropropene	ND		0.500	1	09/25/2018 16:57	WG1171023
2,2-Dichloropropane	ND		0.500	1	09/25/2018 16:57	WG1171023
Di-isopropyl ether	ND		0.500	1	09/25/2018 16:57	WG1171023
Ethylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
Hexachloro-1,3-butadiene	ND		1.00	1	09/25/2018 16:57	WG1171023
Isopropylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
p-Isopropyltoluene	ND		0.500	1	09/25/2018 16:57	WG1171023
2-Butanone (MEK)	ND		5.00	1	09/25/2018 16:57	WG1171023
Methylene Chloride	ND		2.50	1	09/25/2018 16:57	WG1171023
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	09/25/2018 16:57	WG1171023
Methyl tert-butyl ether	ND		0.500	1	09/25/2018 16:57	WG1171023
Naphthalene	ND		2.50	1	09/25/2018 16:57	WG1171023
n-Propylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
Styrene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,1,1,2-Tetrachloroethane	ND		0.500	1	09/25/2018 16:57	WG1171023
1,1,2,2-Tetrachloroethane	ND		0.500	1	09/25/2018 16:57	WG1171023
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	09/25/2018 16:57	WG1171023
Tetrachloroethene	ND		0.500	1	09/25/2018 16:57	WG1171023
Toluene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,2,3-Trichlorobenzene	ND		0.500	1	09/25/2018 16:57	WG1171023

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 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,1,1-Trichloroethane	ND		0.500	1	09/25/2018 16:57	WG1171023
1,1,2-Trichloroethane	ND		0.500	1	09/25/2018 16:57	WG1171023
Trichloroethene	1.59		0.500	1	09/25/2018 16:57	WG1171023
Trichlorofluoromethane	ND		2.50	1	09/25/2018 16:57	WG1171023
1,2,3-Trichloropropane	ND		2.50	1	09/25/2018 16:57	WG1171023
1,2,4-Trimethylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,2,3-Trimethylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
1,3,5-Trimethylbenzene	ND		0.500	1	09/25/2018 16:57	WG1171023
Vinyl chloride	ND		0.500	1	09/25/2018 16:57	WG1171023
Xylenes, Total	ND		1.50	1	09/25/2018 16:57	WG1171023
(S) Toluene-d8	109		80.0-120		09/25/2018 16:57	WG1171023
(S) Dibromofluoromethane	101		75.0-120		09/25/2018 16:57	WG1171023
(S) 4-Bromofluorobenzene	87.4		77.0-126		09/25/2018 16:57	WG1171023

- 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 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acetone	ND		25.0	1	09/25/2018 17:17	WG1171023
Acrolein	ND		50.0	1	09/25/2018 17:17	WG1171023
Acrylonitrile	ND		5.00	1	09/25/2018 17:17	WG1171023
Benzene	ND		0.500	1	09/25/2018 17:17	WG1171023
Bromobenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
Bromodichloromethane	ND		0.500	1	09/25/2018 17:17	WG1171023
Bromoform	ND		0.500	1	09/25/2018 17:17	WG1171023
Bromomethane	ND		2.50	1	09/25/2018 17:17	WG1171023
n-Butylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
sec-Butylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
tert-Butylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
Carbon disulfide	ND		0.500	1	09/25/2018 17:17	WG1171023
Carbon tetrachloride	ND		0.500	1	09/25/2018 17:17	WG1171023
Chlorobenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
Chlorodibromomethane	ND		0.500	1	09/25/2018 17:17	WG1171023
Chloroethane	ND		2.50	1	09/25/2018 17:17	WG1171023
Chloroform	ND		0.500	1	09/25/2018 17:17	WG1171023
Chloromethane	ND		1.25	1	09/25/2018 17:17	WG1171023
2-Chlorotoluene	ND		0.500	1	09/25/2018 17:17	WG1171023
4-Chlorotoluene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,2-Dibromo-3-Chloropropane	ND		2.50	1	09/25/2018 17:17	WG1171023
1,2-Dibromoethane	ND		0.500	1	09/25/2018 17:17	WG1171023
Dibromomethane	ND		0.500	1	09/25/2018 17:17	WG1171023
1,2-Dichlorobenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,3-Dichlorobenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,4-Dichlorobenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
Dichlorodifluoromethane	ND		2.50	1	09/25/2018 17:17	WG1171023
1,1-Dichloroethane	ND		0.500	1	09/25/2018 17:17	WG1171023
1,2-Dichloroethane	ND		0.500	1	09/25/2018 17:17	WG1171023
1,1-Dichloroethene	ND		0.500	1	09/25/2018 17:17	WG1171023
cis-1,2-Dichloroethene	ND		0.500	1	09/25/2018 17:17	WG1171023
trans-1,2-Dichloroethene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,2-Dichloropropane	ND		0.500	1	09/25/2018 17:17	WG1171023
1,1-Dichloropropene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,3-Dichloropropane	ND		1.00	1	09/25/2018 17:17	WG1171023
cis-1,3-Dichloropropene	ND		0.500	1	09/25/2018 17:17	WG1171023
trans-1,3-Dichloropropene	ND		0.500	1	09/25/2018 17:17	WG1171023
2,2-Dichloropropane	ND		0.500	1	09/25/2018 17:17	WG1171023
Di-isopropyl ether	ND		0.500	1	09/25/2018 17:17	WG1171023
Ethylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
Hexachloro-1,3-butadiene	ND		1.00	1	09/25/2018 17:17	WG1171023
Isopropylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
p-Isopropyltoluene	ND		0.500	1	09/25/2018 17:17	WG1171023
2-Butanone (MEK)	ND		5.00	1	09/25/2018 17:17	WG1171023
Methylene Chloride	ND		2.50	1	09/25/2018 17:17	WG1171023
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	09/25/2018 17:17	WG1171023
Methyl tert-butyl ether	ND		0.500	1	09/25/2018 17:17	WG1171023
Naphthalene	ND		2.50	1	09/25/2018 17:17	WG1171023
n-Propylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
Styrene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,1,1,2-Tetrachloroethane	ND		0.500	1	09/25/2018 17:17	WG1171023
1,1,2,2-Tetrachloroethane	ND		0.500	1	09/25/2018 17:17	WG1171023
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	09/25/2018 17:17	WG1171023
Tetrachloroethene	ND		0.500	1	09/25/2018 17:17	WG1171023
Toluene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,2,3-Trichlorobenzene	ND		0.500	1	09/25/2018 17:17	WG1171023

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 8260B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,1,1-Trichloroethane	ND		0.500	1	09/25/2018 17:17	WG1171023
1,1,2-Trichloroethane	ND		0.500	1	09/25/2018 17:17	WG1171023
Trichloroethene	ND		0.500	1	09/25/2018 17:17	WG1171023
Trichlorofluoromethane	ND		2.50	1	09/25/2018 17:17	WG1171023
1,2,3-Trichloropropane	ND		2.50	1	09/25/2018 17:17	WG1171023
1,2,4-Trimethylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,2,3-Trimethylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
1,3,5-Trimethylbenzene	ND		0.500	1	09/25/2018 17:17	WG1171023
Vinyl chloride	ND		0.500	1	09/25/2018 17:17	WG1171023
Xylenes, Total	ND		1.50	1	09/25/2018 17:17	WG1171023
(S) Toluene-d8	105		80.0-120		09/25/2018 17:17	WG1171023
(S) Dibromofluoromethane	100		75.0-120		09/25/2018 17:17	WG1171023
(S) 4-Bromofluorobenzene	89.1		77.0-126		09/25/2018 17:17	WG1171023

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc



Method Blank (MB)

(MB) R3344995-3 09/25/18 10:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acrolein	U		3.97	50.0
Acetone	U		1.05	25.0
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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3344995-3 09/25/18 10:29

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
1,2,3-Trichlorobenzene	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	96.8			80.0-120
(S) Dibromofluoromethane	103			75.0-120
(S) 4-Bromofluorobenzene	91.2			77.0-126

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R3344995-1 09/25/18 09:09 • (LCSD) R3344995-2 09/25/18 09:29

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	125	118	124	94.8	99.5	10.0-160			4.90	26
Acrylonitrile	125	106	110	84.7	87.9	55.0-149			3.62	20
Acetone	125	127	130	102	104	19.0-160			2.45	27



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

(LCS) R3344995-1 09/25/18 09:09 • (LCSD) R3344995-2 09/25/18 09:29

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 %
Benzene	25.0	23.0	23.9	91.8	95.8	70.0-123			4.19	20
Bromobenzene	25.0	23.0	23.7	92.0	95.0	73.0-121			3.16	20
Bromodichloromethane	25.0	25.9	26.3	103	105	75.0-120			1.67	20
Bromoform	25.0	24.3	25.5	97.2	102	68.0-132			4.68	20
Bromomethane	25.0	29.6	32.1	118	128	10.0-160			8.17	25
n-Butylbenzene	25.0	24.2	24.8	96.8	99.4	73.0-125			2.68	20
sec-Butylbenzene	25.0	24.1	24.8	96.4	99.0	75.0-125			2.72	20
tert-Butylbenzene	25.0	23.3	25.2	93.3	101	76.0-124			7.79	20
Carbon disulfide	25.0	23.8	25.2	95.3	101	61.0-128			5.38	20
Carbon tetrachloride	25.0	26.4	28.2	106	113	68.0-126			6.67	20
Chlorobenzene	25.0	27.0	26.8	108	107	80.0-121			0.713	20
Chlorodibromomethane	25.0	28.0	27.0	112	108	77.0-125			3.60	20
Chloroethane	25.0	24.6	25.8	98.3	103	47.0-150			4.90	20
Chloroform	25.0	24.9	26.6	99.5	106	73.0-120			6.72	20
Chloromethane	25.0	23.4	25.5	93.7	102	41.0-142			8.49	20
2-Chlorotoluene	25.0	24.5	25.1	97.9	101	76.0-123			2.75	20
4-Chlorotoluene	25.0	23.9	24.8	95.5	99.2	75.0-122			3.82	20
1,2-Dibromo-3-Chloropropane	25.0	22.2	22.7	88.8	90.9	58.0-134			2.39	20
1,2-Dibromoethane	25.0	26.9	26.5	107	106	80.0-122			1.21	20
Dibromomethane	25.0	25.9	26.0	103	104	80.0-120			0.456	20
1,2-Dichlorobenzene	25.0	24.1	25.9	96.5	103	79.0-121			6.91	20
1,3-Dichlorobenzene	25.0	24.4	25.5	97.7	102	79.0-120			4.45	20
1,4-Dichlorobenzene	25.0	24.2	26.4	96.8	106	79.0-120			8.60	20
Dichlorodifluoromethane	25.0	34.4	35.5	138	142	51.0-149			2.93	20
1,1-Dichloroethane	25.0	22.1	22.8	88.3	91.2	70.0-126			3.18	20
1,2-Dichloroethane	25.0	27.3	28.9	109	116	70.0-128			5.74	20
1,1-Dichloroethene	25.0	23.8	25.1	95.2	100	71.0-124			5.17	20
cis-1,2-Dichloroethene	25.0	22.4	24.2	89.4	96.9	73.0-120			8.04	20
trans-1,2-Dichloroethene	25.0	22.4	25.1	89.5	100	73.0-120			11.3	20
1,2-Dichloropropane	25.0	22.4	23.0	89.5	92.1	77.0-125			2.90	20
1,1-Dichloropropene	25.0	24.3	26.7	97.2	107	74.0-126			9.26	20
1,3-Dichloropropane	25.0	25.6	25.5	103	102	80.0-120			0.675	20
cis-1,3-Dichloropropene	25.0	27.1	26.5	108	106	80.0-123			2.17	20
trans-1,3-Dichloropropene	25.0	29.1	27.5	116	110	78.0-124			5.66	20
2,2-Dichloropropane	25.0	27.9	30.5	112	122	58.0-130			8.82	20
Di-isopropyl ether	25.0	21.7	23.0	86.6	92.0	58.0-138			6.06	20
Ethylbenzene	25.0	28.1	26.3	112	105	79.0-123			6.67	20
Hexachloro-1,3-butadiene	25.0	23.5	25.1	94.1	101	54.0-138			6.57	20
Isopropylbenzene	25.0	22.0	23.7	88.1	94.6	76.0-127			7.11	20
p-Isopropyltoluene	25.0	24.6	25.4	98.5	102	76.0-125			3.26	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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

(LCS) R3344995-1 09/25/18 09:09 • (LCSD) R3344995-2 09/25/18 09:29

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 %
2-Butanone (MEK)	125	107	110	85.3	87.7	44.0-160			2.86	20
Methylene Chloride	25.0	22.3	24.4	89.0	97.6	67.0-120			9.18	20
4-Methyl-2-pentanone (MIBK)	125	121	119	96.9	95.6	68.0-142			1.35	20
Methyl tert-butyl ether	25.0	25.1	26.1	100	104	68.0-125			3.90	20
Naphthalene	25.0	20.0	21.1	80.0	84.3	54.0-135			5.32	20
n-Propylbenzene	25.0	23.8	24.9	95.1	99.6	77.0-124			4.61	20
Styrene	25.0	20.8	21.9	83.0	87.5	73.0-130			5.25	20
1,1,1,2-Tetrachloroethane	25.0	27.5	26.9	110	107	75.0-125			2.37	20
1,1,2,2-Tetrachloroethane	25.0	22.0	23.6	88.0	94.4	65.0-130			7.06	20
Tetrachloroethene	25.0	27.8	28.7	111	115	72.0-132			3.22	20
Toluene	25.0	25.8	25.4	103	101	79.0-120			1.56	20
1,1,2-Trichlorotrifluoroethane	25.0	27.9	30.1	112	121	69.0-132			7.68	20
1,2,3-Trichlorobenzene	25.0	23.2	24.4	92.8	97.8	50.0-138			5.17	20
1,2,4-Trichlorobenzene	25.0	24.6	25.4	98.6	102	57.0-137			3.12	20
1,1,1-Trichloroethane	25.0	27.2	28.6	109	114	73.0-124			4.71	20
1,1,2-Trichloroethane	25.0	25.9	25.7	104	103	80.0-120			0.727	20
Trichloroethene	25.0	23.9	24.2	95.8	96.8	78.0-124			1.02	20
Trichlorofluoromethane	25.0	30.2	33.1	121	132	59.0-147			9.12	20
1,2,3-Trichloropropane	25.0	24.3	26.2	97.2	105	73.0-130			7.40	20
1,2,3-Trimethylbenzene	25.0	23.3	24.7	93.2	99.0	77.0-120			5.99	20
1,2,4-Trimethylbenzene	25.0	23.5	25.6	94.0	103	76.0-121			8.64	20
1,3,5-Trimethylbenzene	25.0	23.4	25.3	93.6	101	76.0-122			7.69	20
Vinyl chloride	25.0	25.4	27.9	102	111	67.0-131			9.11	20
Xylenes, Total	75.0	78.7	78.6	105	105	79.0-123			0.127	20
(S) Toluene-d8				105	99.9	80.0-120				
(S) Dibromofluoromethane				101	106	75.0-120				
(S) 4-Bromofluorobenzene				89.9	89.3	77.0-126				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1028359-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1028359-06 09/25/18 19:37 • (MS) R3344995-4 09/25/18 19:57 • (MSD) R3344995-5 09/25/18 20:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acrolein	125	U	182	200	146	160	1	10.0-160			9.62	39
Acrylonitrile	125	U	113	116	90.3	92.8	1	21.0-160			2.70	32
Acetone	125	U	125	125	100	99.7	1	10.0-160			0.371	35
Benzene	25.0	U	24.2	25.6	96.9	102	1	17.0-158			5.48	27
Bromobenzene	25.0	U	23.8	24.4	95.3	97.6	1	30.0-149			2.39	28
Bromodichloromethane	25.0	U	27.3	26.6	109	107	1	31.0-150			2.34	27



L1028359-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1028359-06 09/25/18 19:37 • (MS) R3344995-4 09/25/18 19:57 • (MSD) R3344995-5 09/25/18 20:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromoform	25.0	U	25.7	25.7	103	103	1	29.0-150			0.150	29
Bromomethane	25.0	U	31.1	31.9	124	127	1	10.0-160			2.38	38
n-Butylbenzene	25.0	U	24.7	25.4	98.8	101	1	31.0-150			2.66	30
sec-Butylbenzene	25.0	U	25.9	26.1	104	104	1	33.0-155			0.763	29
tert-Butylbenzene	25.0	U	25.6	25.7	103	103	1	34.0-153			0.277	28
Carbon disulfide	25.0	U	26.3	26.6	105	106	1	10.0-156			1.04	28
Carbon tetrachloride	25.0	U	30.1	29.3	120	117	1	23.0-159			2.72	28
Chlorobenzene	25.0	U	28.5	28.3	114	113	1	33.0-152			0.683	27
Chlorodibromomethane	25.0	U	28.3	28.1	113	112	1	37.0-149			0.582	27
Chloroethane	25.0	U	27.8	26.4	111	106	1	10.0-160			4.95	30
Chloroform	25.0	U	27.1	28.0	108	112	1	29.0-154			3.22	28
Chloromethane	25.0	U	25.1	25.4	100	101	1	10.0-160			1.20	29
2-Chlorotoluene	25.0	U	25.4	26.7	101	107	1	32.0-153			5.09	28
4-Chlorotoluene	25.0	U	25.5	25.8	102	103	1	32.0-150			1.20	28
1,2-Dibromo-3-Chloropropane	25.0	U	22.2	22.5	88.9	90.1	1	22.0-151			1.36	34
1,2-Dibromoethane	25.0	U	27.4	26.7	109	107	1	34.0-147			2.64	27
Dibromomethane	25.0	U	26.1	26.3	104	105	1	30.0-151			0.762	27
1,2-Dichlorobenzene	25.0	U	26.4	26.6	105	107	1	34.0-149			1.03	28
1,3-Dichlorobenzene	25.0	U	27.0	27.7	108	111	1	36.0-146			2.77	27
1,4-Dichlorobenzene	25.0	U	26.7	26.8	107	107	1	35.0-142			0.529	27
Dichlorodifluoromethane	25.0	U	32.2	32.0	129	128	1	10.0-160			0.853	29
1,1-Dichloroethane	25.0	U	23.5	24.6	93.9	98.5	1	25.0-158			4.83	27
1,2-Dichloroethane	25.0	U	29.6	29.9	118	119	1	29.0-151			0.998	27
1,1-Dichloroethene	25.0	U	26.0	26.1	104	104	1	11.0-160			0.175	29
cis-1,2-Dichloroethene	25.0	0.645	25.1	25.5	97.7	99.6	1	10.0-160			1.90	27
trans-1,2-Dichloroethene	25.0	U	25.8	26.4	103	105	1	17.0-153			2.15	27
1,2-Dichloropropane	25.0	U	22.8	23.1	91.3	92.5	1	30.0-156			1.35	27
1,1-Dichloropropene	25.0	U	27.5	27.2	110	109	1	25.0-158			0.944	27
1,3-Dichloropropane	25.0	U	26.2	26.3	105	105	1	38.0-147			0.406	27
cis-1,3-Dichloropropene	25.0	U	26.9	26.9	108	107	1	34.0-149			0.290	28
trans-1,3-Dichloropropene	25.0	U	27.8	26.9	111	108	1	32.0-149			3.24	28
2,2-Dichloropropane	25.0	U	31.4	31.2	126	125	1	24.0-152			0.515	29
Di-isopropyl ether	25.0	U	23.2	23.6	93.0	94.4	1	21.0-160			1.51	28
Ethylbenzene	25.0	U	28.8	29.1	115	117	1	30.0-155			1.20	27
Hexachloro-1,3-butadiene	25.0	U	26.8	25.5	107	102	1	20.0-154			4.94	34
Isopropylbenzene	25.0	U	23.5	24.9	93.9	99.5	1	28.0-157			5.83	27
p-Isopropyltoluene	25.0	U	26.8	26.5	107	106	1	30.0-154			0.997	29
2-Butanone (MEK)	125	U	113	115	90.3	91.9	1	10.0-160			1.83	32
Methylene Chloride	25.0	U	23.7	24.6	95.0	98.2	1	23.0-144			3.39	28
4-Methyl-2-pentanone (MIBK)	125	U	131	130	105	104	1	29.0-160			0.576	29

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



L1028359-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1028359-06 09/25/18 19:37 • (MS) R3344995-4 09/25/18 19:57 • (MSD) R3344995-5 09/25/18 20:17

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Methyl tert-butyl ether	25.0	U	25.3	26.4	101	106	1	28.0-150			4.27	29
Naphthalene	25.0	1.42	21.6	22.6	80.8	84.8	1	12.0-156			4.50	35
n-Propylbenzene	25.0	U	26.0	26.0	104	104	1	31.0-154			0.0393	28
Styrene	25.0	U	21.5	21.9	86.0	87.6	1	33.0-155			1.89	28
1,1,1,2-Tetrachloroethane	25.0	U	29.3	29.3	117	117	1	36.0-151			0.169	29
1,1,2,2-Tetrachloroethane	25.0	U	22.2	23.0	88.7	92.2	1	33.0-150			3.84	28
Tetrachloroethene	25.0	U	31.1	30.1	124	120	1	10.0-160			3.18	27
Toluene	25.0	U	26.9	27.1	108	109	1	26.0-154			0.904	28
1,1,2-Trichlorotrifluoroethane	25.0	U	29.7	29.1	119	116	1	23.0-160			2.09	30
1,2,3-Trichlorobenzene	25.0	U	22.8	24.4	91.0	97.5	1	17.0-150			6.83	36
1,2,4-Trichlorobenzene	25.0	U	25.2	25.9	101	104	1	24.0-150			2.62	33
1,1,1-Trichloroethane	25.0	U	30.4	30.5	122	122	1	23.0-160			0.123	28
1,1,2-Trichloroethane	25.0	U	26.2	27.6	105	110	1	35.0-147			5.12	27
Trichloroethene	25.0	U	26.2	27.2	105	109	1	10.0-160			3.89	25
Trichlorofluoromethane	25.0	U	33.8	34.6	135	138	1	17.0-160			2.26	31
1,2,3-Trichloropropane	25.0	U	26.1	26.4	105	106	1	34.0-151			0.955	29
1,2,3-Trimethylbenzene	25.0	U	25.9	25.9	103	104	1	32.0-149			0.297	28
1,2,4-Trimethylbenzene	25.0	U	26.5	26.9	106	108	1	26.0-154			1.75	27
1,3,5-Trimethylbenzene	25.0	U	25.7	26.0	103	104	1	28.0-153			0.816	27
Vinyl chloride	25.0	U	28.3	29.5	113	118	1	10.0-160			4.02	27
Xylenes, Total	75.0	U	83.1	83.8	111	112	1	29.0-154			0.839	28
(S) Toluene-d8					103	101		80.0-120				
(S) Dibromofluoromethane					102	107		75.0-120				
(S) 4-Bromofluorobenzene					89.7	89.4		77.0-126				

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.

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.
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.
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.

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Qualifier Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.



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	T 104704245-17-14
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

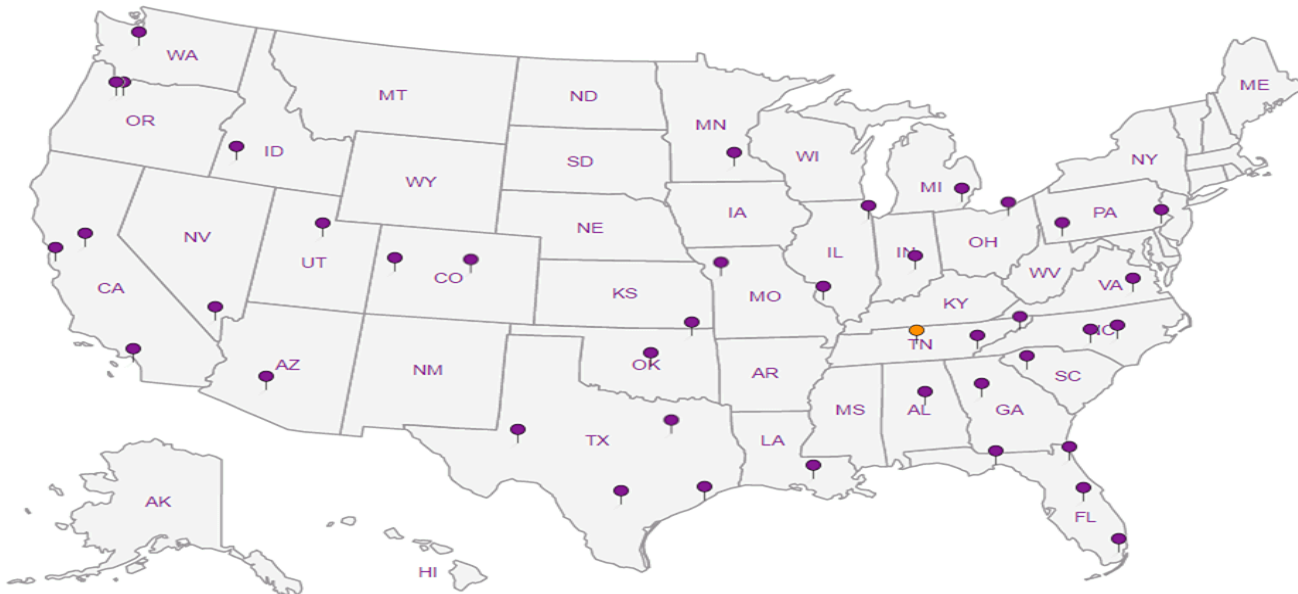
Third Party Federal Accreditations

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.





CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

B222

ALL SHADED AREAS are for LAB USE ONLY

Company: **Geosyntec**

Billing Information:
Geosyntec

Address: 621 SW Morrison Street, Suite 600, Portland, OR 97205

Report To: **Cindy Bartlett**

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

Copy To:

Site Collection Info/Address: **Fairview OR**

Customer Project Name/Number:
PNG0564S18

State: **OR** County/City: **Fairview** Time Zone Collected: **PT [] MT [] CT [] ET**

Phone: 971.271.5916

Site/Facility ID #:

Compliance Monitoring?
 Yes No

Collected By (print):
PAT YADON

Purchase Order #: Quote #:

DW PWS ID #: DW Location Code:

Collected By (signature):
Patrick Yadon

Turnaround Date Required:
STANDARD

Immediately Packed on Ice:
 Yes No

Sample Disposal:
 Dispose as appropriate Return
 Archive: Hold:

Rush:
 Same Day Next Day
 2 Day 3 Day 4 Day 5 Day
(Expedite Charges Apply)

Field Filtered (if applicable):
 Yes No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Composite End		Res. Cl	# of Ctns
			Date	Time	Date	Time		
CMW36dg-092018	H2O		9/20/18	12:15				3
PWB1LTS-092018	H2O		9/20/18	15:00				3
PWB1UTS-092018	H2O		9/20/18	15:50				3
TRIP BLANK	H2O		9/20/18	NA				1

XXXXVOCs 8260

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Analyses	Lab Profile/Line:
	Lab Sample Receipt Checklist:
	Custody Seals Present/Intact Y N <input checked="" type="checkbox"/>
	Custody Signatures Present Y N <input checked="" type="checkbox"/>
	Collector Signature Present <input checked="" type="checkbox"/> N NA
	Bottles Intact <input checked="" type="checkbox"/> N NA
	Correct Bottles <input checked="" type="checkbox"/> N NA
	Sufficient Volume <input checked="" type="checkbox"/> N NA
	Samples Received on Ice <input checked="" type="checkbox"/> N NA
	VOA - Headspace Acceptable <input checked="" type="checkbox"/> N NA
	USDA Regulated Soils Y N <input checked="" type="checkbox"/>
	Samples in Holding Time <input checked="" type="checkbox"/> N NA
	Residual Chlorine Present Y N <input checked="" type="checkbox"/>
	Cl Strips: _____ Y N <input checked="" type="checkbox"/>
	Sample pH Acceptable Y N <input checked="" type="checkbox"/>
	pH Strips: _____ Y N <input checked="" type="checkbox"/>
	Sulfide Present Y N <input checked="" type="checkbox"/>
	Lead Acetate Strips: _____
	LAB USE ONLY:
	Lab Sample # / Comments:
	10283w
	41
	02
	03
	01
	RAD SCREEN: <0.5 mR/hr

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Packing Material Used:

Lab Tracking #: **4661 6932 3923**

Radchem sample(s) screened (<500 cpm): Y N NA

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:

Temp Blank Received: Y N NA
Therm ID#: **2 KT**
Cooler 1 Temp Upon Receipt: **2.1** °C
Cooler 1 Therm Corr. Factor: **20** °C
Cooler 1 Corrected Temp: **2.1** °C
Comments:

Relinquished by/Company: (Signature)

Date/Time: **9/21/18 10:00**

Received by/Company: (Signature)

FEDEX

Date/Time: **9/21/18 10:00**

Table #:

Relinquished by/Company: (Signature)

Date/Time:

Received by/Company: (Signature)

Date/Time:

Acctnum:

Relinquished by/Company: (Signature)

Date/Time:

Received by/Company: (Signature)

Kathryn...

Date/Time:

9/20/18 09:05

PM:

PB:

Non-Conformance(s): YES / NO

Page: _____ of: _____

Count = 9

Katie Ingram



Login #:1028320	Client: GEOSYNPOR	Date:9/22	Evaluated by:Matt S
-----------------	-------------------	-----------	---------------------

Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	
Parameter(s) past holding time	x Login Clarification Needed	If Broken Container:
Improper temperature	Chain of custody is incomplete	Insufficient packing material around container
Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
Improper preservation	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courier)
Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
Vials received with headspace.	Trip Blank not received.	If no Chain of Custody:
Broken container	Client did not "X" analysis.	Received by:
Broken container:	Chain of Custody is missing	Date/Time:
Sufficient sample remains		Temp./Cont Rec./pH:
		Carrier:
		Tracking#

Login Comments: didn't receive Trip blank

Client informed by:	Call	Email	Voice Mail	Date:	Time:
TSR Initials:bif	Client Contact:				

Login Instructions:

Proceed without the trip blank

Katie Ingram



Login #:1028320	Client: GEOSYNPOR	Date:9/22	Evaluated by:Matt S
-----------------	-------------------	-----------	---------------------

Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	
Parameter(s) past holding time	x Login Clarification Needed	If Broken Container:
Improper temperature	Chain of custody is incomplete	Insufficient packing material around container
Improper container type	Please specify Metals requested.	Insufficient packing material inside cooler
Improper preservation	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courte Sample was frozen
Insufficient sample volume.	Received additional samples not listed on coc.	Container lid not intact
Sample is biphasic.	Sample ids on containers do not match ids on coc	If no Chain of Custody:
Vials received with headspace.	Trip Blank not received.	Received by:
Broken container	Client did not "X" analysis.	Date/Time:
Broken container:	Chain of Custody is missing	Temp./Cont Rec/pH:
Sufficient sample remains		Carrier:
		Tracking#

Login Comments: didn't receive Trip blank

Client informed by:	Call	Email	Voice Mail	Date:	Time:
TSR Initials:bjf	Client Contact:				

Login Instructions:

Proceed without the trip blank