

BB&A Environmental - Coburg, OR

Sample Delivery Group: L1653413

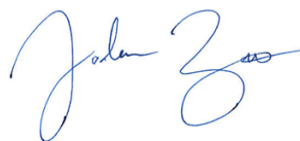
Samples Received: 09/07/2023

Project Number:

Description:

Report To: Matthew Luczak
32986 Roberts Court
Coburg, OR 97408

Entire Report Reviewed By:



Jordan N Zito
Project Manager

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

SAMPLE SUMMARY

GG01-SSVP-01 L1653413-01 Air

Collected by
Matthew L

Collected date/time
08/31/23 09:17

Received date/time
09/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2128848	1	09/08/23 19:10	09/08/23 19:10	DAH	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2130123	20	09/11/23 17:40	09/11/23 17:40	JAP	Mt. Juliet, TN

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

GG01-SSVP-02 L1653413-02 Air

Collected by
Matthew L

Collected date/time
08/31/23 10:25

Received date/time
09/07/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2128848	1	09/08/23 19:54	09/08/23 19:54	DAH	Mt. Juliet, TN

GG01-SSVP-03 L1653413-03 Air

Collected by
Matthew L

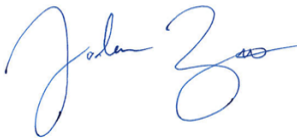
Collected date/time
08/31/23 09:39

Received date/time
09/07/23 09:00

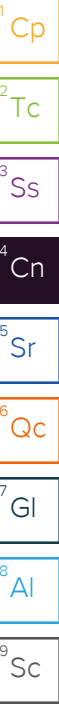
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2128848	1	09/08/23 20:38	09/08/23 20:38	DAH	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2130123	20	09/11/23 18:06	09/11/23 18:06	JAP	Mt. Juliet, TN

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.



Jordan N Zito
Project Manager



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2128848
Acetone	67-64-1	58.10	1.25	2.97	ND	ND		1	WG2128848
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2128848
Benzene	71-43-2	78.10	0.200	0.639	0.739	2.36	B	1	WG2128848
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2128848
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2128848
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2128848
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2128848
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2128848
Carbon disulfide	75-15-0	76.10	0.200	0.622	0.297	0.924		1	WG2128848
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2128848
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2128848
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2128848
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2128848
Chloromethane	74-87-3	50.50	0.200	0.413	0.525	1.08		1	WG2128848
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2128848
Cyclohexane	110-82-7	84.20	0.200	0.689	0.641	2.21		1	WG2128848
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2128848
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2128848
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2128848
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2128848
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2128848
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2128848
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2128848
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2128848
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2128848
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2128848
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2128848
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2128848
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2128848
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG2128848
Ethanol	64-17-5	46.10	2.50	4.71	58.9	111		1	WG2128848
Ethylbenzene	100-41-4	106	0.200	0.867	0.953	4.13		1	WG2128848
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.794	3.90		1	WG2128848
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.250	1.40		1	WG2128848
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.452	2.24		1	WG2128848
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2128848
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2128848
Heptane	142-82-5	100	0.200	0.818	0.761	3.11		1	WG2128848
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2128848
n-Hexane	110-54-3	86.20	0.630	2.22	1.94	6.84		1	WG2128848
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2128848
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.416	1.44		1	WG2128848
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2128848
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2128848
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2128848
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2128848
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2128848
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2128848
2-Propanol	67-63-0	60.10	25.0	61.5	977	2400		20	WG2130123
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2128848
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2128848
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2128848
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2128848
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2128848
Toluene	108-88-3	92.10	0.500	1.88	6.20	23.4		1	WG2128848

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2128848
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2128848
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2128848
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2128848
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.918	4.51		1	WG2128848
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.276	1.35		1	WG2128848
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.986	4.61		1	WG2128848
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2128848
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2128848
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG2128848
Xylenes, Total	1330-20-7	106.16	0.600	2.61	4.93	21.4		1	WG2128848
m&p-Xylene	1330-20-7	106	0.400	1.73	3.68	16.0		1	WG2128848
o-Xylene	95-47-6	106	0.200	0.867	1.25	5.42		1	WG2128848
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.3				WG2128848
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		105				WG2130123

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2128848
Acetone	67-64-1	58.10	1.25	2.97	ND	ND		1	WG2128848
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2128848
Benzene	71-43-2	78.10	0.200	0.639	0.401	1.28	B	1	WG2128848
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2128848
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2128848
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2128848
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2128848
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2128848
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2128848
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2128848
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2128848
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2128848
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2128848
Chloromethane	74-87-3	50.50	0.200	0.413	0.818	1.69		1	WG2128848
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2128848
Cyclohexane	110-82-7	84.20	0.200	0.689	0.210	0.723		1	WG2128848
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2128848
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2128848
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2128848
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2128848
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2128848
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2128848
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2128848
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2128848
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2128848
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2128848
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2128848
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2128848
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2128848
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG2128848
Ethanol	64-17-5	46.10	2.50	4.71	22.5	42.4		1	WG2128848
Ethylbenzene	100-41-4	106	0.200	0.867	0.223	0.967		1	WG2128848
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG2128848
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.231	1.30		1	WG2128848
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.449	2.22		1	WG2128848
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2128848
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2128848
Heptane	142-82-5	100	0.200	0.818	0.254	1.04		1	WG2128848
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2128848
n-Hexane	110-54-3	86.20	0.630	2.22	ND	ND		1	WG2128848
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2128848
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.302	1.05		1	WG2128848
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2128848
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG2128848
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2128848
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2128848
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2128848
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2128848
2-Propanol	67-63-0	60.10	1.25	3.07	300	737	E	1	WG2128848
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2128848
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2128848
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2128848
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.920	6.25		1	WG2128848
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2128848
Toluene	108-88-3	92.10	0.500	1.88	1.19	4.48		1	WG2128848

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2128848
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2128848
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2128848
Trichloroethylene	79-01-6	131	0.200	1.07	0.232	1.24		1	WG2128848
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.231	1.13		1	WG2128848
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG2128848
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.210	0.981		1	WG2128848
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2128848
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2128848
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG2128848
Xylenes, Total	1330-20-7	106.16	0.600	2.61	1.00	4.34		1	WG2128848
m&p-Xylene	1330-20-7	106	0.400	1.73	0.728	3.16		1	WG2128848
o-Xylene	95-47-6	106	0.200	0.867	0.276	1.20		1	WG2128848
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.8				WG2128848

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	210	867		1	WG2128848
Acetone	67-64-1	58.10	1.25	2.97	59.6	142		1	WG2128848
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2128848
Benzene	71-43-2	78.10	0.200	0.639	1.29	4.12		1	WG2128848
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2128848
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2128848
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2128848
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2128848
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2128848
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG2128848
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2128848
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2128848
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2128848
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2128848
Chloromethane	74-87-3	50.50	0.200	0.413	0.362	0.748		1	WG2128848
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2128848
Cyclohexane	110-82-7	84.20	0.200	0.689	4.94	17.0		1	WG2128848
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2128848
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2128848
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2128848
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2128848
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2128848
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2128848
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2128848
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2128848
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2128848
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2128848
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2128848
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2128848
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2128848
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG2128848
Ethanol	64-17-5	46.10	2.50	4.71	286	539	E	1	WG2128848
Ethylbenzene	100-41-4	106	0.200	0.867	1.77	7.67		1	WG2128848
4-Ethyltoluene	622-96-8	120	0.200	0.982	1.77	8.69		1	WG2128848
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.260	1.46		1	WG2128848
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.457	2.26		1	WG2128848
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2128848
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2128848
Heptane	142-82-5	100	0.200	0.818	1.60	6.54		1	WG2128848
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2128848
n-Hexane	110-54-3	86.20	0.630	2.22	2.21	7.79		1	WG2128848
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2128848
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.708	2.46		1	WG2128848
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2128848
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	1.86	5.48		1	WG2128848
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	1.33	5.45		1	WG2128848
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2128848
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2128848
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2128848
2-Propanol	67-63-0	60.10	25.0	61.5	821	2020		20	WG2130123
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	WG2128848
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG2128848
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2128848
Tetrachloroethylene	127-18-4	166	0.200	1.36	12.9	87.6		1	WG2128848
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2128848
Toluene	108-88-3	92.10	0.500	1.88	ND	ND		1	WG2128848

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2128848
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG2128848
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2128848
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2128848
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.93	9.47		1	WG2128848
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.649	3.19		1	WG2128848
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	3.26	15.2		1	WG2128848
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2128848
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2128848
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG2128848
Xylenes, Total	1330-20-7	106.16	0.600	2.61	9.35	40.6		1	WG2128848
m&p-Xylene	1330-20-7	106	0.400	1.73	6.80	29.5		1	WG2128848
o-Xylene	95-47-6	106	0.200	0.867	2.55	11.1		1	WG2128848
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.6				WG2128848
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				WG2130123

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3971048-2 09/08/23 10:54

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
TPH (GC/MS) Low Fraction	U		39.7	200
Acetone	U		0.584	1.25
Allyl chloride	U		0.114	0.200
Benzene	0.112	U	0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.200
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.200
Ethanol	0.277	U	0.265	2.50
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Heptane	U		0.104	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630

1
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Method Blank (MB)

(MB) R3971048-2 09/08/23 10:54

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
n-Hexane	U		0.206	0.630
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	U		0.264	1.25
Propene	U		0.0932	1.25
Styrene	U		0.0788	0.200
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrachloroethylene	U		0.0814	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.200
Xylenes, Total	U		0.135	0.600
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
(S) 1,4-Bromofluorobenzene	97.5			60.0-140

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) R3971048-1 09/08/23 10:08 • (LCSD) R3971048-3 09/08/23 13:22

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/MS) Low Fraction	188	179	155	95.2	82.4	70.0-130			14.4	25
Acetone	3.75	4.00	4.09	107	109	70.0-130			2.22	25
Allyl chloride	3.75	3.52	4.28	93.9	114	70.0-130			19.5	25

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

(LCS) R3971048-1 09/08/23 10:08 • (LCSD) R3971048-3 09/08/23 13:22

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	3.75	3.98	3.95	106	105	70.0-130			0.757	25
Benzyl Chloride	3.75	4.30	4.25	115	113	70.0-152			1.17	25
Bromodichloromethane	3.75	4.06	4.13	108	110	70.0-130			1.71	25
Bromoform	3.75	4.02	4.15	107	111	70.0-130			3.18	25
Bromomethane	3.75	4.02	4.00	107	107	70.0-130			0.499	25
1,3-Butadiene	3.75	3.90	4.01	104	107	70.0-130			2.78	25
Carbon disulfide	3.75	4.06	4.18	108	111	70.0-130			2.91	25
Carbon tetrachloride	3.75	4.12	4.18	110	111	70.0-130			1.45	25
Chlorobenzene	3.75	4.18	4.19	111	112	70.0-130			0.239	25
Chloroethane	3.75	3.97	4.00	106	107	70.0-130			0.753	25
Chloroform	3.75	4.05	4.11	108	110	70.0-130			1.47	25
Chloromethane	3.75	4.07	4.07	109	109	70.0-130			0.000	25
2-Chlorotoluene	3.75	4.10	4.14	109	110	70.0-130			0.971	25
Cyclohexane	3.75	3.93	4.01	105	107	70.0-130			2.02	25
Dibromochloromethane	3.75	4.10	4.18	109	111	70.0-130			1.93	25
1,2-Dibromoethane	3.75	4.18	4.20	111	112	70.0-130			0.477	25
1,2-Dichlorobenzene	3.75	4.31	4.29	115	114	70.0-130			0.465	25
1,3-Dichlorobenzene	3.75	4.30	4.30	115	115	70.0-130			0.000	25
1,4-Dichlorobenzene	3.75	4.27	4.33	114	115	70.0-130			1.40	25
1,2-Dichloroethane	3.75	4.08	4.12	109	110	70.0-130			0.976	25
1,1-Dichloroethane	3.75	4.07	4.17	109	111	70.0-130			2.43	25
1,1-Dichloroethene	3.75	4.10	4.20	109	112	70.0-130			2.41	25
cis-1,2-Dichloroethene	3.75	4.05	4.15	108	111	70.0-130			2.44	25
trans-1,2-Dichloroethene	3.75	4.12	4.11	110	110	70.0-130			0.243	25
1,2-Dichloropropane	3.75	4.04	4.05	108	108	70.0-130			0.247	25
cis-1,3-Dichloropropene	3.75	4.20	4.21	112	112	70.0-130			0.238	25
trans-1,3-Dichloropropene	3.75	4.21	4.19	112	112	70.0-130			0.476	25
1,4-Dioxane	3.75	4.11	4.09	110	109	70.0-140			0.488	25
Ethanol	3.75	4.03	3.93	107	105	55.0-148			2.51	25
Ethylbenzene	3.75	3.98	3.98	106	106	70.0-130			0.000	25
4-Ethyltoluene	3.75	4.02	4.04	107	108	70.0-130			0.496	25
Trichlorofluoromethane	3.75	4.14	4.22	110	113	70.0-130			1.91	25
Dichlorodifluoromethane	3.75	3.98	3.92	106	105	64.0-139			1.52	25
1,1,2-Trichlorotrifluoroethane	3.75	4.13	4.19	110	112	70.0-130			1.44	25
1,2-Dichlorotetrafluoroethane	3.75	4.17	4.23	111	113	70.0-130			1.43	25
Heptane	3.75	3.85	3.90	103	104	70.0-130			1.29	25
Hexachloro-1,3-butadiene	3.75	4.30	4.47	115	119	70.0-151			3.88	25
n-Hexane	3.75	4.15	4.20	111	112	70.0-130			1.20	25
Isopropylbenzene	3.75	4.02	4.05	107	108	70.0-130			0.743	25
Methylene Chloride	3.75	3.90	3.91	104	104	70.0-130			0.256	25

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3971048-1 09/08/23 10:08 • (LCSD) R3971048-3 09/08/23 13:22

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methyl Butyl Ketone	3.75	4.07	4.03	109	107	70.0-149			0.988	25
2-Butanone (MEK)	3.75	4.14	4.32	110	115	70.0-130			4.26	25
4-Methyl-2-pentanone (MIBK)	3.75	3.88	3.93	103	105	70.0-139			1.28	25
Methyl methacrylate	3.75	3.85	3.76	103	100	70.0-130			2.37	25
MTBE	3.75	4.10	4.26	109	114	70.0-130			3.83	25
Naphthalene	3.75	4.65	4.74	124	126	70.0-159			1.92	25
2-Propanol	3.75	3.90	4.03	104	107	70.0-139			3.28	25
Propene	3.75	3.91	4.07	104	109	64.0-144			4.01	25
Styrene	3.75	4.00	4.03	107	107	70.0-130			0.747	25
1,1,2,2-Tetrachloroethane	3.75	4.01	4.08	107	109	70.0-130			1.73	25
Tetrachloroethylene	3.75	4.25	4.31	113	115	70.0-130			1.40	25
Tetrahydrofuran	3.75	3.83	3.96	102	106	70.0-137			3.34	25
Toluene	3.75	4.03	4.04	107	108	70.0-130			0.248	25
1,2,4-Trichlorobenzene	3.75	4.55	4.70	121	125	70.0-160			3.24	25
1,1,1-Trichloroethane	3.75	4.13	4.20	110	112	70.0-130			1.68	25
1,1,2-Trichloroethane	3.75	4.18	4.16	111	111	70.0-130			0.480	25
Trichloroethylene	3.75	4.15	4.14	111	110	70.0-130			0.241	25
1,2,4-Trimethylbenzene	3.75	4.13	4.11	110	110	70.0-130			0.485	25
1,3,5-Trimethylbenzene	3.75	4.01	4.04	107	108	70.0-130			0.745	25
2,2,4-Trimethylpentane	3.75	3.93	4.01	105	107	70.0-130			2.02	25
Vinyl chloride	3.75	4.01	4.03	107	107	70.0-130			0.498	25
Vinyl Bromide	3.75	4.11	4.13	110	110	70.0-130			0.485	25
Vinyl acetate	3.75	3.85	4.00	103	107	70.0-130			3.82	25
Xylenes, Total	11.3	11.9	12.0	105	106	70.0-130			0.837	25
m&p-Xylene	7.50	7.93	8.02	106	107	70.0-130			1.13	25
o-Xylene	3.75	3.95	3.98	105	106	70.0-130			0.757	25
(S) 1,4-Bromofluorobenzene				98.4	98.7	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3971836-3 09/11/23 11:10

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	ppbv		ppbv	ppbv
2-Propanol	U		0.264	1.25
(S) 1,4-Bromofluorobenzene	101			60.0-140

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

(LCS) R3971836-1 09/11/23 09:13 • (LCSD) R3971836-2 09/11/23 09:43

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	ppbv	ppbv	ppbv	%	%	%			%	%
2-Propanol	3.75	4.48	4.58	119	122	70.0-139			2.21	25
(S) 1,4-Bromofluorobenzene				104	104	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

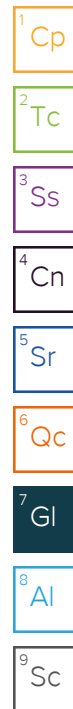
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Abbreviations and Definitions

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
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.



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.

