Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 18, 2019

Cascade Corporation- Fairview, OR

Sample Delivery Group:	L1157939
Samples Received:	11/06/2019
Project Number:	PNG0564S19
Description:	Cascade TSA

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

Entire Report Reviewed By: Brian Ford

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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TS-C-EFF-110419 L1157939-01 GW

Collected by: Pat Yadon | Collected date/time: 11/04/19 10:15 | Received date/time: 11/06/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1380372	1	11/14/19 13:33	11/14/19 13:33	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1381136	1	11/15/19 16:44	11/15/19 16:44	BMB	Mt. Juliet, TN

TS-C-EFF-110419-DUP L1157939-02 GW

Collected by: Pat Yadon | Collected date/time: 11/04/19 10:16 | Received date/time: 11/06/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1380372	1	11/14/19 13:53	11/14/19 13:53	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1381136	1	11/15/19 17:05	11/15/19 17:05	BMB	Mt. Juliet, TN

TS-C-INF-110419 L1157939-03 GW

Collected by: Pat Yadon | Collected date/time: 11/04/19 10:20 | Received date/time: 11/06/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1380372	1	11/14/19 14:12	11/14/19 14:12	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1381136	1	11/15/19 17:26	11/15/19 17:26	BMB	Mt. Juliet, TN

TRIP BLANK LOT#414 L1157939-04 GW

Collected by: Pat Yadon | Collected date/time: 11/04/19 00:00 | Received date/time: 11/06/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1380372	1	11/14/19 10:37	11/14/19 10:37	ADM	Mt. Juliet, TN

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

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	11/15/2019 16:44	WG1381136
Acrolein	ND		50.0	1	11/14/2019 13:33	WG1380372
Acrylonitrile	ND		5.00	1	11/14/2019 13:33	WG1380372
Benzene	ND		0.500	1	11/14/2019 13:33	WG1380372
Bromobenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
Bromodichloromethane	ND		0.500	1	11/14/2019 13:33	WG1380372
Bromoform	ND		0.500	1	11/14/2019 13:33	WG1380372
Bromomethane	ND	J0	2.50	1	11/14/2019 13:33	WG1380372
n-Butylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
sec-Butylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
tert-Butylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
Carbon disulfide	ND		0.500	1	11/14/2019 13:33	WG1380372
Carbon tetrachloride	ND		0.500	1	11/14/2019 13:33	WG1380372
Chlorobenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
Chlorodibromomethane	ND		0.500	1	11/14/2019 13:33	WG1380372
Chloroethane	ND		2.50	1	11/14/2019 13:33	WG1380372
Chloroform	ND		0.500	1	11/14/2019 13:33	WG1380372
Chloromethane	ND		1.25	1	11/14/2019 13:33	WG1380372
2-Chlorotoluene	ND		0.500	1	11/14/2019 13:33	WG1380372
4-Chlorotoluene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,2-Dibromo-3-Chloropropane	ND		2.50	1	11/14/2019 13:33	WG1380372
1,2-Dibromoethane	ND		0.500	1	11/14/2019 13:33	WG1380372
Dibromomethane	ND		0.500	1	11/14/2019 13:33	WG1380372
1,2-Dichlorobenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,3-Dichlorobenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,4-Dichlorobenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
Dichlorodifluoromethane	ND		2.50	1	11/14/2019 13:33	WG1380372
1,1-Dichloroethane	ND		0.500	1	11/14/2019 13:33	WG1380372
1,2-Dichloroethane	ND		0.500	1	11/14/2019 13:33	WG1380372
1,1-Dichloroethene	ND		0.500	1	11/14/2019 13:33	WG1380372
cis-1,2-Dichloroethene	ND		0.500	1	11/14/2019 13:33	WG1380372
trans-1,2-Dichloroethene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,2-Dichloropropane	ND		0.500	1	11/14/2019 13:33	WG1380372
1,1-Dichloropropene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,3-Dichloropropane	ND		1.00	1	11/14/2019 13:33	WG1380372
cis-1,3-Dichloropropene	ND		0.500	1	11/14/2019 13:33	WG1380372
trans-1,3-Dichloropropene	ND		0.500	1	11/14/2019 13:33	WG1380372
2,2-Dichloropropane	ND		0.500	1	11/14/2019 13:33	WG1380372
Di-isopropyl ether	ND		0.500	1	11/14/2019 13:33	WG1380372
Ethylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
Hexachloro-1,3-butadiene	ND		1.00	1	11/14/2019 13:33	WG1380372
Isopropylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
p-Isopropyltoluene	ND		0.500	1	11/14/2019 13:33	WG1380372
2-Butanone (MEK)	ND		5.00	1	11/14/2019 13:33	WG1380372
Methylene Chloride	ND		2.50	1	11/14/2019 13:33	WG1380372
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	11/14/2019 13:33	WG1380372
Methyl tert-butyl ether	ND		0.500	1	11/14/2019 13:33	WG1380372
Naphthalene	ND		2.50	1	11/14/2019 13:33	WG1380372
n-Propylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
Styrene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,1,1,2-Tetrachloroethane	ND		0.500	1	11/14/2019 13:33	WG1380372
1,1,2,2-Tetrachloroethane	ND		0.500	1	11/14/2019 13:33	WG1380372
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	11/14/2019 13:33	WG1380372
Tetrachloroethene	ND		0.500	1	11/14/2019 13:33	WG1380372
Toluene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,2,3-Trichlorobenzene	ND		0.500	1	11/14/2019 13:33	WG1380372

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,1,1-Trichloroethane	ND		0.500	1	11/14/2019 13:33	WG1380372
1,1,2-Trichloroethane	ND		0.500	1	11/14/2019 13:33	WG1380372
Trichloroethene	ND		0.500	1	11/14/2019 13:33	WG1380372
Trichlorofluoromethane	ND		2.50	1	11/14/2019 13:33	WG1380372
1,2,3-Trichloropropane	ND		2.50	1	11/14/2019 13:33	WG1380372
1,2,4-Trimethylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,2,3-Trimethylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
1,3,5-Trimethylbenzene	ND		0.500	1	11/14/2019 13:33	WG1380372
Vinyl chloride	ND		0.500	1	11/14/2019 13:33	WG1380372
Xylenes, Total	ND		1.50	1	11/14/2019 13:33	WG1380372
(S) Toluene-d8	*93.1*		*80.0-120*		*11/14/2019 13:33*	WG1380372
(S) Toluene-d8	*97.5*		*80.0-120*		*11/15/2019 16:44*	WG1381136
(S) 4-Bromofluorobenzene	*94.8*		*77.0-126*		*11/14/2019 13:33*	WG1380372
(S) 4-Bromofluorobenzene	*98.3*		*77.0-126*		*11/15/2019 16:44*	WG1381136
(S) 1,2-Dichloroethane-d4	*93.6*		*70.0-130*		*11/14/2019 13:33*	WG1380372
(S) 1,2-Dichloroethane-d4	*90.9*		*70.0-130*		*11/15/2019 16:44*	WG1381136

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	11/15/2019 17:05	WG1381136
Acrolein	ND		50.0	1	11/14/2019 13:53	WG1380372
Acrylonitrile	ND		5.00	1	11/14/2019 13:53	WG1380372
Benzene	ND		0.500	1	11/14/2019 13:53	WG1380372
Bromobenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
Bromodichloromethane	ND		0.500	1	11/14/2019 13:53	WG1380372
Bromoform	ND		0.500	1	11/14/2019 13:53	WG1380372
Bromomethane	ND	J0	2.50	1	11/14/2019 13:53	WG1380372
n-Butylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
sec-Butylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
tert-Butylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
Carbon disulfide	ND		0.500	1	11/14/2019 13:53	WG1380372
Carbon tetrachloride	ND		0.500	1	11/14/2019 13:53	WG1380372
Chlorobenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
Chlorodibromomethane	ND		0.500	1	11/14/2019 13:53	WG1380372
Chloroethane	ND		2.50	1	11/14/2019 13:53	WG1380372
Chloroform	ND		0.500	1	11/14/2019 13:53	WG1380372
Chloromethane	ND		1.25	1	11/14/2019 13:53	WG1380372
2-Chlorotoluene	ND		0.500	1	11/14/2019 13:53	WG1380372
4-Chlorotoluene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,2-Dibromo-3-Chloropropane	ND		2.50	1	11/14/2019 13:53	WG1380372
1,2-Dibromoethane	ND		0.500	1	11/14/2019 13:53	WG1380372
Dibromomethane	ND		0.500	1	11/14/2019 13:53	WG1380372
1,2-Dichlorobenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,3-Dichlorobenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,4-Dichlorobenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
Dichlorodifluoromethane	ND		2.50	1	11/14/2019 13:53	WG1380372
1,1-Dichloroethane	ND		0.500	1	11/14/2019 13:53	WG1380372
1,2-Dichloroethane	ND		0.500	1	11/14/2019 13:53	WG1380372
1,1-Dichloroethene	ND		0.500	1	11/14/2019 13:53	WG1380372
cis-1,2-Dichloroethene	ND		0.500	1	11/14/2019 13:53	WG1380372
trans-1,2-Dichloroethene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,2-Dichloropropane	ND		0.500	1	11/14/2019 13:53	WG1380372
1,1-Dichloropropene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,3-Dichloropropane	ND		1.00	1	11/14/2019 13:53	WG1380372
cis-1,3-Dichloropropene	ND		0.500	1	11/14/2019 13:53	WG1380372
trans-1,3-Dichloropropene	ND		0.500	1	11/14/2019 13:53	WG1380372
2,2-Dichloropropane	ND		0.500	1	11/14/2019 13:53	WG1380372
Di-isopropyl ether	ND		0.500	1	11/14/2019 13:53	WG1380372
Ethylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
Hexachloro-1,3-butadiene	ND		1.00	1	11/14/2019 13:53	WG1380372
Isopropylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
p-Isopropyltoluene	ND		0.500	1	11/14/2019 13:53	WG1380372
2-Butanone (MEK)	ND		5.00	1	11/14/2019 13:53	WG1380372
Methylene Chloride	ND		2.50	1	11/14/2019 13:53	WG1380372
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	11/14/2019 13:53	WG1380372
Methyl tert-butyl ether	ND		0.500	1	11/14/2019 13:53	WG1380372
Naphthalene	ND		2.50	1	11/14/2019 13:53	WG1380372
n-Propylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
Styrene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,1,1,2-Tetrachloroethane	ND		0.500	1	11/14/2019 13:53	WG1380372
1,1,2,2-Tetrachloroethane	ND		0.500	1	11/14/2019 13:53	WG1380372
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	11/14/2019 13:53	WG1380372
Tetrachloroethene	ND		0.500	1	11/14/2019 13:53	WG1380372
Toluene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,2,3-Trichlorobenzene	ND		0.500	1	11/14/2019 13:53	WG1380372

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,1,1-Trichloroethane	ND		0.500	1	11/14/2019 13:53	WG1380372
1,1,2-Trichloroethane	ND		0.500	1	11/14/2019 13:53	WG1380372
Trichloroethene	ND		0.500	1	11/14/2019 13:53	WG1380372
Trichlorofluoromethane	ND		2.50	1	11/14/2019 13:53	WG1380372
1,2,3-Trichloropropane	ND		2.50	1	11/14/2019 13:53	WG1380372
1,2,4-Trimethylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,2,3-Trimethylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
1,3,5-Trimethylbenzene	ND		0.500	1	11/14/2019 13:53	WG1380372
Vinyl chloride	ND		0.500	1	11/14/2019 13:53	WG1380372
Xylenes, Total	ND		1.50	1	11/14/2019 13:53	WG1380372
(S) Toluene-d8	*92.6*		*80.0-120*		*11/14/2019 13:53*	WG1380372
(S) Toluene-d8	*97.2*		*80.0-120*		*11/15/2019 17:05*	WG1381136
(S) 4-Bromofluorobenzene	*93.3*		*77.0-126*		*11/14/2019 13:53*	WG1380372
(S) 4-Bromofluorobenzene	*98.3*		*77.0-126*		*11/15/2019 17:05*	WG1381136
(S) 1,2-Dichloroethane-d4	*93.6*		*70.0-130*		*11/14/2019 13:53*	WG1380372
(S) 1,2-Dichloroethane-d4	*90.4*		*70.0-130*		*11/15/2019 17:05*	WG1381136

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	11/15/2019 17:26	WG1381136
Acrolein	ND		50.0	1	11/14/2019 14:12	WG1380372
Acrylonitrile	ND		5.00	1	11/14/2019 14:12	WG1380372
Benzene	ND		0.500	1	11/14/2019 14:12	WG1380372
Bromobenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
Bromodichloromethane	ND		0.500	1	11/14/2019 14:12	WG1380372
Bromoform	ND		0.500	1	11/14/2019 14:12	WG1380372
Bromomethane	ND	J0	2.50	1	11/14/2019 14:12	WG1380372
n-Butylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
sec-Butylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
tert-Butylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
Carbon disulfide	ND		0.500	1	11/14/2019 14:12	WG1380372
Carbon tetrachloride	ND		0.500	1	11/14/2019 14:12	WG1380372
Chlorobenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
Chlorodibromomethane	ND		0.500	1	11/14/2019 14:12	WG1380372
Chloroethane	ND		2.50	1	11/14/2019 14:12	WG1380372
Chloroform	ND		0.500	1	11/14/2019 14:12	WG1380372
Chloromethane	ND		1.25	1	11/14/2019 14:12	WG1380372
2-Chlorotoluene	ND		0.500	1	11/14/2019 14:12	WG1380372
4-Chlorotoluene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,2-Dibromo-3-Chloropropane	ND		2.50	1	11/14/2019 14:12	WG1380372
1,2-Dibromoethane	ND		0.500	1	11/14/2019 14:12	WG1380372
Dibromomethane	ND		0.500	1	11/14/2019 14:12	WG1380372
1,2-Dichlorobenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,3-Dichlorobenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,4-Dichlorobenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
Dichlorodifluoromethane	ND		2.50	1	11/14/2019 14:12	WG1380372
1,1-Dichloroethane	ND		0.500	1	11/14/2019 14:12	WG1380372
1,2-Dichloroethane	ND		0.500	1	11/14/2019 14:12	WG1380372
1,1-Dichloroethene	ND		0.500	1	11/14/2019 14:12	WG1380372
cis-1,2-Dichloroethene	0.952		0.500	1	11/14/2019 14:12	WG1380372
trans-1,2-Dichloroethene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,2-Dichloropropane	ND		0.500	1	11/14/2019 14:12	WG1380372
1,1-Dichloropropene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,3-Dichloropropane	ND		1.00	1	11/14/2019 14:12	WG1380372
cis-1,3-Dichloropropene	ND		0.500	1	11/14/2019 14:12	WG1380372
trans-1,3-Dichloropropene	ND		0.500	1	11/14/2019 14:12	WG1380372
2,2-Dichloropropane	ND		0.500	1	11/14/2019 14:12	WG1380372
Di-isopropyl ether	ND		0.500	1	11/14/2019 14:12	WG1380372
Ethylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
Hexachloro-1,3-butadiene	ND		1.00	1	11/14/2019 14:12	WG1380372
Isopropylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
p-Isopropyltoluene	ND		0.500	1	11/14/2019 14:12	WG1380372
2-Butanone (MEK)	ND		5.00	1	11/14/2019 14:12	WG1380372
Methylene Chloride	ND		2.50	1	11/14/2019 14:12	WG1380372
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	11/14/2019 14:12	WG1380372
Methyl tert-butyl ether	ND		0.500	1	11/14/2019 14:12	WG1380372
Naphthalene	ND		2.50	1	11/14/2019 14:12	WG1380372
n-Propylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
Styrene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,1,1,2-Tetrachloroethane	ND		0.500	1	11/14/2019 14:12	WG1380372
1,1,2,2-Tetrachloroethane	ND		0.500	1	11/14/2019 14:12	WG1380372
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	11/14/2019 14:12	WG1380372
Tetrachloroethene	ND		0.500	1	11/14/2019 14:12	WG1380372
Toluene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,2,3-Trichlorobenzene	ND		0.500	1	11/14/2019 14:12	WG1380372

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,1,1-Trichloroethane	ND		0.500	1	11/14/2019 14:12	WG1380372
1,1,2-Trichloroethane	ND		0.500	1	11/14/2019 14:12	WG1380372
Trichloroethene	7.30		0.500	1	11/14/2019 14:12	WG1380372
Trichlorofluoromethane	ND		2.50	1	11/14/2019 14:12	WG1380372
1,2,3-Trichloropropane	ND		2.50	1	11/14/2019 14:12	WG1380372
1,2,4-Trimethylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,2,3-Trimethylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
1,3,5-Trimethylbenzene	ND		0.500	1	11/14/2019 14:12	WG1380372
Vinyl chloride	ND		0.500	1	11/14/2019 14:12	WG1380372
Xylenes, Total	ND		1.50	1	11/14/2019 14:12	WG1380372
(S) Toluene-d8	*91.5*		*80.0-120*		*11/14/2019 14:12*	WG1380372
(S) Toluene-d8	*99.1*		*80.0-120*		*11/15/2019 17:26*	WG1381136
(S) 4-Bromofluorobenzene	*92.1*		*77.0-126*		*11/14/2019 14:12*	WG1380372
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*11/15/2019 17:26*	WG1381136
(S) 1,2-Dichloroethane-d4	*94.1*		*70.0-130*		*11/14/2019 14:12*	WG1380372
(S) 1,2-Dichloroethane-d4	*91.8*		*70.0-130*		*11/15/2019 17:26*	WG1381136

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		25.0	1	11/14/2019 10:37	WG1380372
Acrolein	ND		50.0	1	11/14/2019 10:37	WG1380372
Acrylonitrile	ND		5.00	1	11/14/2019 10:37	WG1380372
Benzene	ND		0.500	1	11/14/2019 10:37	WG1380372
Bromobenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
Bromodichloromethane	ND		0.500	1	11/14/2019 10:37	WG1380372
Bromoform	ND		0.500	1	11/14/2019 10:37	WG1380372
Bromomethane	ND	J0	2.50	1	11/14/2019 10:37	WG1380372
n-Butylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
sec-Butylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
tert-Butylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
Carbon disulfide	ND		0.500	1	11/14/2019 10:37	WG1380372
Carbon tetrachloride	ND		0.500	1	11/14/2019 10:37	WG1380372
Chlorobenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
Chlorodibromomethane	ND		0.500	1	11/14/2019 10:37	WG1380372
Chloroethane	ND		2.50	1	11/14/2019 10:37	WG1380372
Chloroform	ND		0.500	1	11/14/2019 10:37	WG1380372
Chloromethane	ND		1.25	1	11/14/2019 10:37	WG1380372
2-Chlorotoluene	ND		0.500	1	11/14/2019 10:37	WG1380372
4-Chlorotoluene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,2-Dibromo-3-Chloropropane	ND		2.50	1	11/14/2019 10:37	WG1380372
1,2-Dibromoethane	ND		0.500	1	11/14/2019 10:37	WG1380372
Dibromomethane	ND		0.500	1	11/14/2019 10:37	WG1380372
1,2-Dichlorobenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,3-Dichlorobenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,4-Dichlorobenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
Dichlorodifluoromethane	ND		2.50	1	11/14/2019 10:37	WG1380372
1,1-Dichloroethane	ND		0.500	1	11/14/2019 10:37	WG1380372
1,2-Dichloroethane	ND		0.500	1	11/14/2019 10:37	WG1380372
1,1-Dichloroethene	ND		0.500	1	11/14/2019 10:37	WG1380372
cis-1,2-Dichloroethene	ND		0.500	1	11/14/2019 10:37	WG1380372
trans-1,2-Dichloroethene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,2-Dichloropropane	ND		0.500	1	11/14/2019 10:37	WG1380372
1,1-Dichloropropene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,3-Dichloropropane	ND		1.00	1	11/14/2019 10:37	WG1380372
cis-1,3-Dichloropropene	ND		0.500	1	11/14/2019 10:37	WG1380372
trans-1,3-Dichloropropene	ND		0.500	1	11/14/2019 10:37	WG1380372
2,2-Dichloropropane	ND		0.500	1	11/14/2019 10:37	WG1380372
Di-isopropyl ether	ND		0.500	1	11/14/2019 10:37	WG1380372
Ethylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
Hexachloro-1,3-butadiene	ND		1.00	1	11/14/2019 10:37	WG1380372
Isopropylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
p-Isopropyltoluene	ND		0.500	1	11/14/2019 10:37	WG1380372
2-Butanone (MEK)	ND		5.00	1	11/14/2019 10:37	WG1380372
Methylene Chloride	ND		2.50	1	11/14/2019 10:37	WG1380372
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	11/14/2019 10:37	WG1380372
Methyl tert-butyl ether	ND		0.500	1	11/14/2019 10:37	WG1380372
Naphthalene	ND		2.50	1	11/14/2019 10:37	WG1380372
n-Propylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
Styrene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,1,1,2-Tetrachloroethane	ND		0.500	1	11/14/2019 10:37	WG1380372
1,1,2,2-Tetrachloroethane	ND		0.500	1	11/14/2019 10:37	WG1380372
1,1,2-Trichlorotrifluoroethane	ND		0.500	1	11/14/2019 10:37	WG1380372
Tetrachloroethene	ND		0.500	1	11/14/2019 10:37	WG1380372
Toluene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,2,3-Trichlorobenzene	ND		0.500	1	11/14/2019 10:37	WG1380372

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

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,1,1-Trichloroethane	ND		0.500	1	11/14/2019 10:37	WG1380372
1,1,2-Trichloroethane	ND		0.500	1	11/14/2019 10:37	WG1380372
Trichloroethene	ND		0.500	1	11/14/2019 10:37	WG1380372
Trichlorofluoromethane	ND		2.50	1	11/14/2019 10:37	WG1380372
1,2,3-Trichloropropane	ND		2.50	1	11/14/2019 10:37	WG1380372
1,2,4-Trimethylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,2,3-Trimethylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
1,3,5-Trimethylbenzene	ND		0.500	1	11/14/2019 10:37	WG1380372
Vinyl chloride	ND		0.500	1	11/14/2019 10:37	WG1380372
Xylenes, Total	ND		1.50	1	11/14/2019 10:37	WG1380372
(S) Toluene-d8	*92.1*		*80.0-120*		*11/14/2019 10:37*	WG1380372
(S) 4-Bromofluorobenzene	*93.4*		*77.0-126*		*11/14/2019 10:37*	WG1380372
(S) 1,2-Dichloroethane-d4	*90.9*		*70.0-130*		*11/14/2019 10:37*	WG1380372

Method Blank (MB)

(MB) R3472300-3 11/14/19 08:43

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

Method Blank (MB)

(MB) R3472300-3 11/14/19 08:43

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	*91.1*			*80.0-120*
(S) 4-Bromofluorobenzene	*93.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*93.5*			*70.0-130*

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

(LCS) R3472300-1 11/14/19 07:44 • (LCSD) R3472300-2 11/14/19 08:03

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	34.5	36.7	138	147	19.0-160			6.18	27
Acrolein	25.0	25.9	24.0	104	96.0	10.0-160			7.62	26
Acrylonitrile	25.0	29.0	29.9	116	120	55.0-149			3.06	20

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

(LCS) R3472300-1 11/14/19 07:44 • (LCSD) R3472300-2 11/14/19 08:03

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	5.00	4.93	4.94	98.6	98.8	70.0-123			0.203	20
Bromobenzene	5.00	4.61	4.76	92.2	95.2	73.0-121			3.20	20
Bromodichloromethane	5.00	4.95	4.86	99.0	97.2	75.0-120			1.83	20
Bromoform	5.00	4.92	4.86	98.4	97.2	68.0-132			1.23	20
Bromomethane	5.00	2.58	2.75	51.6	55.0	10.0-160			6.38	25
n-Butylbenzene	5.00	4.34	4.63	86.8	92.6	73.0-125			6.47	20
sec-Butylbenzene	5.00	4.41	4.66	88.2	93.2	75.0-125			5.51	20
tert-Butylbenzene	5.00	4.50	4.76	90.0	95.2	76.0-124			5.62	20
Carbon disulfide	5.00	5.08	5.13	102	103	61.0-128			0.979	20
Carbon tetrachloride	5.00	4.48	4.77	89.6	95.4	68.0-126			6.27	20
Chlorobenzene	5.00	5.03	5.00	101	100	80.0-121			0.598	20
Chlorodibromomethane	5.00	4.87	4.80	97.4	96.0	77.0-125			1.45	20
Chloroethane	5.00	4.90	5.01	98.0	100	47.0-150			2.22	20
Chloroform	5.00	4.90	5.03	98.0	101	73.0-120			2.62	20
Chloromethane	5.00	4.03	4.15	80.6	83.0	41.0-142			2.93	20
2-Chlorotoluene	5.00	4.71	4.74	94.2	94.8	76.0-123			0.635	20
4-Chlorotoluene	5.00	4.65	4.73	93.0	94.6	75.0-122			1.71	20
1,2-Dibromo-3-Chloropropane	5.00	5.80	6.26	116	125	58.0-134			7.63	20
1,2-Dibromoethane	5.00	5.41	5.36	108	107	80.0-122			0.929	20
Dibromomethane	5.00	5.38	5.24	108	105	80.0-120			2.64	20
1,2-Dichlorobenzene	5.00	4.65	4.83	93.0	96.6	79.0-121			3.80	20
1,3-Dichlorobenzene	5.00	4.73	4.84	94.6	96.8	79.0-120			2.30	20
1,4-Dichlorobenzene	5.00	4.70	4.88	94.0	97.6	79.0-120			3.76	20
Dichlorodifluoromethane	5.00	5.99	6.25	120	125	51.0-149			4.25	20
1,1-Dichloroethane	5.00	5.04	5.13	101	103	70.0-126			1.77	20
1,2-Dichloroethane	5.00	5.21	5.18	104	104	70.0-128			0.577	20
1,1-Dichloroethene	5.00	5.21	5.22	104	104	71.0-124			0.192	20
cis-1,2-Dichloroethene	5.00	5.20	5.33	104	107	73.0-120			2.47	20
trans-1,2-Dichloroethene	5.00	4.96	5.22	99.2	104	73.0-120			5.11	20
1,2-Dichloropropane	5.00	5.05	5.23	101	105	77.0-125			3.50	20
1,1-Dichloropropene	5.00	5.02	4.84	100	96.8	74.0-126			3.65	20
1,3-Dichloropropane	5.00	5.04	5.14	101	103	80.0-120			1.96	20
cis-1,3-Dichloropropene	5.00	4.82	4.84	96.4	96.8	80.0-123			0.414	20
trans-1,3-Dichloropropene	5.00	4.99	4.87	99.8	97.4	78.0-124			2.43	20
2,2-Dichloropropane	5.00	4.61	4.70	92.2	94.0	58.0-130			1.93	20
Di-isopropyl ether	5.00	5.08	5.02	102	100	58.0-138			1.19	20
Ethylbenzene	5.00	4.80	4.68	96.0	93.6	79.0-123			2.53	20
Hexachloro-1,3-butadiene	5.00	4.25	4.51	85.0	90.2	54.0-138			5.94	20
Isopropylbenzene	5.00	4.66	4.72	93.2	94.4	76.0-127			1.28	20
p-Isopropyltoluene	5.00	4.38	4.64	87.6	92.8	76.0-125			5.76	20

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

(LCS) R3472300-1 11/14/19 07:44 • (LCSD) R3472300-2 11/14/19 08:03

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)	25.0	30.9	33.4	124	134	44.0-160			7.78	20
Methylene Chloride	5.00	5.12	4.99	102	99.8	67.0-120			2.57	20
4-Methyl-2-pentanone (MIBK)	25.0	27.7	27.9	111	112	68.0-142			0.719	20
Methyl tert-butyl ether	5.00	5.39	5.35	108	107	68.0-125			0.745	20
Naphthalene	5.00	5.43	5.74	109	115	54.0-135			5.55	20
n-Propylbenzene	5.00	4.59	4.68	91.8	93.6	77.0-124			1.94	20
Styrene	5.00	4.67	4.76	93.4	95.2	73.0-130			1.91	20
1,1,1,2-Tetrachloroethane	5.00	4.80	4.91	96.0	98.2	75.0-125			2.27	20
1,1,2,2-Tetrachloroethane	5.00	4.80	4.77	96.0	95.4	65.0-130			0.627	20
Tetrachloroethene	5.00	4.94	4.79	98.8	95.8	72.0-132			3.08	20
Toluene	5.00	4.57	4.63	91.4	92.6	79.0-120			1.30	20
1,1,2-Trichlorotrifluoroethane	5.00	4.97	4.92	99.4	98.4	69.0-132			1.01	20
1,2,3-Trichlorobenzene	5.00	4.85	5.10	97.0	102	50.0-138			5.03	20
1,2,4-Trichlorobenzene	5.00	4.62	4.72	92.4	94.4	57.0-137			2.14	20
1,1,1-Trichloroethane	5.00	5.35	5.36	107	107	73.0-124			0.187	20
1,1,2-Trichloroethane	5.00	5.02	4.96	100	99.2	80.0-120			1.20	20
Trichloroethene	5.00	5.54	5.70	111	114	78.0-124			2.85	20
Trichlorofluoromethane	5.00	4.65	4.65	93.0	93.0	59.0-147			0.000	20
1,2,3-Trichloropropane	5.00	5.72	5.66	114	113	73.0-130			1.05	20
1,2,3-Trimethylbenzene	5.00	4.59	4.91	91.8	98.2	77.0-120			6.74	20
1,2,4-Trimethylbenzene	5.00	4.53	4.77	90.6	95.4	76.0-121			5.16	20
1,3,5-Trimethylbenzene	5.00	4.64	4.71	92.8	94.2	76.0-122			1.50	20
Vinyl chloride	5.00	4.64	4.65	92.8	93.0	67.0-131			0.215	20
Xylenes, Total	15.0	14.1	13.8	94.0	92.0	79.0-123			2.15	20
(S) Toluene-d8				*89.4*	*89.4*	*80.0-120*				
(S) 4-Bromofluorobenzene				*94.9*	*95.0*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*96.9*	*94.2*	*70.0-130*				

Method Blank (MB)

(MB) R3472760-2 11/15/19 12:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	1.17	J	1.05	25.0
(S) Toluene-d8	*96.5*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*89.6*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3472760-1 11/15/19 12:07

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	22.3	89.2	19.0-160	
(S) Toluene-d8			*99.1*	*80.0-120*	
(S) 4-Bromofluorobenzene			*101*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*91.3*	*70.0-130*	

Guide to Reading and Understanding Your Laboratory Report

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

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

Abbreviations and Definitions

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

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J0	J0: The identification of the analyte is acceptable, but the reported concentration is an estimate. The calibration met method criteria.

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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

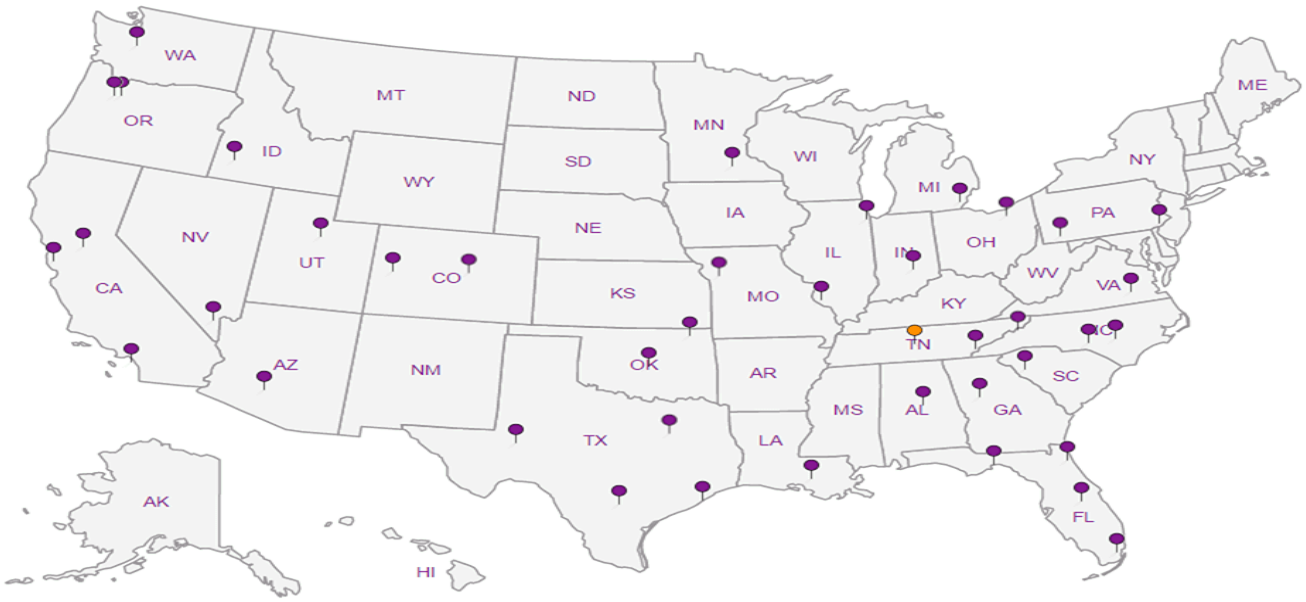
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

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



1157939

Pace Analytical CHAIN OF CUSTODY

Lab # F193 COC 1 of 1

PO#

Company: Cascade Corporation	Project Mgr: Cindy Bartlett	Project Name: Cascade TSA.	Project # Cascofm PNG0569819
Address: 2201 NE 201st Ave. Portland Or. 97294	Phone: (503) 669-6286	Fax:	Email: CBARTLOTT@GEOSYNTEC.COM
Sampled by: Pat YADON – PAT YADON			

Site Location: Fairview (OR) WA

Other: _____

ANALYSIS REQUEST

	SAMPLE ID	LAB ID #	DATE	TIME	MATRIX	# OF CONTAINERS	NWTPH-HCID	NWTPH-Dx	NWTPH-Gx	8260 VOCs LLC	8260 RBDM VOCs	8260 HVOCs	8260 BTEX VOCs	8270 SVOC	8270 SIM PAHs	8082 PCBs	600 TTO	RCRA Metals (8)	TCLP Metals (8)	Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Hg, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Tl, V, Zn TOTAL DISS TCLP	1200- COLS	1200-Z							
1	TS-C-EFF-110419		11/4/19	10:15						X																		-01
2	TS-C-EFF-110419-DUP		11/4/19	10:16						X																		-02
3	TS-C-INF-110419		11/4/19	10:20						X																		-03
4	TRIP BLANK LOT#414		11/4/19	NA						X																		-04
5																												
6																												
7																												
8																												
9																												
10																												

Normal Turn Around Time (TAT) = 10 Business Days (YES) NO

TAT Requested (circle): 1 Day 2 Day 3 Day 4 DAY 5 DAY Other: _____

SAMPLES ARE HELD FOR 30 DAYS

SPECIAL INSTRUCTIONS:

*Note: Did Not Have AMPLE SUPPLIES VIA COC TO Correspond with The Amount of VOAs.

RAD SCREEN: <0.5 mR/hr

RELINQUISHED BY:		RECEIVED BY:	
Signature: Patrick Yadon	Date: 11-5-19	Signature: FED EX	Date: 11-5-19
Printed Name: PAT YADON.	Time: 8:40	Printed Name:	Time: 8:40
Company:		Company:	

RELINQUISHED BY:		RECEIVED BY:	
Signature:	Date:	Signature: Hailey	Date: 11/6/19
Printed Name:	Time:	Printed Name: Hailey	Time: 845
Company:		Company: PACE	

3.3+0-3.3+2 (corr)

Pace Analytical National Center for Testing & Innovation
Cooler Receipt Form

Client: CASCOR FOR	11.57939	
Cooler Received/Opened On: 11/6/19 Temperature:	3.3	
Received By: Hailey Melson		
Signature:		

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		✓	
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable		✓	
VOA Zero headspace?		✓	
Preservation Correct / Checked?			