

Cascade Corporation- Fairview, OR

Sample Delivery Group: L1713428
Samples Received: 03/08/2024
Project Number: PNG0564S23
Description: Cascade TSA

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

Entire Report Reviewed By:



Kelly Mercer
Project Manager

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SAMPLE SUMMARY

PWB-1(LTS)-030724 L1713428-01 GW

Collected by
Pat Yadon

Collected date/time
03/07/24 12:15

Received date/time
03/08/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2243937	1	03/11/24 12:27	03/11/24 12:27	ACG	Mt. Juliet, TN

¹Cp

²Tc

³Ss

PWB-1(UTS)-030724 L1713428-02 GW

Collected by
Pat Yadon

Collected date/time
03/07/24 12:40

Received date/time
03/08/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2243937	1	03/11/24 12:46	03/11/24 12:46	ACG	Mt. Juliet, TN

⁴Cn

⁵Sr

TRIP BLANK L1713428-03 GW

Collected by
Pat Yadon

Collected date/time
03/07/24 00:00

Received date/time
03/08/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260D	WG2243937	1	03/11/24 09:56	03/11/24 09:56	ACG	Mt. Juliet, TN

⁶Qc

⁷Gl

⁸Al

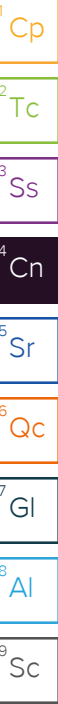
⁹Sc

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.



Kelly Mercer
Project Manager



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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	25.0	1	03/11/2024 12:27	WG2243937
Acrolein	U		2.54	50.0	1	03/11/2024 12:27	WG2243937
Acrylonitrile	U		0.671	5.00	1	03/11/2024 12:27	WG2243937
Benzene	U		0.0941	0.500	1	03/11/2024 12:27	WG2243937
Bromobenzene	U		0.118	0.500	1	03/11/2024 12:27	WG2243937
Bromodichloromethane	U		0.136	0.500	1	03/11/2024 12:27	WG2243937
Bromoform	U		0.129	0.500	1	03/11/2024 12:27	WG2243937
Bromomethane	U	C3	0.605	2.50	1	03/11/2024 12:27	WG2243937
n-Butylbenzene	U		0.157	0.500	1	03/11/2024 12:27	WG2243937
sec-Butylbenzene	U		0.125	0.500	1	03/11/2024 12:27	WG2243937
tert-Butylbenzene	U		0.127	0.500	1	03/11/2024 12:27	WG2243937
Carbon disulfide	U	C3	0.0962	0.500	1	03/11/2024 12:27	WG2243937
Carbon tetrachloride	U		0.128	0.500	1	03/11/2024 12:27	WG2243937
Chlorobenzene	U		0.117	0.500	1	03/11/2024 12:27	WG2243937
Chlorodibromomethane	U		0.140	0.500	1	03/11/2024 12:27	WG2243937
Chloroethane	U	C3	0.192	2.50	1	03/11/2024 12:27	WG2243937
Chloroform	U		0.111	0.500	1	03/11/2024 12:27	WG2243937
Chloromethane	U		0.960	1.25	1	03/11/2024 12:27	WG2243937
2-Chlorotoluene	U		0.106	0.500	1	03/11/2024 12:27	WG2243937
4-Chlorotoluene	U		0.114	0.500	1	03/11/2024 12:27	WG2243937
1,2-Dibromo-3-Chloropropane	U		0.276	2.50	1	03/11/2024 12:27	WG2243937
1,2-Dibromoethane	U		0.126	0.500	1	03/11/2024 12:27	WG2243937
Dibromomethane	U		0.122	0.500	1	03/11/2024 12:27	WG2243937
1,2-Dichlorobenzene	U		0.107	0.500	1	03/11/2024 12:27	WG2243937
1,3-Dichlorobenzene	U		0.299	0.500	1	03/11/2024 12:27	WG2243937
1,4-Dichlorobenzene	U		0.120	0.500	1	03/11/2024 12:27	WG2243937
Dichlorodifluoromethane	U		0.374	2.50	1	03/11/2024 12:27	WG2243937
1,1-Dichloroethane	U		0.100	0.500	1	03/11/2024 12:27	WG2243937
1,2-Dichloroethane	U		0.0819	0.500	1	03/11/2024 12:27	WG2243937
1,1-Dichloroethene	U	J4	0.188	0.500	1	03/11/2024 12:27	WG2243937
cis-1,2-Dichloroethene	0.328	J	0.126	0.500	1	03/11/2024 12:27	WG2243937
trans-1,2-Dichloroethene	U		0.149	0.500	1	03/11/2024 12:27	WG2243937
1,2-Dichloropropane	U		0.149	0.500	1	03/11/2024 12:27	WG2243937
1,1-Dichloropropene	U		0.142	0.500	1	03/11/2024 12:27	WG2243937
1,3-Dichloropropane	U		0.109	1.00	1	03/11/2024 12:27	WG2243937
cis-1,3-Dichloropropene	U		0.111	0.500	1	03/11/2024 12:27	WG2243937
trans-1,3-Dichloropropene	U		0.118	0.500	1	03/11/2024 12:27	WG2243937
2,2-Dichloropropane	U	C3	0.161	0.500	1	03/11/2024 12:27	WG2243937
Di-isopropyl ether	U		0.105	0.500	1	03/11/2024 12:27	WG2243937
Ethylbenzene	U		0.137	0.500	1	03/11/2024 12:27	WG2243937
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/11/2024 12:27	WG2243937
Isopropylbenzene	U		0.105	0.500	1	03/11/2024 12:27	WG2243937
p-Isopropyltoluene	U		0.120	0.500	1	03/11/2024 12:27	WG2243937
2-Butanone (MEK)	U		1.19	5.00	1	03/11/2024 12:27	WG2243937
Methylene Chloride	U		0.430	2.50	1	03/11/2024 12:27	WG2243937
4-Methyl-2-pentanone (MIBK)	U		0.478	5.00	1	03/11/2024 12:27	WG2243937
Methyl tert-butyl ether	U	C3	0.101	0.500	1	03/11/2024 12:27	WG2243937
Naphthalene	U	C3	0.174	2.50	1	03/11/2024 12:27	WG2243937
n-Propylbenzene	U		0.0993	0.500	1	03/11/2024 12:27	WG2243937
Styrene	U		0.118	0.500	1	03/11/2024 12:27	WG2243937
1,1,1,2-Tetrachloroethane	U		0.147	0.500	1	03/11/2024 12:27	WG2243937
1,1,2,2-Tetrachloroethane	U		0.133	0.500	1	03/11/2024 12:27	WG2243937
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500	1	03/11/2024 12:27	WG2243937
Tetrachloroethene	U		0.300	0.500	1	03/11/2024 12:27	WG2243937
Toluene	U		0.278	0.500	1	03/11/2024 12:27	WG2243937
1,2,3-Trichlorobenzene	U	C3	0.164	0.500	1	03/11/2024 12:27	WG2243937

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	U	C3	0.481	1.00	1	03/11/2024 12:27	WG2243937
1,1,1-Trichloroethane	U		0.149	0.500	1	03/11/2024 12:27	WG2243937
1,1,2-Trichloroethane	U		0.158	0.500	1	03/11/2024 12:27	WG2243937
Trichloroethene	2.32		0.190	0.500	1	03/11/2024 12:27	WG2243937
Trichlorofluoromethane	U		0.160	2.50	1	03/11/2024 12:27	WG2243937
1,2,3-Trichloropropane	U		0.237	2.50	1	03/11/2024 12:27	WG2243937
1,2,4-Trimethylbenzene	U		0.322	0.500	1	03/11/2024 12:27	WG2243937
1,2,3-Trimethylbenzene	U		0.104	0.500	1	03/11/2024 12:27	WG2243937
1,3,5-Trimethylbenzene	U		0.104	0.500	1	03/11/2024 12:27	WG2243937
Vinyl chloride	U	C3	0.234	0.500	1	03/11/2024 12:27	WG2243937
Xylenes, Total	U		0.174	1.50	1	03/11/2024 12:27	WG2243937
(S) Toluene-d8	107			80.0-120		03/11/2024 12:27	WG2243937
(S) 4-Bromofluorobenzene	87.6			77.0-126		03/11/2024 12:27	WG2243937
(S) 1,2-Dichloroethane-d4	109			70.0-130		03/11/2024 12:27	WG2243937

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	25.0	1	03/11/2024 12:46	WG2243937
Acrolein	U		2.54	50.0	1	03/11/2024 12:46	WG2243937
Acrylonitrile	U		0.671	5.00	1	03/11/2024 12:46	WG2243937
Benzene	U		0.0941	0.500	1	03/11/2024 12:46	WG2243937
Bromobenzene	U		0.118	0.500	1	03/11/2024 12:46	WG2243937
Bromodichloromethane	U		0.136	0.500	1	03/11/2024 12:46	WG2243937
Bromoform	U		0.129	0.500	1	03/11/2024 12:46	WG2243937
Bromomethane	U	C3	0.605	2.50	1	03/11/2024 12:46	WG2243937
n-Butylbenzene	U		0.157	0.500	1	03/11/2024 12:46	WG2243937
sec-Butylbenzene	U		0.125	0.500	1	03/11/2024 12:46	WG2243937
tert-Butylbenzene	U		0.127	0.500	1	03/11/2024 12:46	WG2243937
Carbon disulfide	U	C3	0.0962	0.500	1	03/11/2024 12:46	WG2243937
Carbon tetrachloride	U		0.128	0.500	1	03/11/2024 12:46	WG2243937
Chlorobenzene	U		0.117	0.500	1	03/11/2024 12:46	WG2243937
Chlorodibromomethane	U		0.140	0.500	1	03/11/2024 12:46	WG2243937
Chloroethane	U	C3	0.192	2.50	1	03/11/2024 12:46	WG2243937
Chloroform	U		0.111	0.500	1	03/11/2024 12:46	WG2243937
Chloromethane	U		0.960	1.25	1	03/11/2024 12:46	WG2243937
2-Chlorotoluene	U		0.106	0.500	1	03/11/2024 12:46	WG2243937
4-Chlorotoluene	U		0.114	0.500	1	03/11/2024 12:46	WG2243937
1,2-Dibromo-3-Chloropropane	U		0.276	2.50	1	03/11/2024 12:46	WG2243937
1,2-Dibromoethane	U		0.126	0.500	1	03/11/2024 12:46	WG2243937
Dibromomethane	U		0.122	0.500	1	03/11/2024 12:46	WG2243937
1,2-Dichlorobenzene	U		0.107	0.500	1	03/11/2024 12:46	WG2243937
1,3-Dichlorobenzene	U		0.299	0.500	1	03/11/2024 12:46	WG2243937
1,4-Dichlorobenzene	U		0.120	0.500	1	03/11/2024 12:46	WG2243937
Dichlorodifluoromethane	U		0.374	2.50	1	03/11/2024 12:46	WG2243937
1,1-Dichloroethane	U		0.100	0.500	1	03/11/2024 12:46	WG2243937
1,2-Dichloroethane	U		0.0819	0.500	1	03/11/2024 12:46	WG2243937
1,1-Dichloroethene	U	J4	0.188	0.500	1	03/11/2024 12:46	WG2243937
cis-1,2-Dichloroethene	0.222	J	0.126	0.500	1	03/11/2024 12:46	WG2243937
trans-1,2-Dichloroethene	U		0.149	0.500	1	03/11/2024 12:46	WG2243937
1,2-Dichloropropane	U		0.149	0.500	1	03/11/2024 12:46	WG2243937
1,1-Dichloropropene	U		0.142	0.500	1	03/11/2024 12:46	WG2243937
1,3-Dichloropropane	U		0.109	1.00	1	03/11/2024 12:46	WG2243937
cis-1,3-Dichloropropene	U		0.111	0.500	1	03/11/2024 12:46	WG2243937
trans-1,3-Dichloropropene	U		0.118	0.500	1	03/11/2024 12:46	WG2243937
2,2-Dichloropropane	U	C3	0.161	0.500	1	03/11/2024 12:46	WG2243937
Di-isopropyl ether	U		0.105	0.500	1	03/11/2024 12:46	WG2243937
Ethylbenzene	U		0.137	0.500	1	03/11/2024 12:46	WG2243937
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/11/2024 12:46	WG2243937
Isopropylbenzene	U		0.105	0.500	1	03/11/2024 12:46	WG2243937
p-Isopropyltoluene	U		0.120	0.500	1	03/11/2024 12:46	WG2243937
2-Butanone (MEK)	1.54	J	1.19	5.00	1	03/11/2024 12:46	WG2243937
Methylene Chloride	U		0.430	2.50	1	03/11/2024 12:46	WG2243937
4-Methyl-2-pentanone (MIBK)	U		0.478	5.00	1	03/11/2024 12:46	WG2243937
Methyl tert-butyl ether	U	C3	0.101	0.500	1	03/11/2024 12:46	WG2243937
Naphthalene	U	C3	0.174	2.50	1	03/11/2024 12:46	WG2243937
n-Propylbenzene	U		0.0993	0.500	1	03/11/2024 12:46	WG2243937
Styrene	U		0.118	0.500	1	03/11/2024 12:46	WG2243937
1,1,1,2-Tetrachloroethane	U		0.147	0.500	1	03/11/2024 12:46	WG2243937
1,1,2,2-Tetrachloroethane	U		0.133	0.500	1	03/11/2024 12:46	WG2243937
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500	1	03/11/2024 12:46	WG2243937
Tetrachloroethene	U		0.300	0.500	1	03/11/2024 12:46	WG2243937
Toluene	U		0.278	0.500	1	03/11/2024 12:46	WG2243937
1,2,3-Trichlorobenzene	U	C3	0.164	0.500	1	03/11/2024 12:46	WG2243937

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	U	C3	0.481	1.00	1	03/11/2024 12:46	WG2243937
1,1,1-Trichloroethane	U		0.149	0.500	1	03/11/2024 12:46	WG2243937
1,1,2-Trichloroethane	U		0.158	0.500	1	03/11/2024 12:46	WG2243937
Trichloroethene	1.62		0.190	0.500	1	03/11/2024 12:46	WG2243937
Trichlorofluoromethane	U		0.160	2.50	1	03/11/2024 12:46	WG2243937
1,2,3-Trichloropropane	U		0.237	2.50	1	03/11/2024 12:46	WG2243937
1,2,4-Trimethylbenzene	U		0.322	0.500	1	03/11/2024 12:46	WG2243937
1,2,3-Trimethylbenzene	U		0.104	0.500	1	03/11/2024 12:46	WG2243937
1,3,5-Trimethylbenzene	U		0.104	0.500	1	03/11/2024 12:46	WG2243937
Vinyl chloride	U	C3	0.234	0.500	1	03/11/2024 12:46	WG2243937
Xylenes, Total	U		0.174	1.50	1	03/11/2024 12:46	WG2243937
(S) Toluene-d8	105			80.0-120		03/11/2024 12:46	WG2243937
(S) 4-Bromofluorobenzene	88.4			77.0-126		03/11/2024 12:46	WG2243937
(S) 1,2-Dichloroethane-d4	105			70.0-130		03/11/2024 12:46	WG2243937

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		11.3	25.0	1	03/11/2024 09:56	WG2243937
Acrolein	U		2.54	50.0	1	03/11/2024 09:56	WG2243937
Acrylonitrile	U		0.671	5.00	1	03/11/2024 09:56	WG2243937
Benzene	U		0.0941	0.500	1	03/11/2024 09:56	WG2243937
Bromobenzene	U		0.118	0.500	1	03/11/2024 09:56	WG2243937
Bromodichloromethane	U		0.136	0.500	1	03/11/2024 09:56	WG2243937
Bromoform	U		0.129	0.500	1	03/11/2024 09:56	WG2243937
Bromomethane	U	C3	0.605	2.50	1	03/11/2024 09:56	WG2243937
n-Butylbenzene	U		0.157	0.500	1	03/11/2024 09:56	WG2243937
sec-Butylbenzene	U		0.125	0.500	1	03/11/2024 09:56	WG2243937
tert-Butylbenzene	U		0.127	0.500	1	03/11/2024 09:56	WG2243937
Carbon disulfide	U	C3	0.0962	0.500	1	03/11/2024 09:56	WG2243937
Carbon tetrachloride	U		0.128	0.500	1	03/11/2024 09:56	WG2243937
Chlorobenzene	U		0.117	0.500	1	03/11/2024 09:56	WG2243937
Chlorodibromomethane	U		0.140	0.500	1	03/11/2024 09:56	WG2243937
Chloroethane	U	C3	0.192	2.50	1	03/11/2024 09:56	WG2243937
Chloroform	U		0.111	0.500	1	03/11/2024 09:56	WG2243937
Chloromethane	U		0.960	1.25	1	03/11/2024 09:56	WG2243937
2-Chlorotoluene	U		0.106	0.500	1	03/11/2024 09:56	WG2243937
4-Chlorotoluene	U		0.114	0.500	1	03/11/2024 09:56	WG2243937
1,2-Dibromo-3-Chloropropane	U		0.276	2.50	1	03/11/2024 09:56	WG2243937
1,2-Dibromoethane	U		0.126	0.500	1	03/11/2024 09:56	WG2243937
Dibromomethane	U		0.122	0.500	1	03/11/2024 09:56	WG2243937
1,2-Dichlorobenzene	U		0.107	0.500	1	03/11/2024 09:56	WG2243937
1,3-Dichlorobenzene	U		0.299	0.500	1	03/11/2024 09:56	WG2243937
1,4-Dichlorobenzene	U		0.120	0.500	1	03/11/2024 09:56	WG2243937
Dichlorodifluoromethane	U		0.374	2.50	1	03/11/2024 09:56	WG2243937
1,1-Dichloroethane	U		0.100	0.500	1	03/11/2024 09:56	WG2243937
1,2-Dichloroethane	U		0.0819	0.500	1	03/11/2024 09:56	WG2243937
1,1-Dichloroethene	U	J4	0.188	0.500	1	03/11/2024 09:56	WG2243937
cis-1,2-Dichloroethene	U		0.126	0.500	1	03/11/2024 09:56	WG2243937
trans-1,2-Dichloroethene	U		0.149	0.500	1	03/11/2024 09:56	WG2243937
1,2-Dichloropropane	U		0.149	0.500	1	03/11/2024 09:56	WG2243937
1,1-Dichloropropene	U		0.142	0.500	1	03/11/2024 09:56	WG2243937
1,3-Dichloropropane	U		0.109	1.00	1	03/11/2024 09:56	WG2243937
cis-1,3-Dichloropropene	U		0.111	0.500	1	03/11/2024 09:56	WG2243937
trans-1,3-Dichloropropene	U		0.118	0.500	1	03/11/2024 09:56	WG2243937
2,2-Dichloropropane	U	C3	0.161	0.500	1	03/11/2024 09:56	WG2243937
Di-isopropyl ether	U		0.105	0.500	1	03/11/2024 09:56	WG2243937
Ethylbenzene	U		0.137	0.500	1	03/11/2024 09:56	WG2243937
Hexachloro-1,3-butadiene	U		0.337	1.00	1	03/11/2024 09:56	WG2243937
Isopropylbenzene	U		0.105	0.500	1	03/11/2024 09:56	WG2243937
p-Isopropyltoluene	U		0.120	0.500	1	03/11/2024 09:56	WG2243937
2-Butanone (MEK)	U		1.19	5.00	1	03/11/2024 09:56	WG2243937
Methylene Chloride	U		0.430	2.50	1	03/11/2024 09:56	WG2243937
4-Methyl-2-pentanone (MIBK)	U		0.478	5.00	1	03/11/2024 09:56	WG2243937
Methyl tert-butyl ether	U	C3	0.101	0.500	1	03/11/2024 09:56	WG2243937
Naphthalene	U	C3	0.174	2.50	1	03/11/2024 09:56	WG2243937
n-Propylbenzene	U		0.0993	0.500	1	03/11/2024 09:56	WG2243937
Styrene	U		0.118	0.500	1	03/11/2024 09:56	WG2243937
1,1,1,2-Tetrachloroethane	U		0.147	0.500	1	03/11/2024 09:56	WG2243937
1,1,2,2-Tetrachloroethane	U		0.133	0.500	1	03/11/2024 09:56	WG2243937
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500	1	03/11/2024 09:56	WG2243937
Tetrachloroethene	U		0.300	0.500	1	03/11/2024 09:56	WG2243937
Toluene	U		0.278	0.500	1	03/11/2024 09:56	WG2243937
1,2,3-Trichlorobenzene	U	C3	0.164	0.500	1	03/11/2024 09:56	WG2243937

1Cp

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	U	C3	0.481	1.00	1	03/11/2024 09:56	WG2243937
1,1,1-Trichloroethane	U		0.149	0.500	1	03/11/2024 09:56	WG2243937
1,1,2-Trichloroethane	U		0.158	0.500	1	03/11/2024 09:56	WG2243937
Trichloroethene	U		0.190	0.500	1	03/11/2024 09:56	WG2243937
Trichlorofluoromethane	U		0.160	2.50	1	03/11/2024 09:56	WG2243937
1,2,3-Trichloropropane	U		0.237	2.50	1	03/11/2024 09:56	WG2243937
1,2,4-Trimethylbenzene	U		0.322	0.500	1	03/11/2024 09:56	WG2243937
1,2,3-Trimethylbenzene	U		0.104	0.500	1	03/11/2024 09:56	WG2243937
1,3,5-Trimethylbenzene	U		0.104	0.500	1	03/11/2024 09:56	WG2243937
Vinyl chloride	U	C3	0.234	0.500	1	03/11/2024 09:56	WG2243937
Xylenes, Total	U		0.174	1.50	1	03/11/2024 09:56	WG2243937
(S) Toluene-d8	106			80.0-120		03/11/2024 09:56	WG2243937
(S) 4-Bromofluorobenzene	89.5			77.0-126		03/11/2024 09:56	WG2243937
(S) 1,2-Dichloroethane-d4	108			70.0-130		03/11/2024 09:56	WG2243937

1Cp

2Tc

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4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R4044410-3 03/11/24 07:44

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

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Method Blank (MB)

(MB) R4044410-3 03/11/24 07:44

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
1,1,2-Trichlorotrifluoroethane	U		0.180	0.500
Tetrachloroethene	U		0.300	0.500
Toluene	U		0.278	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
1,2,4-Trimethylbenzene	U		0.322	0.500
1,2,3-Trimethylbenzene	U		0.104	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	105			80.0-120
(S) 4-Bromofluorobenzene	90.4			77.0-126
(S) 1,2-Dichloroethane-d4	107			70.0-130

¹Cp

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

(LCS) R4044410-1 03/11/24 06:48 • (LCSD) R4044410-2 03/11/24 07:06

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	26.6	25.9	106	104	19.0-160			2.67	27
Acrolein	25.0	28.4	28.6	114	114	10.0-160			0.702	26
Acrylonitrile	25.0	26.0	25.9	104	104	55.0-149			0.385	20

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

(LCS) R4044410-1 03/11/24 06:48 • (LCSD) R4044410-2 03/11/24 07:06

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 %
Benzene	5.00	4.69	4.39	93.8	87.8	70.0-123			6.61	20
Bromobenzene	5.00	4.81	4.48	96.2	89.6	73.0-121			7.10	20
Bromodichloromethane	5.00	4.83	4.42	96.6	88.4	75.0-120			8.86	20
Bromoform	5.00	4.36	4.15	87.2	83.0	68.0-132			4.94	20
Bromomethane	5.00	2.24	2.24	44.8	44.8	10.0-160			0.000	25
n-Butylbenzene	5.00	4.09	3.85	81.8	77.0	73.0-125			6.05	20
sec-Butylbenzene	5.00	4.92	4.24	98.4	84.8	75.0-125			14.8	20
tert-Butylbenzene	5.00	5.02	4.45	100	89.0	76.0-124			12.0	20
Carbon disulfide	5.00	3.72	3.48	74.4	69.6	61.0-128			6.67	20
Carbon tetrachloride	5.00	4.95	4.46	99.0	89.2	68.0-126			10.4	20
Chlorobenzene	5.00	4.80	4.43	96.0	88.6	80.0-121			8.02	20
Chlorodibromomethane	5.00	4.90	4.58	98.0	91.6	77.0-125			6.75	20
Chloroethane	5.00	3.61	3.71	72.2	74.2	47.0-150			2.73	20
Chloroform	5.00	4.33	4.08	86.6	81.6	73.0-120			5.95	20
Chloromethane	5.00	5.71	4.99	114	99.8	41.0-142			13.5	20
2-Chlorotoluene	5.00	4.77	4.28	95.4	85.6	76.0-123			10.8	20
4-Chlorotoluene	5.00	4.90	4.37	98.0	87.4	75.0-122			11.4	20
1,2-Dibromo-3-Chloropropane	5.00	4.33	4.09	86.6	81.8	58.0-134			5.70	20
1,2-Dibromoethane	5.00	5.02	4.68	100	93.6	80.0-122			7.01	20
Dibromomethane	5.00	5.03	4.89	101	97.8	80.0-120			2.82	20
1,2-Dichlorobenzene	5.00	4.86	4.55	97.2	91.0	79.0-121			6.59	20
1,3-Dichlorobenzene	5.00	4.88	4.54	97.6	90.8	79.0-120			7.22	20
1,4-Dichlorobenzene	5.00	5.03	4.65	101	93.0	79.0-120			7.85	20
Dichlorodifluoromethane	5.00	4.06	3.57	81.2	71.4	51.0-149			12.8	20
1,1-Dichloroethane	5.00	4.92	4.56	98.4	91.2	70.0-126			7.59	20
1,2-Dichloroethane	5.00	5.29	5.09	106	102	70.0-128			3.85	20
1,1-Dichloroethene	5.00	4.11	3.53	82.2	70.6	71.0-124		J4	15.2	20
cis-1,2-Dichloroethene	5.00	4.43	4.08	88.6	81.6	73.0-120			8.23	20
trans-1,2-Dichloroethene	5.00	4.25	4.05	85.0	81.0	73.0-120			4.82	20
1,2-Dichloropropane	5.00	5.34	5.14	107	103	77.0-125			3.82	20
1,1-Dichloropropene	5.00	4.73	4.38	94.6	87.6	74.0-126			7.68	20
1,3-Dichloropropane	5.00	5.44	5.22	109	104	80.0-120			4.13	20
cis-1,3-Dichloropropene	5.00	4.68	4.45	93.6	89.0	80.0-123			5.04	20
trans-1,3-Dichloropropene	5.00	4.84	4.63	96.8	92.6	78.0-124			4.44	20
2,2-Dichloropropane	5.00	3.27	3.03	65.4	60.6	58.0-130			7.62	20
Di-isopropyl ether	5.00	4.54	4.28	90.8	85.6	58.0-138			5.90	20
Ethylbenzene	5.00	4.66	4.25	93.2	85.0	79.0-123			9.20	20
Hexachloro-1,3-butadiene	5.00	4.21	3.83	84.2	76.6	54.0-138			9.45	20
Isopropylbenzene	5.00	4.43	4.05	88.6	81.0	76.0-127			8.96	20
p-Isopropyltoluene	5.00	4.71	4.18	94.2	83.6	76.0-125			11.9	20

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Cp

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

(LCS) R4044410-1 03/11/24 06:48 • (LCSD) R4044410-2 03/11/24 07:06

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 %
2-Butanone (MEK)	25.0	27.8	26.5	111	106	44.0-160			4.79	20
Methylene Chloride	5.00	4.34	4.25	86.8	85.0	67.0-120			2.10	20
4-Methyl-2-pentanone (MIBK)	25.0	28.7	27.6	115	110	68.0-142			3.91	20
Methyl tert-butyl ether	5.00	3.79	3.57	75.8	71.4	68.0-125			5.98	20
Naphthalene	5.00	3.75	3.67	75.0	73.4	54.0-135			2.16	20
n-Propylbenzene	5.00	4.80	4.40	96.0	88.0	77.0-124			8.70	20
Styrene	5.00	4.23	3.83	84.6	76.6	73.0-130			9.93	20
1,1,1,2-Tetrachloroethane	5.00	4.81	4.44	96.2	88.8	75.0-125			8.00	20
1,1,2,2-Tetrachloroethane	5.00	5.30	5.05	106	101	65.0-130			4.83	20
1,1,2-Trichlorotrifluoroethane	5.00	4.78	4.28	95.6	85.6	69.0-132			11.0	20
Tetrachloroethene	5.00	4.67	4.24	93.4	84.8	72.0-132			9.65	20
Toluene	5.00	4.73	4.33	94.6	86.6	79.0-120			8.83	20
1,2,3-Trichlorobenzene	5.00	3.53	3.50	70.6	70.0	50.0-138			0.853	20
1,2,4-Trichlorobenzene	5.00	3.44	3.36	68.8	67.2	57.0-137			2.35	20
1,1,1-Trichloroethane	5.00	4.62	4.33	92.4	86.6	73.0-124			6.48	20
1,1,2-Trichloroethane	5.00	5.24	4.96	105	99.2	80.0-120			5.49	20
Trichloroethene	5.00	4.64	4.27	92.8	85.4	78.0-124			8.31	20
Trichlorofluoromethane	5.00	4.59	4.18	91.8	83.6	59.0-147			9.35	20
1,2,3-Trichloropropane	5.00	5.75	5.33	115	107	73.0-130			7.58	20
1,2,4-Trimethylbenzene	5.00	4.51	4.03	90.2	80.6	76.0-121			11.2	20
1,2,3-Trimethylbenzene	5.00	4.70	4.34	94.0	86.8	77.0-120			7.96	20
1,3,5-Trimethylbenzene	5.00	4.78	4.32	95.6	86.4	76.0-122			10.1	20
Vinyl chloride	5.00	3.75	3.54	75.0	70.8	67.0-131			5.76	20
Xylenes, Total	15.0	13.5	12.5	90.0	83.3	79.0-123			7.69	20
(S) Toluene-d8				104	103	80.0-120				
(S) 4-Bromofluorobenzene				91.8	92.1	77.0-126				
(S) 1,2-Dichloroethane-d4				108	108	70.0-130				

¹Cp

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GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

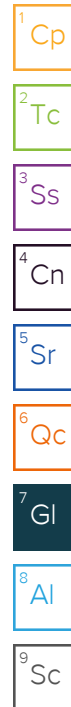
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Abbreviations and Definitions

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

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.



ACCREDITATIONS & LOCATIONS

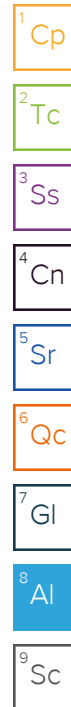
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

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.



Cascade Corporation- Fairview, OR

2201 NE 201st Avenue
Fairview, OR 97024-9718

Billing Information:
Accounts Payable
P.O. Box 20187
Portland, OR 97294-0187

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



Report to:
Cindy Bartlett

Email To:
CBartlett@Geosyntec.com; bwebb@Geosyntec.c

Project Description:

Cascade TSA

City/State

Collected: Fairview OR

Please Circle:

PT MT CT ET

Phone: 503-669-6286

Client Project #
NG0564S20

Lab Project #
CASCORFOR-PNG0564

Collected by (print):

PAT YADON

Site/Facility ID #

P.O. #

Collected by (signature):

Patricia E. Yodon

Rush? (Lab MUST Be Notified)

Same Day Five Day
Next Day 5 Day (Rad Only)
Two Day 10 Day (Rad Only)
Three Day * STANDARD

Quote #

Date Results Needed

Immediately
Packed on Ice N Y X

No.
of
Cntrs

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

PWB-1(LTS)-030724

GW

3/7/24 12:15 3

PWB-1(CUTS)-030724

GW

3/7/24 12:40 3

Trip Blank

GW

3/7/24 NA 1

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:

UPS FedEx Courier

Tracking # 4361 6931 8692

Relinquished by: (Signature)

Pat Yodon

Date:

3/7/24

Time:

16:00

Received by: (Signature)

FedEX

Trip Blank Received: Yes/No

BCD/MeOH TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: M99C Bottles Received: 0.5 to 0.5

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 3/8/24 Time: 900

Hold:

Condition:
NCF 100

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
VOA Zero Headspace: ☒ Y ☐ N
Preservation Correct/Checked: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

If preservation required by Login: Date/Time