ANALYTICAL REPORT

November 03, 2023

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

GZA GeoEnvironmental - Brookfield, WI

Sample Delivery Group:	L1671972
Samples Received:	10/31/2023
Project Number:	20.0150985.27
Description:	Bayshore Building 3
Site:	WISCONSIN
Report To:	Heidi Woelfel 17975 West Sarah Lane Brookfield, WI 53045

Entire Report Reviewed By:

John Hawkins
Project Manager

Results relate only to the items tested or calibrated and 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.

Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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UNIT 112 L1671972-01 Air

Collected by: Kevin Hedinger | Collected date/time: 10/30/23 00:00 | Received date/time: 10/31/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2163172	1	11/02/23 22:02	11/02/23 22:02	GH	Mt. Juliet, TN

UNIT 212 L1671972-02 Air

Collected by: Kevin Hedinger | Collected date/time: 10/30/23 00:00 | Received date/time: 10/31/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2163172	1	11/02/23 22:41	11/02/23 22:41	GH	Mt. Juliet, TN

UNIT 214 L1671972-03 Air

Collected by: Kevin Hedinger | Collected date/time: 10/30/23 00:00 | Received date/time: 10/31/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2163172	1	11/02/23 18:49	11/02/23 18:49	GH	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.

John V Hawkins

John Hawkins
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	MDL ug/m3	RDL ug/m3	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.39	4.63	69.9		1	WG2163172
Allyl chloride	107-05-1	76.53	0.357	1.19	U		1	WG2163172
Benzene	71-43-2	78.10	0.228	0.760	1.18		1	WG2163172
Benzyl Chloride	100-44-7	127	0.311	1.03	U		1	WG2163172
Bromodichloromethane	75-27-4	164	0.471	1.57	U		1	WG2163172
Bromoform	75-25-2	253	0.757	2.52	U		1	WG2163172
Bromomethane	74-83-9	94.90	0.381	1.27	U		1	WG2163172
1,3-Butadiene	106-99-0	54.10	0.230	0.768	U		1	WG2163172
Carbon disulfide	75-15-0	76.10	0.317	1.06	U		1	WG2163172
Carbon tetrachloride	56-23-5	154	0.461	1.54	0.550	J	1	WG2163172
Chlorobenzene	108-90-7	113	0.385	1.28	U		1	WG2163172
Chloroethane	75-00-3	64.50	0.263	0.876	U		1	WG2163172
Chloroform	67-66-3	119	0.349	1.16	U		1	WG2163172
Chloromethane	74-87-3	50.50	0.213	0.708	1.28		1	WG2163172
2-Chlorotoluene	95-49-8	126	0.427	1.42	U		1	WG2163172
Cyclohexane	110-82-7	84.20	0.259	0.864	U		1	WG2163172
Dibromochloromethane	124-48-1	208	0.618	2.06	U		1	WG2163172
1,2-Dibromoethane	106-93-4	188	0.554	1.85	U		1	WG2163172
1,2-Dichlorobenzene	95-50-1	147	0.770	2.57	U		1	WG2163172
1,3-Dichlorobenzene	541-73-1	147	1.09	3.65	U		1	WG2163172
1,4-Dichlorobenzene	106-46-7	147	0.335	1.12	U		1	WG2163172
1,2-Dichloroethane	107-06-2	99	0.283	0.943	U		1	WG2163172
1,1-Dichloroethane	75-34-3	98	0.290	0.966	U		1	WG2163172
1,1-Dichloroethene	75-35-4	96.90	0.302	1.01	U		1	WG2163172
cis-1,2-Dichloroethene	156-59-2	96.90	0.311	1.03	U		1	WG2163172
trans-1,2-Dichloroethene	156-60-5	96.90	0.267	0.888	U		1	WG2163172
1,2-Dichloropropane	78-87-5	113	0.351	1.17	U		1	WG2163172
cis-1,3-Dichloropropene	10061-01-5	111	0.313	1.04	U		1	WG2163172
trans-1,3-Dichloropropene	10061-02-6	111	0.331	1.10	U		1	WG2163172
1,4-Dioxane	123-91-1	88.10	0.300	1.00	U		1	WG2163172
Ethanol	64-17-5	46.10	0.500	1.66	35.4		1	WG2163172
Ethylbenzene	100-41-4	106	0.362	1.21	0.845	J	1	WG2163172
4-Ethyltoluene	622-96-8	120	0.384	1.28	0.883	J	1	WG2163172
Trichlorofluoromethane	75-69-4	137.40	0.460	1.53	1.25	J	1	WG2163172
Dichlorodifluoromethane	75-71-8	120.92	0.678	2.26	1.80	J	1	WG2163172
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.608	2.02	U		1	WG2163172
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.622	2.08	U		1	WG2163172
Heptane	142-82-5	100	0.425	1.42	1.38	J	1	WG2163172
Hexachloro-1,3-butadiene	87-68-3	261	1.12	3.74	U		1	WG2163172
n-Hexane	110-54-3	86.20	0.726	2.42	3.37		1	WG2163172
Isopropylbenzene	98-82-8	120.20	0.382	1.27	U		1	WG2163172
Methylene Chloride	75-09-2	84.90	0.340	1.13	3.30		1	WG2163172
Methyl Butyl Ketone	591-78-6	100	0.544	1.81	U		1	WG2163172
2-Butanone (MEK)	78-93-3	72.10	0.240	0.799	14.4		1	WG2163172
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.313	1.04	U		1	WG2163172
Methyl methacrylate	80-62-6	100.12	0.359	1.20	U		1	WG2163172
MTBE	1634-04-4	88.10	0.233	0.778	U		1	WG2163172
Naphthalene	91-20-3	128	1.83	6.13	U		1	WG2163172
2-Propanol	67-63-0	60.10	0.649	2.16	7.37		1	WG2163172
Propene	115-07-1	42.10	0.160	0.536	U		1	WG2163172
Styrene	100-42-5	104	0.335	1.12	20.8		1	WG2163172
1,1,2,2-Tetrachloroethane	79-34-5	168	0.511	1.70	U		1	WG2163172
Tetrachloroethylene	127-18-4	166	0.553	1.84	0.788	J	1	WG2163172
Tetrahydrofuran	109-99-9	72.10	0.216	0.722	4.84		1	WG2163172
Toluene	108-88-3	92.10	0.328	1.09	7.80		1	WG2163172
1,2,4-Trichlorobenzene	120-82-1	181	1.10	3.65	U		1	WG2163172

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	MDL ug/m3	RDL ug/m3	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	1.33	U		1	WG2163172
1,1,2-Trichloroethane	79-00-5	133	0.422	1.40	U		1	WG2163172
Trichloroethylene	79-01-6	131	0.364	1.22	1.07	J	1	WG2163172
1,2,4-Trimethylbenzene	95-63-6	120	0.375	1.25	5.60		1	WG2163172
1,3,5-Trimethylbenzene	108-67-8	120	0.382	1.28	0.394	J	1	WG2163172
2,2,4-Trimethylpentane	540-84-1	114.22	0.621	2.07	1.46	J	1	WG2163172
Vinyl chloride	75-01-4	62.50	0.243	0.808	U		1	WG2163172
Vinyl Bromide	593-60-2	106.95	0.373	1.24	U		1	WG2163172
Vinyl acetate	108-05-4	86.10	0.408	1.36	U		1	WG2163172
Xylenes, Total	1330-20-7	106.16	0.586	1.95	3.58		1	WG2163172
m&p-Xylene	1330-20-7	106	0.585	1.95	2.56		1	WG2163172
o-Xylene	95-47-6	106	0.359	1.20	1.01	J	1	WG2163172
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*			*91.9*		*60.0-140*	WG2163172

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	MDL ug/m3	RDL ug/m3	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.39	4.63	150		1	WG2163172
Allyl chloride	107-05-1	76.53	0.357	1.19	U		1	WG2163172
Benzene	71-43-2	78.10	0.228	0.760	1.09		1	WG2163172
Benzyl Chloride	100-44-7	127	0.311	1.03	U		1	WG2163172
Bromodichloromethane	75-27-4	164	0.471	1.57	U		1	WG2163172
Bromoform	75-25-2	253	0.757	2.52	U		1	WG2163172
Bromomethane	74-83-9	94.90	0.381	1.27	U		1	WG2163172
1,3-Butadiene	106-99-0	54.10	0.230	0.768	U		1	WG2163172
Carbon disulfide	75-15-0	76.10	0.317	1.06	U		1	WG2163172
Carbon tetrachloride	56-23-5	154	0.461	1.54	0.551	J	1	WG2163172
Chlorobenzene	108-90-7	113	0.385	1.28	U		1	WG2163172
Chloroethane	75-00-3	64.50	0.263	0.876	U		1	WG2163172
Chloroform	67-66-3	119	0.349	1.16	U		1	WG2163172
Chloromethane	74-87-3	50.50	0.213	0.708	1.50		1	WG2163172
2-Chlorotoluene	95-49-8	126	0.427	1.42	U		1	WG2163172
Cyclohexane	110-82-7	84.20	0.259	0.864	U		1	WG2163172
Dibromochloromethane	124-48-1	208	0.618	2.06	U		1	WG2163172
1,2-Dibromoethane	106-93-4	188	0.554	1.85	U		1	WG2163172
1,2-Dichlorobenzene	95-50-1	147	0.770	2.57	U		1	WG2163172
1,3-Dichlorobenzene	541-73-1	147	1.09	3.65	U		1	WG2163172
1,4-Dichlorobenzene	106-46-7	147	0.335	1.12	U		1	WG2163172
1,2-Dichloroethane	107-06-2	99	0.283	0.943	U		1	WG2163172
1,1-Dichloroethane	75-34-3	98	0.290	0.966	U		1	WG2163172
1,1-Dichloroethene	75-35-4	96.90	0.302	1.01	U		1	WG2163172
cis-1,2-Dichloroethene	156-59-2	96.90	0.311	1.03	U		1	WG2163172
trans-1,2-Dichloroethene	156-60-5	96.90	0.267	0.888	U		1	WG2163172
1,2-Dichloropropane	78-87-5	113	0.351	1.17	U		1	WG2163172
cis-1,3-Dichloropropene	10061-01-5	111	0.313	1.04	U		1	WG2163172
trans-1,3-Dichloropropene	10061-02-6	111	0.331	1.10	U		1	WG2163172
1,4-Dioxane	123-91-1	88.10	0.300	1.00	U		1	WG2163172
Ethanol	64-17-5	46.10	0.500	1.66	47.5		1	WG2163172
Ethylbenzene	100-41-4	106	0.362	1.21	0.763	J	1	WG2163172
4-Ethyltoluene	622-96-8	120	0.384	1.28	1.19	J	1	WG2163172
Trichlorofluoromethane	75-69-4	137.40	0.460	1.53	1.25	J	1	WG2163172
Dichlorodifluoromethane	75-71-8	120.92	0.678	2.26	1.92	J	1	WG2163172
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.608	2.02	U		1	WG2163172
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.622	2.08	U		1	WG2163172
Heptane	142-82-5	100	0.425	1.42	2.10		1	WG2163172
Hexachloro-1,3-butadiene	87-68-3	261	1.12	3.74	U		1	WG2163172
n-Hexane	110-54-3	86.20	0.726	2.42	3.81		1	WG2163172
Isopropylbenzene	98-82-8	120.20	0.382	1.27	U		1	WG2163172
Methylene Chloride	75-09-2	84.90	0.340	1.13	3.78		1	WG2163172
Methyl Butyl Ketone	591-78-6	100	0.544	1.81	U		1	WG2163172
2-Butanone (MEK)	78-93-3	72.10	0.240	0.799	29.8		1	WG2163172
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.313	1.04	3.09		1	WG2163172
Methyl methacrylate	80-62-6	100.12	0.359	1.20	U		1	WG2163172
MTBE	1634-04-4	88.10	0.233	0.778	U		1	WG2163172
Naphthalene	91-20-3	128	1.83	6.13	U		1	WG2163172
2-Propanol	67-63-0	60.10	0.649	2.16	12.3		1	WG2163172
Propene	115-07-1	42.10	0.160	0.536	U		1	WG2163172
Styrene	100-42-5	104	0.335	1.12	50.2		1	WG2163172
1,1,2,2-Tetrachloroethane	79-34-5	168	0.511	1.70	U		1	WG2163172
Tetrachloroethylene	127-18-4	166	0.553	1.84	U		1	WG2163172
Tetrahydrofuran	109-99-9	72.10	0.216	0.722	9.41		1	WG2163172
Toluene	108-88-3	92.10	0.328	1.09	8.74		1	WG2163172
1,2,4-Trichlorobenzene	120-82-1	181	1.10	3.65	U		1	WG2163172

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	MDL ug/m3	RDL ug/m3	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	1.33	U		1	WG2163172
1,1,2-Trichloroethane	79-00-5	133	0.422	1.40	U		1	WG2163172
Trichloroethylene	79-01-6	131	0.364	1.22	2.10		1	WG2163172
1,2,4-Trimethylbenzene	95-63-6	120	0.375	1.25	10.6		1	WG2163172
1,3,5-Trimethylbenzene	108-67-8	120	0.382	1.28	0.510	J	1	WG2163172
2,2,4-Trimethylpentane	540-84-1	114.22	0.621	2.07	0.696	J	1	WG2163172
Vinyl chloride	75-01-4	62.50	0.243	0.808	U		1	WG2163172
Vinyl Bromide	593-60-2	106.95	0.373	1.24	U		1	WG2163172
Vinyl acetate	108-05-4	86.10	0.408	1.36	U		1	WG2163172
Xylenes, Total	1330-20-7	106.16	0.586	1.95	2.54		1	WG2163172
m&p-Xylene	1330-20-7	106	0.585	1.95	1.79	J	1	WG2163172
o-Xylene	95-47-6	106	0.359	1.20	0.741	J	1	WG2163172
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*			*93.1*		*60.0-140*	WG2163172

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.	MDL ug/m3	RDL ug/m3	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.39	4.63	160		1	WG2163172
Allyl chloride	107-05-1	76.53	0.357	1.19	U		1	WG2163172
Benzene	71-43-2	78.10	0.228	0.760	1.34		1	WG2163172
Benzyl Chloride	100-44-7	127	0.311	1.03	U		1	WG2163172
Bromodichloromethane	75-27-4	164	0.471	1.57	U		1	WG2163172
Bromoform	75-25-2	253	0.757	2.52	U		1	WG2163172
Bromomethane	74-83-9	94.90	0.381	1.27	U		1	WG2163172
1,3-Butadiene	106-99-0	54.10	0.230	0.768	U		1	WG2163172
Carbon disulfide	75-15-0	76.10	0.317	1.06	U		1	WG2163172
Carbon tetrachloride	56-23-5	154	0.461	1.54	0.547	J	1	WG2163172
Chlorobenzene	108-90-7	113	0.385	1.28	U		1	WG2163172
Chloroethane	75-00-3	64.50	0.263	0.876	U		1	WG2163172
Chloroform	67-66-3	119	0.349	1.16	U		1	WG2163172
Chloromethane	74-87-3	50.50	0.213	0.708	1.34		1	WG2163172
2-Chlorotoluene	95-49-8	126	0.427	1.42	U		1	WG2163172
Cyclohexane	110-82-7	84.20	0.259	0.864	U		1	WG2163172
Dibromochloromethane	124-48-1	208	0.618	2.06	U		1	WG2163172
1,2-Dibromoethane	106-93-4	188	0.554	1.85	U		1	WG2163172
1,2-Dichlorobenzene	95-50-1	147	0.770	2.57	U		1	WG2163172
1,3-Dichlorobenzene	541-73-1	147	1.09	3.65	U		1	WG2163172
1,4-Dichlorobenzene	106-46-7	147	0.335	1.12	U		1	WG2163172
1,2-Dichloroethane	107-06-2	99	0.283	0.943	U		1	WG2163172
1,1-Dichloroethane	75-34-3	98	0.290	0.966	U		1	WG2163172
1,1-Dichloroethene	75-35-4	96.90	0.302	1.01	U		1	WG2163172
cis-1,2-Dichloroethene	156-59-2	96.90	0.311	1.03	U		1	WG2163172
trans-1,2-Dichloroethene	156-60-5	96.90	0.267	0.888	1.58		1	WG2163172
1,2-Dichloropropane	78-87-5	113	0.351	1.17	U		1	WG2163172
cis-1,3-Dichloropropene	10061-01-5	111	0.313	1.04	U		1	WG2163172
trans-1,3-Dichloropropene	10061-02-6	111	0.331	1.10	U		1	WG2163172
1,4-Dioxane	123-91-1	88.10	0.300	1.00	U		1	WG2163172
Ethanol	64-17-5	46.10	0.500	1.66	34.5		1	WG2163172
Ethylbenzene	100-41-4	106	0.362	1.21	1.01	J	1	WG2163172
4-Ethyltoluene	622-96-8	120	0.384	1.28	1.18	J	1	WG2163172
Trichlorofluoromethane	75-69-4	137.40	0.460	1.53	1.98		1	WG2163172
Dichlorodifluoromethane	75-71-8	120.92	0.678	2.26	1.85	J	1	WG2163172
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.608	2.02	U		1	WG2163172
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.622	2.08	U		1	WG2163172
Heptane	142-82-5	100	0.425	1.42	2.65		1	WG2163172
Hexachloro-1,3-butadiene	87-68-3	261	1.12	3.74	U		1	WG2163172
n-Hexane	110-54-3	86.20	0.726	2.42	2.58		1	WG2163172
Isopropylbenzene	98-82-8	120.20	0.382	1.27	U		1	WG2163172
Methylene Chloride	75-09-2	84.90	0.340	1.13	U		1	WG2163172
Methyl Butyl Ketone	591-78-6	100	0.544	1.81	U		1	WG2163172
2-Butanone (MEK)	78-93-3	72.10	0.240	0.799	32.1		1	WG2163172
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	0.313	1.04	2.37		1	WG2163172
Methyl methacrylate	80-62-6	100.12	0.359	1.20	U		1	WG2163172
MTBE	1634-04-4	88.10	0.233	0.778	U		1	WG2163172
Naphthalene	91-20-3	128	1.83	6.13	U		1	WG2163172
2-Propanol	67-63-0	60.10	0.649	2.16	11.3		1	WG2163172
Propene	115-07-1	42.10	0.160	0.536	U		1	WG2163172
Styrene	100-42-5	104	0.335	1.12	48.9		1	WG2163172
1,1,2,2-Tetrachloroethane	79-34-5	168	0.511	1.70	U		1	WG2163172
Tetrachloroethylene	127-18-4	166	0.553	1.84	0.876	J	1	WG2163172
Tetrahydrofuran	109-99-9	72.10	0.216	0.722	10.6		1	WG2163172
Toluene	108-88-3	92.10	0.328	1.09	7.68		1	WG2163172
1,2,4-Trichlorobenzene	120-82-1	181	1.10	3.65	U		1	WG2163172

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	MDL ug/m3	RDL ug/m3	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	1.33	U		1	WG2163172
1,1,2-Trichloroethane	79-00-5	133	0.422	1.40	U		1	WG2163172
Trichloroethylene	79-01-6	131	0.364	1.22	2.38		1	WG2163172
1,2,4-Trimethylbenzene	95-63-6	120	0.375	1.25	U		1	WG2163172
1,3,5-Trimethylbenzene	108-67-8	120	0.382	1.28	0.515	J	1	WG2163172
2,2,4-Trimethylpentane	540-84-1	114.22	0.621	2.07	U		1	WG2163172
Vinyl chloride	75-01-4	62.50	0.243	0.808	U		1	WG2163172
Vinyl Bromide	593-60-2	106.95	0.373	1.24	U		1	WG2163172
Vinyl acetate	108-05-4	86.10	0.408	1.36	U		1	WG2163172
Xylenes, Total	1330-20-7	106.16	0.586	1.95	3.55		1	WG2163172
m&p-Xylene	1330-20-7	106	0.585	1.95	2.58		1	WG2163172
o-Xylene	95-47-6	106	0.359	1.20	0.971	J	1	WG2163172
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*			*93.2*		*60.0-140*	WG2163172

Method Blank (MB)

(MB) R3995201-3 11/02/23 11:02

Analyte	MB Result ug/m3	MB Qualifier	MB MDL ug/m3	MB RDL ug/m3
Acetone	U		1.39	2.97
Allyl chloride	U		0.357	0.626
Benzene	U		0.228	0.639
Benzyl Chloride	U		0.311	1.04
Bromodichloromethane	U		0.471	1.34
Bromoform	U		0.757	6.21
Bromomethane	U		0.381	0.776
1,3-Butadiene	U		0.230	4.43
Carbon disulfide	U		0.317	0.622
Carbon tetrachloride	U		0.461	1.26
Chlorobenzene	U		0.385	0.924
Chloroethane	U		0.263	0.528
Chloroform	U		0.349	0.973
Chloromethane	U		0.213	0.413
2-Chlorotoluene	U		0.427	1.03
Cyclohexane	U		0.259	0.689
Dibromochloromethane	U		0.618	1.70
1,2-Dibromoethane	U		0.554	1.54
1,2-Dichlorobenzene	U		0.770	1.20
1,3-Dichlorobenzene	U		1.09	1.20
1,4-Dichlorobenzene	U		0.335	1.20
1,2-Dichloroethane	U		0.283	0.810
1,1-Dichloroethane	U		0.290	0.802
1,1-Dichloroethene	U		0.302	0.793
cis-1,2-Dichloroethene	U		0.311	0.793
trans-1,2-Dichloroethene	U		0.267	0.793
1,2-Dichloropropane	U		0.351	0.924
cis-1,3-Dichloropropene	U		0.313	0.908
trans-1,3-Dichloropropene	U		0.331	0.908
1,4-Dioxane	U		0.300	2.27
Ethanol	2.70		0.500	4.71
Ethylbenzene	U		0.362	0.867
4-Ethyltoluene	U		0.384	0.982
Trichlorofluoromethane	U		0.460	1.12
Dichlorodifluoromethane	U		0.678	0.989
1,1,2-Trichlorotrifluoroethane	U		0.608	1.53
1,2-Dichlorotetrafluoroethane	U		0.622	1.40
Heptane	U		0.425	0.818
Hexachloro-1,3-butadiene	U		1.12	6.73
n-Hexane	U		0.726	2.22

Method Blank (MB)

(MB) R3995201-3 11/02/23 11:02

Analyte	MB Result ug/m3	MB Qualifier	MB MDL ug/m3	MB RDL ug/m3
Isopropylbenzene	U		0.382	0.983
Methylene Chloride	U		0.340	0.694
Methyl Butyl Ketone	U		0.544	5.11
2-Butanone (MEK)	U		0.240	3.69
4-Methyl-2-pentanone (MIBK)	U		0.313	5.12
Methyl methacrylate	U		0.359	0.819
MTBE	U		0.233	0.721
Naphthalene	U		1.83	3.30
2-Propanol	U		0.649	3.07
Propene	U		0.160	2.15
Styrene	U		0.335	0.851
1,1,2,2-Tetrachloroethane	U		0.511	1.37
Tetrachloroethylene	U		0.553	1.36
Tetrahydrofuran	U		0.216	0.590
Toluene	U		0.328	1.88
1,2,4-Trichlorobenzene	U		1.10	4.66
1,1,1-Trichloroethane	U		0.400	1.09
1,1,2-Trichloroethane	U		0.422	1.09
Trichloroethylene	U		0.364	1.07
1,2,4-Trimethylbenzene	U		0.375	0.982
1,3,5-Trimethylbenzene	U		0.382	0.982
2,2,4-Trimethylpentane	U		0.621	0.934
Vinyl chloride	U		0.243	0.511
Vinyl Bromide	U		0.373	0.875
Vinyl acetate	U		0.408	2.22
Xylenes, Total	U		0.586	2.61
m&p-Xylene	U		0.585	1.73
o-Xylene	U		0.359	0.867
(S) 1,4-Bromofluorobenzene	*94.0*			*60.0-140*

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

(LCS) R3995201-1 11/02/23 09:44 • (LCSD) R3995201-2 11/02/23 10:24

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	8.91	10.1	10.3	114	115	70.0-130			1.16	25
Allyl chloride	11.7	13.2	14.0	113	119	70.0-130			5.75	25
Benzene	12.0	13.5	13.4	113	112	70.0-130			0.474	25
Benzyl Chloride	19.5	21.3	21.5	109	110	70.0-152			0.729	25

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

(LCS) R3995201-1 11/02/23 09:44 • (LCSD) R3995201-2 11/02/23 10:24

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromodichloromethane	25.2	27.8	27.7	110	110	70.0-130			0.242	25
Bromoform	38.8	45.2	44.9	117	116	70.0-130			0.689	25
Bromomethane	14.6	14.0	14.3	96.3	98.1	70.0-130			1.92	25
1,3-Butadiene	8.30	6.44	6.46	77.6	77.9	70.0-130			0.343	25
Carbon disulfide	11.7	12.4	12.5	107	107	70.0-130			0.250	25
Carbon tetrachloride	23.6	27.0	27.3	114	115	70.0-130			1.16	25
Chlorobenzene	17.3	19.1	19.2	110	111	70.0-130			0.724	25
Chloroethane	9.89	8.76	8.89	88.5	89.9	70.0-130			1.49	25
Chloroform	18.3	20.3	20.5	111	113	70.0-130			0.952	25
Chloromethane	7.75	7.99	7.97	103	103	70.0-130			0.259	25
2-Chlorotoluene	19.3	20.8	20.8	107	108	70.0-130			0.248	25
Cyclohexane	12.9	14.3	14.4	110	111	70.0-130			0.722	25
Dibromochloromethane	31.9	34.4	34.9	108	109	70.0-130			1.47	25
1,2-Dibromoethane	28.8	31.1	31.4	108	109	70.0-130			0.983	25
1,2-Dichlorobenzene	22.5	25.3	25.3	112	112	70.0-130			0.000	25
1,3-Dichlorobenzene	22.5	22.6	22.8	100	101	70.0-130			1.06	25
1,4-Dichlorobenzene	22.5	25.3	25.4	112	113	70.0-130			0.712	25
1,2-Dichloroethane	15.2	16.5	16.7	109	110	70.0-130			0.976	25
1,1-Dichloroethane	15.0	17.6	17.6	117	117	70.0-130			0.456	25
1,1-Dichloroethene	14.9	17.2	17.4	115	117	70.0-130			1.38	25
cis-1,2-Dichloroethene	14.9	17.3	17.5	117	118	70.0-130			0.911	25
trans-1,2-Dichloroethene	14.9	17.5	17.8	118	119	70.0-130			1.35	25
1,2-Dichloropropane	17.3	19.4	19.4	112	112	70.0-130			0.238	25
cis-1,3-Dichloropropene	17.0	19.7	19.7	116	116	70.0-130			0.000	25
trans-1,3-Dichloropropene	17.0	18.7	18.8	110	110	70.0-130			0.484	25
1,4-Dioxane	13.5	14.4	14.1	107	105	70.0-140			2.02	25
Ethanol	7.07	9.11	9.01	129	127	55.0-148			1.04	25
Ethylbenzene	16.3	18.3	18.5	113	114	70.0-130			0.707	25
4-Ethyltoluene	18.4	21.3	21.3	116	116	70.0-130			0.230	25
Trichlorofluoromethane	21.1	22.1	22.4	105	106	70.0-130			1.26	25
Dichlorodifluoromethane	18.5	17.7	17.9	95.2	96.3	64.0-139			1.11	25
1,1,2-Trichlorotrifluoroethane	28.7	32.3	32.6	112	113	70.0-130			0.946	25
1,2-Dichlorotetrafluoroethane	26.2	27.6	27.7	105	106	70.0-130			0.506	25
Heptane	15.3	17.3	17.3	113	113	70.0-130			0.000	25
Hexachloro-1,3-butadiene	40.0	45.4	45.2	113	113	70.0-151			0.472	25
n-Hexane	13.2	15.1	15.4	114	117	70.0-130			2.08	25
Isopropylbenzene	18.4	20.9	21.0	114	114	70.0-130			0.468	25
Methylene Chloride	13.0	13.6	13.7	104	105	70.0-130			0.764	25
Methyl Butyl Ketone	15.3	15.5	15.7	101	102	70.0-149			1.31	25
2-Butanone (MEK)	11.1	11.9	11.9	107	107	70.0-130			0.000	25

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

(LCS) R3995201-1 11/02/23 09:44 • (LCSD) R3995201-2 11/02/23 10:24

Analyte	Spike Amount ug/m3	LCS Result ug/m3	LCSD Result ug/m3	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	15.4	17.6	17.7	115	115	70.0-139			0.464	25
Methyl methacrylate	15.4	17.4	17.3	113	113	70.0-130			0.708	25
MTBE	13.5	16.0	16.1	119	119	70.0-130			0.224	25
Naphthalene	19.6	22.7	22.9	116	117	70.0-159			0.689	25
2-Propanol	9.22	10.5	10.5	114	114	70.0-139			0.000	25
Propene	6.46	6.97	7.08	108	110	64.0-144			1.47	25
Styrene	16.0	18.1	18.0	113	113	70.0-130			0.236	25
1,1,2,2-Tetrachloroethane	25.8	26.1	26.4	101	102	70.0-130			1.05	25
Tetrachloroethylene	25.5	28.5	28.7	112	113	70.0-130			0.475	25
Tetrahydrofuran	11.1	13.1	13.3	119	120	70.0-137			1.34	25
Toluene	14.1	15.9	16.0	112	113	70.0-130			0.946	25
1,2,4-Trichlorobenzene	27.8	32.2	32.2	116	116	70.0-160			0.000	25
1,1,1-Trichloroethane	20.4	23.2	23.3	114	114	70.0-130			0.468	25
1,1,2-Trichloroethane	20.4	21.3	21.4	105	105	70.0-130			0.509	25
Trichloroethylene	20.1	22.1	22.1	110	110	70.0-130			0.000	25
1,2,4-Trimethylbenzene	18.4	20.8	20.8	113	113	70.0-130			0.000	25
1,3,5-Trimethylbenzene	18.4	20.1	20.2	109	110	70.0-130			0.731	25
2,2,4-Trimethylpentane	17.5	21.4	21.7	122	124	70.0-130			1.08	25
Vinyl chloride	9.59	8.18	8.33	85.3	86.9	70.0-130			1.86	25
Vinyl Bromide	16.4	17.0	16.8	103	102	70.0-130			1.04	25
Vinyl acetate	13.2	13.4	13.5	102	102	70.0-130			0.262	25
Xylenes, Total	49.1	55.1	55.6	112	113	70.0-130			0.784	25
m&p-Xylene	32.5	37.2	37.4	114	115	70.0-130			0.698	25
o-Xylene	16.3	18.1	18.0	111	111	70.0-130			0.481	25
(S) 1,4-Bromofluorobenzene				*93.3*	*93.3*	*60.0-140*				

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
J	The identification of the analyte is acceptable; the reported value is an estimate.

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	LAO000356
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.

Pace® Location Requested (City/State):

Air CHAIN-OF-CUSTODY Analytical Request Document

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

LAB USE ONLY- Affix Workorder/Login Label Here

D116

Scan QR code for instructions

Company Name: GZA GeoEnvironmental, Inc

Street Address: 17975 Sarah Lane

City, State Zip: Brookfield, WI 53045

Customer Project #: 20.0150985.27

Project Name: Lydell Building 3

Site Collection Info/Facility ID (as applicable): GZABWI-20.0150985.27

Time Zone Collected: [ ] AK [ ] PT [ ] MT [X] CT [ ] ET

Contact/Report To: Heidi Woelfel

Phone #: 262-754-2594

E-Mail: heidi.woelfel@gza.com

Cc E-Mail:

Invoice to:

Invoice E-Mail: AP@gza.com

Purchase Order # (if applicable):

Quote #:

State origin of sample(s): Wisconsin

Data Deliverables:

[ ] Level II [ ] Level III [ ]Level IV

[ ] EQUIS

[ ] Other_____

Regulatory Program (CAA, RCRA, etc.) as applicable:

Rush (Pre-approval required): 2 Day 3 day 5 day Other 3 day

Date Results Requested:

Permit # as applicable:

Units for Reporting: (ug/m³) PPBV mg/m³ PPMV

* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection Date	Begin Collection Time	End Collection Date	End Collection Time	Canister Pressure / Vacuum: Start Pressure / Vacuum (in Hg)	Canister Pressure / Vacuum: End Pressure / Vacuum (in Hg)	PUF / FILTER: Duration (minutes)	PUF / FILTER: Flow Rate m³/min or L/min	PUF / FILTER: Total Volume Sampled m³ or L	Analyses Requested: TO-15	Sample Comment
Unit 112	A	010431	012759	10/30/2023		10/30/2023		28"	8"	30	200	6L	X	01
Unit 212	A	013984	012915	10/30/2023		10/30/2023		29"	7"	30	200	6L	X	02
Unit 214	A	012492	008659	10/30/2023		10/30/2023		30"	8"	30	200	6L	X	03

Lab Use Only: Proj. Manager: / AcctNum / Client ID: / Table #: / Profile / Template: / Prelog / Bottle Ord. ID: U671972

KMH 10/2023

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

RA Screen <0.5 mR/hr: Y N

Airs

Size: 1L ✓ 6L

Tage Color: G W ✓

T/B#: 234830 1102.4945-05

TRK# 6227 1900 0448

Customer Remarks / Special Conditions / Possible Hazards:

Collected By:

Printed Name: Kevin Hedinger

Signature:

Additional Instructions from Pace®:

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C):

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	10/30/23 15:30		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: 10/31/23 0900

Tracking Number:

Delivered by: In- Person Courier FedEX UPS Other

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