

Sub-Slab Depressurization System Progress Report for the Former Holley Automotive/ Coltec Industries Facility Water Valley, Mississippi



Bernard T. Delaney, Ph.D., P.E., BCEE

July 17, 2017

Prepared for: Butler Snow, LLP
1020 Highland Colony Parkway, Suite 1400
Ridgeland, MS 39157

Prepared by: First Environment, Inc.
91 Fulton Street
Boonton, New Jersey 07005

EnPro002-D-07172017



CERTIFICATION STATEMENT

I, Bernard T. Delaney, Ph.D., P.E., BCEE, certify that I am currently a registered professional engineer in the State of Mississippi and had primary direct responsibility for the implementation of the subject interim remedial measure activities. I certify that this Sub-Slab Depressurization System Progress Report was completed in conformance with the laws and regulations of the State of Mississippi. I certify that all information and statements in this certification form are true.

11041

07/17/2017

Mississippi Professional
Engineer No.

Date



B. Tod Delaney, Ph.D., P.E., BCEE

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1.0 Introduction

This Sub-Slab Depressurization System (“SSDS”) Progress Report has been prepared by First Environment, Inc. (“First Environment”) on behalf of EnPro Industries, Inc. (“EnPro”) with respect to the former Holley Automotive/Coltec Industries Facility (hereinafter referred as the Plant”). The Plant is located at 600 State Highway 32 in Water Valley, Yalobusha County, Mississippi.

On June 19, 2017, First Environment submitted a VI Investigation and Mitigation Report (the “Initial SSDS Report”), which included a description of the SSDS and indoor air sampling data through June 7, 2017. On July 3, 2017, First Environment submitted a SSDS Progress Report on the June 19-20, 2017 ambient and indoor air sampling results and the installation of extraction point (“EP”) #3. On June 28-29, 2017, First Environment collected the first round of ambient and indoor air samples after the installation of EP#3. As discussed in more detail below, all sampling results for TCE were below the MDEQ action level of 26 µg/m³.

2.0 Indoor Air Monitoring – June 28-29, 2017

2.1 Instrumentation

On June 28-29, 2017, First Environment collected ambient and indoor air samples by placing laboratory provided 6-liter capacity 24-hour Summa® canisters, equipped with flow regulators calibrated to 24 hours.

2.2 Methodology

First Environment collected 13 indoor air samples at various locations within the Plant, including the Maintenance Room, the ATS Room, and the Training Room; and one ambient air sample outside the Plant. Standard chain-of-custody procedures were implemented for the sampling, including signing the sample lot in and out from the facility to the laboratory on a chain-of-custody sheet and dating the start and end dates/times of sample collection. First Environment also followed standard indoor air sampling techniques to collect the indoor air samples at the locations depicted in Figure 1. Wherever possible, First Environment mounted the Summa® canisters on columns or secured them in an area above the floor at or near the “breathing space.” The vacuum measurements in Summa® canisters were noted before and after sampling to ensure that the flow regulator at each canister was working properly.

The sampling requires the Summa® canisters to be left in place for 24 hours and they are monitored by Plant security for that period of time. First Environment personnel, Borg Warner representatives, and Plant employees had access to the Summa® canisters during the 24-hour sampling period.

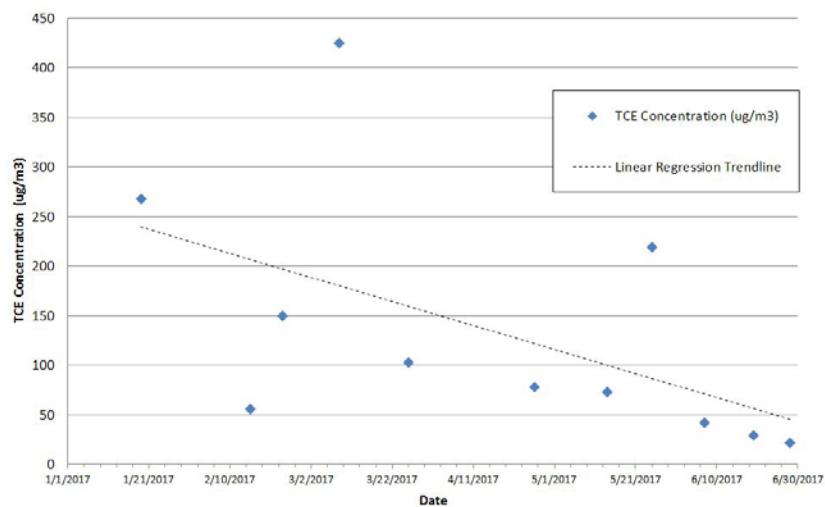
First Environment submitted the samples to ESC Lab Sciences for USEPA TO-15 SIM analysis. The laboratory was responsible for the decontamination of the Summa® canisters and for setting the internal vacuum and calibrating the regulators prior to sample collection.

2.3 Results

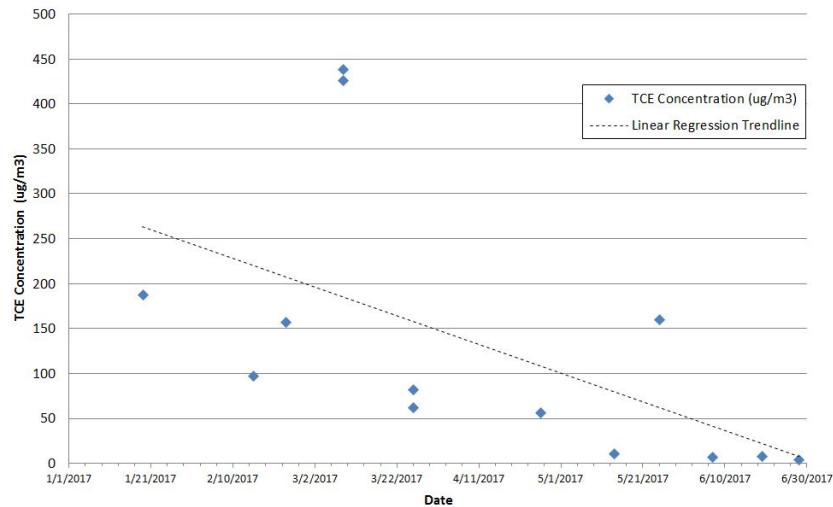
Table 1 presents the ambient and indoor air sampling results for all TO-15 analytes. Table 2 presents the results of TCE, cis-DCE, and VC in comparison of all previous rounds of sampling.

The sample results in the Maintenance Room, ATS Room, Training Room, and Cafeteria were above USEPA's Vapor Intrusion Screening Level ("VISL") for TCE of 3 $\mu\text{g}/\text{m}^3$, but below the MDEQ action level of 26 $\mu\text{g}/\text{m}^3$. The remaining sample results were below USEPA's VISL. As shown in the following figures, the results show a continued decreasing trend in comparison to previous samples. These results demonstrate that the SSDS is effective in removing vapors from beneath the Plant.

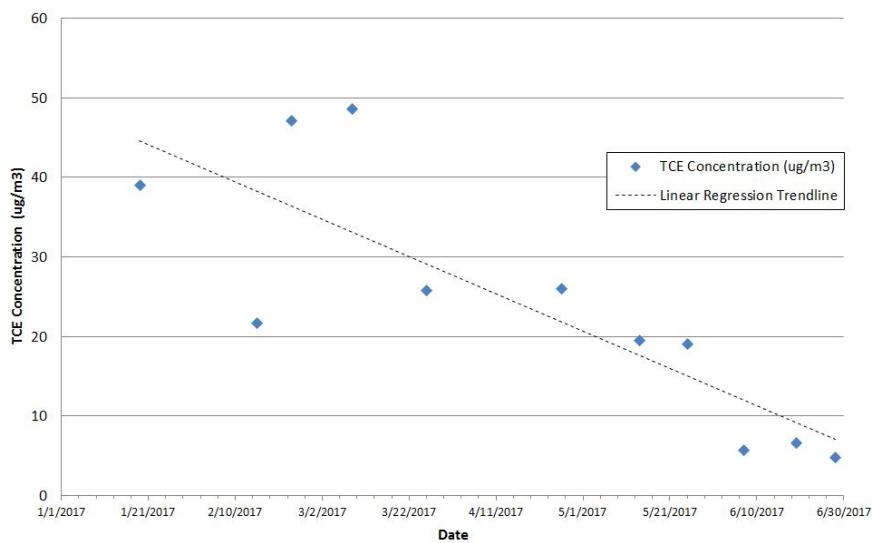
TCE Concentration History at IA-1 (Maintenance Room)



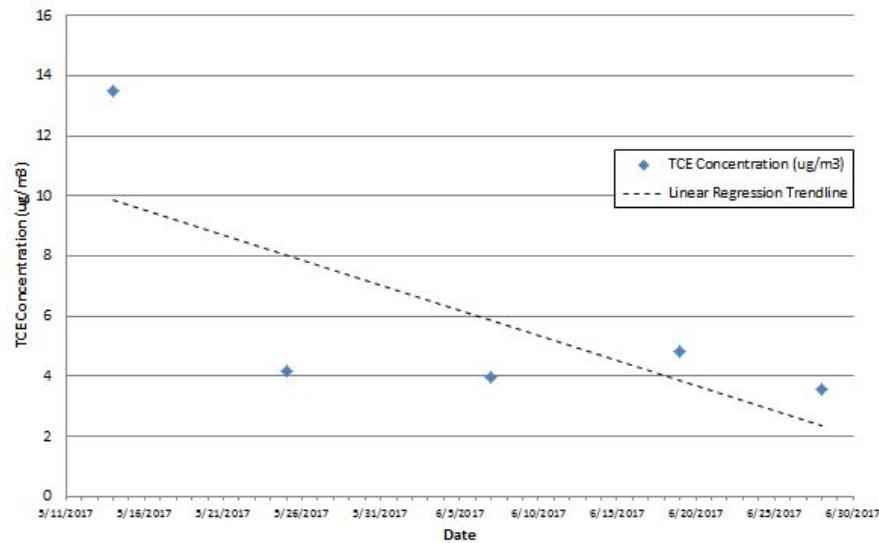
TCE Concentration History at IA-2 (ATS Room)



TCE Concentration History at IA-6 (Training Room)



TCE Concentration History at IA-17 (Cafeteria)



TCE was detected in ambient air sample (AA-2) at $16.7 \mu\text{g}/\text{m}^3$. A review of the local weather on June 28 and 29 indicates that there were wind gusts between 15 and 20 miles per hour. These wind gusts may have created downwind components and transported TCE from the SSDS emission stack to the location of AA-2. In the Initial SSDS Report, First Environment calculated that the discharge of TCE vapors to the atmosphere would be approximately 36.4 pounds/year, which is equivalent to approximately 0.02 tons/year, based on a concentration of $3,700 \mu\text{g}/\text{m}^3$ at the stack. A concentration of $16.7 \mu\text{g}/\text{m}^3$, as measured at AA-2, is several of orders of magnitude lower than $3,700 \mu\text{g}/\text{m}^3$, which would result in an emission rate significantly lower than the calculated 0.02 tons/year. Additionally, the absence of any elevated TCE concentrations inside the Plant is evidence that there is no infiltration into the Plant from the SSDS emission stack.

A copy of the laboratory report, including the chain-of-custody forms, is attached in Appendix A. However, it should be noted that First Environment is currently conducting QA/QC and data validation on this report.

3.0 Summary

Subsequent sampling results will be provided to the MDEQ on an ongoing basis.

TABLES

TABLE 1
INDOOR AIR SAMPLING RESULTS
JUNE 28, 2017
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS

SAMPLE LOCATION: SAMPING DATE: LABORATORY ID:	IA-K8 06/28/2017 L920054-01	IA-G4 06/28/2017 L920054-02	IA-D5 06/28/2017 L920054-03	IA-L16 06/28/2017 L920054-04	IA-K13 06/28/2017 L920054-05	IA-G13 06/28/2017 L920054-06	IA-C16 06/28/2017 L920054-07	IA-B12 06/28/2017 L920054-08	AA-2 06/28/2017 L920054-09	IA-17 06/28/2017 L920054-10	IA-6 06/28/2017 L920054-11	IA-1 06/28/2017 L920054-12	IA-2 06/28/2017 L920054-13	IA-SUMP 06/28/2017 L920054-14
Analyte	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
ACETONE	441	451	475	338	252	290	237	368	12.9	305	242	290	252	243
ALLYL CHLORIDE	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626
BENZENE	0.778	0.905	0.851	<0.639	0.903	0.889	0.933	0.847	<0.639	0.764	0.642	0.77	0.813	0.831
BENZYL CHLORIDE	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04	<1.04
BROMODICHLOROMETHANE	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34
BROMOFORM	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21	<6.21
BROMOMETHANE	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776	<0.776
1,3-BUTADIENE	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43	<4.43
CARBON DISULFIDE	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622	<0.622
CARBON TETRACHLORIDE	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26	<1.26
CHLOROBENZENE	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924
CHLOROETHANE	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528	<0.528
CHLOROFORM	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973
CHLOROMETHANE	1.13	1.13	1.13	0.945	1.12	1.11	1.22	1.19	1.18	1.28	1.3	1.22	1.15	1.12
2-CHLOROTOLUENE	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03	<1.03
CYCLOHEXANE	0.999	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	0.98	<0.689
CHLORODIBROMOMETHANE	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
1,2-DIBROMOETHANE	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54	<1.54
1,2-DICHLOROBENZENE	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,3-DICHLOROBENZENE	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,4-DICHLOROBENZENE	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
1,2-DICHLOROETHANE	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81	<0.81
1,1-DICHLOROETHANE	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802	<0.802

TABLE 1
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Analyte	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1-DICHLOROETHENE	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793
CIS-1,2-DICHLOROETHENE	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793
TRANS-1,2-DICHLOROETHENE	3.26	5.65	3.98	2.14	1.41	1.67	1.35	2.23	<0.793	1.67	1.35	1.72	1.51	1.57
1,2-DICHLOROPROPANE	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924	<0.924
CIS-1,3-DICHLOROPROPENE	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908
TRANS-1,3-DICHLOROPROPENE	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908
1,4-DIOXANE	0.841	<0.721	<0.721	1.89	1.65	1.51	1.1	<0.721	<0.721	1.14	<0.721	1.31	0.751	1.81
ETHANOL	8,780(E)	4,210(E)	5,300(E)	3,520(E)	5,180(E)	5,930(E)	3,740(E)	6,380(E)	26.3	6,170(E)	4,270(E)	6,500(E)	6,520(E)	5,010(E)
ETHYLBENZENE	5.09	2.79	3.99	1.99	17.2	19.9	35.7	14.2	<0.867	7.9	5.28	13.2	7.54	19.1
4-ETHYLtolUENE	3.34	0.988	1.19	1.01	1.57	1.75	1.54	1.82	<0.982	1.27	1.06	1.65	1.3	1.76
TRICHLOROFLUOROMETHANE	1.86	1.97	2.02	1.22	1.48	1.84	1.45	2.15	1.47	1.55	1.49	1.44	1.39	1.69
DICHLORODIFLUOROMETHANE	1.14	1.31	1.23	1.23	1.24	1.23	1.4	1.3	1.27	1.2	1.27	1.22	1.76	1.15
1,1,2-TRICHLOROTRIFLUOROETHANE	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53	<1.53
1,2-DICHLOROTETRAFLUOROETHANE	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
HEPTANE	11.6	16.5	12.9	7.02	13.6	15.8	25.8	14	<0.818	9.56	7.9	13.2	9.1	17.6
HEXAChLORO-1,3-BUTADIENE	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73	<6.73
N-HEXANE	<0.705	0.887	<0.705	<0.705	<0.705	<0.705	0.995	<0.705	<0.705	<0.705	<0.705	0.936	1.12	<0.705
ISOPROPYLBENZENE	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983	<0.983
METHYLENE CHLORIDE	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	3.41	<0.694
METHYL BUTYL KETONE	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11
2-BUTANONE (MEK)	1700	1200	1300	543	846	1010	740	1320	<3.69	1010	702	1070	1030	835
4-METHYL-2-PENTANONE (MIBK)	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12	<5.12
METHYL METHACRYLATE	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819	<0.819
METHYL TERT-BUTYL ETHER	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721
NAPHTHALENE	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3	<3.3
2-PROPANOL	10,700(E)	9,110(E)	14,000(E)	9,540(E)	10,600(E)	10,400(E)	7,240(E)	9,460(E)	9.12(E)	7,390(E)	5,450(E)	9,920(E)	6,840(E)	10,700(E)

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WATER VALLEY, MS

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Analyte	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
PROPENE	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)	<0.689(J3 J4)
STYRENE	<0.851	1.27	1.37	<0.851	<0.851	<0.851	<0.851	<0.851	<0.851	<0.851	<0.851	<0.851	<0.851	<0.851
1,1,2,2-TETRACHLOROETHANE	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37	<1.37
TETRACHLOROETHENE	<1.36	2.71	<1.36	13.7	<1.36	<1.36	<1.36	<1.36	<1.36	<1.36	<1.36	<1.36	<1.36	<1.36
TETRAHYDROFURAN	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	6.54	<0.59	<0.59	<0.59	5.77	4.27
TOLUENE	4.35	3.04	3.52	2.74	11.4	12.5	21.2	9.17	0.774	5.96	4.49	12	6.59	12.1
1,2,4-TRICHLOROBENZENE	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66	<4.66
1,1,1-TRICHLOROETHANE	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09
1,1,2-TRICHLOROETHANE	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09	<1.09
TRICHLOROETHENE	<1.07	<1.07	<1.07	1.32	1.33	1.41	1.22	<1.07	16.7	3.56	4.84	21.4	4.21	3.75
1,2,4-TRIMETHYLBENZENE	17.9	8.14	9.41	6.02	8.08	8.77	7.28	10.1	<0.982	7.57	5.96	8.7	7.55	8.69
1,3,5-TRIMETHYLBENZENE	5.9	2.7	3.06	1.87	2.66	2.97	2.65	3.48	<0.982	2.52	1.98	2.95	2.5	2.97
2,2,4-TRIMETHYLPENTANE	7.42	6.59	8.45	11.2	14.9	19.9	13.4	9.35	<0.934	7.61	7.37	14.1	7.67	19.2
VINYL CHLORIDE	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511	<0.511
VINYL BROMIDE	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875	<0.875
VINYL ACETATE	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704
M&P-XYLENE	25.5	12.2	18.4	6.88	101	117	213	82.6	<1.73	44.2	28.3	76.6	41.5	112
O-XYLENE	8.84	4.39	6.39	2.95	34.4	39.7	74.9	28.7	<0.867	14.8	9.73	26.1	14.1	39
1,4-BROMOFLUOROBENZENE	97.3 117	113 99.2	96.9 116	110 94.8	112 96.3	96.7 111	111 95.3	111 98.4	106 98.6	107 96.6	110 95.4	105 94.3	105 95.0	94.8 114

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).

TABLE 2
INDOOR AIR SAMPLING RESULTS COMPARISON
JANUARY THROUGH JUNE 2017
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS

SAMPLE ID	SAMPLING DATE	LABORATORY ID	CoC Concentrations ($\mu\text{g}/\text{m}^3$)		
			Trichloroethene	cis-1,2-Dichloroethene	Vinyl chloride
		USEPA Vapor Intrusion Screening Level (VISL):	3	NA	2.8
IA-1	19-Jan-17 15-Feb-17 23-Feb-17 9-Mar-17 26-Mar-17 26-Apr-17 14-May-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L1702183-01 L890396-01 L892423-01 L895061-01 L898762-01 L905292-01 L909544-01 L912423-03 L914832-13 L917924-13 L920054-12	268(D) 55.8 150 425 103 78.3 72.7 219 41.7 29.4 21.4	63.8 <0.793 82.1 97.9 11.4 <0.793 14 <0.793 <0.793 3.68 <0.793	<0.051 2.51 1.68 2.47 0.604 0.712 <0.511 0.526 <0.511 <0.511 <0.511
IA-2	19-Jan-17 15-Feb-17 23-Feb-17 9-Mar-17 9-Mar-17 26-Mar-17 26-Mar-17 14-May-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L1702183-02 L890396-02 L892423-02 L895061-02 L895061-04 L898762-02 L898762-04 L905292-02 L909544-02 L912423-08 L914832-12 L917924-12 L920054-13	187 97.1 157 426 438 61.8 82.3 56.6 10.8 160 6.58 8.16 4.21	43.2 <0.793 79.4 86.7 88.7 <0.793 <0.793 10.8 <0.793 <0.793 <0.793 1.88 <0.793	<0.051 2.27 1.57 1.18 1.68 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511
IA-2 (2ND CANISTER)					
IA-2 (DUPLICATE)					
IA-6	19-Jan-17 15-Feb-17 23-Feb-17 9-Mar-17 26-Mar-17 26-Apr-17 14-May-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L1702183-06 L890396-03 L892423-03 L895061-03 L898762-03 L905292-03 L909544-03 L912423-01 L914832-11 L917924-11 L920054-11	39 21.7 47.1 48.6 25.8 26 19.5 19.1 5.75 6.67 4.84	12.8 <0.793 14.2 12.3 <0.793 9.12 <0.793 <0.793 <0.793 4.14 <0.793	0.585 0.57 <0.511 0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511
IA-14	19-Jan-17 23-Feb-17	L1702183-14 L892423-04	3.07 3.32	0.928 <0.793	<0.051 <0.511
IA-17	14-May-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L909544-05 L912423-02 L914832-10 L917924-10 L920054-10	13.5 4.15 3.96 4.82 3.56	<0.793 <0.793 <0.793 4.48 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511
IA-B12	26-Apr-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L905292-04 L912423-05 L914832-07 L917924-09 L920054-08	6.54 3.08 1.64 1.66 <1.07	1.77 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511
IA-C16	26-Apr-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L905292-05 L912423-06 L914832-08 L917924-07 L920054-07	6.48 3.88 1.55 2 1.22	1.82 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511
IA-D5	25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L912423-12 L914832-03 L917924-03 L920054-03	<1.07 1.47 1.66 <1.07	<0.793 1.47 <0.793 <0.793	<0.511 0.511 <0.511 <0.511
IA-G4	25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L912423-11 L914832-02 L917924-02 L920054-02	<1.07 3.31 1.35 <1.07	<0.793 1.47 <0.793 <0.793	<0.511 0.511 <0.511 <0.511
IA-G13	26-Apr-17 14-May-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L905292-06 L909544-04 L912423-06 L914832-06 L917924-06 L920054-06	8.98 4.65 3.88 2.54 2.46 1.41	<0.793 1.47 <0.793 <0.793 <0.793 <0.793	<0.511 0.511 <0.511 <0.511 <0.511 <0.511
IA-K8	25-May-17 7-Jun-17 19-Jun-17 28-Jun-17	L912423-10 L914832-01 L917924-01 L920054-01	1.47 7.86 1.31 <1.07	<0.793 1.47 <0.793 <0.793	<0.511 0.511 <0.511 <0.511

TABLE 2
INDOOR AIR SAMPLING RESULTS COMPARISON
JANUARY THROUGH JUNE 2017
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS

SAMPLE ID	SAMPLING DATE	LABORATORY ID	CoC Concentrations ($\mu\text{g}/\text{m}^3$)		
			Trichloroethene	cis-1,2-Dichloroethene	Vinyl chloride
USEPA Vapor Intrusion Screening Level (VISL):			3	NA	2.8
IA-K13	26-Apr-17	L905292-07	6.53	<0.793	<0.511
	25-May-17	L912423-04	5.28	<0.793	<0.511
	7-Jun-17	L914832-05	1.59	<0.793	<0.511
	19-Jun-17	L917924-05	2.2	<0.793	<0.511
	28-Jun-17	L920054-05	1.33	<0.793	<0.511
IA-L16	26-Apr-17	L905292-08	5.77	1.75	<0.511
	7-Jun-17	L914832-04	2.09	<0.793	<0.511
	25-May-17	L912423-09	1.36	<0.793	<0.511
	19-Jun-17	L917924-04	2.81	<0.793	<0.511
	28-Jun-17	L920054-04	1.32	<0.793	<0.511
EP-1	14-May-17	L909544-06	1420000	361000	46300
EP-2	14-May-17	L909544-07	2820000	560000	13200
IA-SUMP-DUP	25-May-17	L912423-15	83.1	<0.793	<0.511
IA-SUMP	19-Jun-17	L917924-14	5.33	1.19	<0.511
	28-Jun-17	L920054-14	3.75	<0.793	<0.511
AA-1	19-Jan-17	L1702183-17	<0.107	<0.079	<0.051
AA-2	19-Jan-17	L1702183-18	0.129	<0.079	<0.051
	26-Apr-17	L905292-09	<0.107	<0.793	<0.051
	25-May-17	L912423-13	<1.07	<0.793	<0.511
	7-Jun-17	L914832-09	<1.07	<0.793	<0.511
	19-Jun-17	L917924-08	<1.07	<0.793	<0.511
	28-Jun-17	L920054-09	16.7	<0.793	<0.511

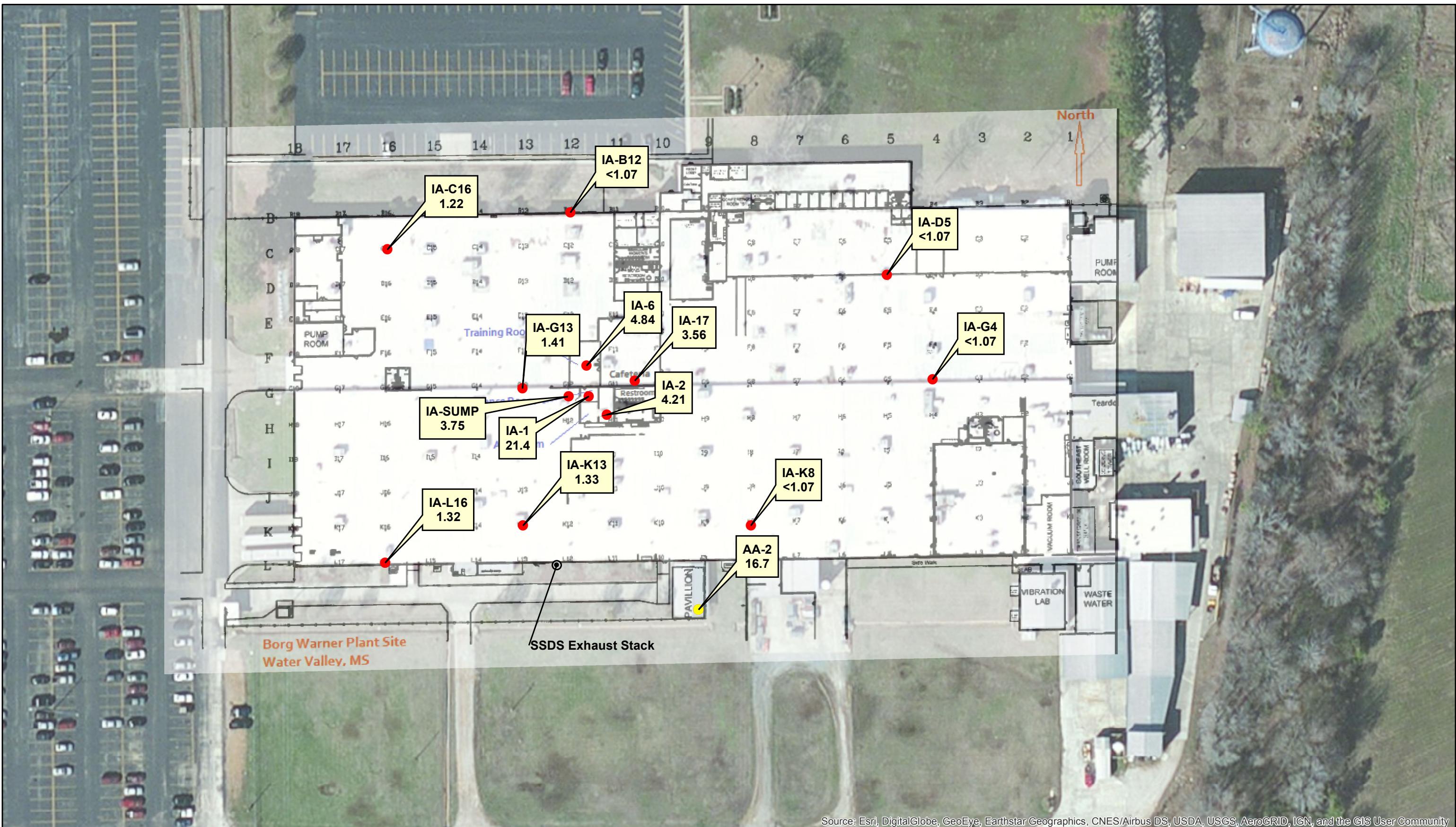
D: Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte

VISL: Calculated based on USEPA's OSWER Vapor Intrusion Assessment VISL Calculator Version 3.4, November 2015 RSLs for Target Indoor Air Concentration @ TCR=1E-6 or THQ=1

TCR: Target Carcinogen Risk

THQ: Target Hazard Quotient for Non-Carcinogens

FIGURES



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

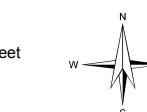
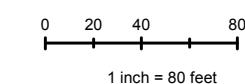
- IA-1: Indoor Air Concentrations in ug/m³
- AA-1: Ambient Air Concentrations in ug/m³
- SSDS Exhaust Stack

USEPA Screening Level for TCE: 3 ug/m³

MDEQ Action Level for TCE: 26 ug/m³

 TCE Level Exceeding the MDEQ Action Level

ND Concentration not detected above laboratory reported limits



**FIRST
ENVIRONMENT**

BORG WARNER FACILITY
600 Highway 32E, Water Valley, MS

FIGURE 1
INDOOR AIR SAMPLING RESULTS
JUNE 28 2017

91 Fulton Street Boonton, New Jersey 07005	Revised LS	Drawn NMT	Checked NMT	Approved NMT	Date 7/17/17
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APPENDIX A

July 11, 2017

First Environment, Inc.

Sample Delivery Group: L920054
Samples Received: 07/01/2017
Project Number: ENPRO 002D
Description: EnPro 002B
Site: OXFORD, MS
Report To: Michael T. Slack
91 Fulton Street
Boonton, NJ 07005

Entire Report Reviewed By:



John Hawkins
Technical Service Representative

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

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IA-G4 L920054-02	8	⁷ Gl
IA-D5 L920054-03	10	⁸ Al
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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



			Collected by Michael Slack	Collected date/time 06/28/17 18:20	Received date/time 07/01/17 08:45
IA-K8 L920054-01 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 11:14	07/07/17 11:14
	Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 09:34	07/08/17 09:34
IA-G4 L920054-02 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 11:59	07/07/17 11:59
	Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 10:15	07/08/17 10:15
IA-D5 L920054-03 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 12:45	07/07/17 12:45
	Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 10:56	07/08/17 10:56
IA-L16 L920054-04 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 13:28	07/07/17 13:28
	Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 11:38	07/08/17 11:38
IA-K13 L920054-05 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 14:14	07/07/17 14:14
	Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 12:20	07/08/17 12:20
IA-G13 L920054-06 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 14:58	07/07/17 14:58
	Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 13:01	07/08/17 13:01
IA-C16 L920054-07 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 15:42	07/07/17 15:42
	Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 13:43	07/08/17 13:43

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

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



IA-B12 L920054-08 Air			Collected by Michael Slack	Collected date/time 06/28/17 18:55	Received date/time 07/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 16:29	07/07/17 16:29	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 14:23	07/08/17 14:23	MBF
AA-2 L920054-09 Air			Collected by Michael Slack	Collected date/time 06/28/17 19:05	Received date/time 07/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 17:13	07/07/17 17:13	MBF
IA-17 L920054-10 Air			Collected by Michael Slack	Collected date/time 06/28/17 19:50	Received date/time 07/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 17:58	07/07/17 17:58	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 15:05	07/08/17 15:05	MBF
IA-6 L920054-11 Air			Collected by Michael Slack	Collected date/time 06/28/17 19:30	Received date/time 07/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 18:42	07/07/17 18:42	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 15:46	07/08/17 15:46	MBF
IA-1 L920054-12 Air			Collected by Michael Slack	Collected date/time 06/28/17 19:35	Received date/time 07/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 19:27	07/07/17 19:27	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 16:28	07/08/17 16:28	MBF
IA-2 L920054-13 Air			Collected by Michael Slack	Collected date/time 06/28/17 19:45	Received date/time 07/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 20:21	07/07/17 20:21	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 17:10	07/08/17 17:10	MBF
IA-SUMP L920054-14 Air			Collected by Michael Slack	Collected date/time 06/28/17 19:40	Received date/time 07/01/17 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG996571	1	07/07/17 21:05	07/07/17 21:05	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG996901	25	07/08/17 17:51	07/08/17 17:51	MBF

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



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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 Hawkins
Technical Service Representative

- ¹ Cp
- ² Tc
- ³ Ss
- ⁴ Cn
- ⁵ Sr
- ⁶ Qc
- ⁷ GI
- ⁸ AI
- 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
Acetone	67-64-1	58.10	31.2	74.1	185	441		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.244	0.778		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.545	1.13		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	0.290	0.999		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.822	3.26		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.233	0.841		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	4660	8780	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	1.18	5.09		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.680	3.34		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.332	1.86		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.230	1.14		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	2.83	11.6		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	577	1700		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	4360	10700	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	1.16	4.35		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG996571	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	3.64	17.9		1	WG996571	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	1.20	5.90		1	WG996571	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.59	7.42		1	WG996571	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	9 Sc
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	5.88	25.5		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	2.04	8.84		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.3				WG996901	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		117				WG996571	



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
Acetone	67-64-1	58.10	31.2	74.1	190	451		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.283	0.905		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.549	1.13		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	1.43	5.65		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	2230	4210	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	0.643	2.79		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.201	0.988		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.351	1.97		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.265	1.31		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	4.03	16.5		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	0.252	0.887		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	405	1200		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	3710	9110	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	0.299	1.27		1	WG996571
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.400	2.71		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	0.806	3.04		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

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	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG996571	
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.66	8.14		1	WG996571	
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.551	2.70		1	WG996571	
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.41	6.59		1	WG996571	
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	2.82	12.2		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	1.01	4.39		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.2				WG996901	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		113				WG996571	



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
Acetone	67-64-1	58.10	31.2	74.1	200	475		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.266	0.851		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.547	1.13		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	1.00	3.98		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	2810	5300	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	0.921	3.99		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.242	1.19		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.359	2.02		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.248	1.23		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	3.15	12.9		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	442	1300		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	5690	14000	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	0.322	1.37		1	WG996571
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	0.934	3.52		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

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	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG996571	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.92	9.41		1	WG996571	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.624	3.06		1	WG996571	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.81	8.45		1	WG996571	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	4.25	18.4		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	1.47	6.39		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.9				WG996901	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		116				WG996571	



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
Acetone	67-64-1	58.10	31.2	74.1	142	338		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.457	0.945		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.541	2.14		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.524	1.89		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	1870	3520	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	0.458	1.99		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.206	1.01		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.218	1.22		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.248	1.23		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	1.72	7.02		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	184	543		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	3880	9540	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	2.02	13.7		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	0.726	2.74		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	
Trichloroethylene	79-01-6	131	0.200	1.07	0.246	1.32		1	WG996571	3 Ss
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.23	6.02		1	WG996571	4 Cn
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.381	1.87		1	WG996571	5 Sr
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	2.40	11.2		1	WG996571	6 Qc
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	7 GI
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	8 Al
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	1.59	6.88		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	0.680	2.95		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.8				WG996901	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		110				WG996571	



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
Acetone	67-64-1	58.10	31.2	74.1	106	252		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.283	0.903		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.544	1.12		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.357	1.41		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.458	1.65		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	2750	5180	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	3.98	17.2		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.320	1.57		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.263	1.48		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.250	1.24		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	3.33	13.6		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	287	846		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	4290	10600	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	3.02	11.4		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

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	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	0.248	1.33		1	WG996571	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.65	8.08		1	WG996571	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.542	2.66		1	WG996571	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	3.20	14.9		1	WG996571	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	23.3	101		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	7.93	34.4		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		112				WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.3				WG996901	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
Acetone	67-64-1	58.10	31.2	74.1	122	290		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.278	0.889		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.537	1.11		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.421	1.67		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.419	1.51		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	3150	5930	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	4.58	19.9		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.356	1.75		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.328	1.84		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.248	1.23		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	3.87	15.8		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	344	1010		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	4230	10400	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	3.33	12.5		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

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	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	
Trichloroethylene	79-01-6	131	0.200	1.07	0.263	1.41		1	WG996571	3 Ss
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.79	8.77		1	WG996571	4 Cn
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.606	2.97		1	WG996571	5 Sr
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	4.26	19.9		1	WG996571	6 Qc
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	7 GI
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	8 Al
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	26.9	117		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	9.16	39.7		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.7				WG996901	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		111				WG996571	



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
Acetone	67-64-1	58.10	31.2	74.1	99.8	237		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.292	0.933		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.589	1.22		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.340	1.35		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.305	1.10		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	1980	3740	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	8.23	35.7		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.313	1.54		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.259	1.45		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.283	1.40		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	6.31	25.8		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	0.282	0.995		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	251	740		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	2950	7240	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	5.64	21.2		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	0.228	1.22		1	WG996571	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.48	7.28		1	WG996571	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.539	2.65		1	WG996571	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	2.87	13.4		1	WG996571	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	49.2	213		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	17.3	74.9		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		111				WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.3				WG996901	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
Acetone	67-64-1	58.10	31.2	74.1	155	368		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.265	0.847		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.578	1.19		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.563	2.23		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	3380	6380	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	3.27	14.2		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.371	1.82		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.383	2.15		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.263	1.30		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	3.42	14.0		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	447	1320		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	3850	9460	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	2.22	6.54		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	2.43	9.17		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

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	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG996571	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	2.05	10.1		1	WG996571	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.710	3.48		1	WG996571	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	2.00	9.35		1	WG996571	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	9 Sc
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	19.0	82.6		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	6.63	28.7		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.4				WG996901	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		111				WG996571	



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
Acetone	67-64-1	58.10	1.25	2.97	5.43	12.9		1	WG996571
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.571	1.18		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG996571
Ethanol	64-17-5	46.10	0.630	1.19	14.0	26.3		1	WG996571
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.261	1.47		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.256	1.27		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG996571
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	1.25	3.07	3.71	9.12		1	WG996571
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	0.206	0.774		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	<u>Qualifier</u>	Dilution	<u>Batch</u>
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571
Trichloroethylene	79-01-6	131	0.200	1.07	3.11	16.7		1	WG996571
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG996571
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG996571
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG996571
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG996571
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG996571
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.6				WG996571

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ Al⁹ 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
Acetone	67-64-1	58.10	31.2	74.1	128	305		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.239	0.764		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.621	1.28		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.422	1.67		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.316	1.14		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	3270	6170	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	1.82	7.90		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.259	1.27		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.275	1.55		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.243	1.20		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	2.34	9.56		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	343	1010		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	3010	7390	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	1.58	5.96		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	<u>Qualifier</u>	Dilution	<u>Batch</u>
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571
Trichloroethylene	79-01-6	131	0.200	1.07	0.665	3.56		1	WG996571
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.54	7.57		1	WG996571
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.514	2.52		1	WG996571
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.63	7.61		1	WG996571
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571
m&p-Xylene	1330-20-7	106	0.400	1.73	10.2	44.2		1	WG996571
o-Xylene	95-47-6	106	0.200	0.867	3.42	14.8		1	WG996571
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.6				WG996901
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				WG996571

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ Al⁹ 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
Acetone	67-64-1	58.10	31.2	74.1	102	242		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.201	0.642		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.628	1.30		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.341	1.35		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	2260	4270	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	1.22	5.28		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.216	1.06		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.265	1.49		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.258	1.27		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	1.93	7.90		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	238	702		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	2220	5450	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	1.19	4.49		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	0.903	4.84		1	WG996571	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.21	5.96		1	WG996571	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.403	1.98		1	WG996571	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.58	7.37		1	WG996571	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	6.53	28.3		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	2.24	9.73		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		107				WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.4				WG996901	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
Acetone	67-64-1	58.10	31.2	74.1	122	290		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.241	0.770		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.590	1.22		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.433	1.72		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.363	1.31		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	3450	6500	<u>E</u>	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	3.06	13.2		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.337	1.65		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.257	1.44		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.247	1.22		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	3.22	13.2		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	0.266	0.936		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	364	1070		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	4040	9920	<u>E</u>	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	<u>J3 J4</u>	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	1.96	5.77		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	3.18	12.0		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ Al⁹ Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	3.99	21.4		1	WG996571	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.77	8.70		1	WG996571	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.601	2.95		1	WG996571	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	3.03	14.1		1	WG996571	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571	
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571	
m&p-Xylene	1330-20-7	106	0.400	1.73	17.7	76.6		1	WG996571	
o-Xylene	95-47-6	106	0.200	0.867	6.03	26.1		1	WG996571	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.3				WG996901	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		110				WG996571	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
Acetone	67-64-1	58.10	31.2	74.1	106	252		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.255	0.813		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.555	1.15		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	0.285	0.980		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.381	1.51		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.208	0.751		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	3460	6520	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	1.74	7.54		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.264	1.30		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.248	1.39		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.357	1.76		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	2.22	9.10		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	0.317	1.12		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.981	3.41		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	350	1030		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	2780	6840	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	1.45	4.27		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	1.75	6.59		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

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	<u>Qualifier</u>	Dilution	<u>Batch</u>
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571
Trichloroethylene	79-01-6	131	0.200	1.07	0.786	4.21		1	WG996571
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.54	7.55		1	WG996571
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.510	2.50		1	WG996571
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.64	7.67		1	WG996571
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571
m&p-Xylene	1330-20-7	106	0.400	1.73	9.57	41.5		1	WG996571
o-Xylene	95-47-6	106	0.200	0.867	3.26	14.1		1	WG996571
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.0				WG996901
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		105				WG996571

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ Al⁹ 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
Acetone	67-64-1	58.10	31.2	74.1	102	243		25	WG996901
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG996571
Benzene	71-43-2	78.10	0.200	0.639	0.260	0.831		1	WG996571
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG996571
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG996571
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG996571
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG996571
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG996571
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG996571
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG996571
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG996571
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG996571
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG996571
Chloromethane	74-87-3	50.50	0.200	0.413	0.543	1.12		1	WG996571
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG996571
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG996571
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG996571
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG996571
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG996571
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG996571
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG996571
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG996571
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG996571
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG996571
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG996571
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.396	1.57		1	WG996571
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG996571
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG996571
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG996571
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.501	1.81		1	WG996571
Ethanol	64-17-5	46.10	15.8	29.8	2660	5010	E	25	WG996901
Ethylbenzene	100-41-4	106	0.200	0.867	4.42	19.1		1	WG996571
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.358	1.76		1	WG996571
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.300	1.69		1	WG996571
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.232	1.15		1	WG996571
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG996571
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG996571
Heptane	142-82-5	100	0.200	0.818	4.31	17.6		1	WG996571
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG996571
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG996571
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG996571
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG996571
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG996571
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	283	835		25	WG996901
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG996571
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG996571
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG996571
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG996571
2-Propanol	67-63-0	60.10	31.2	76.7	4340	10700	E	25	WG996901
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3 J4	1	WG996571
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG996571
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG996571
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG996571
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG996571
Toluene	108-88-3	92.10	0.200	0.753	3.21	12.1		1	WG996571
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG996571

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

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	<u>Qualifier</u>	Dilution	<u>Batch</u>
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG996571
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG996571
Trichloroethylene	79-01-6	131	0.200	1.07	0.701	3.75		1	WG996571
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.77	8.69		1	WG996571
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.606	2.97		1	WG996571
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	4.12	19.2		1	WG996571
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG996571
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG996571
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG996571
m&p-Xylene	1330-20-7	106	0.400	1.73	25.9	112		1	WG996571
o-Xylene	95-47-6	106	0.200	0.867	8.99	39.0		1	WG996571
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		114				WG996571
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.8				WG996901

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ Al⁹ Sc

QUALITY CONTROL SUMMARY

L920054-01,02,03,04,05,06,07,08,09,10,11,12,13,14

Method Blank (MB)

(MB) R3231771-2 07/07/17 09:22

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv	1 Cp
Acetone	U		0.0569	1.25	
Allyl Chloride	U		0.0546	0.200	
Benzene	U		0.0460	0.200	
Benzyl Chloride	U		0.0598	0.200	
Bromodichloromethane	U		0.0436	0.200	
Bromoform	U		0.0786	0.600	
Bromomethane	U		0.0609	0.200	
1,3-Butadiene	U		0.0563	2.00	
Carbon disulfide	U		0.0544	0.200	
Carbon tetrachloride	U		0.0585	0.200	
Chlorobenzene	U		0.0601	0.200	
Chloroethane	U		0.0489	0.200	
Chloroform	U		0.0574	0.200	
Chloromethane	U		0.0544	0.200	
2-Chlorotoluene	U		0.0605	0.200	
Cyclohexane	U		0.0534	0.200	
Dibromochloromethane	U		0.0494	0.200	
1,2-Dibromoethane	U		0.0185	0.200	
1,2-Dichlorobenzene	U		0.0603	0.200	
1,3-Dichlorobenzene	U		0.0597	0.200	
1,4-Dichlorobenzene	U		0.0557	0.200	
1,2-Dichloroethane	U		0.0616	0.200	
1,1-Dichloroethane	U		0.0514	0.200	
1,1-Dichloroethene	U		0.0490	0.200	
cis-1,2-Dichloroethene	U		0.0389	0.200	
trans-1,2-Dichloroethene	U		0.0464	0.200	
1,2-Dichloropropane	U		0.0599	0.200	
cis-1,3-Dichloropropene	U		0.0588	0.200	
trans-1,3-Dichloropropene	U		0.0435	0.200	
1,4-Dioxane	U		0.0554	0.200	
Ethylbenzene	U		0.0506	0.200	
4-Ethyltoluene	U		0.0666	0.200	
Trichlorofluoromethane	U		0.0673	0.200	
Dichlorodifluoromethane	U		0.0601	0.200	
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200	
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200	
Heptane	U		0.0626	0.200	
Hexachloro-1,3-butadiene	U		0.0656	0.630	
n-Hexane	U		0.0457	0.200	
Isopropylbenzene	U		0.0563	0.200	

L920054-01,02,03,04,05,06,07,08,09,10,11,12,13,14

Method Blank (MB)

(MB) R3231771-2 07/07/17 09:22

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv														
Methylene Chloride	0.0700	J	0.0465	0.200														¹ Cp
Methyl Butyl Ketone	U		0.0682	1.25														² Tc
2-Butanone (MEK)	U		0.0493	1.25														³ Ss
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25														⁴ Cn
Methyl Methacrylate	U		0.0773	0.200														⁵ Sr
MTBE	U		0.0505	0.200														⁶ Qc
Naphthalene	U		0.154	0.630														⁷ Gl
2-Propanol	U		0.0882	1.25														⁸ Al
Propene	U		0.0932	0.400														⁹ Sc
Styrene	U		0.0465	0.200														
1,1,2,2-Tetrachloroethane	U		0.0576	0.200														
Tetrachloroethylene	U		0.0497	0.200														
Tetrahydrofuran	U		0.0508	0.200														
Toluene	U		0.0499	0.200														
1,2,4-Trichlorobenzene	U		0.148	0.630														
1,1,1-Trichloroethane	U		0.0665	0.200														
1,1,2-Trichloroethane	U		0.0287	0.200														
Trichloroethylene	U		0.0545	0.200														
1,2,4-Trimethylbenzene	0.0605	J	0.0483	0.200														
1,3,5-Trimethylbenzene	U		0.0631	0.200														
2,2,4-Trimethylpentane	U		0.0456	0.200														
Vinyl chloride	U		0.0457	0.200														
Vinyl Bromide	U		0.0727	0.200														
Vinyl acetate	U		0.0639	0.200														
m&p-Xylene	U		0.0946	0.400														
o-Xylene	U		0.0633	0.200														
Ethanol	U		0.0832	0.630														
(S) 1,4-Bromofluorobenzene	98.7			60.0-140														

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

(LCS) R3231771-1 07/07/17 07:58 • (LCSD) R3231771-3 07/07/17 10:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Ethanol	3.75	4.44	4.65	118	124	52.0-158			4.49	25
Propene	3.75	3.40	1.70	90.7	45.3	54.0-155	J3 J4		66.7	25
Dichlorodifluoromethane	3.75	3.45	3.45	92.0	92.0	69.0-143			0.0400	25
1,2-Dichlorotetrafluoroethane	3.75	3.67	3.71	98.0	99.0	70.0-130			1.06	25
Chloromethane	3.75	3.49	3.55	93.0	94.7	70.0-130			1.78	25



L920054-01,02,03,04,05,06,07,08,09,10,11,12,13,14

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

(LCS) R3231771-1 07/07/17 07:58 • (LCSD) R3231771-3 07/07/17 10:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Vinyl chloride	3.75	3.30	3.48	88.0	92.8	70.0-130			5.35	25
1,3-Butadiene	3.75	3.29	3.32	87.7	88.4	70.0-130			0.850	25
Bromomethane	3.75	3.45	3.19	91.9	85.1	70.0-130			7.73	25
Chloroethane	3.75	3.43	3.13	91.4	83.4	70.0-130			9.15	25
Trichlorofluoromethane	3.75	3.33	3.33	88.9	88.7	70.0-130			0.180	25
1,1,2-Trichlorotrifluoroethane	3.75	3.50	3.48	93.3	92.8	70.0-130			0.500	25
1,1-Dichloroethene	3.75	3.49	3.50	93.2	93.3	70.0-130			0.180	25
1,1-Dichloroethane	3.75	3.53	3.51	94.1	93.6	70.0-130			0.540	25
Acetone	3.75	3.63	3.69	96.7	98.3	70.0-130			1.71	25
2-Propanol	3.75	3.77	3.78	100	101	66.0-150			0.250	25
Carbon disulfide	3.75	3.61	3.53	96.1	94.1	70.0-130			2.11	25
Methylene Chloride	3.75	3.36	3.34	89.5	89.1	70.0-130			0.420	25
MTBE	3.75	3.57	3.57	95.2	95.2	70.0-130			0.0200	25
trans-1,2-Dichloroethene	3.75	3.51	3.54	93.7	94.3	70.0-130			0.710	25
n-Hexane	3.75	3.62	3.57	96.4	95.3	70.0-130			1.17	25
Vinyl acetate	3.75	3.61	3.64	96.2	97.1	70.0-130			0.930	25
Methyl Ethyl Ketone	3.75	3.65	3.70	97.2	98.7	70.0-130			1.51	25
cis-1,2-Dichloroethene	3.75	3.52	3.50	93.9	93.2	70.0-130			0.690	25
Chloroform	3.75	3.51	3.49	93.5	93.2	70.0-130			0.300	25
Cyclohexane	3.75	3.58	3.56	95.5	95.0	70.0-130			0.560	25
1,1,1-Trichloroethane	3.75	3.52	3.49	93.8	93.1	70.0-130			0.710	25
Carbon tetrachloride	3.75	3.51	3.48	93.7	92.7	70.0-130			1.00	25
Benzene	3.75	3.51	3.50	93.5	93.3	70.0-130			0.170	25
1,2-Dichloroethane	3.75	3.43	3.48	91.5	92.8	70.0-130			1.38	25
Heptane	3.75	3.54	3.52	94.5	93.8	70.0-130			0.770	25
Trichloroethylene	3.75	3.49	3.43	93.1	91.6	70.0-130			1.64	25
1,2-Dichloropropane	3.75	3.54	3.57	94.3	95.3	70.0-130			0.960	25
1,4-Dioxane	3.75	3.90	3.82	104	102	70.0-152			1.93	25
Bromodichloromethane	3.75	3.52	3.54	93.8	94.5	70.0-130			0.750	25
cis-1,3-Dichloropropene	3.75	3.65	3.56	97.3	94.8	70.0-130			2.56	25
4-Methyl-2-pentanone (MIBK)	3.75	3.60	3.62	96.0	96.6	70.0-142			0.630	25
Toluene	3.75	3.51	3.48	93.7	92.9	70.0-130			0.860	25
trans-1,3-Dichloropropene	3.75	3.60	3.60	96.1	96.0	70.0-130			0.0600	25
1,1,2-Trichloroethane	3.75	3.50	3.51	93.4	93.5	70.0-130			0.0500	25
Tetrachloroethylene	3.75	3.47	3.38	92.5	90.1	70.0-130			2.67	25
Methyl Butyl Ketone	3.75	3.86	3.86	103	103	70.0-150			0.0800	25
Dibromochloromethane	3.75	3.55	3.54	94.6	94.4	70.0-130			0.250	25
1,2-Dibromoethane	3.75	3.54	3.50	94.5	93.3	70.0-130			1.25	25
Chlorobenzene	3.75	3.46	3.42	92.2	91.2	70.0-130			1.12	25
Ethylbenzene	3.75	3.45	3.43	92.0	91.4	70.0-130			0.660	25

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L920054-01,02,03,04,05,06,07,08,09,10,11,12,13,14

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

(LCS) R3231771-1 07/07/17 07:58 • (LCSD) R3231771-3 07/07/17 10:09

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
m&p-Xylene	7.50	6.94	6.87	92.5	91.5	70.0-130			1.04	25
o-Xylene	3.75	3.47	3.42	92.4	91.3	70.0-130			1.21	25
Styrene	3.75	3.54	3.51	94.4	93.6	70.0-130			0.820	25
Bromoform	3.75	3.51	3.46	93.5	92.3	70.0-130			1.38	25
1,1,2,2-Tetrachloroethane	3.75	3.38	3.37	90.2	89.9	70.0-130			0.390	25
4-Ethyltoluene	3.75	3.38	3.36	90.3	89.6	70.0-130			0.720	25
1,3,5-Trimethylbenzene	3.75	3.37	3.38	90.0	90.0	70.0-130			0.0400	25
1,2,4-Trimethylbenzene	3.75	3.34	3.33	89.2	88.8	70.0-130			0.370	25
1,3-Dichlorobenzene	3.75	3.35	3.36	89.4	89.5	70.0-130			0.110	25
1,4-Dichlorobenzene	3.75	3.44	3.47	91.8	92.5	70.0-130			0.770	25
Benzyl Chloride	3.75	3.48	3.45	92.7	91.9	70.0-144			0.870	25
1,2-Dichlorobenzene	3.75	3.35	3.37	89.3	89.8	70.0-130			0.560	25
1,2,4-Trichlorobenzene	3.75	3.47	3.38	92.6	90.0	70.0-155			2.84	25
Hexachloro-1,3-butadiene	3.75	3.36	3.35	89.7	89.4	70.0-145			0.410	25
Naphthalene	3.75	3.55	3.49	94.5	93.1	70.0-155			1.49	25
Allyl Chloride	3.75	3.64	3.65	97.2	97.4	70.0-130			0.200	25
2-Chlorotoluene	3.75	3.42	3.43	91.1	91.5	70.0-130			0.490	25
Methyl Methacrylate	3.75	3.54	3.58	94.5	95.4	70.0-130			0.980	25
Tetrahydrofuran	3.75	3.63	3.62	96.9	96.6	70.0-140			0.370	25
2,2,4-Trimethylpentane	3.75	3.63	3.58	96.9	95.6	70.0-130			1.41	25
Vinyl Bromide	3.75	3.58	3.17	95.4	84.5	70.0-130			12.1	25
Isopropylbenzene	3.75	3.48	3.43	92.7	91.4	70.0-130			1.42	25
(S) 1,4-Bromofluorobenzene				102	101	60.0-140				

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc



Method Blank (MB)

(MB) R3231825-3 07/08/17 08:52

Analyte	MB Result ppbv	<u>MB Qualifier</u>	MB MDL ppbv	MB RDL ppbv
Acetone	0.0847	J	0.0569	1.25
2-Butanone (MEK)	U		0.0493	1.25
2-Propanol	U		0.0882	1.25
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	94.9			60.0-140

¹Cp²Tc³Ss⁴Cn⁵Sr

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

(LCS) R3231825-1 07/08/17 07:25 • (LCSD) R3231825-2 07/08/17 08:08

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Ethanol	3.75	3.14	3.52	83.6	93.8	52.0-158			11.5	25
Acetone	3.75	3.66	3.75	97.6	100	70.0-130			2.38	25
2-Propanol	3.75	3.56	3.82	95.0	102	66.0-150			6.86	25
Methyl Ethyl Ketone	3.75	3.73	3.71	99.5	99.0	70.0-130			0.480	25
(S) 1,4-Bromofluorobenzene			95.5	94.8	60.0-140					

⁶Qc⁷Gl⁸Al⁹Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(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.
Rec.	Recovery.

Qualifier Description

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.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ AI⁹ SC



ESC Lab Sciences 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.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey—NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio—VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

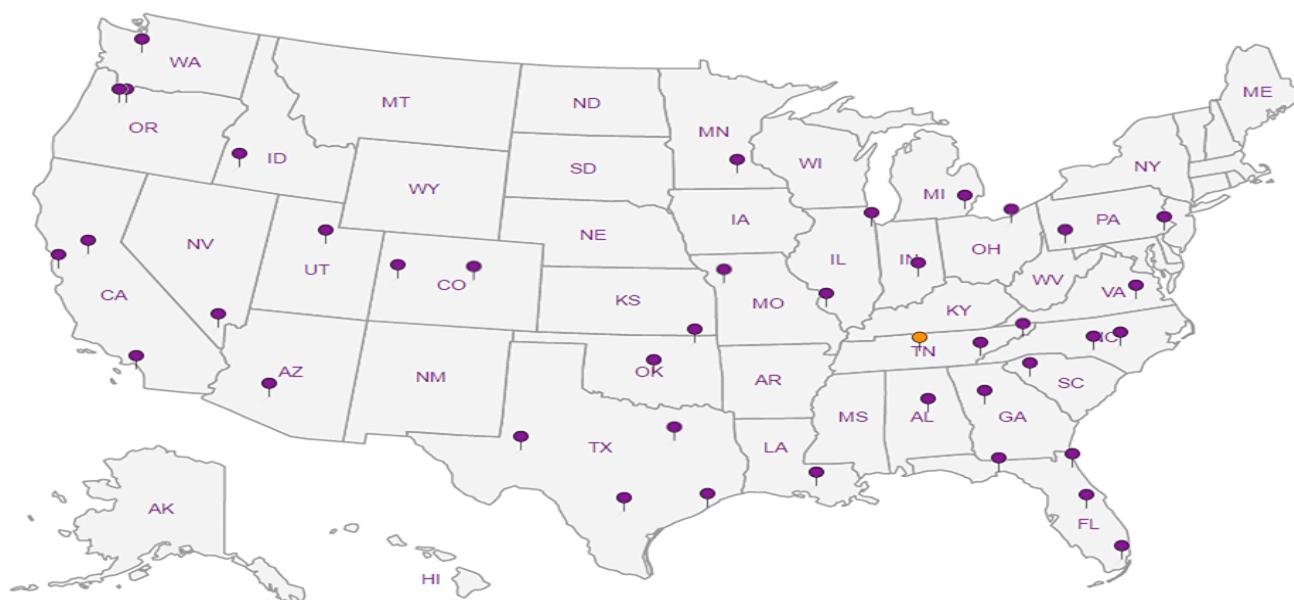
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences 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. **ESC Lab Sciences performs all testing at our central laboratory.**



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

First Environment, Inc.			Billing Information:			Analysis / Container / Preservative						Chain of Custody Page ___ of ___			
91 Fulton Street Boonton, NJ 07005			Project: EnPro 001-002D 91 Fulton Street Boonton, NJ 07005 ATTN.: JUSTIN PICCOLO J.PICCOLO@FIRSTENVIRONMENT.COM			Pres Chk									
Report to: Michael T. Slack			Email To: mslack@firstenvironment.com												
Project: Description: Butler Snow LLP			City/State: WATER VALLEY, MS Collected: BORG WARMER, PLANT SITE												
Phone: 973-334-0003 Fax: 973-334-0928	Client Project # ENPRO 002B		Lab Project # FIRENVBNJ-OXFORDMS												
Collected by (print): MICHAEL SLACK	Site/Facility ID # OXFORD, MS		P.O. #												
Collected by (signature): <i>M. T. Slack</i>	Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Five Day <input type="checkbox"/> Next Day <input type="checkbox"/> 5 Day (Rad Only) <input type="checkbox"/> Two Day <input type="checkbox"/> 10 Day (Rad Only) <input type="checkbox"/> Three Day		Quote #			Date Results Needed	No. of Cntrs								
Immediately															
Packed on Ice N <input checked="" type="checkbox"/> Y <input type="checkbox"/>															
Sample ID	Comp/Grab	Matrix *	Depth	Date START	Time START	TQ-15 Summa								Remarks	Sample # (lab only)
IA-K8	COMP	Air	—	6/28/17	18:20	1	X							K8	-01
IA-G4	COMP	Air	—	6/28/17	18:25	1	X							G4	-02
IA-DS	COMP	Air	—	6/28/17	18:30	1	X							DS	-03
IA-L16	COMP	Air	—	6/28/17	18:35	1	X							L16	-04
IA-K13	COMP	Air	—	6/28/17	18:40	1	X							K13	-05
IA-G13	COMP	Air	—	6/28/17	18:45	1	X							G13	-06
IA-C16	COMP	Air	—	6/28/17	18:50	1	X							C16	-07
IA-B12	COMP	Air	—	6/28/17	18:55	1	X							B12	-08
AA-2	COMP	Air	—	6/28/17	19:05	1	X							PAVILLION	-09
IA-17	COMP	Air	—	6/28/17	19:50	1	X							CAFETERIA	-10
* Matrix: SS - Soil <input checked="" type="checkbox"/> AIR-AIR F - Filter GW - Groundwater <input type="checkbox"/> B - Bioassay WW - WasteWater DW - Drinking Water OT - Other	Remarks: 16 6L cans, 16 24 hour flow controllers, 16 4 feet sections of teflon tubing with swagelock fittings. SEE FIELD SAMPLE COLLECTION TABLE FOR MORE INFO. - M. SLACK												Sample Receipt Checklist		
	Samples returned via: UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier			Tracking #			pH _____ Temp _____			Flow _____ Other _____			COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N		
Relinquished by: (Signature) <i>M. T. Slack</i>	Date: 6/30/17	Time: 11:55	Received by: (Signature)			Trip Blank Received: Yes / No HCl / MeOH TBR			Temp: °C Bottles Received: Amb 14			If preservation required by Login: Date/Time:			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)												
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Michael Slack</i>			Date: 7-1-17	Time: 845	Hold:			Condition: NCF / DK				

First Environment, Inc.		Billing Information:		Analysis / Container / Preservative:										Chain of Custody	Page ____ of ____
91 Fulton Street Boonton, NJ 07005		Project: EnPro 002D 91 Fulton Street Boonton, NJ 07005 ATTN: JUSTIN PICCOLO JPICCOLO@FIRSTENVIRONMENT.COM		Pres Chk											 L-A-B S-C-I-E-N-C-E-S YOUR LAB OF CHOICE
Report to: Michael T. Slack		Email To: mslack@firstenvironment.com													12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859
Project Description: Butler Snow LLP		City/State WATERVALLEY, MS Collected: BORG WARNER PLANT SITE												L# L920054	
Phone: 973-334-0003 Fax: 973-334-0928	Client Project # ENPRO 002B	Lab Project # FIRENVBNJ-OXFORDMS												Table #	
Collected by (print):	Site/Facility ID # OXFORD, MS	P.O. #												Acctnum: FIRENVBNJ	
Collected by (signature): <i>M.T. Slack</i>	Rush? (Lab MUST Be Notified) <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> Next Day <input type="checkbox"/> Two Day <input type="checkbox"/> Three Day	Quote #		Date Results Needed	No. of Cntrs									Template: T120396	
Immediately Packed on ice: N <input checked="" type="checkbox"/> Y <input type="checkbox"/>														Prelogin: P606670	
Sample ID	Comp/Grab	Matrix *	Depth	Date START	Time START	TO-15 Summa								PB: LL 6/19	
IA - 6		Air	—	6/28/17	19:30	1	X							Shipped Via: FedEx Ground	
IA - 1		Air	—	6/28/17	19:35	1	X							Remarks Sample # (lab only)	
IA - 2		Air	—	6/28/17	19:45	1	X							TRAINING ROOM - 11	
IA - 17		Air	—			1	X							MAINT. ROOM - 12	
IA - SUMP		Air	—	6/28/17	19:40	1	X							ATS ROOM - 13	
														SUMP AREA - 14	
* Matrix: SS - Soil <input checked="" type="checkbox"/> AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other _____	Remarks: 16 6l cans, 16 24 hour flow controllers, 16 4 feet sections of teflon tubing with swagelock fittings, SEE FIELD SAMPLE COLLECTION TABLE FOR MORE INFO. - M. SLACK										Sample Receipt Checklist COC Seal Present/Intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N COC Signed/Accurate: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Bottles arrive intact: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Correct bottles used: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Sufficient volume sent: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N If Applicable VOA Zero Headspace: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N Preservation Correct/Checked: <input checked="" type="checkbox"/> Y <input type="checkbox"/> N				
Samples returned via: UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>		Tracking #													
Relinquished by : (Signature) <i>M.T. Slack</i>	Date: 6/30/17	Time: 11:55	Received by: (Signature)		Trip Blank Received: Yes / No		HCl / MeOH		TBR						
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)		Temp: °C		Bottles Received:				If preservation required by Lab: Date/Time				
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) <i>M.T. Slack</i>		Date: 7-17		Time: 8:00		Hold:		Condition: NCF / OK				

Vapor Intrusion Investigation
 Borg Warner Facility
 Water Valley, Yalobusha Co., MS
 Week of June 25th, 2017
 Indoor Air (IA) and Ambient Air (AA) Sampling Event

L920054

Sample ID	Sample Location	Flow Controller ID	Canister ID	Canister Size (liters)	Initial Date/time	Vacuum ("Hg")	Final Date/time	Vacuum ("Hg")	Sampler
IA-1	Maintenance Room	7865	6855	6	6/28/17 19:35	30	6/29/17 20:15	5	M. Slack
IA-2	ATS Room	5880	7192	6	6/28/17 19:45	29	6/29/17 20:20	15	M. Slack
IA-6	Training Room	7092	6077	6	6/28/17 19:30 +9:50 +9:00	30	6/29/17 20:00	3	M. Slack
IA-17	Cafeteria	5882	6311	6	6/28/17 19:50	30	6/29/17 20:12	8	M. Slack
IA-B12	I-Beam B12	5567	7344	6	6/28/17 18:55	30	6/29/17 19:10	8	M. Slack
IA-C16	I-Beam C16	7434	6066	6	6/28/17 18:50	27	6/29/17 19:05	5	M. Slack
IA-G13	I-Beam G13	5543	7241	6	6/28/17 18:45	31	6/29/17 19:00	5	M. Slack
IA-K13	I-Beam K13	7097	7242	6	6/28/17 18:40	29	6/29/17 18:58	5	M. Slack
IA-L16	I-Beam L16	6832	6219	6	6/28/17 18:35	26	6/29/17 18:55	0	M. Slack
IA-D5	I-Beam D5	6509	5820	6	6/28/17 18:30	28	6/29/17 18:50	5	M. Slack
IA-G4	I-Beam G4	7829	5355	6	6/28/17 18:25	29	6/29/17 18:45	8	M. Slack
IA-K8	I-Beam K8	6044	7240	6	6/28/17 18:20	28	6/29/17 18:40	5	M. Slack
IA-Sump	Sump Area	5319	7615	6	6/28/17 19:40	30	6/29/17 20:25	5	M. Slack
AA-2	Pavilion	7428	7167	6	6/28/17 19:05	28	6/29/17 20:00	3	M. Slack