

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



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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

03/22/2018

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 to 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 an SSDS Progress Report on the June 19-20, 2017 ambient and indoor air sampling results and the installation of extraction point (“EP”) No. 3. First Environment submitted SSDS Progress Reports on subsequent rounds of ambient and indoor air sampling on July 17, August 7, August 21, September 11, October 2, October 9, October 17, November 1, November 15, November 29, and December 13, 2017, and January 8, January 12, January 30, February 14, February 23, and March 8, 2018.

On March 7-8, 2018, First Environment collected the following samples:

1. A round of ambient and indoor air samples from the four interior rooms at the Plant—the Training Room, ATS Room, Maintenance Room, and Cafeteria;
2. The second round of quarterly indoor air samples from three locations at the west, center, and east areas of the Plant (IA-C16, IA-K13, and IA-G4).

2.0 Indoor Air Monitoring – March 7-8, 2018

2.1 Instrumentation

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

On March 7-8, 2018, First Environment collected four indoor air samples at the four interior rooms of the Plant, three quarterly indoor air samples from three respective locations in the west, center and east areas of the Plant, 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 required 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.

As reported in the January 8, 2018 SSDS Progress Report, First Environment sealed the void spaces in the block wall between the sump and the Maintenance Room on December 29, 2017. On January 15, 2018, the sump adjacent to the Maintenance Room was decommissioned. On January 18, 2018, First Environment installed two SSDS extraction points in the block wall between the sump and the Maintenance Room and one SSDS extraction point in the block wall between the sump and the Training Room.

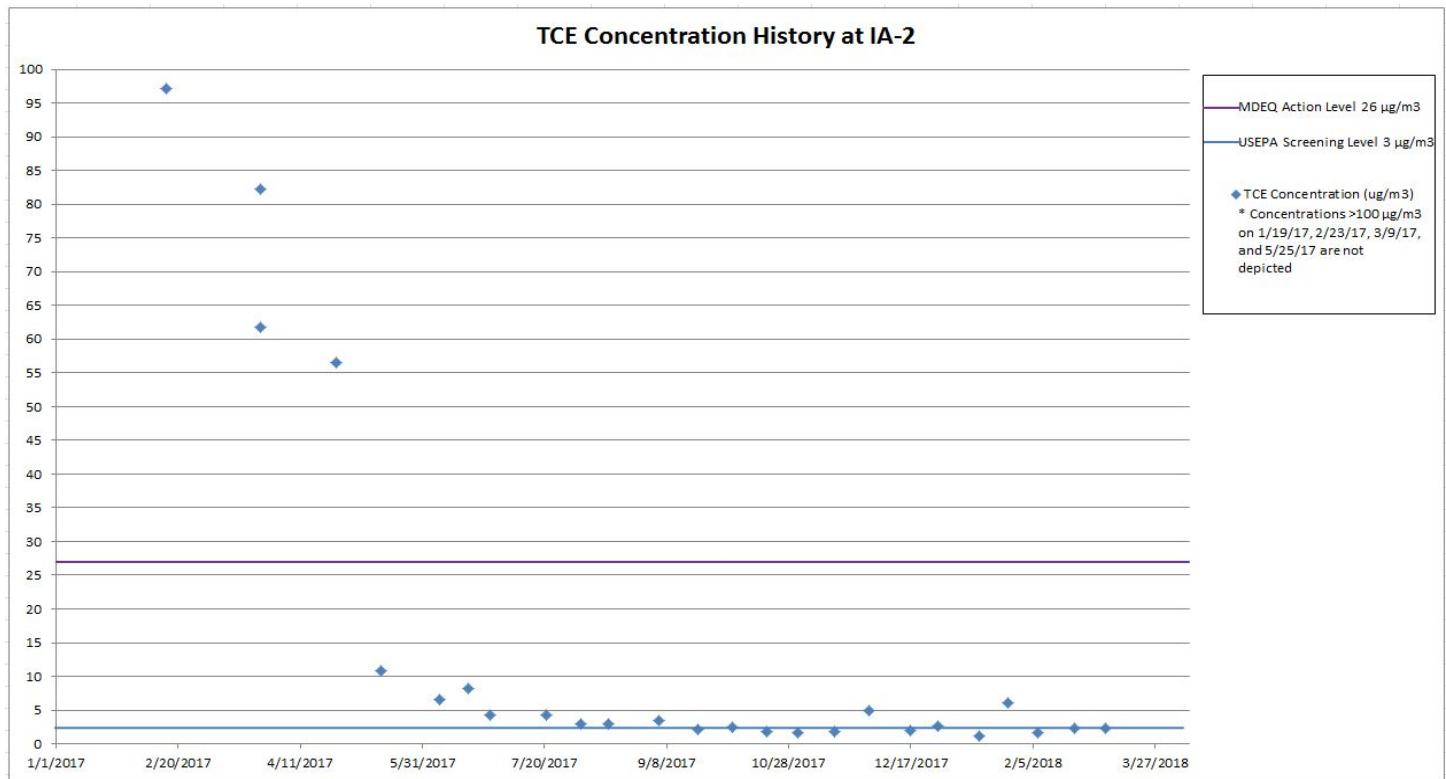
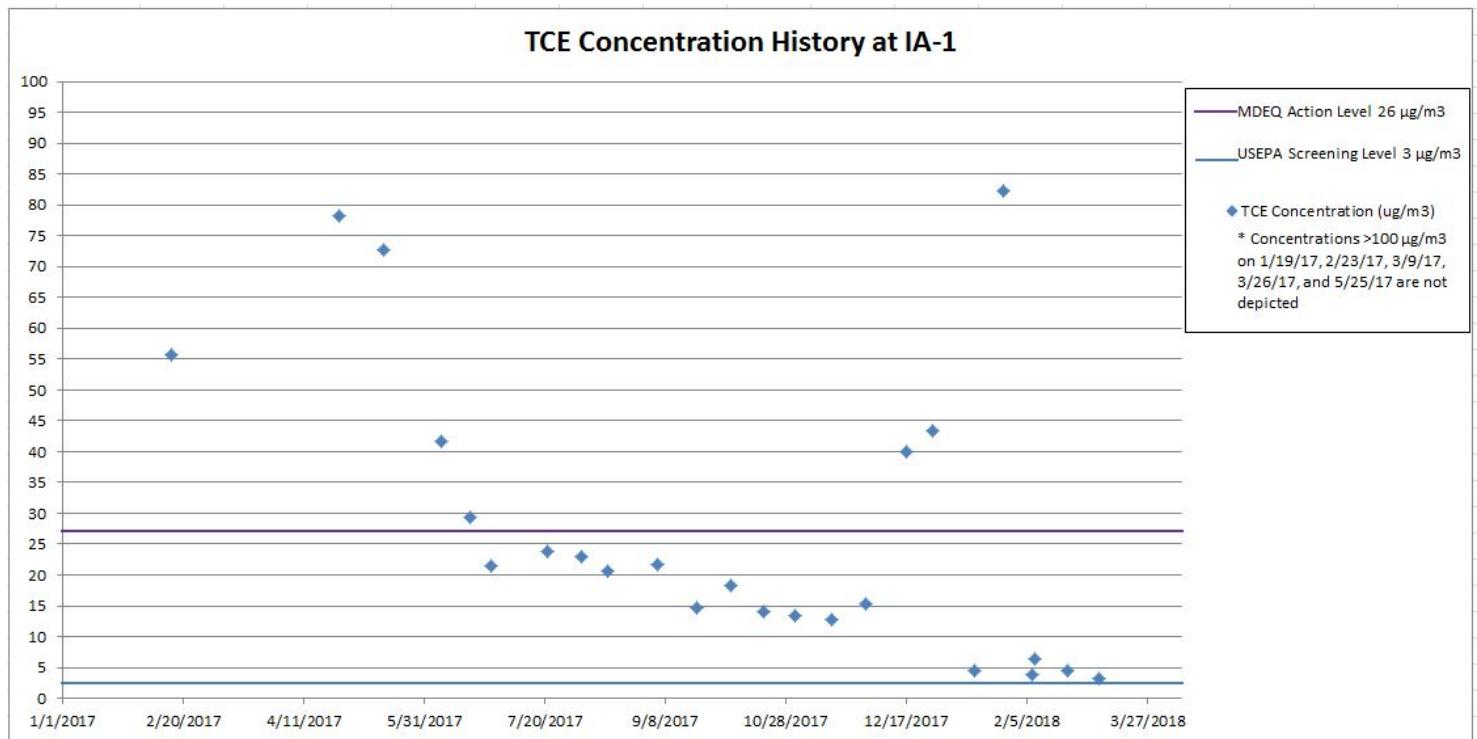
2.3 Results

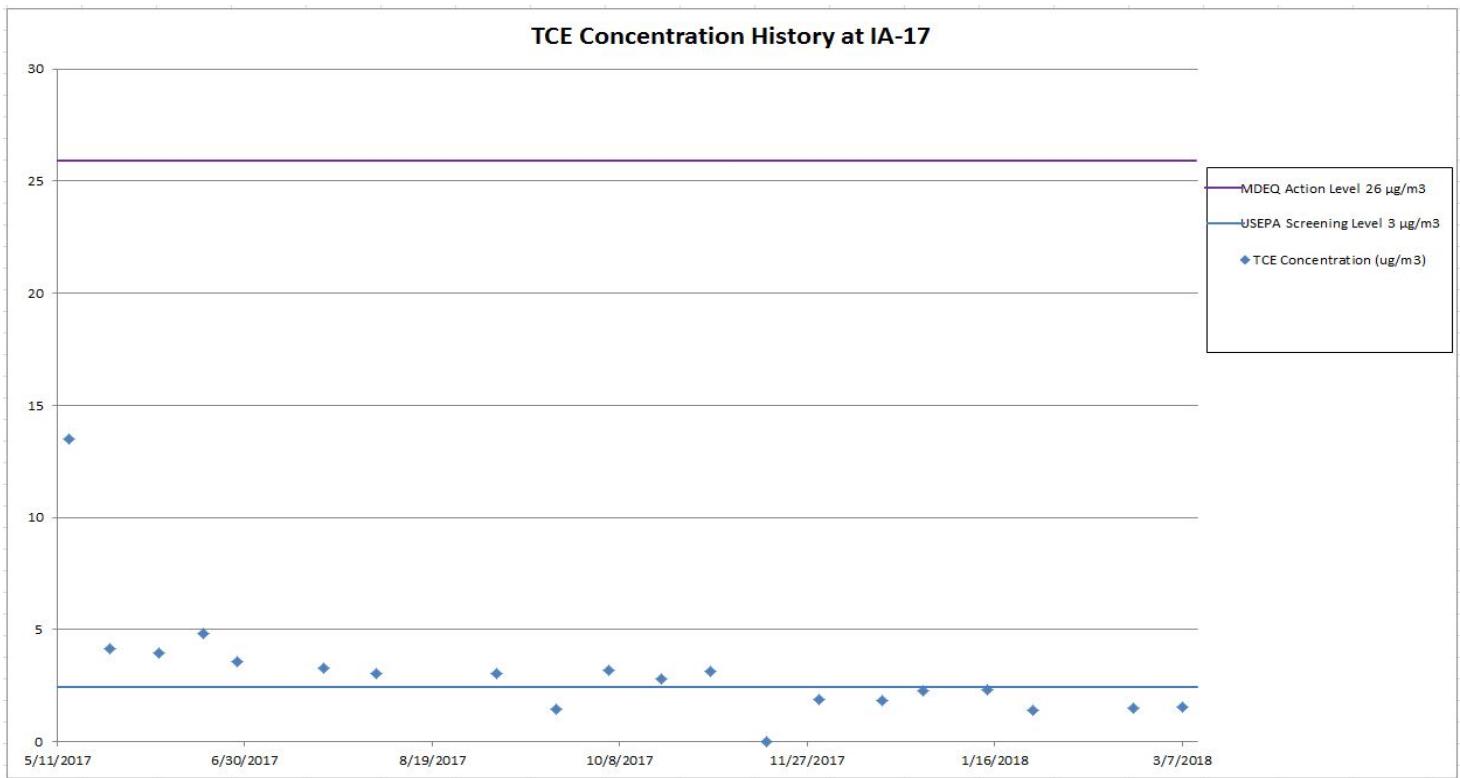
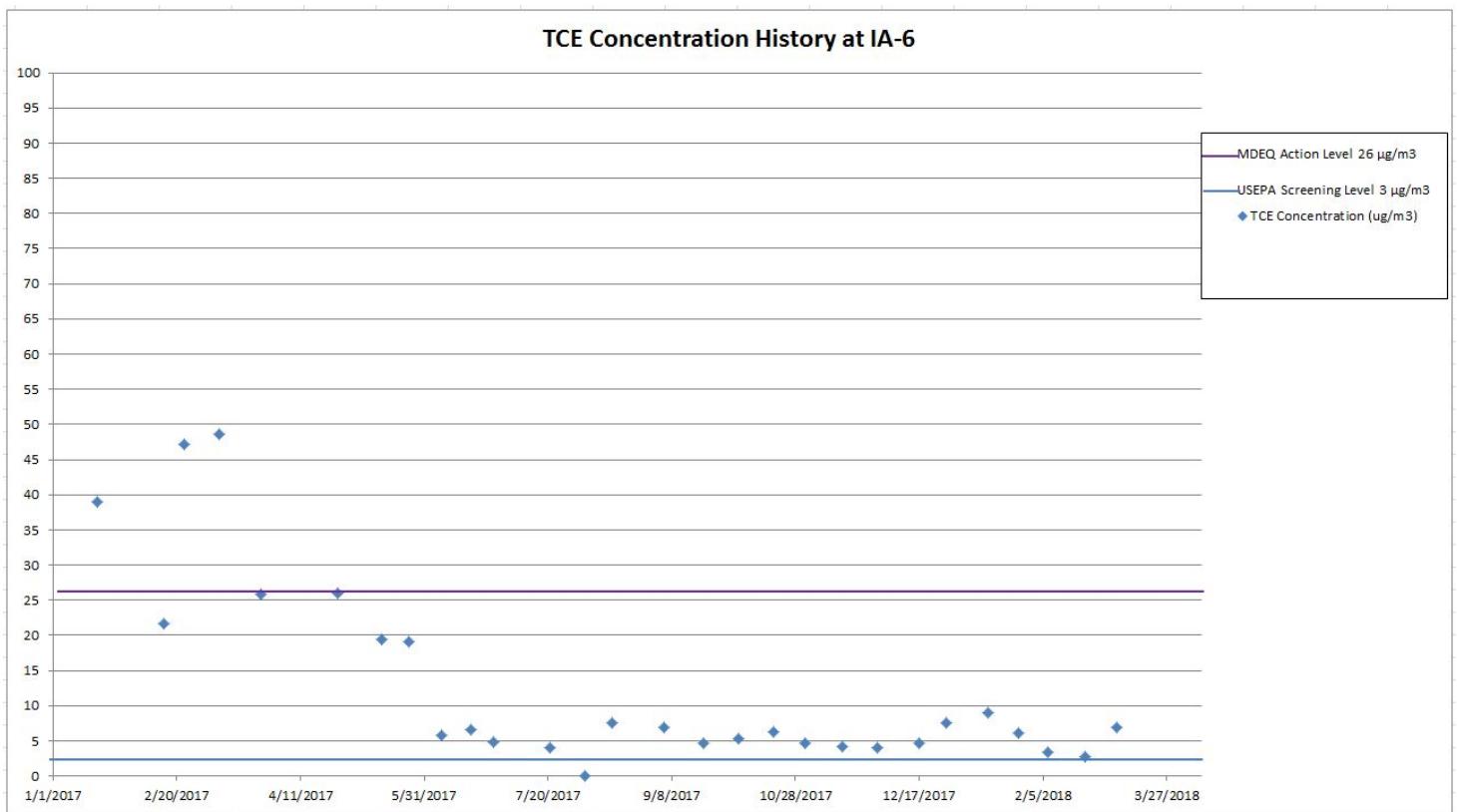
Table 1 presents the ambient and indoor air sampling results for all TO-15 analytes for the March 7-8, 2018 sampling event. Table 2 presents the results of TCE, cis-DCE, and VC in comparison to all previous rounds of sampling. A copy of the laboratory reports, including the chain-of-custody forms, is attached in Appendix A. As discussed in more detail below, all indoor air sampling results for TCE were below the MDEQ action level of 26 µg/m³.

2.3.1 Interior Rooms

The sample results in the ATS Room and Cafeteria were below USEPA’s Vapor Intrusion Screening Level (“VISL”) for TCE of 3 µg/m³. The sample results in the Maintenance Room (3.23 µg/m³) and Training Room (6.95 µg/m³) were above USEPA’s VISL but below the MDEQ action level of 26 µg/m³.

The following figures show the TCE concentration history in the interior rooms.





2.3.2 West, Center, and East areas of the Plant

The quarterly sample results in the west, center, and east areas of the Plant were non-detect for TCE.

3.0 Summary of Indoor Air Sampling

Since June 2017, the sample results in the ATS Room (IA-2), Training Room (IA-6), and Cafeteria (IA-17) have been below the MDEQ action level of 26 µg/m³. The March 7-8, 2018 sample results for the Maintenance Room were also below the MDEQ action level of 26 µg/m³. The quarterly sample results from the west, center, and east portions of the building were non-detect for TCE.

TABLES

TABLE 1
INDOOR AIR SAMPLING RESULTS
MARCH 7, 2018
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS

SAMPLE LOCATION: SAMPING DATE: LABORATORY ID:	IA-1 03/07/2018 L976176-01	IA-2 03/07/2018 L976176-02	IA-6 03/07/2018 L976176-03	IA-17 03/07/2018 L976176-04	AA-2 03/07/2018 L976176-05	IA-C16 03/07/2018 L976176-06	IA-K13 03/07/2018 L976176-07	IA-G4 03/07/2018 L976176-08
Analyte	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
ACETONE	93	90.2	97.8	92.8	5.28	61.6	120	303
ALLYL CHLORIDE	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626
BENZENE	1.3	1.35	1.22	1.36	<0.639	1.26	1.2	1.53
BENZYL CHLORIDE	<1.04	<1.04	<10.4	<1.04	<1.04	<1.04	<1.04	<41.6
BROMODICHLOROMETHANE	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34	<1.34
BROMOFORM	<6.21	<6.21	<62.1	<6.21	<6.21	<6.21	<6.21	<248
BROMOMETHANE	<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
CARBON DISULFIDE	<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
CHLOROBENZENE	<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
CHLOROFORM	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973	<0.973
CHLOROMETHANE	1.16	1.27	1.15	1.28	1.08	1.23	1.23	1.16
2-CHLOROTOLUENE	<1.03	<1.03	<10.3	<1.03	<1.03	<1.03	<1.03	<41.2
CYCLOHEXANE	<0.689	1.21	<0.689	1.5	<0.689	1.82	<0.689	<0.689
CHLORODIBROMOMETHANE	<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
1,2-DICHLOROBENZENE	<1.2	<1.2	<12	<1.2	<1.2	<1.2	<1.2	<48.1
1,3-DICHLOROBENZENE	<1.2	<1.2	<12	<1.2	<1.2	<1.2	<1.2	<48.1
1,4-DICHLOROBENZENE	<1.2	<1.2	<12	<1.2	<1.2	<1.2	<1.2	<48.1
1,2-DICHLOROETHANE	<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

TABLE 1
INDOOR AIR SAMPLING RESULTS
MARCH 7, 2018
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS

SAMPLE LOCATION: SAMPING DATE: LABORATORY ID:	IA-1 03/07/2018 L976176-01	IA-2 03/07/2018 L976176-02	IA-6 03/07/2018 L976176-03	IA-17 03/07/2018 L976176-04	AA-2 03/07/2018 L976176-05	IA-C16 03/07/2018 L976176-06	IA-K13 03/07/2018 L976176-07	IA-G4 03/07/2018 L976176-08
Analyte	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
CIS-1,2-DICHLOROETHENE	<0.793	<0.793	2.74	<0.793	<0.793	<0.793	<0.793	<0.793
TRANS-1,2-DICHLOROETHENE	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	0.999
1,2-DICHLOROPROPANE	<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
TRANS-1,3-DICHLOROPROPENE	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908
1,4-DIOXANE	<0.721	<0.721	<0.721	<0.721	<0.721	1.1	1.72	<0.721
ETHANOL	2,150 (E)	2,120 (E)	2,400 (E)	2,010 (E)	58	1,440 (E)	3,810 (E)	3,930 (E)
ETHYLBENZENE	2.04	1.91	<8.67	1.78	<0.867	1.45	2.02	<34.7
4-ETHYLtolUENE	<0.982	1.26	<9.82	1.17	<0.982	<0.982	<0.982	<39.3
TRICHLOROFLUOROMETHANE	1.33	1.37	1.29	1.37	1.24	1.31	1.34	1.36
DICHLORODIFLUOROMETHANE	1.74	1.68	1.66	1.59	1.61	1.42	1.58	1.66
1,1,2-TRICHLOROTRIFLUOROETHANE	<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
HEPTANE	14.7	17.1	16.2	24	<0.818	11.2	20.8	33.5
HEXAChLORO-1,3-BUTADIENE	<6.73	<6.73	<67.3	<6.73	<6.73	<6.73	<6.73	<269
N-HEXANE	4.43	5.25	4.35	4.84	<0.705	2.89	4.5	2.4
ISOPROPYLBENZENE	<0.983	<0.983	<9.83	<0.983	<0.983	<0.983	<0.983	<39.3
METHYLENE CHLORIDE	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694	<0.694
METHYL BUTYL KETONE	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11	<5.11
2-BUTANONE (MEK)	202	205	231	225	<3.69	133	329	459
4-METHYL-2-PENTANONE (MIBK)	<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
METHYL TERT-BUTYL ETHER	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721	<0.721
NAPHTHALENE	<3.3	<3.3	<33	<3.3	<3.3	4.91	<3.3	<132
2-PROPANOL	1,450 (E)	1,380 (E)	1,530 (E)	1,250 (E)	13.9	898	1,720 (E)	4270

TABLE 1
INDOOR AIR SAMPLING RESULTS
MARCH 7, 2018
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS

SAMPLE LOCATION: SAMPING DATE: LABORATORY ID:	IA-1 03/07/2018 L976176-01	IA-2 03/07/2018 L976176-02	IA-6 03/07/2018 L976176-03	IA-17 03/07/2018 L976176-04	AA-2 03/07/2018 L976176-05	IA-C16 03/07/2018 L976176-06	IA-K13 03/07/2018 L976176-07	IA-G4 03/07/2018 L976176-08
Analyte	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
PROPENE	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689	<0.689
STYRENE	<0.851	<0.851	<8.51	0.893	<0.851	<0.851	<0.851	<34
1,1,2,2-TETRACHLOROETHANE	<1.37	<1.37	<13.7	<1.37	<1.37	<1.37	<1.37	<55
TETRACHLOROETHENE	<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
TOLUENE	5.02	4.36	4.24	4.58	<0.753	5.88	4.92	5.38
1,2,4-TRICHLOROBENZENE	<4.66	<4.66	<46.6	<4.66	<4.66	<4.66	<4.66	<187
1,1,1-TRICHLOROETHANE	<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
TRICHLOROETHENE	3.23	2.35	6.95	1.57	<1.07	<1.07	<1.07	<1.07
1,2,4-TRIMETHYLBENZENE	4.75	5.18	<9.82	4.83	<0.982	3.42	6.68	<39.3
1,3,5-TRIMETHYLBENZENE	1.77	1.77	<9.82	1.65	<0.982	1.2	2.26	<39.3
2,2,4-TRIMETHYL PENTANE	<0.934	<0.934	<0.934	<0.934	<0.934	<0.934	<0.934	<0.934
VINYL CHLORIDE	<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
VINYL ACETATE	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704	<0.704
M&P-XYLENE	7.39	7.62	<17.3	6.37	<1.73	5.5	7.91	<69.4
O-XYLENE	2.54	2.66	<8.67	2.17	<0.867	2	2.65	<34.7
1,4-BROMOFLUOROBENZENE	107 95.6	97.4 112	111 94.0	117 97.2	102	98.1 108	116 99.4	116 95.3

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 2017 THROUGH MARCH 2018
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	L1702183-01	268(D)	63.8	<0.051
	15-Feb-17	L890396-01	55.8	<0.793	2.51
	23-Feb-17	L892423-01	150	82.1	1.68
	9-Mar-17	L895061-01	425	97.9	2.47
	26-Mar-17	L898762-01	103	11.4	0.604
	26-Apr-17	L905292-01	78.3	<0.793	0.712
	14-May-17	L909544-01	72.7	14	<0.511
	25-May-17	L912423-03	219	<0.793	0.526
	7-Jun-17	L914832-13	41.7	<0.793	<0.511
	19-Jun-17	L917924-13	29.4	3.68	<0.511
	28-Jun-17	L920054-12	21.4	<0.793	<0.511
	21-Jul-17	L924410-01	23.8	<0.793	<0.511
	4-Aug-17	L927407-01	22.9	2.85	<0.511
	15-Aug-17	L930026-01	20.6	<0.793	<0.511
	5-Sep-17	L934535-01	21.8	3.17	<0.511
	21-Sep-17	L938896-01	14.7	<0.793	<0.511
	5-Oct-17	L942068-01	18.2	<0.793	<0.511
	19-Oct-17	L945503-01	14.1	<0.793	<0.511
	1-Nov-17	L948263-01	13.5	1.83	<0.511
	16-Nov-17	L952200-01	12.7	<0.793	<0.511
	30-Nov-17	L954578-01	15.3	<0.793	<0.511
	17-Dec-17	L958416-01	40	<0.793	<0.511
	28-Dec-17	L960558-01	43.4	4.77	<0.511
	14-Jan-18	L963421-01	4.5	<0.793	<0.511
	25-Jan-18	L966088-01	82.3	<0.793	<0.511
(Door Open) (Door Closed)	7-Feb-18	L969021-01	3.89	<0.793	<0.511
	8-Feb-18	L969370-01	6.39	1.26	<0.511
	22-Feb-18	L972729-01	4.47	1.35	<0.511
	7-Mar-18	L976176-01	3.23	<0.793	<0.511
IA-2	19-Jan-17	L1702183-02	187	43.2	<0.051
	15-Feb-17	L890396-02	97.1	<0.793	2.27
	23-Feb-17	L892423-02	157	79.4	1.57
	9-Mar-17	L895061-02	426	86.7	1.18
IA-2 (2ND CANISTER)	9-Mar-17	L895061-04	438	88.7	1.68
IA-2 (DUPLICATE)	26-Mar-17	L898762-02	61.8	<0.793	<0.511
	26-Mar-17	L898762-04	82.3	<0.793	<0.511
	26-Apr-17	L905292-02	56.6	10.8	<0.511
	14-May-17	L909544-02	10.8	<0.793	<0.511
	25-May-17	L912423-08	160	<0.793	<0.511
	7-Jun-17	L914832-12	6.58	<0.793	<0.511
	19-Jun-17	L917924-12	8.16	1.88	<0.511
	28-Jun-17	L920054-13	4.21	<0.793	<0.511
	21-Jul-17	L924410-02	4.3	<0.793	<0.511
	4-Aug-17	L927407-02	2.94	<0.793	<0.511
	15-Aug-17	L930026-02	2.91	<0.793	<0.511
	5-Sep-17	L934535-02	3.52	0.967	<0.511
	21-Sep-17	L938896-02	2.22	<0.793	<0.511
	5-Oct-17	L942068-02	2.46	<0.793	<0.511
	19-Oct-17	L945503-02	1.87	<0.793	<0.511
	1-Nov-17	L948263-02	1.7	<0.793	<0.511
	16-Nov-17	L952200-02	1.82	<0.793	<0.511
	30-Nov-17	L954578-02	5.01	<0.793	<0.511
	17-Dec-17	L958416-02	1.98	<0.793	<0.511
	28-Dec-17	L960558-02	2.58	0.823	<0.511
	14-Jan-18	L963421-02	1.21	<0.793	<0.511
	25-Jan-18	L966088-02	6.09	<0.793	<0.511
	7-Feb-18	L969030-01	1.6	<0.793	<0.511
	22-Feb-18	L972729-02	2.31	<0.793	<0.511
	7-Mar-18	L976176-02	2.35	<0.793	<0.511

TABLE 2
INDOOR AIR SAMPLING RESULTS COMPARISON
JANUARY 2017 THROUGH MARCH 2018
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-6	19-Jan-17	L1702183-06	39	12.8	0.585
	15-Feb-17	L890396-03	21.7	<0.793	0.57
	23-Feb-17	L892423-03	47.1	14.2	<0.511
	9-Mar-17	L895061-03	48.6	12.3	0.511
	26-Mar-17	L898762-03	25.8	<0.793	<0.511
	26-Apr-17	L905292-03	26	9.12	<0.511
	14-May-17	L909544-03	19.5	<0.793	<0.511
	25-May-17	L912423-01	19.1	<0.793	<0.511
	7-Jun-17	L914832-11	5.75	<0.793	<0.511
	19-Jun-17	L917924-11	6.67	4.14	<0.511
	28-Jun-17	L920054-11	4.84	<0.793	<0.511
	21-Jul-17	L924410-03	4	<0.793	<0.511
	4-Aug-17	L927407-03	<1.07	<0.793	<0.511
	15-Aug-17	L930026-03	7.61	<0.793	<0.511
	5-Sep-17	L934535-03	6.85	5.17	<0.511
	21-Sep-17	L938896-03	4.65	<0.793	<0.511
	5-Oct-17	L942068-03	5.37	<0.793	<0.511
	19-Oct-17	L945503-03	6.31	<0.793	<0.511
	1-Nov-17	L948263-03	4.67	2.89	<0.511
	16-Nov-17	L952200-03	4.19	<0.793	<0.511
	30-Nov-17	L954578-03	4.06	3	<0.511
	17-Dec-17	L958416-03	4.69	<0.793	<0.511
	28-Dec-17	L960558-03	7.53	4.41	<0.511
	14-Jan-18	L963421-03	8.95	<0.793	<0.511
	25-Jan-18	L966088-03	6.12	<0.793	<0.511
	7-Feb-18	L969030-02	3.45	2.18	<0.511
	22-Feb-18	L972729-03	2.76	1.69	<0.511
	7-Mar-18	L976176-03	6.95	2.74	<0.511
IA-14	19-Jan-17	L1702183-14	3.07	0.928	<0.051
	23-Feb-17	L892423-04	3.32	<0.793	<0.511
IA-17	14-May-17	L909544-05	13.5	<0.793	<0.511
	25-May-17	L912423-02	4.15	<0.793	<0.511
	7-Jun-17	L914832-10	3.96	<0.793	<0.511
	19-Jun-17	L917924-10	4.82	4.48	<0.511
	28-Jun-17	L920054-10	3.56	<0.793	<0.511
	21-Jul-17	L924410-04	3.27	<0.793	<0.511
	4-Aug-17	L927407-04	3.02	<0.793	<0.511
	15-Aug-17	L930026-04	<5.36	<3.96	<2.56
	5-Sep-17	L934535-04	3.04	5.6	<0.511
	21-Sep-17	L938896-04	1.46	<0.793	<0.511
	5-Oct-17	L942068-04	3.2	<0.793	<0.511
	19-Oct-17	L945503-04	2.79	<0.793	<0.511
	1-Nov-17	L948263-04	3.15	2.33	<0.511
	16-Nov-17	L952200-04	<1.07	<0.793	<0.511
	30-Nov-17	L954578-04	1.89	<0.793	<0.511
	17-Dec-17	L958416-04	1.86	<0.793	<0.511
	28-Dec-17	L960558-04	2.28	2.57	<0.511
	14-Jan-18	L963421-04	2.34	<0.793	<0.511
	25-Jan-18	L966088-04	1.42	<0.793	<0.511
	7-Feb-18	L969030-03	<4.29	<3.17	<2.04
	22-Feb-18	L972729-04	1.5	1.68	<0.511
	7-Mar-18	L976176-04	1.57	<0.793	<0.511
IA-B12	26-Apr-17	L905292-04	6.54	1.77	<0.511
	25-May-17	L912423-05	3.08	<0.793	<0.511
	7-Jun-17	L914832-07	1.64	<0.793	<0.511
	19-Jun-17	L917924-09	1.66	<0.793	<0.511
	28-Jun-17	L920054-08	<1.07	<0.793	<0.511
	21-Jul-17	L924410-05	1.08	<0.793	<0.511
	4-Aug-17	L927407-05	<1.07	<0.793	<0.511
	15-Aug-17	L930026-05	<1.07	<0.793	<0.511
	5-Sep-17	L934535-05	<1.07	<0.793	<0.511

TABLE 2
INDOOR AIR SAMPLING RESULTS COMPARISON
JANUARY 2017 THROUGH MARCH 2018
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS

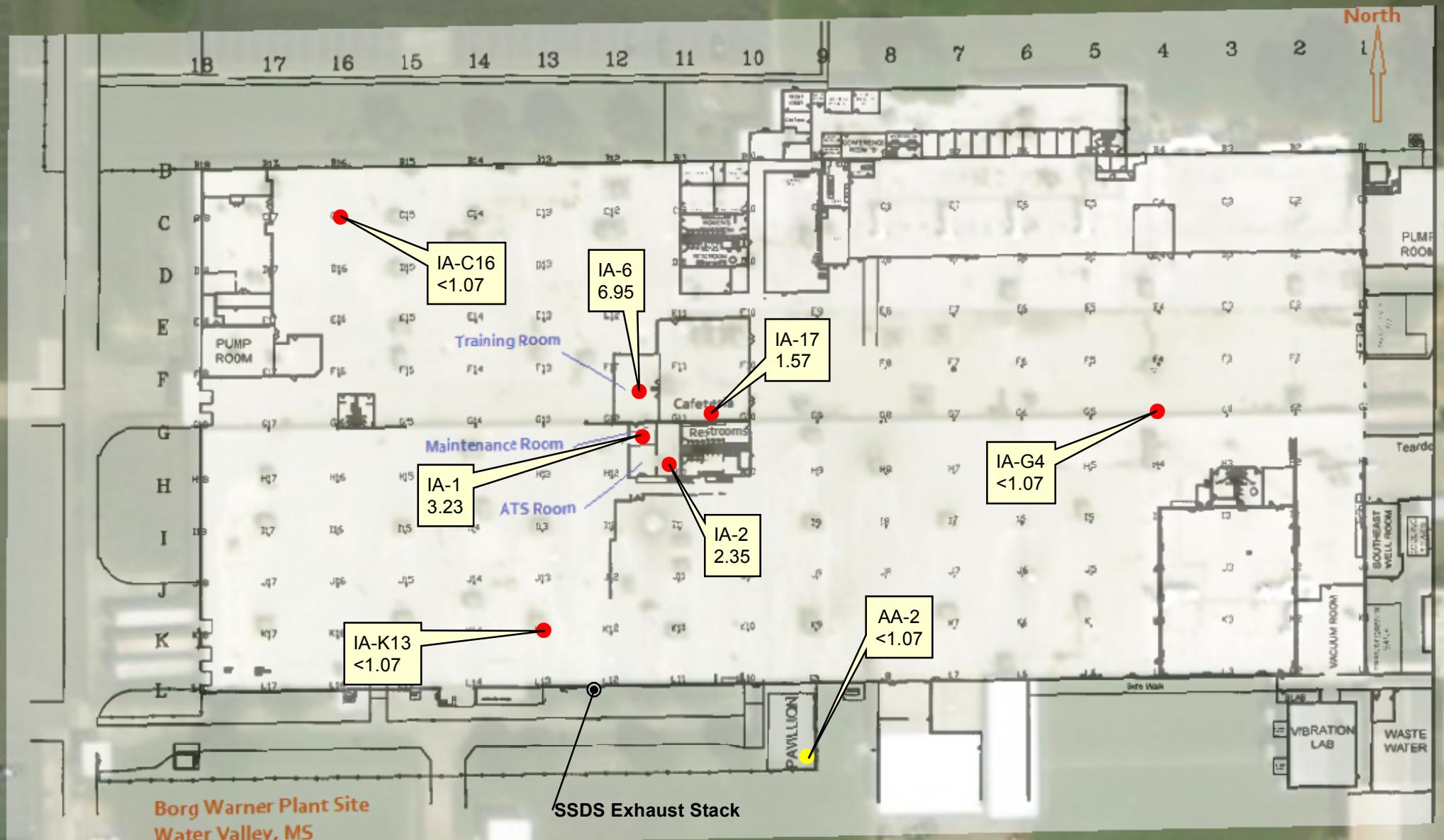
SAMPLE ID	SAMPLING DATE	LABORATORY ID	CoC Concentrations ($\mu\text{g}/\text{m}^3$)		
			Trichloroethene	cis-1,2-Dichloroethene	Vinyl chloride
	USEPA Vapor Intrusion Screening Level (VISL):		3	NA	2.8
IA-C16	26-Apr-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17 21-Jul-17 4-Aug-17 15-Aug-17 5-Sep-17 30-Nov-17 7-Mar-18	L905292-05 L912423-06 L914832-08 L917924-07 L920054-07 L924410-06 L927407-06 L930026-06 L934535-06 L954578-05 L976176-06	6.48 3.88 1.55 2 1.22 1.08 1.25 <1.07 <1.07 <1.07 <1.07	1.82 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511
IA-D5	25-May-17 7-Jun-17 19-Jun-17 28-Jun-17 21-Jul-17 4-Aug-17 15-Aug-17 5-Sep-17	L912423-12 L914832-03 L917924-03 L920054-03 L924410-08 L927407-10 L930026-10 L934535-10	<1.07 1.47 1.66 <1.07 <1.07 <1.07 <1.07 1.3	<0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511
IA-G4	25-May-17 7-Jun-17 19-Jun-17 28-Jun-17 21-Jul-17 4-Aug-17 15-Aug-17 5-Sep-17 30-Nov-17 7-Mar-18	L912423-11 L914832-02 L917924-02 L920054-02 L924410-09 L927407-11 L930026-11 L934535-11 L954578-07 L976176-08	<1.07 3.31 1.35 <1.07 <1.07 <1.07 <1.07 1.17 <1.07 <1.07	<0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <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 21-Jul-17 4-Aug-17 15-Aug-17 5-Sep-17	L905292-06 L909544-04 L912423-06 L914832-06 L917924-06 L920054-06 L924410-07 L927407-07 L930026-07 L934535-07	8.98 4.65 3.88 2.54 2.46 1.41 1.6 1.76 1.25 1.78	<0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <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 21-Jul-17 4-Aug-17 15-Aug-17 5-Sep-17	L912423-10 L914832-01 L917924-01 L920054-01 L924410-10 L927407-12 L930026-12 L934535-12	1.47 7.86 1.31 <1.07 <1.07 <1.07 <1.07 <1.07	<0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511
IA-K13	26-Apr-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17 21-Jul-17 4-Aug-17 15-Aug-17 5-Sep-17 30-Nov-17 7-Mar-18	L905292-07 L912423-04 L914832-05 L917924-05 L920054-05 L924410-12 L927407-08 L930026-08 L934535-08 L954578-06 L976176-07	6.53 5.28 1.59 2.2 1.33 1.34 <1.07 <1.07 1.67 <1.07 <1.07	<0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511

TABLE 2
INDOOR AIR SAMPLING RESULTS COMPARISON
JANUARY 2017 THROUGH MARCH 2018
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-L16	26-Apr-17 7-Jun-17 25-May-17 19-Jun-17 28-Jun-17 21-Jul-17 4-Aug-17 15-Aug-17 5-Sep-17	L905292-08 L914832-04 L912423-09 L917924-04 L920054-04 L924410-11 L927407-09 L930026-09 L934535-09	5.77 2.09 1.36 2.81 1.32 1.18 <1.07 1.13 1.14	1.75 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <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 28-Jun-17	L917924-14 L920054-14	5.33 3.75	1.19 <0.793	<0.511 <0.511
AA-1	19-Jan-17	L1702183-17	<0.107	<0.079	<0.051
AA-2	19-Jan-17 26-Apr-17 25-May-17 7-Jun-17 19-Jun-17 28-Jun-17 21-Jul-17 4-Aug-17 15-Aug-17 5-Sep-17 21-Sep-17 5-Oct-17 19-Oct-17 1-Nov-17 16-Nov-17 30-Nov-17 17-Dec-17 28-Dec-17 14-Jan-18 25-Jan-18 7-Feb-18 22-Feb-18 7-Mar-18	L1702183-18 L905292-09 L912423-13 L914832-09 L917924-08 L920054-09 L924410-13 L927407-13 L930026-13 L934535-13 L938896-05 L942068-05 L945503-05 L948263-05 L952200-05 L954578-10 L958416-05 L960558-05 L963421-05 L966088-05 L969030-04 L972729-05 L976176-05	0.129 <0.107 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07 <1.07	<0.079 <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 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793 <0.793	<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 <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
IA-ATS-2ND F	15-Aug-17	L930026-14	1.86	<0.793	<0.511
IA-OFFICE 2ND F	15-Aug-17	L930026-15	<1.07	<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

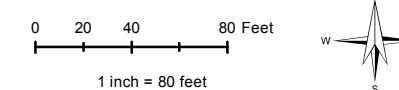
- IA-1: Indoor Air Concentrations in ug/m³
- AA-1: Ambient Air Concentrations in ug/m³
- SSDS Exhaust Stack

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
MARCH 7 2018

91 Fulton Street Boonton, New Jersey 07005	Revised LS	Drawn NMT	Checked NMT	Approved NMT	Date 3/18/2018
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APPENDIX A

March 15, 2018

First Environment, Inc.

Sample Delivery Group: L976176
Samples Received: 03/09/2018
Project Number: ENPRO002D-VM
Description: Butler Snow LLP
Site: WATER VALLEY, MS
Report To:
Michael T. Slack
91 Fulton Street
Boonton, NJ 07005

Entire Report Reviewed By:



Jason Romer
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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Cn: Case Narrative	5	
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IA-2 L976176-02	8	
IA-6 L976176-03	10	
IA-17 L976176-04	12	
AA-2 L976176-05	14	
IA-C16 L976176-06	16	
IA-K13 L976176-07	18	
IA-G4 L976176-08	20	
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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



			Collected by Michael T. Slack	Collected date/time 03/07/18 07:59	Received date/time 03/09/18 08:45
IA-1 L976176-01 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG1082701	1	03/10/18 01:47	03/10/18 01:47
	Volatile Organic Compounds (MS) by Method TO-15	WG1083095	10	03/10/18 15:04	03/10/18 15:04
IA-2 L976176-02 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG1082701	1	03/10/18 02:31	03/10/18 02:31
	Volatile Organic Compounds (MS) by Method TO-15	WG1083095	10	03/10/18 15:45	03/10/18 15:45
IA-6 L976176-03 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG1082701	1	03/10/18 03:47	03/10/18 03:47
	Volatile Organic Compounds (MS) by Method TO-15	WG1083095	10	03/10/18 16:26	03/10/18 16:26
IA-17 L976176-04 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG1082701	1	03/10/18 04:32	03/10/18 04:32
	Volatile Organic Compounds (MS) by Method TO-15	WG1083095	10	03/10/18 17:07	03/10/18 17:07
AA-2 L976176-05 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG1082701	1	03/10/18 05:18	03/10/18 05:18
IA-C16 L976176-06 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG1082701	1	03/10/18 06:04	03/10/18 06:04
	Volatile Organic Compounds (MS) by Method TO-15	WG1083095	10	03/10/18 17:47	03/10/18 17:47
IA-K13 L976176-07 Air	Method	Batch	Dilution	Preparation date/time	Analysis date/time
	Volatile Organic Compounds (MS) by Method TO-15	WG1082701	1	03/10/18 06:52	03/10/18 06:52
	Volatile Organic Compounds (MS) by Method TO-15	WG1083095	10	03/10/18 18:28	03/10/18 18:28

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

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



IA-G4 L976176-08 Air

		Collected by Michael T. Slack	Collected date/time 03/07/18 07:55	Received date/time 03/09/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time
Volatile Organic Compounds (MS) by Method TO-15	WG1082701	1	03/10/18 07:38	03/10/18 07:38
Volatile Organic Compounds (MS) by Method TO-15	WG1083095	40	03/10/18 19:09	03/10/18 19:09

- 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, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Jason Romer
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	12.5	29.7	39.1	93.0		10	WG1083095
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1082701
Benzene	71-43-2	78.10	0.200	0.639	0.408	1.30		1	WG1082701
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1082701
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1082701
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1082701
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1082701
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1082701
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1082701
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1082701
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1082701
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1082701
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1082701
Chloromethane	74-87-3	50.50	0.200	0.413	0.562	1.16		1	WG1082701
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1082701
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1082701
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1082701
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1082701
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1082701
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1082701
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1082701
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1082701
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1082701
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1082701
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1082701
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1082701
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1082701
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1082701
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1082701
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1082701
Ethanol	64-17-5	46.10	6.30	11.9	1140	2150	E	10	WG1083095
Ethylbenzene	100-41-4	106	0.200	0.867	0.470	2.04		1	WG1082701
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1082701
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.237	1.33		1	WG1082701
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.351	1.74		1	WG1082701
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1082701
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1082701
Heptane	142-82-5	100	0.200	0.818	3.60	14.7		1	WG1082701
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1082701
n-Hexane	110-54-3	86.20	0.200	0.705	1.26	4.43		1	WG1082701
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1082701
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1082701
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1082701
2-Butanone (MEK)	78-93-3	72.10	12.5	36.9	68.7	202		10	WG1083095
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1082701
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1082701
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1082701
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1082701
2-Propanol	67-63-0	60.10	12.5	30.7	589	1450	E	10	WG1083095
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1082701
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1082701
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1082701
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1082701
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1082701
Toluene	108-88-3	92.10	0.200	0.753	1.33	5.02		1	WG1082701
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1082701

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
			ppbv	ug/m3	ppbv	ug/m3				
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1082701	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1082701	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	0.603	3.23		1	WG1082701	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.967	4.75		1	WG1082701	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.360	1.77		1	WG1082701	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1082701	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1082701	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1082701	9 Sc
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1082701	
m&p-Xylene	1330-20-7	106	0.400	1.73	1.71	7.39		1	WG1082701	
o-Xylene	95-47-6	106	0.200	0.867	0.585	2.54		1	WG1082701	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		107				WG1082701	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.6				WG1083095	



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	12.5	29.7	38.0	90.2		10	WG1083095
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1082701
Benzene	71-43-2	78.10	0.200	0.639	0.423	1.35		1	WG1082701
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1082701
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1082701
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1082701
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1082701
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1082701
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1082701
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1082701
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1082701
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1082701
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1082701
Chloromethane	74-87-3	50.50	0.200	0.413	0.615	1.27		1	WG1082701
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1082701
Cyclohexane	110-82-7	84.20	0.200	0.689	0.350	1.21		1	WG1082701
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1082701
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1082701
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1082701
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1082701
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1082701
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1082701
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1082701
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1082701
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1082701
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1082701
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1082701
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1082701
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1082701
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1082701
Ethanol	64-17-5	46.10	6.30	11.9	1120	2120	E	10	WG1083095
Ethylbenzene	100-41-4	106	0.200	0.867	0.441	1.91		1	WG1082701
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.256	1.26		1	WG1082701
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.244	1.37		1	WG1082701
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.339	1.68		1	WG1082701
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1082701
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1082701
Heptane	142-82-5	100	0.200	0.818	4.17	17.1		1	WG1082701
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1082701
n-Hexane	110-54-3	86.20	0.200	0.705	1.49	5.25		1	WG1082701
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1082701
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1082701
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1082701
2-Butanone (MEK)	78-93-3	72.10	12.5	36.9	69.4	205		10	WG1083095
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1082701
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1082701
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1082701
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1082701
2-Propanol	67-63-0	60.10	12.5	30.7	559	1380	E	10	WG1083095
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1082701
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1082701
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1082701
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1082701
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1082701
Toluene	108-88-3	92.10	0.200	0.753	1.16	4.36		1	WG1082701
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1082701

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	<u>Qualifier</u>	Dilution	<u>Batch</u>
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1082701
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1082701
Trichloroethylene	79-01-6	131	0.200	1.07	0.439	2.35		1	WG1082701
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.06	5.18		1	WG1082701
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.361	1.77		1	WG1082701
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1082701
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1082701
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1082701
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1082701
m&p-Xylene	1330-20-7	106	0.400	1.73	1.76	7.62		1	WG1082701
o-Xylene	95-47-6	106	0.200	0.867	0.614	2.66		1	WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		112				WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.4				WG1083095

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	12.5	29.7	41.2	97.8		10	WG1083095
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1082701
Benzene	71-43-2	78.10	0.200	0.639	0.381	1.22		1	WG1082701
Benzyl Chloride	100-44-7	127	2.00	10.4	ND	ND		10	WG1083095
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1082701
Bromoform	75-25-2	253	6.00	62.1	ND	ND		10	WG1083095
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1082701
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1082701
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1082701
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1082701
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1082701
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1082701
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1082701
Chloromethane	74-87-3	50.50	0.200	0.413	0.556	1.15		1	WG1082701
2-Chlorotoluene	95-49-8	126	2.00	10.3	ND	ND		10	WG1083095
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1082701
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1082701
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1082701
1,2-Dichlorobenzene	95-50-1	147	2.00	12.0	ND	ND		10	WG1083095
1,3-Dichlorobenzene	541-73-1	147	2.00	12.0	ND	ND		10	WG1083095
1,4-Dichlorobenzene	106-46-7	147	2.00	12.0	ND	ND		10	WG1083095
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1082701
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1082701
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1082701
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	0.692	2.74		1	WG1082701
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1082701
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1082701
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1082701
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1082701
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1082701
Ethanol	64-17-5	46.10	6.30	11.9	1270	2400	E	10	WG1083095
Ethylbenzene	100-41-4	106	2.00	8.67	ND	ND		10	WG1083095
4-Ethyltoluene	622-96-8	120	2.00	9.82	ND	ND		10	WG1083095
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.230	1.29		1	WG1082701
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.336	1.66		1	WG1082701
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1082701
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1082701
Heptane	142-82-5	100	0.200	0.818	3.95	16.2		1	WG1082701
Hexachloro-1,3-butadiene	87-68-3	261	6.30	67.3	ND	ND		10	WG1083095
n-Hexane	110-54-3	86.20	0.200	0.705	1.23	4.35		1	WG1082701
Isopropylbenzene	98-82-8	120.20	2.00	9.83	ND	ND		10	WG1083095
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1082701
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1082701
2-Butanone (MEK)	78-93-3	72.10	12.5	36.9	78.3	231		10	WG1083095
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1082701
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1082701
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1082701
Naphthalene	91-20-3	128	6.30	33.0	ND	ND		10	WG1083095
2-Propanol	67-63-0	60.10	12.5	30.7	624	1530	E	10	WG1083095
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1082701
Styrene	100-42-5	104	2.00	8.51	ND	ND		10	WG1083095
1,1,2-Tetrachloroethane	79-34-5	168	2.00	13.7	ND	ND		10	WG1083095
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1082701
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1082701
Toluene	108-88-3	92.10	0.200	0.753	1.13	4.24		1	WG1082701
1,2,4-Trichlorobenzene	120-82-1	181	6.30	46.6	ND	ND		10	WG1083095



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	<u>Qualifier</u>	Dilution	<u>Batch</u>
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1082701
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1082701
Trichloroethylene	79-01-6	131	0.200	1.07	1.30	6.95		1	WG1082701
1,2,4-Trimethylbenzene	95-63-6	120	2.00	9.82	ND	ND		10	WG1083095
1,3,5-Trimethylbenzene	108-67-8	120	2.00	9.82	ND	ND		10	WG1083095
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1082701
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1082701
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1082701
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1082701
m&p-Xylene	1330-20-7	106	4.00	17.3	ND	ND		10	WG1083095
o-Xylene	95-47-6	106	2.00	8.67	ND	ND		10	WG1083095
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		111				WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.0				WG1083095

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	12.5	29.7	39.1	92.8		10	WG1083095
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1082701
Benzene	71-43-2	78.10	0.200	0.639	0.425	1.36		1	WG1082701
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1082701
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1082701
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1082701
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1082701
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1082701
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1082701
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1082701
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1082701
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1082701
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1082701
Chloromethane	74-87-3	50.50	0.200	0.413	0.620	1.28		1	WG1082701
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1082701
Cyclohexane	110-82-7	84.20	0.200	0.689	0.435	1.50		1	WG1082701
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1082701
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1082701
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1082701
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1082701
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1082701
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1082701
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1082701
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1082701
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1082701
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1082701
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1082701
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1082701
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1082701
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1082701
Ethanol	64-17-5	46.10	6.30	11.9	1070	2010	E	10	WG1083095
Ethylbenzene	100-41-4	106	0.200	0.867	0.412	1.78		1	WG1082701
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.238	1.17		1	WG1082701
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.243	1.37		1	WG1082701
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.322	1.59		1	WG1082701
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1082701
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1082701
Heptane	142-82-5	100	0.200	0.818	5.86	24.0		1	WG1082701
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1082701
n-Hexane	110-54-3	86.20	0.200	0.705	1.37	4.84		1	WG1082701
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1082701
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1082701
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1082701
2-Butanone (MEK)	78-93-3	72.10	12.5	36.9	76.2	225		10	WG1083095
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1082701
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1082701
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1082701
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1082701
2-Propanol	67-63-0	60.10	12.5	30.7	508	1250	E	10	WG1083095
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1082701
Styrene	100-42-5	104	0.200	0.851	0.210	0.893		1	WG1082701
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1082701
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1082701
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1082701
Toluene	108-88-3	92.10	0.200	0.753	1.22	4.58		1	WG1082701
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1082701

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	<u>Qualifier</u>	Dilution	<u>Batch</u>	1 Cp
			ppbv	ug/m3	ppbv	ug/m3				
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1082701	2 Tc
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1082701	3 Ss
Trichloroethylene	79-01-6	131	0.200	1.07	0.293	1.57		1	WG1082701	4 Cn
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.984	4.83		1	WG1082701	5 Sr
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.337	1.65		1	WG1082701	6 Qc
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1082701	7 GI
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1082701	8 Al
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1082701	9 Sc
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1082701	
m&p-Xylene	1330-20-7	106	0.400	1.73	1.47	6.37		1	WG1082701	
o-Xylene	95-47-6	106	0.200	0.867	0.501	2.17		1	WG1082701	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		117				WG1082701	
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.2				WG1083095	



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	2.22	5.28		1	WG1082701
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1082701
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1082701
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1082701
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1082701
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1082701
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1082701
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1082701
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1082701
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1082701
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1082701
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1082701
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1082701
Chloromethane	74-87-3	50.50	0.200	0.413	0.524	1.08		1	WG1082701
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1082701
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1082701
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1082701
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1082701
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1082701
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1082701
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1082701
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1082701
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1082701
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1082701
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1082701
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1082701
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1082701
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1082701
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1082701
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1082701
Ethanol	64-17-5	46.10	0.630	1.19	30.8	58.0		1	WG1082701
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1082701
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1082701
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.221	1.24		1	WG1082701
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.326	1.61		1	WG1082701
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1082701
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1082701
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG1082701
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1082701
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1082701
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1082701
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1082701
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1082701
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1082701
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1082701
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1082701
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1082701
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1082701
2-Propanol	67-63-0	60.10	1.25	3.07	5.66	13.9		1	WG1082701
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1082701
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1082701
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1082701
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1082701
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1082701
Toluene	108-88-3	92.10	0.200	0.753	ND	ND		1	WG1082701
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1082701

AA-2

Collected date/time: 03/07/18 08:08

SAMPLE RESULTS - 05

L976176

ONE LAB. NATIONWIDE.



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	<u>Qualifier</u>	Dilution	<u>Batch</u>
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1082701
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1082701
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1082701
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG1082701
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1082701
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1082701
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1082701
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1082701
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1082701
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG1082701
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				WG1082701

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	12.5	29.7	25.9	61.6		10	WG1083095
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1082701
Benzene	71-43-2	78.10	0.200	0.639	0.396	1.26		1	WG1082701
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1082701
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1082701
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1082701
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1082701
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1082701
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1082701
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1082701
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1082701
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1082701
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1082701
Chloromethane	74-87-3	50.50	0.200	0.413	0.596	1.23		1	WG1082701
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1082701
Cyclohexane	110-82-7	84.20	0.200	0.689	0.527	1.82		1	WG1082701
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1082701
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1082701
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1082701
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1082701
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1082701
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1082701
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1082701
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1082701
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1082701
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1082701
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1082701
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1082701
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1082701
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.305	1.10		1	WG1082701
Ethanol	64-17-5	46.10	6.30	11.9	762	1440	E	10	WG1083095
Ethylbenzene	100-41-4	106	0.200	0.867	0.334	1.45		1	WG1082701
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1082701
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.232	1.31		1	WG1082701
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.288	1.42		1	WG1082701
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1082701
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1082701
Heptane	142-82-5	100	0.200	0.818	2.73	11.2		1	WG1082701
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1082701
n-Hexane	110-54-3	86.20	0.200	0.705	0.819	2.89		1	WG1082701
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1082701
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1082701
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1082701
2-Butanone (MEK)	78-93-3	72.10	12.5	36.9	45.1	133		10	WG1083095
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1082701
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1082701
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1082701
Naphthalene	91-20-3	128	0.630	3.30	0.938	4.91		1	WG1082701
2-Propanol	67-63-0	60.10	12.5	30.7	366	898		10	WG1083095
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1082701
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1082701
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1082701
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1082701
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1082701
Toluene	108-88-3	92.10	0.200	0.753	1.56	5.88		1	WG1082701
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1082701

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	RDL2	Result	Result	<u>Qualifier</u>	Dilution	<u>Batch</u>
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1082701
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1082701
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1082701
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.696	3.42		1	WG1082701
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.245	1.20		1	WG1082701
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1082701
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1082701
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1082701
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1082701
m&p-Xylene	1330-20-7	106	0.400	1.73	1.27	5.50		1	WG1082701
o-Xylene	95-47-6	106	0.200	0.867	0.461	2.00		1	WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		108				WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		98.1				WG1083095

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	12.5	29.7	50.4	120		10	WG1083095
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1082701
Benzene	71-43-2	78.10	0.200	0.639	0.376	1.20		1	WG1082701
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1082701
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1082701
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1082701
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1082701
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1082701
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1082701
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1082701
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1082701
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1082701
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1082701
Chloromethane	74-87-3	50.50	0.200	0.413	0.596	1.23		1	WG1082701
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1082701
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1082701
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1082701
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1082701
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1082701
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1082701
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1082701
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1082701
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1082701
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1082701
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1082701
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1082701
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1082701
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1082701
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1082701
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.478	1.72		1	WG1082701
Ethanol	64-17-5	46.10	6.30	11.9	2020	3810	E	10	WG1083095
Ethylbenzene	100-41-4	106	0.200	0.867	0.467	2.02		1	WG1082701
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1082701
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.238	1.34		1	WG1082701
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.319	1.58		1	WG1082701
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1082701
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1082701
Heptane	142-82-5	100	0.200	0.818	5.08	20.8		1	WG1082701
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1082701
n-Hexane	110-54-3	86.20	0.200	0.705	1.28	4.50		1	WG1082701
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1082701
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1082701
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1082701
2-Butanone (MEK)	78-93-3	72.10	12.5	36.9	112	329		10	WG1083095
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1082701
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1082701
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1082701
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1082701
2-Propanol	67-63-0	60.10	12.5	30.7	698	1720	E	10	WG1083095
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1082701
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1082701
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1082701
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1082701
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1082701
Toluene	108-88-3	92.10	0.200	0.753	1.30	4.92		1	WG1082701
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1082701

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	RDL2	Result	Result	<u>Qualifier</u>	Dilution	<u>Batch</u>
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1082701
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1082701
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1082701
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.36	6.68		1	WG1082701
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.461	2.26		1	WG1082701
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1082701
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1082701
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1082701
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1082701
m&p-Xylene	1330-20-7	106	0.400	1.73	1.83	7.91		1	WG1082701
o-Xylene	95-47-6	106	0.200	0.867	0.612	2.65		1	WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		116				WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.4				WG1083095

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ Al⁹ Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	50.0	119	127	303		40	WG1083095
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1082701
Benzene	71-43-2	78.10	0.200	0.639	0.480	1.53		1	WG1082701
Benzyl Chloride	100-44-7	127	8.00	41.6	ND	ND		40	WG1083095
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1082701
Bromoform	75-25-2	253	24.0	248	ND	ND		40	WG1083095
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1082701
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1082701
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1082701
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1082701
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1082701
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1082701
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1082701
Chloromethane	74-87-3	50.50	0.200	0.413	0.562	1.16		1	WG1082701
2-Chlorotoluene	95-49-8	126	8.00	41.2	ND	ND		40	WG1083095
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1082701
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1082701
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1082701
1,2-Dichlorobenzene	95-50-1	147	8.00	48.1	ND	ND		40	WG1083095
1,3-Dichlorobenzene	541-73-1	147	8.00	48.1	ND	ND		40	WG1083095
1,4-Dichlorobenzene	106-46-7	147	8.00	48.1	ND	ND		40	WG1083095
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1082701
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1082701
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1082701
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1082701
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.252	0.999		1	WG1082701
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1082701
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1082701
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1082701
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1082701
Ethanol	64-17-5	46.10	25.2	47.5	2090	3930	E	40	WG1083095
Ethylbenzene	100-41-4	106	8.00	34.7	ND	ND		40	WG1083095
4-Ethyltoluene	622-96-8	120	8.00	39.3	ND	ND		40	WG1083095
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.241	1.36		1	WG1082701
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.337	1.66		1	WG1082701
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1082701
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1082701
Heptane	142-82-5	100	0.200	0.818	8.18	33.5		1	WG1082701
Hexachloro-1,3-butadiene	87-68-3	261	25.2	269	ND	ND		40	WG1083095
n-Hexane	110-54-3	86.20	0.200	0.705	0.682	2.40		1	WG1082701
Isopropylbenzene	98-82-8	120.20	8.00	39.3	ND	ND		40	WG1083095
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1082701
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1082701
2-Butanone (MEK)	78-93-3	72.10	50.0	147	156	459		40	WG1083095
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1082701
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1082701
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1082701
Naphthalene	91-20-3	128	25.2	132	ND	ND		40	WG1083095
2-Propanol	67-63-0	60.10	50.0	123	1740	4270		40	WG1083095
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1082701
Styrene	100-42-5	104	8.00	34.0	ND	ND		40	WG1083095
1,1,2,2-Tetrachloroethane	79-34-5	168	8.00	55.0	ND	ND		40	WG1083095
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1082701
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1082701
Toluene	108-88-3	92.10	0.200	0.753	1.43	5.38		1	WG1082701
1,2,4-Trichlorobenzene	120-82-1	181	25.2	187	ND	ND		40	WG1083095

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	RDL2	Result	Result	<u>Qualifier</u>	Dilution	<u>Batch</u>
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1082701
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1082701
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1082701
1,2,4-Trimethylbenzene	95-63-6	120	8.00	39.3	ND	ND		40	WG1083095
1,3,5-Trimethylbenzene	108-67-8	120	8.00	39.3	ND	ND		40	WG1083095
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1082701
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1082701
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1082701
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1082701
m&p-Xylene	1330-20-7	106	16.0	69.4	ND	ND		40	WG1083095
o-Xylene	95-47-6	106	8.00	34.7	ND	ND		40	WG1083095
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		116				WG1082701
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.3				WG1083095

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ GI⁸ Al⁹ Sc



L976176-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3292169-3 03/10/18 00:32

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv	
Acetone	U		0.0569	1.25	¹ Cp
Allyl Chloride	U		0.0546	0.200	² Tc
Benzene	U		0.0460	0.200	³ Ss
Benzyl Chloride	U		0.0598	0.200	⁴ Cn
Bromodichloromethane	U		0.0436	0.200	⁵ Sr
Bromoform	U		0.0786	0.600	⁶ Qc
Bromomethane	U		0.0609	0.200	⁷ Gl
1,3-Butadiene	0.530	J	0.0563	2.00	⁸ Al
Carbon disulfide	U		0.0544	0.200	⁹ Sc
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	



Method Blank (MB)

(MB) R3292169-3 03/10/18 00:32

Analyte	MB Result ppbv	<u>MB Qualifier</u>	MB MDL ppbv	MB RDL ppbv	1 Cp
Methylene Chloride	U		0.0465	0.200	
Methyl Butyl Ketone	U		0.0682	1.25	
2-Butanone (MEK)	U		0.0493	1.25	
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25	
Methyl Methacrylate	U		0.0773	0.200	
MTBE	U		0.0505	0.200	
Naphthalene	U		0.154	0.630	
2-Propanol	U		0.0882	1.25	
Propene	U		0.0932	0.400	
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	U		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	99.4		60.0-140		

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3292169-1 03/09/18 23:04 • (LCSD) R3292169-2 03/09/18 23:47

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	3.31	2.79	88.4	74.5	52.0-158			17.1	25
Propene	3.75	2.52	2.85	67.3	75.9	54.0-155			12.1	25
Dichlorodifluoromethane	3.75	3.16	3.37	84.4	89.8	69.0-143			6.20	25
1,2-Dichlorotetrafluoroethane	3.75	3.70	3.79	98.7	101	70.0-130			2.34	25
Chloromethane	3.75	3.87	3.82	103	102	70.0-130			1.18	25



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

(LCS) R3292169-1 03/09/18 23:04 • (LCSD) R3292169-2 03/09/18 23:47

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	3.89	3.91	104	104	70.0-130			0.601	25
1,3-Butadiene	3.75	3.73	3.79	99.5	101	70.0-130			1.69	25
Bromomethane	3.75	3.86	3.90	103	104	70.0-130			0.997	25
Chloroethane	3.75	4.03	4.03	107	107	70.0-130			0.0232	25
Trichlorofluoromethane	3.75	3.81	3.80	102	101	70.0-130			0.371	25
1,1,2-Trichlorotrifluoroethane	3.75	3.87	3.85	103	103	70.0-130			0.515	25
1,1-Dichloroethene	3.75	3.91	3.90	104	104	70.0-130			0.0830	25
1,1-Dichloroethane	3.75	3.91	3.99	104	106	70.0-130			1.93	25
Acetone	3.75	3.94	3.76	105	100	70.0-130			4.75	25
2-Propanol	3.75	4.05	4.06	108	108	66.0-150			0.459	25
Carbon disulfide	3.75	3.77	3.80	101	101	70.0-130			0.611	25
Methylene Chloride	3.75	3.76	3.72	100	99.3	70.0-130			0.927	25
MTBE	3.75	3.90	3.96	104	106	70.0-130			1.49	25
trans-1,2-Dichloroethene	3.75	3.92	3.85	104	103	70.0-130			1.74	25
n-Hexane	3.75	3.99	3.99	106	106	70.0-130			0.0691	25
Vinyl acetate	3.75	4.27	4.27	114	114	70.0-130			0.0201	25
Methyl Ethyl Ketone	3.75	4.18	4.24	111	113	70.0-130			1.39	25
cis-1,2-Dichloroethene	3.75	4.01	3.99	107	106	70.0-130			0.515	25
Chloroform	3.75	3.87	3.86	103	103	70.0-130			0.138	25
Cyclohexane	3.75	3.95	3.98	105	106	70.0-130			0.738	25
1,1,1-Trichloroethane	3.75	3.82	3.86	102	103	70.0-130			1.09	25
Carbon tetrachloride	3.75	3.82	3.83	102	102	70.0-130			0.183	25
Benzene	3.75	3.93	3.96	105	106	70.0-130			0.776	25
1,2-Dichloroethane	3.75	3.81	3.79	101	101	70.0-130			0.289	25
Heptane	3.75	3.74	3.78	99.6	101	70.0-130			1.05	25
Trichloroethylene	3.75	3.82	3.92	102	104	70.0-130			2.56	25
1,2-Dichloropropane	3.75	3.97	3.99	106	106	70.0-130			0.487	25
1,4-Dioxane	3.75	3.82	4.01	102	107	70.0-152			4.79	25
Bromodichloromethane	3.75	3.88	3.88	104	103	70.0-130			0.0397	25
cis-1,3-Dichloropropene	3.75	3.98	4.02	106	107	70.0-130			0.982	25
4-Methyl-2-pentanone (MIBK)	3.75	4.01	4.06	107	108	70.0-142			1.28	25
Toluene	3.75	3.81	3.85	102	103	70.0-130			1.14	25
trans-1,3-Dichloropropene	3.75	3.69	3.82	98.5	102	70.0-130			3.38	25
1,1,2-Trichloroethane	3.75	3.50	3.60	93.4	96.0	70.0-130			2.79	25
Tetrachloroethylene	3.75	3.74	3.78	99.8	101	70.0-130			0.950	25
Methyl Butyl Ketone	3.75	3.79	3.85	101	103	70.0-150			1.50	25
Dibromochloromethane	3.75	3.74	3.72	99.6	99.2	70.0-130			0.423	25
1,2-Dibromoethane	3.75	3.67	3.71	97.7	98.8	70.0-130			1.07	25
Chlorobenzene	3.75	3.67	3.66	97.9	97.7	70.0-130			0.238	25
Ethylbenzene	3.75	3.92	3.89	105	104	70.0-130			0.831	25

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

[L976176-01,02,03,04,05,06,07,08](#)

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

(LCS) R3292169-1 03/09/18 23:04 • (LCSD) R3292169-2 03/09/18 23:47

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	7.94	7.97	106	106	70.0-130			0.442	25
o-Xylene	3.75	3.98	3.86	106	103	70.0-130			3.03	25
Styrene	3.75	4.21	4.05	112	108	70.0-130			3.95	25
Bromoform	3.75	4.23	4.13	113	110	70.0-130			2.38	25
1,1,2,2-Tetrachloroethane	3.75	3.88	3.83	104	102	70.0-130			1.47	25
4-Ethyltoluene	3.75	4.04	4.00	108	107	70.0-130			1.05	25
1,3,5-Trimethylbenzene	3.75	4.00	3.89	107	104	70.0-130			2.57	25
1,2,4-Trimethylbenzene	3.75	4.03	3.90	107	104	70.0-130			3.34	25
1,3-Dichlorobenzene	3.75	4.14	4.01	110	107	70.0-130			3.10	25
1,4-Dichlorobenzene	3.75	3.98	3.95	106	105	70.0-130			0.674	25
Benzyl Chloride	3.75	4.24	4.22	113	113	70.0-144			0.417	25
1,2-Dichlorobenzene	3.75	4.04	3.96	108	106	70.0-130			1.87	25
1,2,4-Trichlorobenzene	3.75	4.77	4.63	127	123	70.0-155			2.96	25
Hexachloro-1,3-butadiene	3.75	4.35	4.13	116	110	70.0-145			5.15	25
Naphthalene	3.75	4.37	4.48	117	119	70.0-155			2.36	25
Allyl Chloride	3.75	3.89	3.96	104	105	70.0-130			1.62	25
2-Chlorotoluene	3.75	4.07	4.01	109	107	70.0-130			1.56	25
Methyl Methacrylate	3.75	3.86	3.88	103	104	70.0-130			0.687	25
Tetrahydrofuran	3.75	4.01	4.06	107	108	70.0-140			1.11	25
2,2,4-Trimethylpentane	3.75	3.98	4.04	106	108	70.0-130			1.71	25
Vinyl Bromide	3.75	3.85	3.89	103	104	70.0-130			0.998	25
Isopropylbenzene	3.75	3.95	3.86	105	103	70.0-130			2.16	25
(S) 1,4-Bromofluorobenzene			103	97.6	60.0-140					

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc



L976176-01,02,03,04,06,07,08

Method Blank (MB)

(MB) R3292371-3 03/10/18 14:23

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv									
Acetone	U		0.0569	1.25									
Benzyl Chloride	U		0.0598	0.200									
Bromoform	U		0.0786	0.600									
2-Chlorotoluene	U		0.0605	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									
Ethylbenzene	U		0.0506	0.200									
4-Ethyltoluene	U		0.0666	0.200									
Hexachloro-1,3-butadiene	0.0777	J	0.0656	0.630									
Isopropylbenzene	U		0.0563	0.200									
2-Butanone (MEK)	U		0.0493	1.25									
Naphthalene	0.186	J	0.154	0.630									
2-Propanol	0.136	J	0.0882	1.25									
Styrene	U		0.0465	0.200									
1,1,2,2-Tetrachloroethane	U		0.0576	0.200									
1,2,4-Trichlorobenzene	U		0.148	0.630									
1,2,4-Trimethylbenzene	U		0.0483	0.200									
1,3,5-Trimethylbenzene	U		0.0631	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	99.3			60.0-140									

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

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

(LCS) R3292371-1 03/10/18 12:55 • (LCSD) R3292371-2 03/10/18 13:39

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	2.88	2.61	76.9	69.5	52.0-158			10.2	25
Acetone	3.75	3.89	3.91	104	104	70.0-130			0.533	25
2-Propanol	3.75	4.10	4.07	109	109	66.0-150			0.737	25
Methyl Ethyl Ketone	3.75	4.36	4.29	116	114	70.0-130			1.51	25
Ethylbenzene	3.75	4.03	4.16	108	111	70.0-130			3.11	25
m&p-Xylene	7.50	8.18	8.52	109	114	70.0-130			4.06	25
o-Xylene	3.75	4.12	4.20	110	112	70.0-130			2.01	25
Styrene	3.75	4.33	4.33	116	115	70.0-130			0.0760	25
Bromoform	3.75	4.48	4.52	120	121	70.0-130			0.911	25
1,1,2,2-Tetrachloroethane	3.75	3.92	3.99	105	106	70.0-130			1.85	25



L976176-01,02,03,04,06,07,08

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

(LCS) R3292371-1 03/10/18 12:55 • (LCSD) R3292371-2 03/10/18 13:39

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 %
4-Ethyltoluene	3.75	4.25	4.34	113	116	70.0-130			1.98	25
1,3,5-Trimethylbenzene	3.75	4.16	4.31	111	115	70.0-130			3.49	25
1,2,4-Trimethylbenzene	3.75	4.17	4.24	111	113	70.0-130			1.53	25
1,3-Dichlorobenzene	3.75	4.39	4.45	117	119	70.0-130			1.44	25
1,4-Dichlorobenzene	3.75	4.25	4.45	113	119	70.0-130			4.50	25
Benzyl Chloride	3.75	4.47	4.52	119	121	70.0-144			1.17	25
1,2-Dichlorobenzene	3.75	4.22	4.32	113	115	70.0-130			2.20	25
1,2,4-Trichlorobenzene	3.75	5.00	5.19	133	138	70.0-155			3.68	25
Hexachloro-1,3-butadiene	3.75	4.61	4.72	123	126	70.0-145			2.16	25
Naphthalene	3.75	4.74	4.72	126	126	70.0-155			0.282	25
2-Chlorotoluene	3.75	4.25	4.35	113	116	70.0-130			2.38	25
Isopropylbenzene	3.75	4.10	4.21	109	112	70.0-130			2.75	25
(S) 1,4-Bromofluorobenzene			101	103	60.0-140					

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

MDL	Method Detection Limit.	¹ Cp
ND	Not detected at the Reporting Limit (or MDL where applicable).	² Tc
RDL	Reported Detection Limit.	³ Ss
Rec.	Recovery.	⁴ Cn
RPD	Relative Percent Difference.	⁵ Sr
SDG	Sample Delivery Group.	⁶ Qc
(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.	⁷ GI
U	Not detected at the Reporting Limit (or MDL where applicable).	⁸ AI
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.	⁹ SC
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.	
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.	
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.	
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.	
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.	
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.	
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.	
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.	
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.	

Qualifier Description

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.



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.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia ¹	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky ¹⁶	90010
Kentucky ²	16
Louisiana	AI30792
Louisiana ¹	LA180010
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086

Nebraska	NE-OS-15-05
Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico ¹	n/a
New York	11742
North Carolina	Env375
North Carolina ¹	DW21704
North Carolina ³	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	LA000356
South Carolina	84004
South Dakota	n/a
Tennessee ¹⁴	2006
Texas	T 104704245-17-14
Texas ⁵	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01
A2LA – ISO 17025 ⁵	1461.02
Canada	1461.01
EPA-Crypto	TN00003

AIHA-LAP,LLC EMLAP	100789
DOD	1461.01
USDA	P330-15-00234

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater 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 Gl
- ⁸ Al
- ⁹ Sc

Company Name/Address: First Environment, Inc. 91 Fulton St. Boonton, NJ 07005		Billing Information: First Environment, Inc. 91 Fulton St. Boonton NJ 07005 Attn: Justin Picolo JPicolo@firstenvironment.com		Analysis		Chain of Custody Page ____ of ____  A-B S-C-I-E-N-C-E-S a subsidiary of 	
Report to: Michael T. Slack - First Environment		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: EnPro: Bi-Weekly 24-hr Indoor Air Sampling Description:		City/State Collected: Water Valley, MS (Borg Warner Plant Site)				L# 976176 M# M047	
Phone: 973-334-0003 Fax: 973-334-0928	Client Project # EnPro002D-VM	Lab Project # FIREN VBNJ-OxfordMS				Table #	
Collected by (print): Michael T. Slack	Site/Facility ID # Borg Warner Plant Site	P.O. # -----				Acctnum: Template: Prelogin: TSR: PB:	
Collected by (signature): <i>Michael T. Slack</i>	Rush? (Lab MUST Be Notified) Same Day 200% Next Day 100% Two Day 50% Three Day 25%	Date Results Needed Standard Turnaround Email? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes FAX? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		Canister Pressure/Vacuum		Shipped Via: Rem./Contaminant Sample # (lab only)	
Sample ID	Sample Description	Can #	Date	Time	Initial	Final	
IA-1	Maintenance Room	8061	3/7/18	07:59	30	15'	X
IA-2	ATS Room	7359	3/7/18	08:00	30	3	X
IA-6	Training Room	7370	3/7/18	08:01	30	15'	X
IA-17	Cafeteria	7261	3/7/18	08:02	30	1	X
AA-2	Ambient Air - Pavilion	5819	3/7/18	08:08	29	4	X
IA-C16	Column C16 - west side of Plant	7264	3/7/18	08:04	29	3	X
IA-K13	Column K13 - central Plant	7234	3/7/18	07:56	30	5	X
IA-G4	Column G4 - east side of Plant	6080	3/7/18	07:55	30	4	X
4276 0142 6814							
Remarks: Additional Information is depicted in Sample Collection Table - Dates and Times are "start" times							
Relinquished by : (Signature) <i>NOTARY</i>	Date: 3/8/18	Time: 18:45	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/>	Condition: (lab use only) ✓		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: AmB °C Bottles Received: 8	COC Seal Intact: Y N NA		
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) <i>ON 3/8/18</i>	Date: 3/9/18	Time: 845	pH Checked:	NCF:

Indoor Air Monitoring (Bi-Weekly Sampling)
 Borg Warner Facility
 Water Valley, Yalobusha Co., MS
 March 7-8, 2018
 Indoor Air (IA) and Ambient Air (AA) - Sampling Event

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	6001	8061	6	3/7/18 07:59	30	3/8/18 07:59	15	M. Slack
IA-2	ATS Room	8453	7359	6	3/7/18 08:00	30	3/8/18 08:00	3	M. Slack
IA-6	Training Room	6364	7370	6	3/7/18 08:01	30	3/8/18 08:02	15	M. Slack
IA-17	Cafeteria	6451	7261	6	3/7/18 08:02	30	3/8/18 07:22	1	M. Slack
IA-C16	I-Beam C16	8686	7264	6	3/7/18 08:04	29	3/8/18 08:13	3	M. Slack
IA-K13	I-Beam K13	8417	7234	6	3/7/18 07:56	30	3/8/18 07:56	5	M. Slack
IA-G4	I-Beam G4	7092	6080	6	3/7/18 07:55	30	3/8/18 07:55	4	M. Slack
Invo: FIRENBNJ-OXFOR Date : 27Feb18 Customer : P640869 Weight : 10 LBS Phone : (615)758-5858 COD : SAT Del : N DV : 0.00 Total : 0.00					Invo: FIRENBNJ-OXFOR Date : 27Feb18 Customer : P640869 Weight : 10 LBS Phone : (615)758-5858 COD : SAT Del : N DV : 0.00 Total : 0.00				
AA-2	Pavilion	7773	5819	6	3/7/18 08:08	29	3/8/18 08:15	4	M. Slack

Weather Conditions (@ time of canister placement): CLEAR; COLD - UPPER 30°s F; WINDS - LIGHT - FROM NORTH Michael T. Slack (First Environment)

Weather Conditions during 24-hr sampling period: CLEAR; WINDS W-NW - < 5 mph; COLD 30°s - 40°s F MDY 3/8/18
NS - Not Sampled

Invo: FIRENBNJ-OXFOR Date : 27Feb18 Customer : P640869 Weight : 10 LBS Phone : (615)758-5858 COD : SAT Del : N DV : 0.00 Total : 0.00	Shipping : 0.00 Special : 0.00 Handling : 0.00 Total : 0.00
Svc: STANDARD OVERNIGHT TRCK: 4276 0142 6836	Shipping : 0.00 Special : 0.00 Handling : 0.00 Total : 0.00

ESC LAB SCIENCES
Cooler Receipt Form

Client:	FIREN VBNK	SDG#	976176
Cooler Received/Opened On:	3/9/18	Temperature:	Amb
Received By:	Christian Kacar		
Signature:			
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		/	
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?			
Preservation Correct / Checked?			