

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



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July 16, 2018

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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

Mississippi Professional
Engineer No.

07/16/2018

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, March 8, March 22, April 16, April 23, May 7, May 17, June 4, June 15, and July 3, 2018.

On June 28-29, 2018, First Environment collected 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.

2.0 Indoor Air Monitoring – June 28-29, 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 Observations

On June 28-29, 2018, First Environment mobilized to the Plant to collect four indoor air samples at the four interior rooms of the Plant and one ambient air sample outside the Plant. Upon arrival at the Plant on June 28, First Environment observed that the sink cabinet in the Maintenance Room remained detached and removed from the cinder-block wall that divides the Maintenance Room (east side of wall) from the adjacent Sump location (west side of wall). The sink cabinet had not been replaced and re-attached subsequent to the installation of Retro-Coat™, which was completed on Sunday, June 17th with oversight conducted by BorgWarner’s contractor,

GeoSyntec. The sink cabinet was observed to have been temporarily relocated to the Training Room.

The associated sink plumbing and connections in the wall remained disconnected and not capped, and the sealant around the drain pipe remained compromised providing a likely pathway of potential TCE vapors. Photographs were taken and are included below.





Plumbing – sealant compromised
from Sink Cabinet Removal

06/28/2018 16:11



2.3 Methodology

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 were 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.

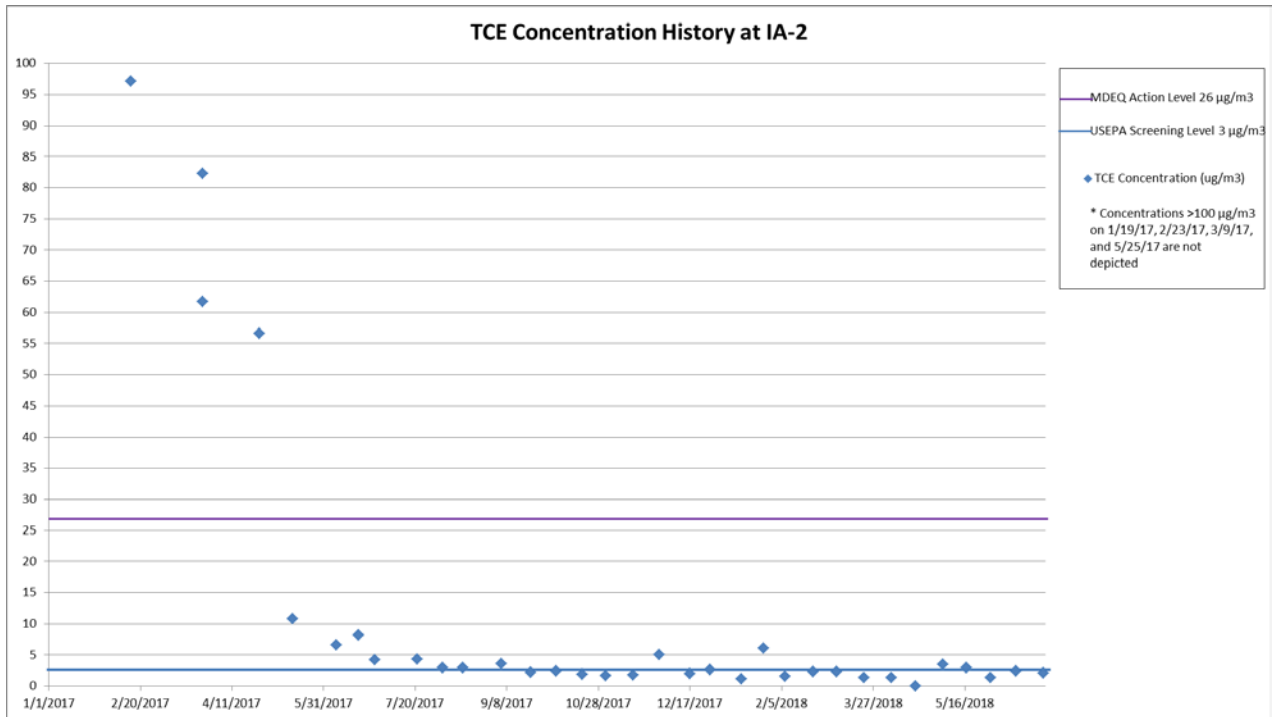
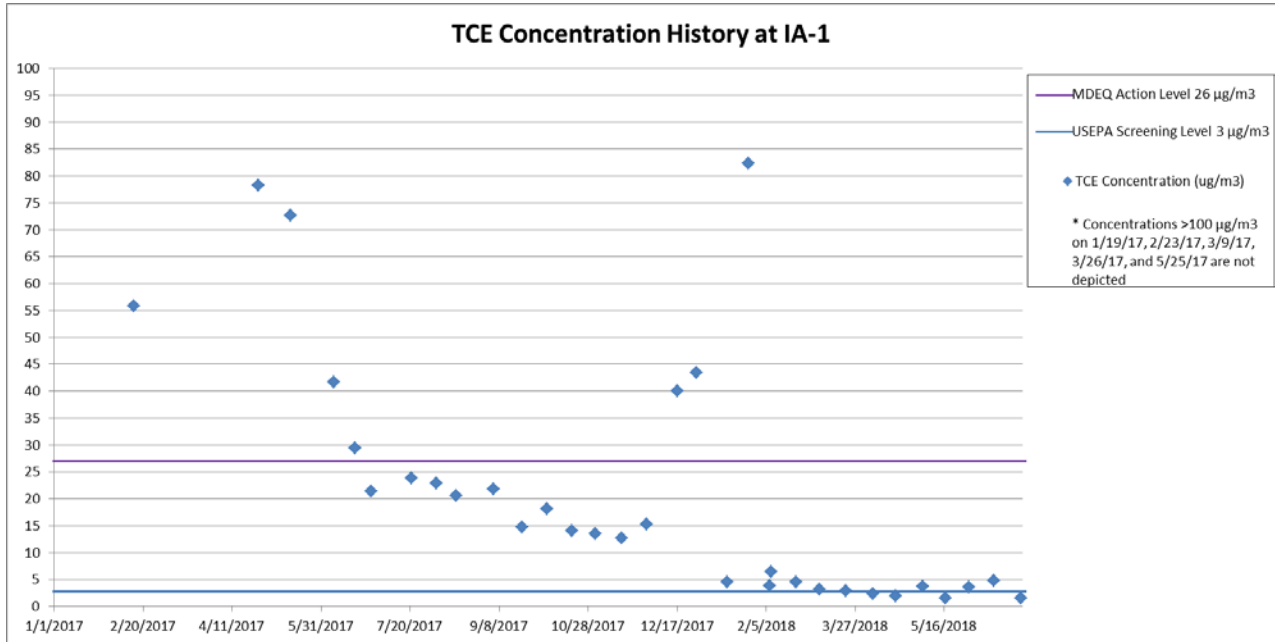
As reported in the January 8, 2018 SSDS Progress Report, First Environment sealed the void spaces in the block wall between the sump and the Maintenance Room on December 29, 2017. On January 15, 2018, the sump adjacent to the Maintenance Room was decommissioned. On January 18, 2018, First Environment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

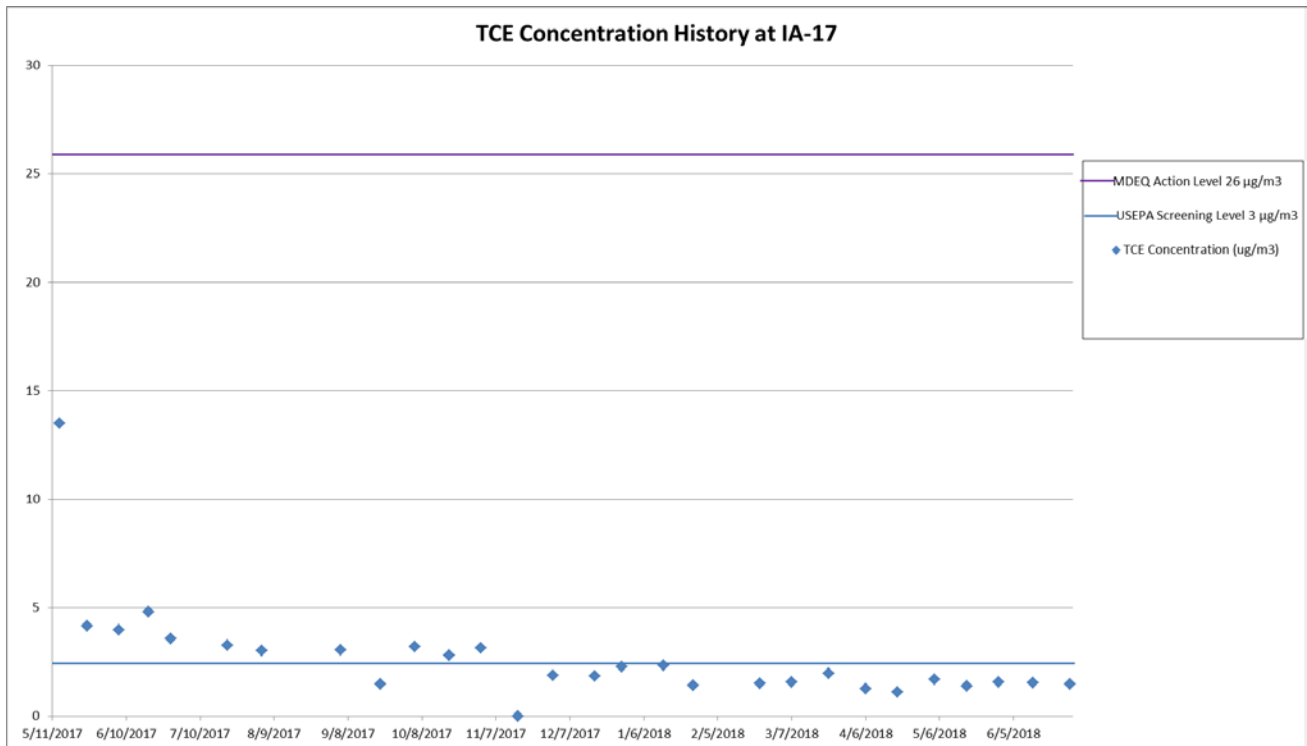
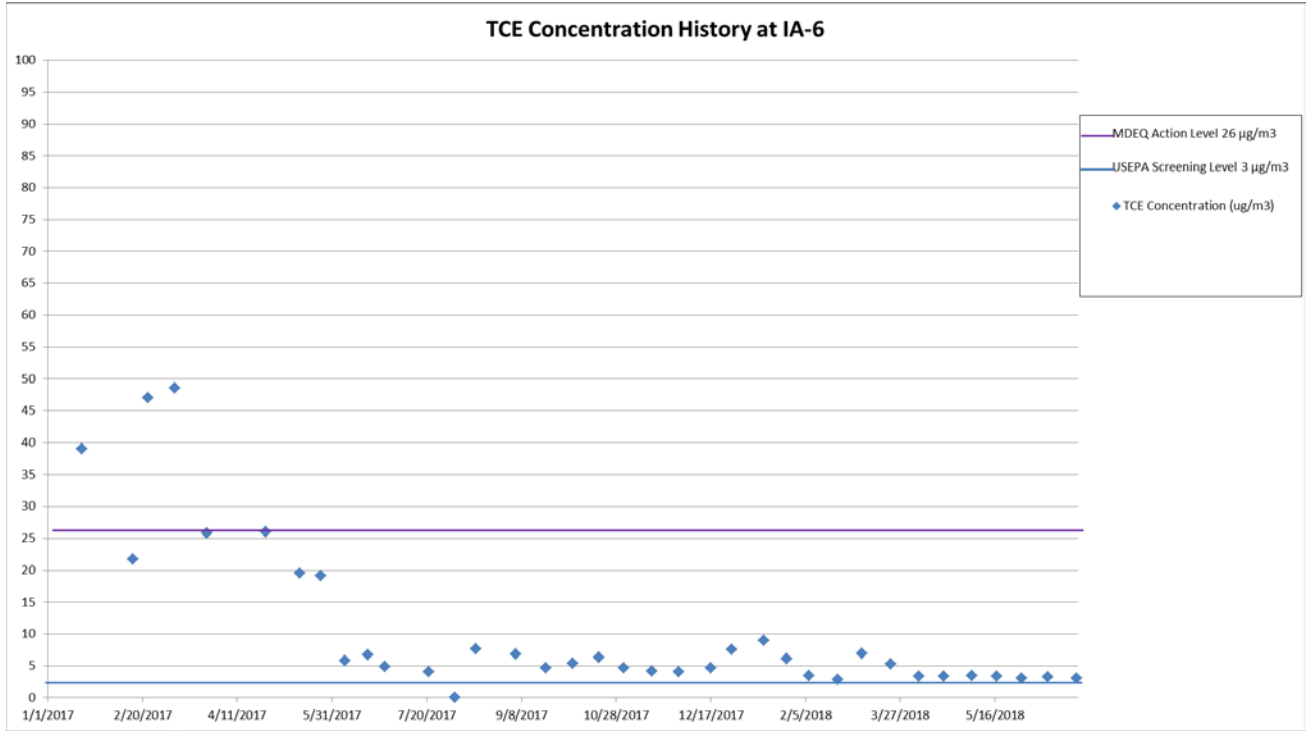
2.4 Results

Table 1 presents the ambient and indoor air sampling results for all TO-15 analytes for the June 28-29, 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. All indoor air sampling results for TCE were below the MDEQ action level of 26 $\mu\text{g}/\text{m}^3$.

The sample results in the Cafeteria (1.47 $\mu\text{g}/\text{m}^3$), ATS Room (2.08 $\mu\text{g}/\text{m}^3$), Training Room (2.98 $\mu\text{g}/\text{m}^3$), and Maintenance Room (1.48 $\mu\text{g}/\text{m}^3$) were below USEPA's Vapor Intrusion Screening Level ("VISL") for TCE of 3 $\mu\text{g}/\text{m}^3$.

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





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 $\mu\text{g}/\text{m}^3$ for TCE. Since February 2018, sample results for the Maintenance Room (IA-1) have also been below the MDEQ action level of 26 $\mu\text{g}/\text{m}^3$.

As discussed in Section 2.2 above, and in the previous Sub-Slab Depressurization System Progress Report, dated July 3, 2018, the sink cabinet removal provided pathways for TCE vapors to enter the Maintenance Room. Although the exposed floor and seam along the base of the cinderblock wall appear to have been sealed during the installation of Retro-Coat™, the detached sink cabinet's disconnected and exposed plumbing connections remain a potential pathway for TCE vapors.

TABLES

**TABLE 1
INDOOR AIR SAMPLING RESULTS
JUNE 28, 2018
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS**

SAMPLE LOCATION: SAMPING DATE: LABORATORY ID:	IA-1 06/28/2018 L1006041-01	IA-2 06/28/2018 L1006041-02	IA-6 06/28/2018 L1006041-03	IA-17 06/28/2018 L1006041-04	AA-2 06/28/2018 L1006041-05
Analyte	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
ACETONE	255	305	346	436	11.1
ALLYL CHLORIDE	<0.626	<0.626	<0.626	<0.626	<0.626
BENZENE	0.98	0.95	0.898	1.07	<0.639
BENZYL CHLORIDE	<1.04	<1.04	<1.04	<1.04	<1.04
BROMODICHLOROMETHANE	<1.34	<1.34	<1.34	<1.34	<1.34
BROMOFORM	<6.21	<6.21	<6.21	<6.21	<6.21
BROMOMETHANE	<0.776	<0.776	<0.776	<0.776	<0.776
1,3-BUTADIENE	<4.43	<4.43	<4.43	<4.43	<4.43
CARBON DISULFIDE	<0.622	<0.622	<0.622	<0.622	<0.622
CARBON TETRACHLORIDE	<1.26	<1.26	<1.26	<1.26	<1.26
CHLOROBENZENE	<0.924	<0.924	<0.924	<0.924	<0.924
CHLOROETHANE	<0.528	<0.528	<0.528	<0.528	<0.528
CHLOROFORM	<0.973	<0.973	<0.973	<0.973	<0.973
CHLOROMETHANE	0.886	1.27	1.32	1.41	1.35
2-CHLOROTOLUENE	<1.03	<1.03	<1.03	<1.03	<1.03
CYCLOHEXANE	<0.689	<0.689	2.29	2.93	<0.689
CHLORODIBROMOMETHANE	<1.70	<1.70	<1.70	<1.70	<1.70
1,2-DIBROMOETHANE	<1.54	<1.54	<1.54	<1.54	<1.54
1,2-DICHLOROENZENE	<1.20	<1.20	<1.20	<1.20	<1.20
1,3-DICHLOROENZENE	<1.20	<1.20	<1.20	<1.20	<1.20
1,4-DICHLOROENZENE	<1.20	<1.20	<1.20	<1.20	<1.20
1,2-DICHLOROETHANE	<0.810	<0.810	<0.810	<0.810	<0.810
1,1-DICHLOROETHANE	<0.802	<0.802	<0.802	<0.802	<0.802
1,1-DICHLOROETHENE	<0.793	<0.793	<0.793	<0.793	<0.793
CIS-1,2-DICHLOROETHENE	<0.793	<0.793	1.55	<0.793	<0.793
TRANS-1,2-DICHLOROETHENE	0.849	1.03	5.15	2.12	<0.793
1,2-DICHLOROPROPANE	<0.924	<0.924	<0.924	<0.924	<0.924
CIS-1,3-DICHLOROPROPENE	<0.908	<0.908	<0.908	<0.908	<0.908
TRANS-1,3-DICHLOROPROPENE	<0.908	<0.908	<0.908	<0.908	<0.908
1,4-DIOXANE	<0.721	0.9	<0.721	0.721	<0.721
ETHANOL	4,950 (E)	5,760 (E)	4,780 (E)	7,510 (E)	50.8
ETHYLBENZENE	5.69	3.05	2.69	3.45	<0.867
4-ETHYLTOLUENE	1.19	1.03	<0.982	<0.982	<0.982
TRICHLOROFLUOROMETHANE	1.59	1.6	1.43	1.48	1.19
DICHLORODIFLUOROMETHANE	1.59	1.44	1.34	1.46	1.51

TABLE 1
INDOOR AIR SAMPLING RESULTS
JUNE 28, 2018
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS

SAMPLE LOCATION: SAMPING DATE: LABORATORY ID:	IA-1 06/28/2018 L1006041-01	IA-2 06/28/2018 L1006041-02	IA-6 06/28/2018 L1006041-03	IA-17 06/28/2018 L1006041-04	AA-2 06/28/2018 L1006041-05
Analyte	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
1,1,2-TRICHLOROTRIFLUOROETHANE	<1.53	<1.53	<1.53	<1.53	<1.53
1,2-DICHLOROTETRAFLUROETHANE	<1.40	<1.40	<1.40	<1.40	<1.40
HEPTANE	11.6	7.91	11.3	15.8	<0.818
HEXACHLORO-1,3-BUTADIENE	<6.73	<6.73	<6.73	<6.73	<6.73
N-HEXANE	0.737	0.918	1.03	1.01	<0.705
ISOPROPYLBENZENE	<0.983	<0.983	<0.983	<0.983	<0.983
METHYLENE CHLORIDE	<0.694	1.23	2.17	<0.694	1.57
METHYL BUTYL KETONE	<5.11	<5.11	<5.11	<5.11	<5.11
2-BUTANONE (MEK)	632	611	619	1000	<3.69
4-METHYL-2-PENTANONE (MIBK)	<5.12	<5.12	<5.12	<5.12	<5.12
METHYL METHACRYLATE	1.93	<0.819	<0.819	<0.819	<0.819
METHYL TERT-BUTYL ETHER	<0.721	<0.721	<0.721	<0.721	<0.721
NAPHTHALENE	<3.30	<3.30	<3.30	<3.30	<3.30
2-PROPANOL	4,040 (E)	4,820 (E)	3,600 (E)	5,180 (E)	29.4
PROPENE	<0.689	<0.689	<0.689	<0.689	<0.689
STYRENE	<0.851	<0.851	0.899	1.02	<0.851
1,1,2,2-TETRACHLOROETHANE	<1.37	<1.37	<1.37	<1.37	<1.37
TETRACHLOROETHENE	5.53	5.72	1.9	<1.36	<1.36
TETRAHYDROFURAN	<0.590	<0.590	<0.590	<0.590	<0.590
TOLUENE	4.95	4.23	4.23	4.65	1.96
1,2,4-TRICHLOROBENZENE	<4.66	<4.66	<4.66	<4.66	<4.66
1,1,1-TRICHLOROETHANE	<1.09	<1.09	<1.09	<1.09	<1.09
1,1,2-TRICHLOROETHANE	<1.09	<1.09	<1.09	<1.09	<1.09
TRICHLOROETHENE	1.48	2.08	2.98	1.47	<1.07
1,2,4-TRIMETHYLBENZENE	6.88	5.35	3.85	5.01	1.13
1,3,5-TRIMETHYLBENZENE	2.16	1.53	1.14	1.5	<0.982
2,2,4-TRIMETHYLPENTANE	<0.934	<0.934	<0.934	<0.934	<0.934
VINYL CHLORIDE	<0.511	<0.511	<0.511	<0.511	<0.511
VINYL BROMIDE	<0.875	<0.875	<0.875	<0.875	<0.875
VINYL ACETATE	<0.704	<0.704	<0.704	<0.704	<0.704
M&P-XYLENE	21.3	11.6	10.3	13.1	2.47
O-XYLENE	7.66	3.9	3.38	4.41	<0.867
1,4-BROMOFLUOROBENZENE	97.6 122	95.8 122	116 93.6	94.1 124	102

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 JUNE 2018
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS**

SAMPLE ID	SAMPLING DATE	LABORATORY ID	CoC Concentrations (µg/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
23-Mar-18	L980227-03	5.26	2.02	<0.511	
6-Apr-18	L984164-03	3.28	1.89	<0.511	
19-Apr-18	L987699-03	3.28	2.2	<0.511	
4-May-18	L991502-03	3.4	<0.793	<0.511	
17-May-18	L995571-03	3.3	<0.793	<0.511	
30-May-18	L998373-03	3.06	2.25	<0.511	
13-Jun-18	L1002114-03	3.22	<0.793	<0.511	
28-Jun-18	L1006041-03	2.98	1.55	<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	
23-Mar-18	L980227-04	1.98	1.7	<0.511	
6-Apr-18	L984164-04	1.26	1.24	<0.511	
19-Apr-18	L987699-04	1.09	1.2	<0.511	
4-May-18	L991502-04	1.68	<0.793	<0.511	
17-May-18	L995571-04	1.38	<0.793	<0.511	
30-May-18	L998373-04	1.56	<0.793	<0.511	
13-Jun-18	L1002114-04	1.54	<0.793	<0.511	
28-Jun-18	L1006041-04	1.47	<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	
IA-C16	26-Apr-17	L905292-05	6.48	1.82	<0.511
	25-May-17	L912423-06	3.88	<0.793	<0.511
	7-Jun-17	L914832-08	1.55	<0.793	<0.511
	19-Jun-17	L917924-07	2	<0.793	<0.511
	28-Jun-17	L920054-07	1.22	<0.793	<0.511
	21-Jul-17	L924410-06	1.08	<0.793	<0.511
	4-Aug-17	L927407-06	1.25	<0.793	<0.511
	15-Aug-17	L930026-06	<1.07	<0.793	<0.511
	5-Sep-17	L934535-06	<1.07	<0.793	<0.511
	30-Nov-17	L954578-05	<1.07	<0.793	<0.511
	7-Mar-18	L976176-06	<1.07	<0.793	<0.511
30-May-18	L998373-06	<1.07	<0.793	<0.511	

**TABLE 2
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JANUARY 2017 THROUGH JUNE 2018
FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY
WATER VALLEY, MS**

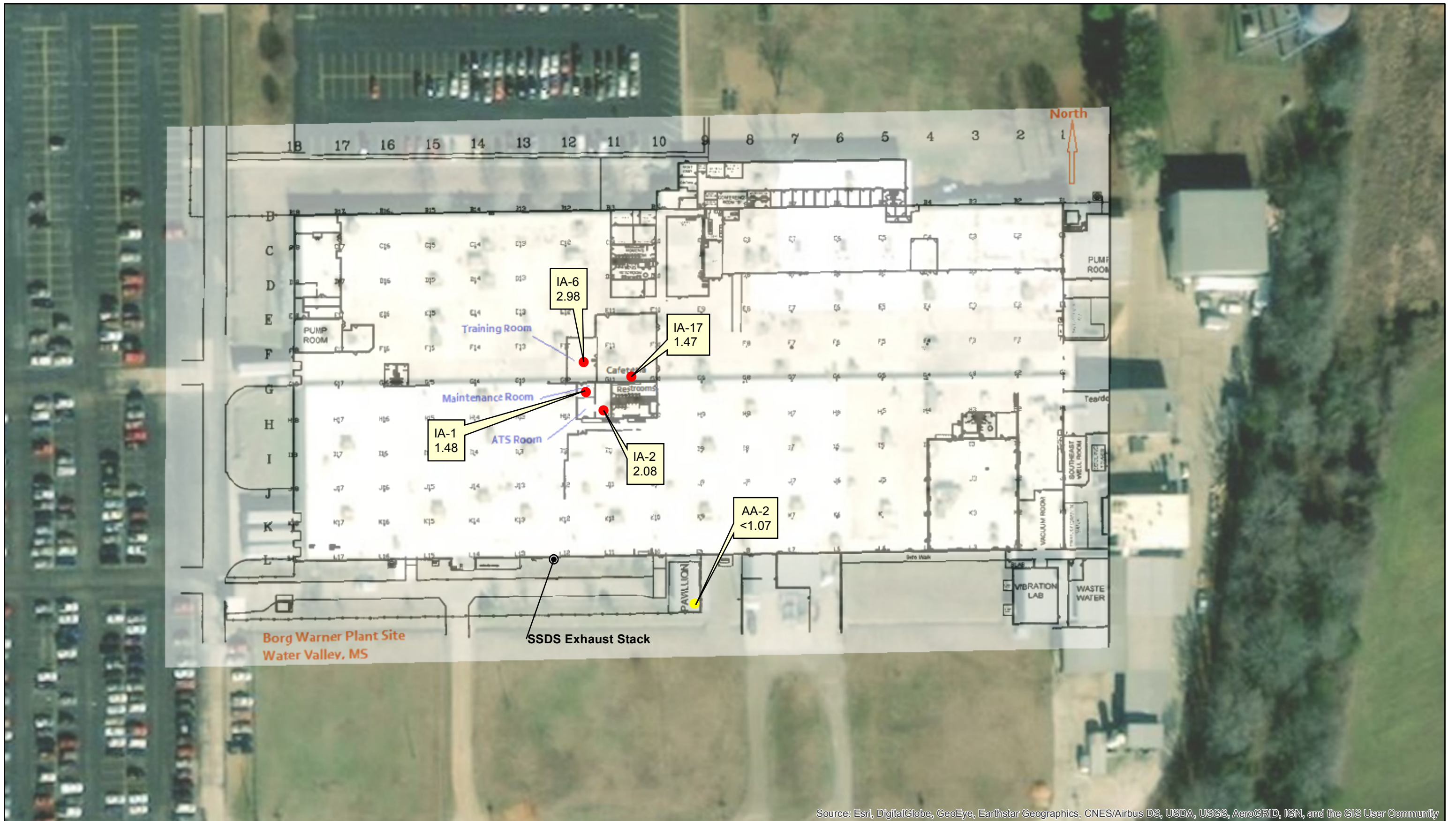
SAMPLE ID	SAMPLING DATE	LABORATORY ID	CoC Concentrations (µg/m ³)		
			Trichloroethene	cis-1,2-Dichloroethene	Vinyl chloride
USEPA Vapor Intrusion Screening Level (VISL):			3	NA	2.8
IA-D5	25-May-17	L912423-12	<1.07	<0.793	<0.511
	7-Jun-17	L914832-03	1.47	<0.793	<0.511
	19-Jun-17	L917924-03	1.66	<0.793	<0.511
	28-Jun-17	L920054-03	<1.07	<0.793	<0.511
	21-Jul-17	L924410-08	<1.07	<0.793	<0.511
	4-Aug-17	L927407-10	<1.07	<0.793	<0.511
	15-Aug-17	L930026-10	<1.07	<0.793	<0.511
	5-Sep-17	L934535-10	1.3	<0.793	<0.511
	IA-G4	25-May-17	L912423-11	<1.07	<0.793
7-Jun-17		L914832-02	3.31	<0.793	<0.511
19-Jun-17		L917924-02	1.35	<0.793	<0.511
28-Jun-17		L920054-02	<1.07	<0.793	<0.511
21-Jul-17		L924410-09	<1.07	<0.793	<0.511
4-Aug-17		L927407-11	<1.07	<0.793	<0.511
15-Aug-17		L930026-11	<1.07	<0.793	<0.511
5-Sep-17		L934535-11	1.17	<0.793	<0.511
30-Nov-17		L954578-07	<1.07	<0.793	<0.511
7-Mar-18		L976176-08	<1.07	<0.793	<0.511
30-May-18		L998373-08	<1.07	<0.793	<0.511
IA-G13	26-Apr-17	L905292-06	8.98	<0.793	<0.511
	14-May-17	L909544-04	4.65	<0.793	<0.511
	25-May-17	L912423-06	3.88	<0.793	<0.511
	7-Jun-17	L914832-06	2.54	<0.793	<0.511
	19-Jun-17	L917924-06	2.46	<0.793	<0.511
	28-Jun-17	L920054-06	1.41	<0.793	<0.511
	21-Jul-17	L924410-07	1.6	<0.793	<0.511
	4-Aug-17	L927407-07	1.76	<0.793	<0.511
	15-Aug-17	L930026-07	1.25	<0.793	<0.511
	5-Sep-17	L934535-07	1.78	<0.793	<0.511
IA-K8	25-May-17	L912423-10	1.47	<0.793	<0.511
	7-Jun-17	L914832-01	7.86	<0.793	<0.511
	19-Jun-17	L917924-01	1.31	<0.793	<0.511
	28-Jun-17	L920054-01	<1.07	<0.793	<0.511
	21-Jul-17	L924410-10	<1.07	<0.793	<0.511
	4-Aug-17	L927407-12	<1.07	<0.793	<0.511
	15-Aug-17	L930026-12	<1.07	<0.793	<0.511
	5-Sep-17	L934535-12	<1.07	<0.793	<0.511
	IA-K13	26-Apr-17	L905292-07	6.53	<0.793
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
21-Jul-17		L924410-12	1.34	<0.793	<0.511
4-Aug-17		L927407-08	<1.07	<0.793	<0.511
15-Aug-17		L930026-08	<1.07	<0.793	<0.511
5-Sep-17		L934535-08	1.67	<0.793	<0.511
30-Nov-17		L954578-06	<1.07	<0.793	<0.511
7-Mar-18		L976176-07	<1.07	<0.793	<0.511
30-May-18		L998373-07	<1.07	<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
	21-Jul-17	L924410-11	1.18	<0.793	<0.511
	4-Aug-17	L927407-09	<1.07	<0.793	<0.511
	15-Aug-17	L930026-09	1.13	<0.793	<0.511
	5-Sep-17	L934535-09	1.14	<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	<0.511
	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
	21-Jul-17	L924410-13	<1.07	<0.793	<0.511
	4-Aug-17	L927407-13	<1.07	<0.793	<0.511
	15-Aug-17	L930026-13	<1.07	<0.793	<0.511
	5-Sep-17	L934535-13	<1.07	<0.793	<0.511
	21-Sep-17	L938896-05	<1.07	<0.793	<0.511
	5-Oct-17	L942068-05	<1.07	<0.793	<0.511
	19-Oct-17	L945503-05	<1.07	<0.793	<0.511
	1-Nov-17	L948263-05	<1.07	<0.793	<0.511
	16-Nov-17	L952200-05	<1.07	<0.793	<0.511
	30-Nov-17	L954578-10	2.46	<0.793	<0.511
	17-Dec-17	L958416-05	<1.07	<0.793	<0.511
	28-Dec-17	L960558-05	<1.07	<0.793	<0.511
	14-Jan-18	L963421-05	<1.07	<0.793	<0.511
	25-Jan-18	L966088-05	<1.07	<0.793	<0.511
	7-Feb-18	L969030-04	<1.07	<0.793	<0.511
	22-Feb-18	L972729-05	<1.07	<0.793	<0.511
	7-Mar-18	L976176-05	<1.07	<0.793	<0.511
	23-Mar-18	L980227-05	<1.07	<0.793	<0.511
	6-Apr-18	L984164-05	<1.07	<0.793	<0.511
	19-Apr-18	L987699-05	<1.07	<0.793	<0.511
	4-May-18	L991502-05	<1.07	<0.793	<0.511
17-May-18	L995571-05	<1.07	<0.793	<0.511	
30-May-18	L998373-05	<1.07	<0.793	<0.511	
13-Jun-18	L1002114-05	<1.07	<0.793	<0.511	
28-Jun-18	L1006041-05	<1.07	<0.793	<0.511	

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

SAMPLE ID	SAMPLING DATE	LABORATORY ID	CoC Concentrations (µg/m³)		
			Trichloroethene	cis-1,2-Dichloroethene	Vinyl chloride
USEPA Vapor Intrusion Screening Level (VISL):			3	NA	2.8
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

FIGURE



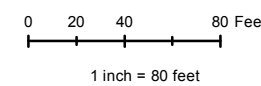
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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



BORG WARNER FACILITY
 600 Highway 32E, Water Valley, MS
 FIGURE 1
 INDOOR AIR SAMPLING RESULTS
 JUNE 28, 2018

91 Fulton Street
 Boonton, New Jersey 07005

Revised	Drawn	Checked	Approved	Date
LS	NMT	NMT	NMT	7/11/2018

APPENDIX A

July 10, 2018

First Environment, Inc.

Sample Delivery Group: L1006041
Samples Received: 06/30/2018
Project Number: ENPRO002D-VM
Description: EnPro: Bi-Weekly - 24 hr Indoor Air Sampling
Site: BORG WARNER PLANT SITE
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 Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	²Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	³Ss
IA-1 L1006041-01	5	
IA-2 L1006041-02	7	⁴Cn
IA-6 L1006041-03	9	⁵Sr
IA-17 L1006041-04	11	
AA-2 L1006041-05	13	⁶Qc
Qc: Quality Control Summary	15	
Volatile Organic Compounds (MS) by Method TO-15	15	⁷Gl
Gl: Glossary of Terms	25	⁸Al
Al: Accreditations & Locations	26	
Sc: Sample Chain of Custody	27	⁹Sc

SAMPLE SUMMARY



IA-1 L1006041-01 Air

Collected by
Micheal T. Slack
Collected date/time
06/28/18 15:55
Received date/time
06/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1133969	1	07/05/18 22:56	07/05/18 22:56	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1134334	25	07/06/18 16:10	07/06/18 16:10	AMC

1
Cp

2
Tc

3
Ss

IA-2 L1006041-02 Air

Collected by
Micheal T. Slack
Collected date/time
06/28/18 15:54
Received date/time
06/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1134341	1	07/06/18 11:16	07/06/18 11:16	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1134817	25	07/07/18 13:55	07/07/18 13:55	MBF

4
Cn

5
Sr

6
Qc

IA-6 L1006041-03 Air

Collected by
Micheal T. Slack
Collected date/time
06/28/18 15:53
Received date/time
06/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1134341	1	07/06/18 12:20	07/06/18 12:20	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1134817	25	07/07/18 14:36	07/07/18 14:36	MBF

7
Gl

8
Al

9
Sc

IA-17 L1006041-04 Air

Collected by
Micheal T. Slack
Collected date/time
06/28/18 15:52
Received date/time
06/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1134341	1	07/06/18 13:08	07/06/18 13:08	AMC
Volatile Organic Compounds (MS) by Method TO-15	WG1134817	25	07/07/18 15:18	07/07/18 15:18	MBF

AA-2 L1006041-05 Air

Collected by
Micheal T. Slack
Collected date/time
06/28/18 15:50
Received date/time
06/30/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1134341	1	07/06/18 13:52	07/06/18 13:52	AMC



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.

John Hawkins
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Collected date/time: 06/28/18 15:55

L1006041

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	107	255		25	WG1134334
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1133969
Benzene	71-43-2	78.10	0.200	0.639	0.307	0.980		1	WG1133969
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1133969
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1133969
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1133969
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1133969
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1133969
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1133969
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1133969
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1133969
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1133969
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1133969
Chloromethane	74-87-3	50.50	0.200	0.413	0.429	0.886		1	WG1133969
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1133969
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1133969
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1133969
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1133969
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1133969
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1133969
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1133969
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1133969
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1133969
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1133969
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1133969
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.214	0.849		1	WG1133969
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1133969
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1133969
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1133969
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1133969
Ethanol	64-17-5	46.10	15.8	29.8	2620	4950	E	25	WG1134334
Ethylbenzene	100-41-4	106	0.200	0.867	1.31	5.69		1	WG1133969
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.243	1.19		1	WG1133969
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.282	1.59		1	WG1133969
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.322	1.59		1	WG1133969
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1133969
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1133969
Heptane	142-82-5	100	0.200	0.818	2.83	11.6		1	WG1133969
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1133969
n-Hexane	110-54-3	86.20	0.200	0.705	0.209	0.737		1	WG1133969
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1133969
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1133969
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1133969
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	214	632		25	WG1134334
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1133969
Methyl methacrylate	80-62-6	100.12	0.200	0.819	0.472	1.93		1	WG1133969
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1133969
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1133969
2-Propanol	67-63-0	60.10	31.2	76.7	1650	4040	E	25	WG1134334
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1133969
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1133969
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1133969
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.815	5.53		1	WG1133969
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1133969
Toluene	108-88-3	92.10	0.200	0.753	1.31	4.95		1	WG1133969
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1133969

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

First Environment, Inc.

PROJECT:

ENPRO002D-VM

SDG:

L1006041

DATE/TIME:

07/10/18 14:10

PAGE:

5 of 29



Collected date/time: 06/28/18 15:55

L1006041

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1133969
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1133969
Trichloroethylene	79-01-6	131	0.200	1.07	0.275	1.48		1	WG1133969
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.40	6.88		1	WG1133969
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.440	2.16		1	WG1133969
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1133969
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1133969
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1133969
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1133969
m&p-Xylene	1330-20-7	106	0.400	1.73	4.91	21.3		1	WG1133969
o-Xylene	95-47-6	106	0.200	0.867	1.77	7.66		1	WG1133969
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		122				WG1133969
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.6				WG1134334

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/28/18 15:54

L1006041

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	129	305		25	WG1134817
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1134341
Benzene	71-43-2	78.10	0.200	0.639	0.297	0.950		1	WG1134341
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1134341
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1134341
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1134341
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1134341
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1134341
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1134341
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1134341
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1134341
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1134341
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1134341
Chloromethane	74-87-3	50.50	0.200	0.413	0.614	1.27		1	WG1134341
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1134341
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1134341
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1134341
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1134341
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1134341
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1134341
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1134341
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1134341
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1134341
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1134341
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1134341
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.260	1.03		1	WG1134341
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1134341
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1134341
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1134341
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.250	0.900		1	WG1134341
Ethanol	64-17-5	46.10	15.8	29.8	3060	5760	E	25	WG1134817
Ethylbenzene	100-41-4	106	0.200	0.867	0.704	3.05		1	WG1134341
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.210	1.03		1	WG1134341
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.285	1.60		1	WG1134341
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.291	1.44		1	WG1134341
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1134341
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1134341
Heptane	142-82-5	100	0.200	0.818	1.93	7.91		1	WG1134341
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1134341
n-Hexane	110-54-3	86.20	0.200	0.705	0.260	0.918		1	WG1134341
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1134341
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.354	1.23		1	WG1134341
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1134341
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	207	611		25	WG1134817
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1134341
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1134341
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1134341
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1134341
2-Propanol	67-63-0	60.10	31.2	76.7	1960	4820	E	25	WG1134817
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1134341
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1134341
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1134341
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.842	5.72		1	WG1134341
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1134341
Toluene	108-88-3	92.10	0.200	0.753	1.12	4.23		1	WG1134341
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1134341

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

First Environment, Inc.

PROJECT:

ENPRO002D-VM

SDG:

L1006041

DATE/TIME:

07/10/18 14:10

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Collected date/time: 06/28/18 15:54

L1006041

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1134341
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1134341
Trichloroethylene	79-01-6	131	0.200	1.07	0.388	2.08		1	WG1134341
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.09	5.35		1	WG1134341
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.313	1.53		1	WG1134341
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1134341
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1134341
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1134341
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1134341
m&p-Xylene	1330-20-7	106	0.400	1.73	2.67	11.6		1	WG1134341
o-Xylene	95-47-6	106	0.200	0.867	0.900	3.90		1	WG1134341
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		122				WG1134341
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.8				WG1134817

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/28/18 15:53

L1006041

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	146	346		25	WG1134817
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1134341
Benzene	71-43-2	78.10	0.200	0.639	0.281	0.898		1	WG1134341
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1134341
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1134341
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1134341
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1134341
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1134341
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1134341
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1134341
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1134341
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1134341
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1134341
Chloromethane	74-87-3	50.50	0.200	0.413	0.638	1.32		1	WG1134341
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1134341
Cyclohexane	110-82-7	84.20	0.200	0.689	0.666	2.29		1	WG1134341
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1134341
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1134341
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1134341
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1134341
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1134341
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1134341
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1134341
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1134341
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	0.392	1.55		1	WG1134341
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	1.30	5.15		1	WG1134341
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1134341
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1134341
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1134341
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1134341
Ethanol	64-17-5	46.10	15.8	29.8	2540	4780	E	25	WG1134817
Ethylbenzene	100-41-4	106	0.200	0.867	0.619	2.69		1	WG1134341
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1134341
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.255	1.43		1	WG1134341
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.271	1.34		1	WG1134341
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1134341
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1134341
Heptane	142-82-5	100	0.200	0.818	2.76	11.3		1	WG1134341
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1134341
n-Hexane	110-54-3	86.20	0.200	0.705	0.293	1.03		1	WG1134341
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1134341
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.625	2.17		1	WG1134341
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1134341
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	210	619		25	WG1134817
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1134341
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1134341
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1134341
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1134341
2-Propanol	67-63-0	60.10	31.2	76.7	1470	3600	E	25	WG1134817
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1134341
Styrene	100-42-5	104	0.200	0.851	0.211	0.899		1	WG1134341
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1134341
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.280	1.90		1	WG1134341
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1134341
Toluene	108-88-3	92.10	0.200	0.753	1.12	4.23		1	WG1134341
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1134341

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/28/18 15:53

L1006041

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1134341
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1134341
Trichloroethylene	79-01-6	131	0.200	1.07	0.556	2.98		1	WG1134341
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.784	3.85		1	WG1134341
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.233	1.14		1	WG1134341
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1134341
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1134341
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1134341
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1134341
m&p-Xylene	1330-20-7	106	0.400	1.73	2.37	10.3		1	WG1134341
o-Xylene	95-47-6	106	0.200	0.867	0.779	3.38		1	WG1134341
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		116				WG1134341
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.6				WG1134817

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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L1006041

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	183	436		25	WG1134817
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1134341
Benzene	71-43-2	78.10	0.200	0.639	0.336	1.07		1	WG1134341
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1134341
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1134341
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1134341
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1134341
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1134341
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1134341
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1134341
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1134341
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1134341
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1134341
Chloromethane	74-87-3	50.50	0.200	0.413	0.682	1.41		1	WG1134341
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1134341
Cyclohexane	110-82-7	84.20	0.200	0.689	0.851	2.93		1	WG1134341
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1134341
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1134341
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1134341
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1134341
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1134341
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1134341
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1134341
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1134341
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1134341
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.534	2.12		1	WG1134341
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1134341
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1134341
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1134341
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.200	0.721		1	WG1134341
Ethanol	64-17-5	46.10	15.8	29.8	3980	7510	E	25	WG1134817
Ethylbenzene	100-41-4	106	0.200	0.867	0.795	3.45		1	WG1134341
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1134341
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.263	1.48		1	WG1134341
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.295	1.46		1	WG1134341
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1134341
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1134341
Heptane	142-82-5	100	0.200	0.818	3.86	15.8		1	WG1134341
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1134341
n-Hexane	110-54-3	86.20	0.200	0.705	0.287	1.01		1	WG1134341
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1134341
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG1134341
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1134341
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	340	1000		25	WG1134817
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1134341
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1134341
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1134341
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1134341
2-Propanol	67-63-0	60.10	31.2	76.7	2110	5180	E	25	WG1134817
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1134341
Styrene	100-42-5	104	0.200	0.851	0.239	1.02		1	WG1134341
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1134341
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1134341
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1134341
Toluene	108-88-3	92.10	0.200	0.753	1.23	4.65		1	WG1134341
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1134341

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

First Environment, Inc.

PROJECT:

ENPRO002D-VM

SDG:

L1006041

DATE/TIME:

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Collected date/time: 06/28/18 15:52

L1006041

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1134341
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1134341
Trichloroethylene	79-01-6	131	0.200	1.07	0.273	1.47		1	WG1134341
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.02	5.01		1	WG1134341
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.306	1.50		1	WG1134341
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1134341
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1134341
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1134341
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1134341
m&p-Xylene	1330-20-7	106	0.400	1.73	3.03	13.1		1	WG1134341
o-Xylene	95-47-6	106	0.200	0.867	1.02	4.41		1	WG1134341
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		124				WG1134341
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.1				WG1134817

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/28/18 15:50

L1006041

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	4.65	11.1		1	WG1134341
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1134341
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG1134341
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1134341
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1134341
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1134341
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1134341
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1134341
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1134341
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1134341
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1134341
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1134341
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1134341
Chloromethane	74-87-3	50.50	0.200	0.413	0.655	1.35		1	WG1134341
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1134341
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG1134341
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1134341
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1134341
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1134341
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1134341
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1134341
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1134341
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1134341
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1134341
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1134341
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG1134341
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1134341
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1134341
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1134341
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1134341
Ethanol	64-17-5	46.10	0.630	1.19	26.9	50.8		1	WG1134341
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG1134341
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1134341
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.212	1.19		1	WG1134341
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.306	1.51		1	WG1134341
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1134341
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1134341
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG1134341
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1134341
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG1134341
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1134341
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.452	1.57		1	WG1134341
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1134341
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG1134341
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG1134341
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1134341
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1134341
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1134341
2-Propanol	67-63-0	60.10	1.25	3.07	12.0	29.4		1	WG1134341
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1134341
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1134341
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1134341
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1134341
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1134341
Toluene	108-88-3	92.10	0.200	0.753	0.520	1.96		1	WG1134341
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1134341

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

ACCOUNT:

First Environment, Inc.

PROJECT:

ENPRO002D-VM

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Collected date/time: 06/28/18 15:50

L1006041

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	WG1134341
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG1134341
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG1134341
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.231	1.13		1	WG1134341
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG1134341
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG1134341
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG1134341
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG1134341
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG1134341
m&p-Xylene	1330-20-7	106	0.400	1.73	0.569	2.47		1	WG1134341
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG1134341
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				WG1134341

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3323463-3 07/05/18 09:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
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
Methylene Chloride	U		0.0465	0.200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3323463-3 07/05/18 09:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Methyl Butyl Ketone	U		0.0682	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
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
(S) 1,4-Bromofluorobenzene	91.8			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) R3323463-1 07/05/18 08:09 • (LCSD) R3323463-2 07/05/18 08:55

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Propene	3.75	3.34	3.35	89.1	89.3	54.0-155			0.236	25
Dichlorodifluoromethane	3.75	3.81	3.79	102	101	69.0-143			0.377	25
1,2-Dichlorotetrafluoroethane	3.75	3.97	3.96	106	106	70.0-130			0.343	25
Chloromethane	3.75	3.57	3.58	95.2	95.5	70.0-130			0.357	25
Vinyl chloride	3.75	3.70	3.74	98.8	99.7	70.0-130			0.927	25
1,3-Butadiene	3.75	3.44	3.43	91.7	91.5	70.0-130			0.193	25
Bromomethane	3.75	4.08	4.20	109	112	70.0-130			2.80	25
Chloroethane	3.75	3.64	3.65	97.1	97.4	70.0-130			0.387	25
Trichlorofluoromethane	3.75	3.98	3.98	106	106	70.0-130			0.0435	25



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

(LCS) R3323463-1 07/05/18 08:09 • (LCSD) R3323463-2 07/05/18 08:55

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,2-Trichlorotrifluoroethane	3.75	3.88	3.89	103	104	70.0-130			0.428	25
1,1-Dichloroethene	3.75	3.69	3.69	98.3	98.3	70.0-130			0.0213	25
1,1-Dichloroethane	3.75	3.67	3.67	98.0	97.9	70.0-130			0.124	25
Carbon disulfide	3.75	3.75	3.77	99.9	101	70.0-130			0.664	25
Methylene Chloride	3.75	3.49	3.50	93.0	93.3	70.0-130			0.365	25
MTBE	3.75	3.74	3.74	99.8	99.6	70.0-130			0.207	25
trans-1,2-Dichloroethene	3.75	3.66	3.64	97.5	97.1	70.0-130			0.402	25
n-Hexane	3.75	3.57	3.55	95.3	94.6	70.0-130			0.748	25
Vinyl acetate	3.75	3.64	3.64	97.0	97.0	70.0-130			0.0751	25
cis-1,2-Dichloroethene	3.75	3.67	3.66	97.9	97.6	70.0-130			0.306	25
Chloroform	3.75	3.90	3.90	104	104	70.0-130			0.0111	25
Cyclohexane	3.75	3.74	3.74	99.9	99.7	70.0-130			0.206	25
1,1,1-Trichloroethane	3.75	3.96	3.97	106	106	70.0-130			0.268	25
Carbon tetrachloride	3.75	3.93	3.94	105	105	70.0-130			0.279	25
Benzene	3.75	3.86	3.82	103	102	70.0-130			0.846	25
1,2-Dichloroethane	3.75	3.91	3.90	104	104	70.0-130			0.253	25
Heptane	3.75	3.51	3.45	93.6	92.1	70.0-130			1.61	25
Trichloroethylene	3.75	3.94	3.91	105	104	70.0-130			0.780	25
1,2-Dichloropropane	3.75	3.74	3.72	99.6	99.1	70.0-130			0.553	25
1,4-Dioxane	3.75	3.88	4.05	103	108	70.0-152			4.42	25
Bromodichloromethane	3.75	3.97	3.97	106	106	70.0-130			0.0605	25
cis-1,3-Dichloropropene	3.75	3.83	3.81	102	102	70.0-130			0.368	25
4-Methyl-2-pentanone (MIBK)	3.75	3.71	3.71	98.9	99.0	70.0-142			0.101	25
Toluene	3.75	3.99	3.96	106	106	70.0-130			0.608	25
trans-1,3-Dichloropropene	3.75	3.92	3.89	104	104	70.0-130			0.828	25
1,1,2-Trichloroethane	3.75	4.01	4.00	107	107	70.0-130			0.275	25
Tetrachloroethylene	3.75	4.17	4.15	111	111	70.0-130			0.322	25
Methyl Butyl Ketone	3.75	3.89	3.93	104	105	70.0-150			1.04	25
Dibromochloromethane	3.75	4.30	4.31	115	115	70.0-130			0.132	25
1,2-Dibromoethane	3.75	4.43	4.45	118	119	70.0-130			0.253	25
Chlorobenzene	3.75	4.48	4.47	119	119	70.0-130			0.235	25
Ethylbenzene	3.75	4.05	4.06	108	108	70.0-130			0.164	25
m&p-Xylene	7.50	7.66	7.68	102	102	70.0-130			0.253	25
o-Xylene	3.75	4.03	4.05	107	108	70.0-130			0.465	25
Styrene	3.75	4.06	4.08	108	109	70.0-130			0.389	25
Bromoform	3.75	4.32	4.34	115	116	70.0-130			0.430	25
1,1,2,2-Tetrachloroethane	3.75	4.02	4.02	107	107	70.0-130			0.0746	25
4-Ethyltoluene	3.75	3.98	3.98	106	106	70.0-130			0.163	25
1,3,5-Trimethylbenzene	3.75	4.20	4.19	112	112	70.0-130			0.0281	25
1,2,4-Trimethylbenzene	3.75	3.97	3.98	106	106	70.0-130			0.239	25

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) R3323463-1 07/05/18 08:09 • (LCSD) R3323463-2 07/05/18 08:55

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 %
1,3-Dichlorobenzene	3.75	4.34	4.37	116	117	70.0-130			0.626	25
1,4-Dichlorobenzene	3.75	4.56	4.53	122	121	70.0-130			0.585	25
Benzyl Chloride	3.75	4.31	4.35	115	116	70.0-144			0.710	25
1,2-Dichlorobenzene	3.75	4.28	4.30	114	115	70.0-130			0.375	25
1,2,4-Trichlorobenzene	3.75	4.37	4.49	116	120	70.0-155			2.79	25
Hexachloro-1,3-butadiene	3.75	4.03	4.04	107	108	70.0-145			0.234	25
Naphthalene	3.75	4.15	4.29	111	114	70.0-155			3.24	25
Allyl Chloride	3.75	3.40	3.40	90.6	90.7	70.0-130			0.179	25
2-Chlorotoluene	3.75	4.19	4.20	112	112	70.0-130			0.306	25
Methyl Methacrylate	3.75	3.66	3.64	97.5	97.2	70.0-130			0.289	25
Tetrahydrofuran	3.75	3.51	3.47	93.6	92.7	70.0-140			1.03	25
2,2,4-Trimethylpentane	3.75	3.60	3.59	95.9	95.7	70.0-130			0.199	25
Vinyl Bromide	3.75	3.88	3.88	103	103	70.0-130			0.0799	25
Isopropylbenzene	3.75	3.91	3.90	104	104	70.0-130			0.0830	25
(S) 1,4-Bromofluorobenzene				96.0	96.2	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3323725-3 07/06/18 09:40

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Acetone	U		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	93.2			60.0-140

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3323725-1 07/06/18 08:09 • (LCSD) R3323725-2 07/06/18 08:53

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	3.74	3.56	99.7	95.0	52.0-158			4.82	25
Acetone	3.75	3.61	3.64	96.4	97.1	70.0-130			0.759	25
2-Propanol	3.75	3.73	3.76	99.4	100	66.0-150			0.926	25
Methyl Ethyl Ketone	3.75	4.00	4.06	107	108	70.0-130			1.55	25
(S) 1,4-Bromofluorobenzene				98.6	97.4	60.0-140				

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3323508-3 07/06/18 09:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3323508-3 07/06/18 09:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
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	0.114	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	96.8			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) R3323508-1 07/06/18 07:54 • (LCSD) R3323508-2 07/06/18 08:35

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	4.04	3.86	108	103	52.0-158			4.51	25
Propene	3.75	4.14	3.98	111	106	54.0-155			4.03	25
Dichlorodifluoromethane	3.75	3.95	3.82	105	102	69.0-143			3.30	25
1,2-Dichlorotetrafluoroethane	3.75	4.29	4.26	114	114	70.0-130			0.655	25
Chloromethane	3.75	4.28	4.27	114	114	70.0-130			0.322	25



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

(LCS) R3323508-1 07/06/18 07:54 • (LCSD) R3323508-2 07/06/18 08:35

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Vinyl chloride	3.75	4.31	3.84	115	102	70.0-130			11.6	25
1,3-Butadiene	3.75	4.17	3.48	111	92.8	70.0-130			17.9	25
Bromomethane	3.75	4.24	3.74	113	99.7	70.0-130			12.6	25
Chloroethane	3.75	4.21	3.66	112	97.7	70.0-130			14.0	25
Trichlorofluoromethane	3.75	4.20	3.71	112	98.9	70.0-130			12.4	25
1,1,2-Trichlorotrifluoroethane	3.75	4.23	4.30	113	115	70.0-130			1.65	25
1,1-Dichloroethene	3.75	4.20	4.27	112	114	70.0-130			1.82	25
1,1-Dichloroethane	3.75	4.22	4.21	113	112	70.0-130			0.215	25
Acetone	3.75	4.16	4.20	111	112	70.0-130			0.999	25
2-Propanol	3.75	4.13	4.30	110	115	66.0-150			4.24	25
Carbon disulfide	3.75	4.23	4.29	113	114	70.0-130			1.48	25
Methylene Chloride	3.75	3.96	4.04	106	108	70.0-130			2.00	25
MTBE	3.75	4.12	4.23	110	113	70.0-130			2.59	25
trans-1,2-Dichloroethene	3.75	4.13	4.22	110	113	70.0-130			2.34	25
n-Hexane	3.75	4.17	4.25	111	113	70.0-130			1.81	25
Vinyl acetate	3.75	4.26	4.34	114	116	70.0-130			1.83	25
Methyl Ethyl Ketone	3.75	4.18	4.29	112	114	70.0-130			2.59	25
cis-1,2-Dichloroethene	3.75	4.27	4.23	114	113	70.0-130			0.927	25
Chloroform	3.75	4.12	4.18	110	112	70.0-130			1.44	25
Cyclohexane	3.75	4.18	4.30	112	115	70.0-130			2.66	25
1,1,1-Trichloroethane	3.75	4.15	4.23	111	113	70.0-130			1.74	25
Carbon tetrachloride	3.75	4.31	4.34	115	116	70.0-130			0.641	25
Benzene	3.75	4.15	4.11	111	110	70.0-130			1.12	25
1,2-Dichloroethane	3.75	4.17	4.08	111	109	70.0-130			2.11	25
Heptane	3.75	4.23	4.15	113	111	70.0-130			1.69	25
Trichloroethylene	3.75	4.16	4.12	111	110	70.0-130			1.02	25
1,2-Dichloropropane	3.75	4.25	4.20	113	112	70.0-130			1.20	25
1,4-Dioxane	3.75	4.13	4.39	110	117	70.0-152			6.08	25
Bromodichloromethane	3.75	4.18	4.20	111	112	70.0-130			0.485	25
cis-1,3-Dichloropropene	3.75	4.23	4.27	113	114	70.0-130			0.746	25
4-Methyl-2-pentanone (MIBK)	3.75	4.19	4.35	112	116	70.0-142			3.65	25
Toluene	3.75	4.21	4.33	112	116	70.0-130			2.80	25
trans-1,3-Dichloropropene	3.75	4.26	4.30	114	115	70.0-130			0.984	25
1,1,2-Trichloroethane	3.75	4.20	4.25	112	113	70.0-130			1.11	25
Tetrachloroethylene	3.75	4.26	4.41	113	118	70.0-130			3.55	25
Methyl Butyl Ketone	3.75	4.27	4.54	114	121	70.0-150			6.21	25
Dibromochloromethane	3.75	4.29	4.41	114	117	70.0-130			2.72	25
1,2-Dibromoethane	3.75	4.24	4.36	113	116	70.0-130			2.94	25
Chlorobenzene	3.75	4.23	4.35	113	116	70.0-130			2.87	25
Ethylbenzene	3.75	4.30	4.36	115	116	70.0-130			1.35	25

- 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) R3323508-1 07/06/18 07:54 • (LCSD) R3323508-2 07/06/18 08:35

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	8.82	8.93	118	119	70.0-130			1.25	25
o-Xylene	3.75	4.26	4.33	114	116	70.0-130			1.60	25
Styrene	3.75	4.37	4.48	116	119	70.0-130			2.54	25
Bromoform	3.75	4.49	4.73	120	126	70.0-130			5.15	25
1,1,2,2-Tetrachloroethane	3.75	4.17	4.35	111	116	70.0-130			4.28	25
4-Ethyltoluene	3.75	4.24	4.42	113	118	70.0-130			4.37	25
1,3,5-Trimethylbenzene	3.75	4.20	4.40	112	117	70.0-130			4.74	25
1,2,4-Trimethylbenzene	3.75	4.15	4.34	111	116	70.0-130			4.51	25
1,3-Dichlorobenzene	3.75	4.22	4.41	113	118	70.0-130			4.53	25
1,4-Dichlorobenzene	3.75	4.44	4.69	118	125	70.0-130			5.56	25
Benzyl Chloride	3.75	4.33	4.54	115	121	70.0-144			4.83	25
1,2-Dichlorobenzene	3.75	4.13	4.31	110	115	70.0-130			4.34	25
1,2,4-Trichlorobenzene	3.75	4.29	4.22	114	112	70.0-155			1.75	25
Hexachloro-1,3-butadiene	3.75	4.30	4.15	115	111	70.0-145			3.53	25
Naphthalene	3.75	4.16	4.06	111	108	70.0-155			2.42	25
Allyl Chloride	3.75	4.31	4.26	115	114	70.0-130			1.26	25
2-Chlorotoluene	3.75	4.29	4.47	114	119	70.0-130			4.10	25
Methyl Methacrylate	3.75	4.23	4.28	113	114	70.0-130			1.04	25
Tetrahydrofuran	3.75	4.05	4.19	108	112	70.0-140			3.34	25
2,2,4-Trimethylpentane	3.75	4.30	4.39	115	117	70.0-130			1.95	25
Vinyl Bromide	3.75	4.16	3.71	111	99.0	70.0-130			11.3	25
Isopropylbenzene	3.75	4.30	4.46	115	119	70.0-130			3.77	25
<i>(S) 1,4-Bromofluorobenzene</i>				97.5	100	60.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3323958-3 07/07/18 09:59

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Acetone	U		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	88.4			60.0-140

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

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

(LCS) R3323958-1 07/07/18 08:30 • (LCSD) R3323958-2 07/07/18 09:14

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Ethanol	3.75	3.90	3.60	104	96.1	52.0-158			7.89	25
Acetone	3.75	3.85	3.71	103	99.0	70.0-130			3.66	25
2-Propanol	3.75	3.87	3.79	103	101	66.0-150			1.97	25
Methyl Ethyl Ketone	3.75	4.16	4.12	111	110	70.0-130			1.12	25
(S) 1,4-Bromofluorobenzene				98.5	97.8	60.0-140				

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
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.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

9 Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
 * Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey-NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio-VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

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

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

Our Locations

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



1 Cp

2 Tc

3 Ss

4 Cn



5 Sr

6 Qc

7 Gl

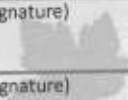
8 Al

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 ___	
Report to: Michael T. Slack - First Environment		Email To: MSlack@firstenvironment.com				TO-15 Summa		 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5855 Phone: 800-767-5859 Fax: 615-758-5859 	
Project Description: EnPro: Bi-Weekly - 24-hr Indoor Air Sampling		City/State Collected: Water Valley, MS (Borg Warner Plant Site)						L# <i>kw 6041</i>	
Phone: 973-334-0003	Client Project # EnPro002D-VM	Lab Project # FIREN VBNJ-OxfordMS						M043	
Fax: 973-334-0928	Site/Facility ID # Borg Warner Plant Site	P.O. # -----						Acctnum:	
Collected by (print): Michael T. Slack	Rush? (Lab MUST Be Notified) ___ Same Day200% ___ Next Day100% ___ Two Day50% ___ Three Day25%		Date Results Needed Standard Turnaround		Template:				
Collected by (signature): <i>M.T. Slack</i>			Email? ___ No <input checked="" type="checkbox"/> Yes		Canister Pressure/Vacuum		Prelogin:		
		FAX? <input checked="" type="checkbox"/> No ___ Yes				TSR:		PB:	
						Shipped Via:			
Sample ID	Sample Description	Can #	Date	Time	Initial	Final		Rem./Contaminant	Sample # (lab only)
IA-1	Maintenance Room	5298	6/28/2018	15:55	30	9	X		01
IA-2	ATS Room	5079	6/28/2018	15:54	29	2	X		02
IA-6	Training Room	6607	6/28/2018	15:53	30	4	X		03
IA-17	Cafeteria	6146	6/28/2018	15:52	30	7	X		04
AA-2	Pavilion	8503	6/28/2018	15:50	29	5	X		05

4361935 853618547

Remarks: **Additional Information is depicted in Sample Collection Table; Dates and Times depicted on COC are "start" times**

Relinquished by: (Signature) <i>M.T. Slack</i>	Date: 6/29/18	Time: 17:30	Received by: (Signature) 	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: (lab use only) <i>R</i>
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C <i>Amb</i>	Bottles Received: <i>5</i>
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) <i>Ent</i>	Date: 6/30/18	Time: 0845
				COC Seal Intact: <input checked="" type="checkbox"/> Y ___ N ___ NA	pH Checked: NCF:

Indoor Air Monitoring (Bi-Weekly Sampling)
 Borg Warner Facility
 Water Valley, Yalobusha Co., MS
 June 28-29, 2018
 Indoor Air (IA) and Ambient Air (AA) - Sampling Event (Bi-Weekly)

Sample ID	Sample Location	Flow Controller ID	Canister ID	Canister Size (liters)	Initial		Final		Sampler
					Date/time	Vacuum ("Hg)	Date/time	Vacuum ("Hg)	
IA-1	Maintenance Room	7772	5298	6	6/28/18 15:55	30	6/29/18 16:00	9	M. Slack
IA-2	ATS Room	7427	5079	6	6/28/18 15:54	29	6/29/18 15:58	2	M. Slack
IA-6	Training Room	6003	6607	6	6/28/18 15:53	30	6/29/18 15:53	4	M. Slack
IA-17	Cafeteria	8425	6146	6	6/28/18 15:52	30	6/29/18 15:52	7	M. Slack
IA-C16	I-Beam C16	NS							M. Slack
IA-K13	I-Beam K13	NS							M. Slack
IA-G4	I-Beam G4	NS							M. Slack
AA-2	Pavilion	6361	8503	6	6/28/18 15:50	29	6/29/18 15:50	5	M. Slack

Weather Conditions (@ time of canister placement):

HOT & HUMID - MID - 90°Fs - WINDS - BREEZY - 10 mph - N

Michael T. Slack (First Environment)

Weather Conditions during 24-hr sampling period:

OVERCAST - 70°Fs - WINDS FROM NORTH 5-15 mph

MS 6/29/18

NS - Not Sampled

Inv#: FIRENVBNJ-OXFORD Date: 10May18
 Customer: P653209 Weight: 10 LBS
 Phone: (615)758-5858 COD:
 SAT Del: Y DV: 0.00

Shipping: 0.00
 Special: 0.00
 Handling: 0.00
 Total: 0.00

Svc: PRIORITY OVERNIGHT
 TRK: 4361 6935 8549

Inv#: FIRENVBNJ-OXFORD Date: 10May18
 Customer: P653209 Weight: 10 LBS
 Phone: (615)758-5858 COD:
 SAT Del: Y DV: 0.00

Shipping: 0.00
 Special: 0.00
 Handling: 0.00
 Total: 0.00

Svc: PRIORITY OVERNIGHT
 TRK: 4361 6935 8538

ESC LAB SCIENCES Cooler Receipt Form

Client: <i>Fire v BNS</i>	SDG#	<i>100684</i>	
Cooler Received/Opened On: <i>6/30/18</i>	Temperature:	<i>Amb</i>	
Received By: Eric Struck			
Signature: <i>[Signature]</i>			
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?			