

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



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

**July 25, 2018**

Prepared for: EnPro Industries, Inc.  
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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.

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11041

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07/25/2018

Mississippi Professional  
Engineer No.

Date



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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, July 3, and July 16, 2018.

On July 12-13, 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 – July 12-13, 2018**

### **2.1 Instrumentation**

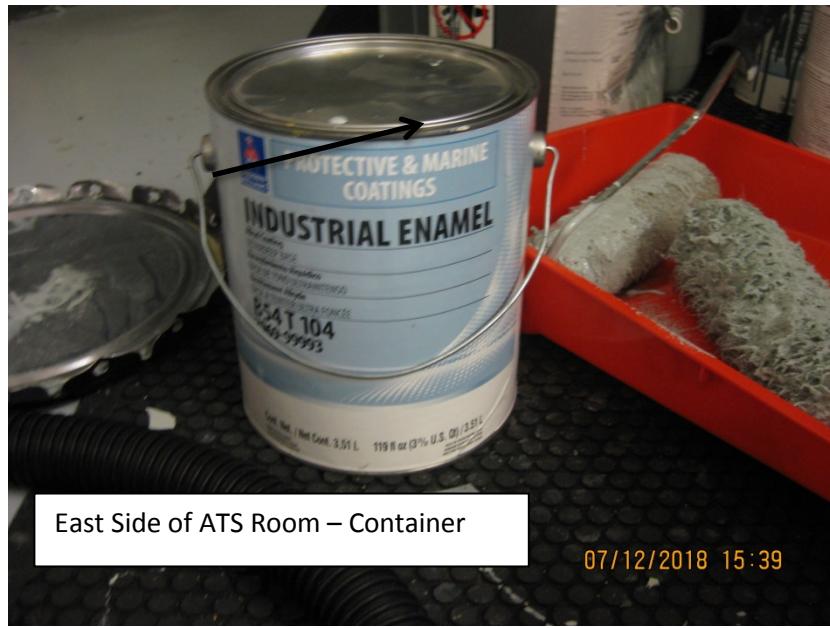
First Environment collected ambient and indoor air samples by placing laboratory provided 6-liter capacity 24-hour Summa® canisters equipped with flow regulators calibrated to 24 hours.

### **2.2 Observations**

On July 12-13, 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 July 12, First Environment observed that the BorgWarner employees were moving in cabinets and boxes on the west side of the ATS Room. On the east side of the ATS Room, BorgWarner personnel were applying a coat of Sherwin Williams “Protective & Marine Coatings Industrial Enamel.”

Additionally, although the sink in the Maintenance Room had been reconnected, the sealant around the drain pipe remained compromised providing a pathway for potential TCE vapors. On July 13, 2018, First Environment resealed the drain pipe. Photographs were taken and are included below.







## 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 Pace Analytical 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.

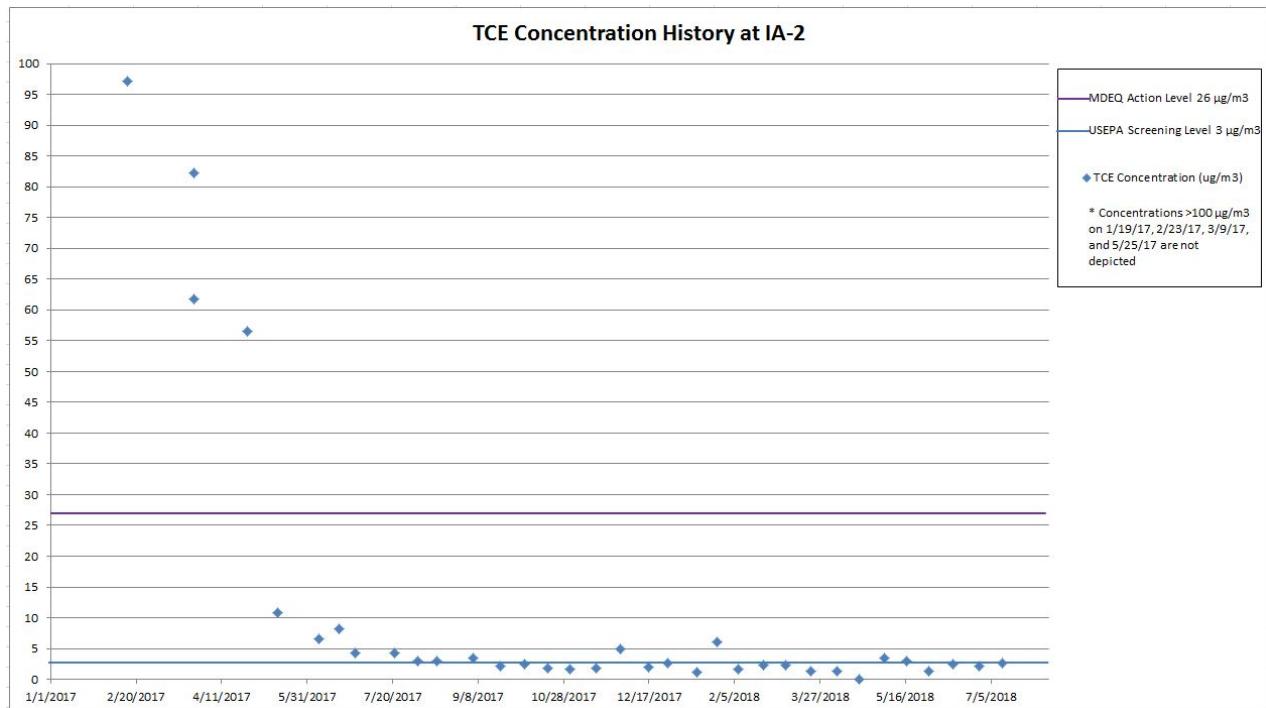
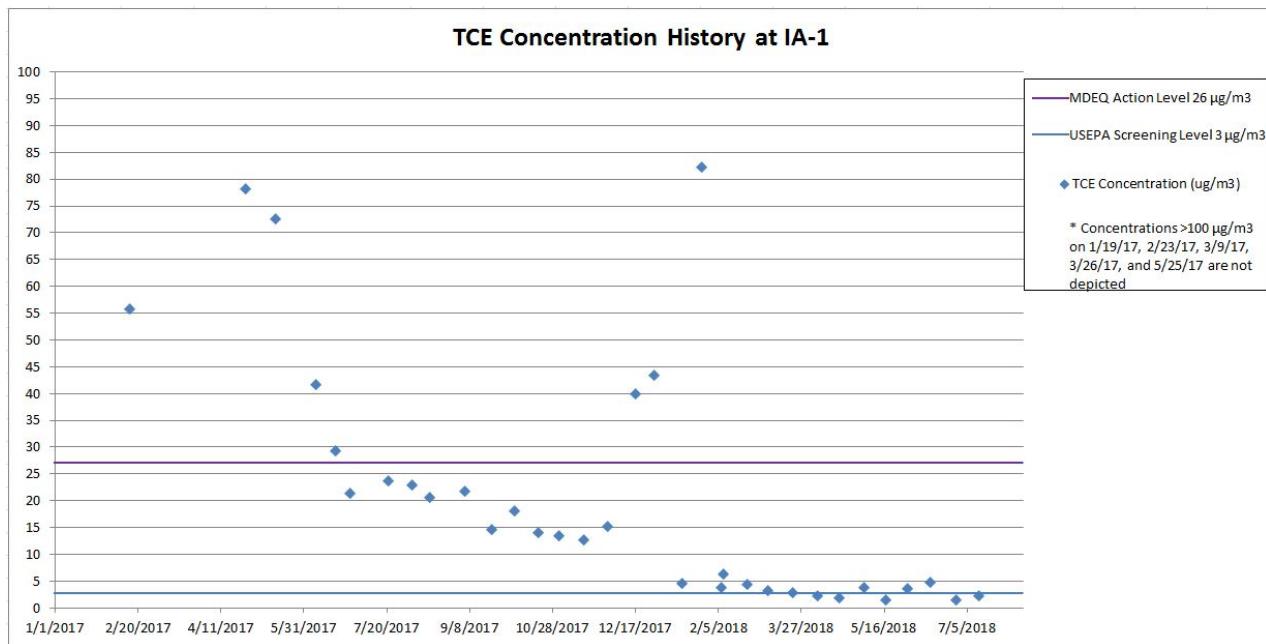
As reported in the January 8, 2018 SSDS Progress Report, First Environment sealed the void spaces in the block wall between the sump and the Maintenance Room on December 29, 2017. On January 15, 2018, the sump adjacent to the Maintenance Room was decommissioned. On January 18, 2018, First Environment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

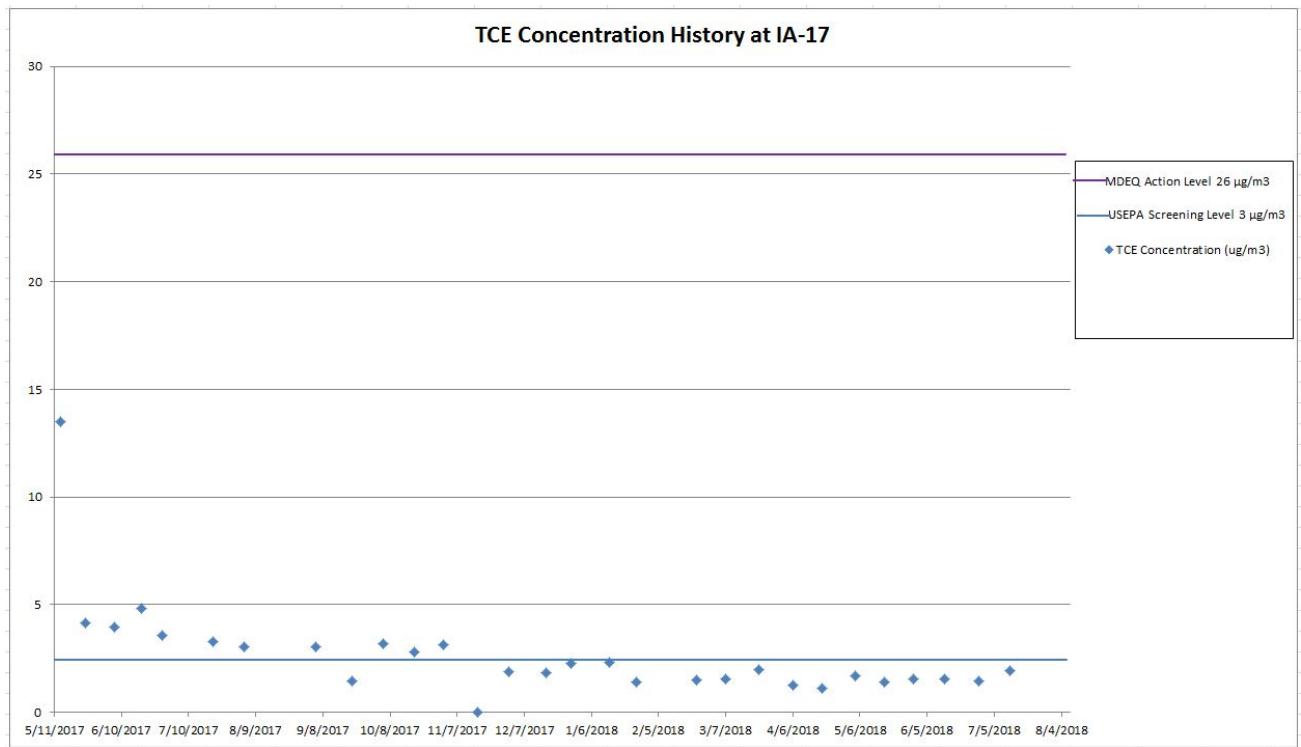
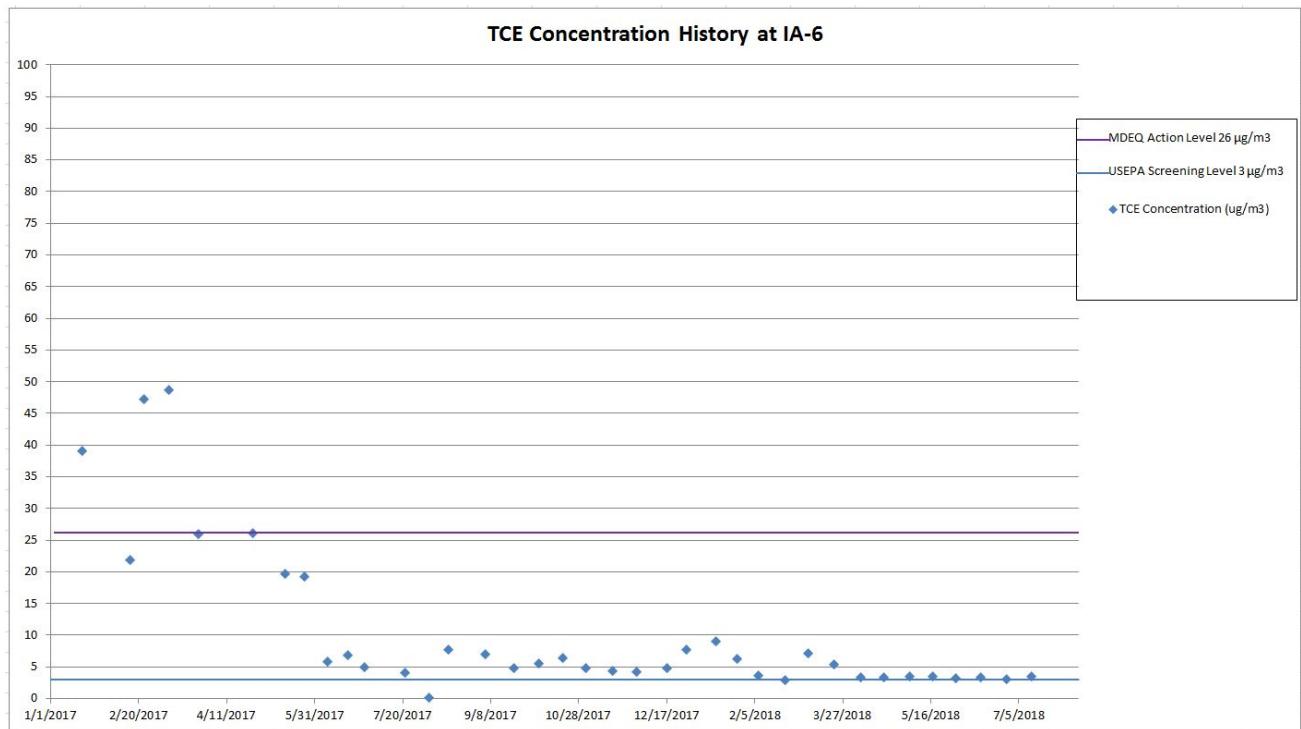
## **2.4 Results**

Table 1 presents the ambient and indoor air sampling results for all TO-15 analytes for the July 12-13, 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 µg/m<sup>3</sup>.

The sample results in the Cafeteria (1.93 µg/m<sup>3</sup>), ATS Room (2.7 µg/m<sup>3</sup>), and Maintenance Room (2.21 µg/m<sup>3</sup>) were below USEPA's Vapor Intrusion Screening Level ("VISL") for TCE of 3 µg/m<sup>3</sup>. The sample results in the Training Room (3.31 µg/m<sup>3</sup>) were slightly above USEPA's VISL but well below the MDEQ action level of 26 µg/m<sup>3</sup>.

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 µg/m<sup>3</sup> for TCE. Since February 2018, sample results for the Maintenance Room (IA-1) have also been below the MDEQ action level of 26 µg/m<sup>3</sup>.

As discussed in Section 2.2 above and in the July 3 and July 16, 2018 Sub-Slab Depressurization System Progress Reports, the sink cabinet removal provided pathways for TCE vapors to enter the Maintenance Room. After the July 12-13, 2018 round of indoor air sampling was complete, First Environment resealed the drain pipe in the Maintenance Room.

## TABLES

**TABLE 1**  
**INDOOR AIR SAMPLING RESULTS**  
**JULY 12, 2018**  
**FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY**  
**WATER VALLEY, MS**

SAMPLE LOCATION: SAMPING DATE: LABORATORY ID:	IA-1 07/12/2018 L1009407-01	IA-2 07/12/2018 L1009407-02	IA-6 07/12/2018 L1009407-03	IA-17 07/12/2018 L1009407-04	AA-2 07/12/2018 L1009407-05
Analyte	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
ACETONE	449	379	292	460	14.5
ALLYL CHLORIDE	<0.626	<0.626	<0.626	<0.626	<0.626
BENZENE	0.995	0.98	1.01	1.23	<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	1.14	1.23	1.58	1.87	1.21
2-CHLOROTOLUENE	<1.03	<1.03	<1.03	<1.03	<1.03
CYCLOHEXANE	50.3	48.7	36	45.2	<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-DICHLOROBENZENE	<1.20	<1.20	<1.20	<1.20	<1.20
1,3-DICHLOROBENZENE	<1.20	<1.20	<1.20	<1.20	<1.20
1,4-DICHLOROBENZENE	<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
<b>CIS-1,2-DICHLOROETHENE</b>	<0.793	<0.793	<0.793	<0.793	<0.793
TRANS-1,2-DICHLOROETHENE	3.32	1.67	1.58	1.96	<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	1.36	0.799	1.04	<0.721
ETHANOL	7,110 (E)	5,880 (E)	3,960 (E)	7,610 (E)	17.2
ETHYLBENZENE	3.86	3.97	2.33	2.65	<0.867
4-ETHYLtoluene	52.5	81.8	16.3	<0.982	<0.982

**TABLE 1**  
**INDOOR AIR SAMPLING RESULTS**  
**JULY 12, 2018**  
**FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY**  
**WATER VALLEY, MS**

SAMPLE LOCATION: SAMPING DATE: LABORATORY ID:	IA-1 07/12/2018 L1009407-01	IA-2 07/12/2018 L1009407-02	IA-6 07/12/2018 L1009407-03	IA-17 07/12/2018 L1009407-04	AA-2 07/12/2018 L1009407-05
Analyte	µg/m³	µg/m³	µg/m³	µg/m³	µg/m³
TRICHLOROFLUOROMETHANE	1.94	1.92	1.55	1.83	1.14
DICHLORODIFLUOROMETHANE	1.75	1.62	2.65	1.5	1.5
1,1,2-TRICHLOROTRIFLUOROETHANE	<1.53	<1.53	<1.53	<1.53	<1.53
1,2-DICHLOROTETRAFLUOROETHANE	<1.40	<1.40	<1.40	<1.40	<1.40
HEPTANE	28.1	27.3	21.1	25.5	<0.818
HEXACHLORO-1,3-BUTADIENE	<6.73	<6.73	<6.73	<6.73	<6.73
N-HEXANE	3.54	3.47	2.79	3.21	<0.705
ISOPROPYLBENZENE	<0.983	<0.983	<0.983	<0.983	<0.983
METHYLENE CHLORIDE	1.22	0.979	0.949	0.758	3.82
METHYL BUTYL KETONE	<5.11	<5.11	<5.11	<5.11	<5.11
2-BUTANONE (MEK)	576	483	380	586	<3.69
4-METHYL-2-PENTANONE (MIBK)	10.4	10.3	5.43	5.74	<5.12
METHYL METHACRYLATE	<0.819	<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	11,700 (E)	11,700 (E)	3,430 (E)	5,820 (E)	10.2
PROPENE	<0.689	<0.689	<0.689	<0.689	<0.689
STYRENE	<0.851	<0.851	1.03	1.29	<0.851
1,1,2,2-TETRACHLOROETHANE	<1.37	<1.37	<1.37	<1.37	<1.37
TETRACHLOROETHENE	<1.36	<1.36	<1.36	<1.36	11.4
TETRAHYDROFURAN	<0.590	<0.590	<0.590	<0.590	<0.590
TOLUENE	7.83	7.23	5.54	5.9	1.37
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	2.21	2.7	3.31	1.93	<1.07
1,2,4-TRIMETHYLBENZENE	48.4	74.3	13.1	9.14	<0.982
1,3,5-TRIMETHYLBENZENE	18.5	28.4	5.09	3.44	<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	13.4	14.3	8.11	9.23	<1.73
O-XYLENE	6.94	8.88	3.34	3.47	<0.867
1,4-BROMOFLUOROBENZENE	97.5 206	206 92.4	137 92.5	93.9 149	99.1

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 JULY 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
(Door Open) (Door Closed)	25-Jan-18	L966088-01	82.3	<0.793	<0.511
	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
	23-Mar-18	L980227-01	2.93	<0.793	<0.511
	6-Apr-18	L984164-01	2.34	<0.793	<0.511
	19-Apr-18	L987699-01	1.95	<0.793	<0.511
	4-May-18	L991502-01	3.76	<0.793	<0.511
	17-May-18	L995571-01	1.51	<0.793	<0.511
	30-May-18	L998373-01	3.61	<0.793	<0.511
	13-Jun-18	L1002114-01	4.8	<0.793	<0.511
	28-Jun-18	L1006041-01	1.48	<0.793	<0.511
	12-Jul-18	L1009407-01	2.21	<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
	26-Mar-17	L898762-02	61.8	<0.793	<0.511
IA-2 (DUPLICATE)	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
	23-Mar-18	L980227-02	1.39	<0.793	<0.511
	6-Apr-18	L984164-02	1.38	<0.793	<0.511
	19-Apr-18	L987699-02	<1.07	<0.793	<0.511
	4-May-18	L991502-02	3.47	<0.793	<0.511
	17-May-18	L995571-02	2.97	<0.793	<0.511
	30-May-18	L998373-02	1.4	<0.793	<0.511
	13-Jun-18	L1002114-02	2.45	<0.793	<0.511
	28-Jun-18	L1006041-02	2.08	<0.793	<0.511
	12-Jul-18	L1009407-02	2.7	<0.793	<0.511

**TABLE 2**  
**INDOOR AIR SAMPLING RESULTS COMPARISON**  
**JANUARY 2017 THROUGH JULY 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
	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
	12-Jul-18	L1009407-03	3.31	<0.793	<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
	12-Jul-18	L1009407-04	1.93	<0.793	<0.511

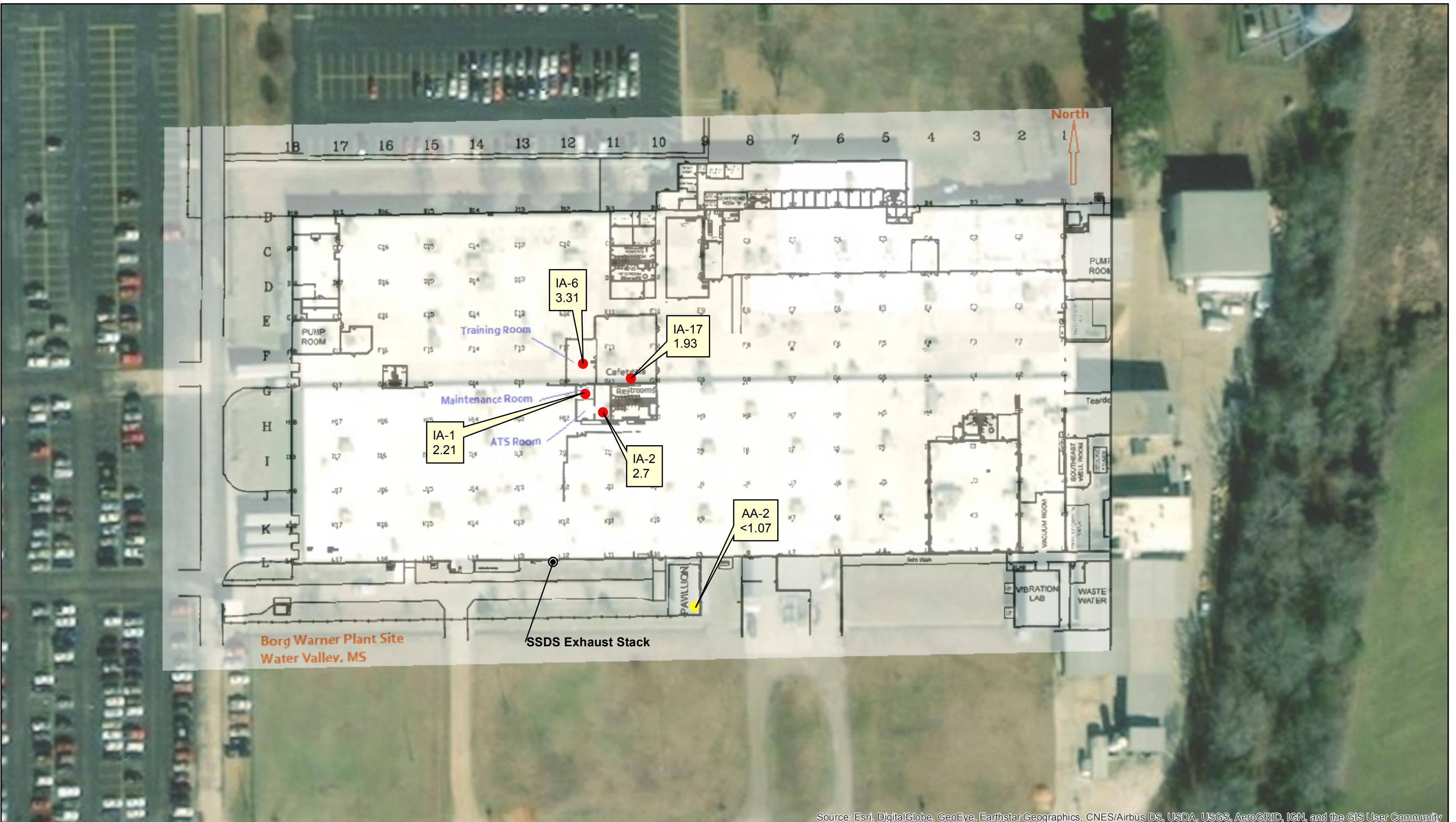
**TABLE 2**  
**INDOOR AIR SAMPLING RESULTS COMPARISON**  
**JANUARY 2017 THROUGH JULY 2018**  
**FORMER HOLLEY AUTOMOTIVE/COLTEC INDUSTRIES FACILITY**  
**WATER VALLEY, MS**

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-B12	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	L905292-04 L912423-05 L914832-07 L917924-09 L920054-08 L924410-05 L927407-05 L930026-05 L934535-05	6.54 3.08 1.64 1.66 <1.07 1.08 <1.07 <1.07 <1.07	1.77 <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
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 30-May-18	L905292-05 L912423-06 L914832-08 L917924-07 L920054-07 L924410-06 L927407-06 L930026-06 L934535-06 L954578-05 L976176-06 L998373-06	6.48 3.88 1.55 2 1.22 1.08 1.25 <1.07 <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 <0.793 <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
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 30-May-18	L912423-11 L914832-02 L917924-02 L920054-02 L924410-09 L927407-11 L930026-11 L934535-11 L954578-07 L976176-08 L998373-08	<1.07 3.31 1.35 <1.07 <1.07 <1.07 <1.07 1.17 <1.07 <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
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 30-May-18	L905292-07 L912423-04 L914832-05 L917924-05 L920054-05 L924410-12 L927407-08 L930026-08 L934535-08 L954578-06 L976176-07 L998373-07	6.53 5.28 1.59 2.2 1.33 1.34 <1.07 <1.07 1.67 <1.07 <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 <0.793	<0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511 <0.511

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

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

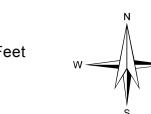
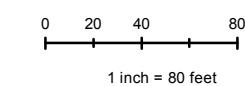
- IA-1: Indoor Air Concentrations in ug/m<sup>3</sup>
- AA-1: Ambient Air Concentrations in ug/m<sup>3</sup>
- SSDS Exhaust Stack

USEPA Screening Level for TCE: 3 ug/m<sup>3</sup>

MDEQ Action Level for TCE: 26 ug/m<sup>3</sup>

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  
JULY 12, 2018

91 Fulton Street Boonton, New Jersey 07005	Revised LS	Drawn NMT	Checked NMT	Approved NMT	Date 7/20/2018
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## **APPENDIX A**

# ANALYTICAL REPORT

July 18, 2018

## First Environment, Inc.

Sample Delivery Group: L1009407  
Samples Received: 07/14/2018  
Project Number: ENPRO002D-VM  
Description: EnPro: Bi-Weekly-24 Hr Inddor Air Sampling  
Site: BORG WARNER PLANT SITE  
Report To: Michael T. Slack  
91 Fulton Street  
Boonton, NJ 07005

Entire Report Reviewed By:



John Hawkins  
Project Manager

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.

# TABLE OF CONTENTS

ONE LAB. NATIONWIDE.



Cp: Cover Page	1	<sup>1</sup> Cp
Tc: Table of Contents	2	<sup>2</sup> Tc
Ss: Sample Summary	3	<sup>3</sup> Ss
Cn: Case Narrative	4	<sup>4</sup> Cn
Sr: Sample Results	5	<sup>5</sup> Sr
IA-1 L1009407-01	5	
IA-2 L1009407-02	7	
IA-6 L1009407-03	9	
IA-17 L1009407-04	11	
AA-2 L1009407-05	13	
Qc: Quality Control Summary	15	<sup>6</sup> Qc
Volatile Organic Compounds (MS) by Method TO-15	15	<sup>7</sup> GI
Gl: Glossary of Terms	28	<sup>8</sup> AI
Al: Accreditations & Locations	29	
Sc: Sample Chain of Custody	30	<sup>9</sup> SC

## SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



		Collected by Micheal T. Slack	Collected date/time 07/12/18 15:54	Received date/time 07/14/18 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1137953	1	07/14/18 20:12	07/14/18 20:12	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG1138496	25	07/16/18 15:44	07/16/18 15:44	MBF
IA-2 L1009407-02 Air		Collected by Micheal T. Slack	Collected date/time 07/12/18 15:52	Received date/time 07/14/18 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1137953	1	07/14/18 21:06	07/14/18 21:06	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG1138496	25	07/16/18 16:32	07/16/18 16:32	MBF
IA-6 L1009407-03 Air		Collected by Micheal T. Slack	Collected date/time 07/12/18 15:50	Received date/time 07/14/18 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1137952	1	07/14/18 21:45	07/14/18 21:45	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG1138496	25	07/16/18 17:21	07/16/18 17:21	MBF
IA-17 L1009407-04 Air		Collected by Micheal T. Slack	Collected date/time 07/12/18 15:40	Received date/time 07/14/18 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1137952	1	07/14/18 22:28	07/14/18 22:28	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG1138496	25	07/16/18 18:09	07/16/18 18:09	MBF
AA-2 L1009407-05 Air		Collected by Micheal T. Slack	Collected date/time 07/12/18 15:45	Received date/time 07/14/18 08:45	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG1138919	1	07/17/18 19:15	07/17/18 19:15	AMC

- 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.

John Hawkins  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> GI
- <sup>8</sup> AI
- <sup>9</sup> SC



## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	31.2	74.1	189	449		25	WG1138496
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1137953
Benzene	71-43-2	78.10	0.200	0.639	0.311	0.995		1	WG1137953
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1137953
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1137953
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1137953
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1137953
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1137953
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1137953
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1137953
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1137953
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1137953
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1137953
Chloromethane	74-87-3	50.50	0.200	0.413	0.553	1.14		1	WG1137953
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1137953
Cyclohexane	110-82-7	84.20	0.200	0.689	14.6	50.3		1	WG1137953
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1137953
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1137953
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1137953
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1137953
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1137953
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1137953
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1137953
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1137953
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1137953
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.839	3.32		1	WG1137953
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1137953
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1137953
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1137953
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG1137953
Ethanol	64-17-5	46.10	15.8	29.8	3770	7110	E	25	WG1138496
Ethylbenzene	100-41-4	106	0.200	0.867	0.889	3.86		1	WG1137953
4-Ethyltoluene	622-96-8	120	0.200	0.982	10.7	52.5		1	WG1137953
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.345	1.94		1	WG1137953
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.354	1.75		1	WG1137953
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1137953
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1137953
Heptane	142-82-5	100	0.200	0.818	6.86	28.1		1	WG1137953
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1137953
n-Hexane	110-54-3	86.20	0.200	0.705	1.01	3.54		1	WG1137953
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1137953
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.350	1.22		1	WG1137953
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1137953
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	195	576		25	WG1138496
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	2.53	10.4		1	WG1137953
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1137953
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1137953
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1137953
2-Propanol	67-63-0	60.10	31.2	76.7	4760	11700	E	25	WG1138496
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1137953
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1137953
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1137953
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1137953
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1137953
Toluene	108-88-3	92.10	0.200	0.753	2.08	7.83		1	WG1137953
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1137953



## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1	RDL2	Result	Result	<u>Qualifier</u>	Dilution	Batch
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	<a href="#">WG1137953</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1137953</a>
Trichloroethylene	79-01-6	131	0.200	1.07	0.413	2.21		1	<a href="#">WG1137953</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	9.87	48.4		1	<a href="#">WG1137953</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	3.76	18.5		1	<a href="#">WG1137953</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	<a href="#">WG1137953</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1137953</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1137953</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1137953</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	3.10	13.4		1	<a href="#">WG1137953</a>
o-Xylene	95-47-6	106	0.200	0.867	1.60	6.94		1	<a href="#">WG1137953</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		206		J1		<a href="#">WG1137953</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.5				<a href="#">WG1138496</a>

## Sample Narrative:

L1009407-01 WG1137953: Surrogate failure due to matrix interference.

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> GI<sup>8</sup> Al<sup>9</sup> Sc



## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	31.2	74.1	160	379		25	WG1138496
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1137953
Benzene	71-43-2	78.10	0.200	0.639	0.307	0.980		1	WG1137953
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1137953
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1137953
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1137953
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1137953
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1137953
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1137953
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1137953
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1137953
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1137953
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1137953
Chloromethane	74-87-3	50.50	0.200	0.413	0.593	1.23		1	WG1137953
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1137953
Cyclohexane	110-82-7	84.20	0.200	0.689	14.1	48.7		1	WG1137953
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1137953
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1137953
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1137953
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1137953
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1137953
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1137953
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1137953
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1137953
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1137953
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.421	1.67		1	WG1137953
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1137953
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1137953
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1137953
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.379	1.36		1	WG1137953
Ethanol	64-17-5	46.10	15.8	29.8	3120	5880	E	25	WG1138496
Ethylbenzene	100-41-4	106	0.200	0.867	0.917	3.97		1	WG1137953
4-Ethyltoluene	622-96-8	120	0.200	0.982	16.7	81.8		1	WG1137953
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.341	1.92		1	WG1137953
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.327	1.62		1	WG1137953
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1137953
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1137953
Heptane	142-82-5	100	0.200	0.818	6.68	27.3		1	WG1137953
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1137953
n-Hexane	110-54-3	86.20	0.200	0.705	0.984	3.47		1	WG1137953
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1137953
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.282	0.979		1	WG1137953
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1137953
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	164	483		25	WG1138496
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	2.51	10.3		1	WG1137953
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1137953
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1137953
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1137953
2-Propanol	67-63-0	60.10	31.2	76.7	4780	11700	E	25	WG1138496
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1137953
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG1137953
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1137953
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1137953
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1137953
Toluene	108-88-3	92.10	0.200	0.753	1.92	7.23		1	WG1137953
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1137953

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	Batch
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	<a href="#">WG1137953</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1137953</a>
Trichloroethylene	79-01-6	131	0.200	1.07	0.503	2.70		1	<a href="#">WG1137953</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	15.1	74.3		1	<a href="#">WG1137953</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	5.78	28.4		1	<a href="#">WG1137953</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	<a href="#">WG1137953</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1137953</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1137953</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1137953</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	3.30	14.3		1	<a href="#">WG1137953</a>
o-Xylene	95-47-6	106	0.200	0.867	2.05	8.88		1	<a href="#">WG1137953</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		206		J1		<a href="#">WG1137953</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		92.4				<a href="#">WG1138496</a>

## Sample Narrative:

L1009407-02 WG1137953: Surrogate failure due to matrix interference.

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> GI<sup>8</sup> Al<sup>9</sup> Sc



## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	31.2	74.1	123	292		25	WG1138496
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1137952
Benzene	71-43-2	78.10	0.200	0.639	0.316	1.01		1	WG1137952
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1137952
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1137952
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1137952
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1137952
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1137952
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1137952
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1137952
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1137952
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1137952
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1137952
Chloromethane	74-87-3	50.50	0.200	0.413	0.766	1.58		1	WG1137952
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1137952
Cyclohexane	110-82-7	84.20	0.200	0.689	10.4	36.0		1	WG1137952
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1137952
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1137952
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1137952
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1137952
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1137952
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1137952
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1137952
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1137952
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1137952
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.399	1.58		1	WG1137952
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1137952
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1137952
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1137952
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.222	0.799		1	WG1137952
Ethanol	64-17-5	46.10	15.8	29.8	2100	3960	E	25	WG1138496
Ethylbenzene	100-41-4	106	0.200	0.867	0.538	2.33		1	WG1137952
4-Ethyltoluene	622-96-8	120	0.200	0.982	3.32	16.3		1	WG1137952
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.276	1.55		1	WG1137952
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.537	2.65		1	WG1137952
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1137952
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1137952
Heptane	142-82-5	100	0.200	0.818	5.15	21.1		1	WG1137952
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1137952
n-Hexane	110-54-3	86.20	0.200	0.705	0.793	2.79		1	WG1137952
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1137952
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.273	0.949		1	WG1137952
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1137952
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	129	380		25	WG1138496
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	1.33	5.43		1	WG1137952
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1137952
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1137952
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1137952
2-Propanol	67-63-0	60.10	31.2	76.7	1390	3430	E	25	WG1138496
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1137952
Styrene	100-42-5	104	0.200	0.851	0.243	1.03		1	WG1137952
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1137952
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1137952
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1137952
Toluene	108-88-3	92.10	0.200	0.753	1.47	5.54		1	WG1137952
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1137952

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	<a href="#">WG1137952</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1137952</a>
Trichloroethylene	79-01-6	131	0.200	1.07	0.617	3.31		1	<a href="#">WG1137952</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	2.66	13.1		1	<a href="#">WG1137952</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	1.04	5.09		1	<a href="#">WG1137952</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	<a href="#">WG1137952</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1137952</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1137952</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1137952</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	1.87	8.11		1	<a href="#">WG1137952</a>
o-Xylene	95-47-6	106	0.200	0.867	0.770	3.34		1	<a href="#">WG1137952</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		137				<a href="#">WG1137952</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		92.5				<a href="#">WG1138496</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> GI<sup>8</sup> Al<sup>9</sup> Sc



## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	31.2	74.1	193	460		25	WG1138496
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG1137952
Benzene	71-43-2	78.10	0.200	0.639	0.386	1.23		1	WG1137952
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG1137952
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG1137952
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG1137952
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG1137952
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG1137952
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG1137952
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG1137952
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG1137952
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG1137952
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG1137952
Chloromethane	74-87-3	50.50	0.200	0.413	0.903	1.87		1	WG1137952
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG1137952
Cyclohexane	110-82-7	84.20	0.200	0.689	13.1	45.2		1	WG1137952
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG1137952
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG1137952
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG1137952
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG1137952
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG1137952
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG1137952
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG1137952
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG1137952
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG1137952
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	0.494	1.96		1	WG1137952
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG1137952
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG1137952
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG1137952
1,4-Dioxane	123-91-1	88.10	0.200	0.721	0.289	1.04		1	WG1137952
Ethanol	64-17-5	46.10	15.8	29.8	4030	7610	E	25	WG1138496
Ethylbenzene	100-41-4	106	0.200	0.867	0.611	2.65		1	WG1137952
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG1137952
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.325	1.83		1	WG1137952
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.303	1.50		1	WG1137952
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG1137952
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG1137952
Heptane	142-82-5	100	0.200	0.818	6.22	25.5		1	WG1137952
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG1137952
n-Hexane	110-54-3	86.20	0.200	0.705	0.910	3.21		1	WG1137952
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG1137952
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.218	0.758		1	WG1137952
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG1137952
2-Butanone (MEK)	78-93-3	72.10	31.2	92.0	199	586		25	WG1138496
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	1.40	5.74		1	WG1137952
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG1137952
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG1137952
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG1137952
2-Propanol	67-63-0	60.10	31.2	76.7	2370	5820	E	25	WG1138496
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG1137952
Styrene	100-42-5	104	0.200	0.851	0.303	1.29		1	WG1137952
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG1137952
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG1137952
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG1137952
Toluene	108-88-3	92.10	0.200	0.753	1.57	5.90		1	WG1137952
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG1137952

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	Batch
			ppbv	ug/m3	ppbv	ug/m3			
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	<a href="#">WG1137952</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1137952</a>
Trichloroethylene	79-01-6	131	0.200	1.07	0.361	1.93		1	<a href="#">WG1137952</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.86	9.14		1	<a href="#">WG1137952</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.702	3.44		1	<a href="#">WG1137952</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	<a href="#">WG1137952</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1137952</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1137952</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1137952</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	2.13	9.23		1	<a href="#">WG1137952</a>
o-Xylene	95-47-6	106	0.200	0.867	0.801	3.47		1	<a href="#">WG1137952</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		149		J1		<a href="#">WG1137952</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.9				<a href="#">WG1138496</a>

## Sample Narrative:

L1009407-04 WG1137952: Surrogate failure due to matrix interference.

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> GI<sup>8</sup> Al<sup>9</sup> 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	1.25	2.97	6.11	14.5	1	WG1138919	<span style="color: orange;">1 Cp</span>
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND	1	WG1138919	<span style="color: red;">2 Tc</span>
Benzene	71-43-2	78.10	0.200	0.639	ND	ND	1	WG1138919	<span style="color: brown;">3 Ss</span>
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND	1	WG1138919	<span style="color: black;">4 Cn</span>
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND	1	WG1138919	<span style="color: purple;">5 Sr</span>
Bromoform	75-25-2	253	0.600	6.21	ND	ND	1	WG1138919	<span style="color: green;">6 Qc</span>
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND	1	WG1138919	<span style="color: black;">7 GI</span>
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND	1	WG1138919	<span style="color: blue;">8 Al</span>
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND	1	WG1138919	<span style="color: black;">9 Sc</span>
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND	1	WG1138919	
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND	1	WG1138919	
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND	1	WG1138919	
Chloroform	67-66-3	119	0.200	0.973	ND	ND	1	WG1138919	
Chloromethane	74-87-3	50.50	0.200	0.413	0.585	1.21	1	WG1138919	
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND	1	WG1138919	
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND	1	WG1138919	
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND	1	WG1138919	
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND	1	WG1138919	
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND	1	WG1138919	
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND	1	WG1138919	
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND	1	WG1138919	
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND	1	WG1138919	
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND	1	WG1138919	
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND	1	WG1138919	
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND	1	WG1138919	
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND	1	WG1138919	
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND	1	WG1138919	
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND	1	WG1138919	
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND	1	WG1138919	
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND	1	WG1138919	
Ethanol	64-17-5	46.10	0.630	1.19	9.11	17.2	1	WG1138919	
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND	1	WG1138919	
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND	1	WG1138919	
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.203	1.14	1	WG1138919	
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.304	1.50	1	WG1138919	
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND	1	WG1138919	
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND	1	WG1138919	
Heptane	142-82-5	100	0.200	0.818	ND	ND	1	WG1138919	
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND	1	WG1138919	
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND	1	WG1138919	
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND	1	WG1138919	
Methylene Chloride	75-09-2	84.90	0.200	0.694	1.10	3.82	1	WG1138919	
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND	1	WG1138919	
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND	1	WG1138919	
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND	1	WG1138919	
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND	1	WG1138919	
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND	1	WG1138919	
Naphthalene	91-20-3	128	0.630	3.30	ND	ND	1	WG1138919	
2-Propanol	67-63-0	60.10	1.25	3.07	4.16	10.2	1	WG1138919	
Propene	115-07-1	42.10	0.400	0.689	ND	ND	1	WG1138919	
Styrene	100-42-5	104	0.200	0.851	ND	ND	1	WG1138919	
1,1,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND	1	WG1138919	
Tetrachloroethylene	127-18-4	166	0.200	1.36	1.68	11.4	1	WG1138919	
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND	1	WG1138919	
Toluene	108-88-3	92.10	0.200	0.753	0.364	1.37	1	WG1138919	
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND	1	WG1138919	

AA-2

Collected date/time: 07/12/18 15:45

## SAMPLE RESULTS - 05

L1009407

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	<a href="#">WG1138919</a>
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	<a href="#">WG1138919</a>
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	<a href="#">WG1138919</a>
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	<a href="#">WG1138919</a>
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	<a href="#">WG1138919</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	<a href="#">WG1138919</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1138919</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1138919</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1138919</a>
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	<a href="#">WG1138919</a>
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	<a href="#">WG1138919</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		99.1				<a href="#">WG1138919</a>

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> GI<sup>8</sup> Al<sup>9</sup> Sc



## Method Blank (MB)

(MB) R3325699-3 07/14/18 09:48

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv	
Allyl Chloride	U		0.0546	0.200	<sup>1</sup> Cp
Benzene	U		0.0460	0.200	<sup>2</sup> Tc
Benzyl Chloride	U		0.0598	0.200	<sup>3</sup> Ss
Bromodichloromethane	U		0.0436	0.200	<sup>4</sup> Cn
Bromoform	U		0.0786	0.600	<sup>5</sup> Sr
Bromomethane	U		0.0609	0.200	<sup>6</sup> Qc
1,3-Butadiene	U		0.0563	2.00	<sup>7</sup> Gl
Carbon disulfide	U		0.0544	0.200	<sup>8</sup> Al
Carbon tetrachloride	U		0.0585	0.200	<sup>9</sup> Sc
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	



L1009407-03.04

## Method Blank (MB)

(MB) R3325699-3 07/14/18 09:48

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL 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	101			60.0-140									

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

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

(LCS) R3325699-1 07/14/18 08:26 • (LCSD) R3325699-2 07/14/18 09:06

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Propene	3.75	4.01	4.00	107	107	54.0-155			0.255	25
Dichlorodifluoromethane	3.75	3.88	3.90	104	104	69.0-143			0.485	25
1,2-Dichlorotetrafluoroethane	3.75	3.78	3.83	101	102	70.0-130			1.36	25
Chloromethane	3.75	3.85	3.92	103	105	70.0-130			1.93	25
Vinyl chloride	3.75	3.65	3.61	97.2	96.4	70.0-130			0.875	25
1,3-Butadiene	3.75	3.62	3.53	96.5	94.2	70.0-130			2.48	25
Bromomethane	3.75	3.64	3.50	97.0	93.3	70.0-130			3.82	25
Chloroethane	3.75	3.45	3.34	91.9	89.2	70.0-130			3.05	25
Trichlorofluoromethane	3.75	3.65	3.75	97.3	100	70.0-130			2.75	25



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

(LCS) R3325699-1 07/14/18 08:26 • (LCSD) R3325699-2 07/14/18 09:06

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 %
1,1,2-Trichlorotrifluoroethane	3.75	3.90	3.90	104	104	70.0-130			0.161	25
1,1-Dichloroethene	3.75	3.92	3.89	105	104	70.0-130			0.877	25
1,1-Dichloroethane	3.75	3.89	3.91	104	104	70.0-130			0.421	25
Carbon disulfide	3.75	3.87	3.84	103	103	70.0-130			0.578	25
Methylene Chloride	3.75	3.75	3.71	100	98.9	70.0-130			1.14	25
MTBE	3.75	3.92	3.99	105	106	70.0-130			1.83	25
trans-1,2-Dichloroethene	3.75	3.96	3.92	106	105	70.0-130			0.945	25
n-Hexane	3.75	3.96	3.95	106	105	70.0-130			0.149	25
Vinyl acetate	3.75	4.15	4.16	111	111	70.0-130			0.420	25
cis-1,2-Dichloroethene	3.75	3.86	3.91	103	104	70.0-130			1.43	25
Chloroform	3.75	3.83	3.88	102	103	70.0-130			1.15	25
Cyclohexane	3.75	3.89	3.95	104	105	70.0-130			1.73	25
1,1,1-Trichloroethane	3.75	3.99	3.99	106	107	70.0-130			0.179	25
Carbon tetrachloride	3.75	3.99	4.02	106	107	70.0-130			0.797	25
Benzene	3.75	3.82	3.82	102	102	70.0-130			0.126	25
1,2-Dichloroethane	3.75	3.99	3.99	106	106	70.0-130			0.0360	25
Heptane	3.75	4.06	4.06	108	108	70.0-130			0.121	25
Trichloroethylene	3.75	3.92	3.89	105	104	70.0-130			0.857	25
1,2-Dichloropropane	3.75	3.91	3.90	104	104	70.0-130			0.371	25
1,4-Dioxane	3.75	4.01	4.01	107	107	70.0-152			0.159	25
Bromodichloromethane	3.75	3.94	3.93	105	105	70.0-130			0.327	25
cis-1,3-Dichloropropene	3.75	4.02	3.98	107	106	70.0-130			1.04	25
4-Methyl-2-pentanone (MIBK)	3.75	4.14	4.12	110	110	70.0-142			0.352	25
Toluene	3.75	4.01	4.02	107	107	70.0-130			0.160	25
trans-1,3-Dichloropropene	3.75	4.07	4.07	109	109	70.0-130			0.0540	25
1,1,2-Trichloroethane	3.75	3.98	3.98	106	106	70.0-130			0.0522	25
Tetrachloroethylene	3.75	4.12	4.14	110	110	70.0-130			0.411	25
Methyl Butyl Ketone	3.75	4.27	4.27	114	114	70.0-150			0.0932	25
Dibromochloromethane	3.75	4.04	4.03	108	107	70.0-130			0.271	25
1,2-Dibromoethane	3.75	4.02	4.02	107	107	70.0-130			0.0243	25
Chlorobenzene	3.75	4.10	4.08	109	109	70.0-130			0.384	25
Ethylbenzene	3.75	4.08	4.11	109	110	70.0-130			0.856	25
m&p-Xylene	7.50	8.51	8.48	114	113	70.0-130			0.352	25
o-Xylene	3.75	4.09	4.15	109	111	70.0-130			1.53	25
Styrene	3.75	4.17	4.19	111	112	70.0-130			0.658	25
Bromoform	3.75	4.28	4.28	114	114	70.0-130			0.0404	25
1,1,2,2-Tetrachloroethane	3.75	3.95	4.00	105	107	70.0-130			1.06	25
4-Ethyltoluene	3.75	4.19	4.25	112	113	70.0-130			1.41	25
1,3,5-Trimethylbenzene	3.75	4.19	4.25	112	113	70.0-130			1.42	25
1,2,4-Trimethylbenzene	3.75	4.09	4.17	109	111	70.0-130			1.88	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) R3325699-1 07/14/18 08:26 • (LCSD) R3325699-2 07/14/18 09:06

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	4.13	4.18	110	112	70.0-130			1.24	25
1,4-Dichlorobenzene	3.75	4.28	4.38	114	117	70.0-130			2.34	25
Benzyl Chloride	3.75	4.16	4.21	111	112	70.0-144			1.37	25
1,2-Dichlorobenzene	3.75	4.04	4.10	108	109	70.0-130			1.37	25
1,2,4-Trichlorobenzene	3.75	4.30	4.26	115	114	70.0-155			0.983	25
Hexachloro-1,3-butadiene	3.75	4.10	4.06	109	108	70.0-145			1.12	25
Naphthalene	3.75	4.25	4.24	113	113	70.0-155			0.251	25
Allyl Chloride	3.75	3.98	3.92	106	105	70.0-130			1.50	25
2-Chlorotoluene	3.75	4.20	4.25	112	113	70.0-130			1.04	25
Methyl Methacrylate	3.75	3.97	3.96	106	106	70.0-130			0.171	25
Tetrahydrofuran	3.75	3.92	3.92	105	104	70.0-140			0.112	25
2,2,4-Trimethylpentane	3.75	4.07	4.13	108	110	70.0-130			1.64	25
Vinyl Bromide	3.75	3.57	3.72	95.3	99.1	70.0-130			3.89	25
Isopropylbenzene	3.75	4.13	4.16	110	111	70.0-130			0.581	25
(S) 1,4-Bromofluorobenzene			106	106	60.0-140					

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



## Method Blank (MB)

(MB) R3325717-3 07/14/18 10:07

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv	
Allyl Chloride	U		0.0546	0.200	<sup>1</sup> Cp
Benzene	U		0.0460	0.200	<sup>2</sup> Tc
Benzyl Chloride	U		0.0598	0.200	<sup>3</sup> Ss
Bromodichloromethane	U		0.0436	0.200	<sup>4</sup> Cn
Bromoform	U		0.0786	0.600	<sup>5</sup> Sr
Bromomethane	U		0.0609	0.200	<sup>6</sup> Qc
1,3-Butadiene	U		0.0563	2.00	<sup>7</sup> Gl
Carbon disulfide	U		0.0544	0.200	<sup>8</sup> Al
Carbon tetrachloride	U		0.0585	0.200	<sup>9</sup> Sc
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	



L1009407-01,02

## Method Blank (MB)

(MB) R3325717-3 07/14/18 10:07

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL 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	96.1			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) R3325717-1 07/14/18 08:35 • (LCSD) R3325717-2 07/14/18 09:20

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Propene	3.75	3.74	3.73	99.8	99.4	54.0-155			0.410	25
Dichlorodifluoromethane	3.75	3.70	3.84	98.6	102	69.0-143			3.81	25
1,2-Dichlorotetrafluoroethane	3.75	3.75	3.77	99.9	101	70.0-130			0.688	25
Chloromethane	3.75	3.75	3.77	99.9	101	70.0-130			0.636	25
Vinyl chloride	3.75	3.58	3.75	95.5	99.9	70.0-130			4.48	25
1,3-Butadiene	3.75	3.57	3.56	95.1	95.0	70.0-130			0.0877	25
Bromomethane	3.75	3.60	3.88	96.0	103	70.0-130			7.41	25
Chloroethane	3.75	3.69	3.71	98.3	98.9	70.0-130			0.608	25
Trichlorofluoromethane	3.75	3.73	3.76	99.6	100	70.0-130			0.806	25



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

(LCS) R3325717-1 07/14/18 08:35 • (LCSD) R3325717-2 07/14/18 09:20

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	3.70	3.75	98.8	100	70.0-130			1.33	25
1,1-Dichloroethene	3.75	3.71	3.74	99.0	99.6	70.0-130			0.635	25
1,1-Dichloroethane	3.75	3.69	3.71	98.3	99.0	70.0-130			0.664	25
Carbon disulfide	3.75	3.73	3.78	99.4	101	70.0-130			1.29	25
Methylene Chloride	3.75	3.62	3.64	96.5	97.1	70.0-130			0.579	25
MTBE	3.75	3.73	3.76	99.5	100	70.0-130			0.671	25
trans-1,2-Dichloroethene	3.75	3.73	3.77	99.5	101	70.0-130			1.06	25
n-Hexane	3.75	3.69	3.73	98.5	99.6	70.0-130			1.08	25
Vinyl acetate	3.75	3.87	3.88	103	103	70.0-130			0.320	25
cis-1,2-Dichloroethene	3.75	3.71	3.73	98.9	99.6	70.0-130			0.683	25
Chloroform	3.75	3.69	3.74	98.3	99.6	70.0-130			1.35	25
Cyclohexane	3.75	3.70	3.72	98.7	99.1	70.0-130			0.400	25
1,1,1-Trichloroethane	3.75	3.73	3.78	99.5	101	70.0-130			1.28	25
Carbon tetrachloride	3.75	3.73	3.78	99.4	101	70.0-130			1.24	25
Benzene	3.75	3.71	3.77	98.8	100	70.0-130			1.66	25
1,2-Dichloroethane	3.75	3.73	3.78	99.4	101	70.0-130			1.46	25
Heptane	3.75	3.73	3.77	99.5	101	70.0-130			1.03	25
Trichloroethylene	3.75	3.72	3.77	99.1	100	70.0-130			1.34	25
1,2-Dichloropropane	3.75	3.67	3.73	97.8	99.4	70.0-130			1.64	25
1,4-Dioxane	3.75	3.82	3.88	102	103	70.0-152			1.54	25
Bromodichloromethane	3.75	3.78	3.82	101	102	70.0-130			1.05	25
cis-1,3-Dichloropropene	3.75	3.78	3.83	101	102	70.0-130			1.26	25
4-Methyl-2-pentanone (MIBK)	3.75	3.92	3.95	105	105	70.0-142			0.641	25
Toluene	3.75	3.77	3.82	101	102	70.0-130			1.35	25
trans-1,3-Dichloropropene	3.75	3.81	3.89	102	104	70.0-130			2.11	25
1,1,2-Trichloroethane	3.75	3.74	3.74	99.8	99.6	70.0-130			0.218	25
Tetrachloroethylene	3.75	3.76	3.83	100	102	70.0-130			1.69	25
Methyl Butyl Ketone	3.75	4.04	4.07	108	109	70.0-150			0.679	25
Dibromochloromethane	3.75	3.89	3.96	104	106	70.0-130			1.78	25
1,2-Dibromoethane	3.75	3.82	3.88	102	104	70.0-130			1.57	25
Chlorobenzene	3.75	3.77	3.83	101	102	70.0-130			1.55	25
Ethylbenzene	3.75	3.75	3.79	100	101	70.0-130			1.10	25
m&p-Xylene	7.50	7.36	7.45	98.1	99.3	70.0-130			1.21	25
o-Xylene	3.75	3.86	3.91	103	104	70.0-130			1.23	25
Styrene	3.75	4.01	4.08	107	109	70.0-130			1.52	25
Bromoform	3.75	4.08	4.13	109	110	70.0-130			1.02	25
1,1,2,2-Tetrachloroethane	3.75	3.83	3.90	102	104	70.0-130			1.83	25
4-Ethyltoluene	3.75	3.83	3.89	102	104	70.0-130			1.58	25
1,3,5-Trimethylbenzene	3.75	3.95	4.02	105	107	70.0-130			1.74	25
1,2,4-Trimethylbenzene	3.75	3.82	3.90	102	104	70.0-130			2.18	25

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



L1009407-01,02

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

(LCS) R3325717-1 07/14/18 08:35 • (LCSD) R3325717-2 07/14/18 09:20

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	4.02	4.07	107	108	70.0-130			1.18	25
1,4-Dichlorobenzene	3.75	4.14	4.20	111	112	70.0-130			1.39	25
Benzyl Chloride	3.75	4.28	4.30	114	115	70.0-144			0.425	25
1,2-Dichlorobenzene	3.75	3.95	4.00	105	107	70.0-130			1.09	25
1,2,4-Trichlorobenzene	3.75	4.33	4.27	115	114	70.0-155			1.24	25
Hexachloro-1,3-butadiene	3.75	4.04	4.06	108	108	70.0-145			0.305	25
Naphthalene	3.75	4.34	4.28	116	114	70.0-155			1.43	25
Allyl Chloride	3.75	3.82	3.85	102	103	70.0-130			0.738	25
2-Chlorotoluene	3.75	3.94	3.99	105	106	70.0-130			1.15	25
Methyl Methacrylate	3.75	3.84	3.87	102	103	70.0-130			0.831	25
Tetrahydrofuran	3.75	3.70	3.73	98.7	99.5	70.0-140			0.747	25
2,2,4-Trimethylpentane	3.75	3.71	3.73	98.9	99.5	70.0-130			0.611	25
Vinyl Bromide	3.75	3.71	3.74	98.9	99.8	70.0-130			0.907	25
Isopropylbenzene	3.75	3.74	3.79	99.8	101	70.0-130			1.13	25
(S) 1,4-Bromofluorobenzene			101	101	60.0-140					

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

L1009407-01,02,03,04

## Method Blank (MB)

(MB) R3326000-3 07/16/18 10:02

Analyte	MB Result ppbv	<u>MB Qualifier</u>	MB MDL ppbv	MB RDL 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	91.6			60.0-140

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr

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

(LCS) R3326000-1 07/16/18 08:21 • (LCSD) R3326000-2 07/16/18 09:10

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	4.16	4.50	111	120	52.0-158			7.88	25
Acetone	3.75	3.98	4.47	106	119	70.0-130			11.6	25
2-Propanol	3.75	4.10	4.52	109	121	66.0-150			9.65	25
Methyl Ethyl Ketone	3.75	4.31	4.72	115	126	70.0-130			9.09	25
(S) 1,4-Bromofluorobenzene			100	102	60.0-140					

<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc



## Method Blank (MB)

(MB) R3326152-3 07/17/18 09:37

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv	
Acetone	U		0.0569	1.25	<sup>1</sup> Cp
Allyl Chloride	U		0.0546	0.200	<sup>2</sup> Tc
Benzene	U		0.0460	0.200	<sup>3</sup> Ss
Benzyl Chloride	U		0.0598	0.200	<sup>4</sup> Cn
Bromodichloromethane	U		0.0436	0.200	<sup>5</sup> Sr
Bromoform	U		0.0786	0.600	<sup>6</sup> Qc
Bromomethane	U		0.0609	0.200	<sup>7</sup> Gl
1,3-Butadiene	U		0.0563	2.00	<sup>8</sup> Al
Carbon disulfide	U		0.0544	0.200	<sup>9</sup> 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) R3326152-3 07/17/18 09:37

Analyte	MB Result ppbv	<u>MB Qualifier</u>	MB MDL ppbv	MB RDL ppbv	<sup>1</sup> Cp
Methylene Chloride	U		0.0465	0.200	<sup>2</sup> Tc
Methyl Butyl Ketone	U		0.0682	1.25	<sup>3</sup> Ss
2-Butanone (MEK)	U		0.0493	1.25	<sup>4</sup> Cn
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25	<sup>5</sup> Sr
Methyl Methacrylate	U		0.0773	0.200	<sup>6</sup> Qc
MTBE	U		0.0505	0.200	<sup>7</sup> Gl
Naphthalene	U		0.154	0.630	<sup>8</sup> Al
2-Propanol	U		0.0882	1.25	<sup>9</sup> Sc
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	97.6		60.0-140		

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

(LCS) R3326152-1 07/17/18 08:04 • (LCSD) R3326152-2 07/17/18 08:50

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	3.20	3.24	85.2	86.5	52.0-158			1.49	25
Propene	3.75	3.79	3.80	101	101	54.0-155			0.224	25
Dichlorodifluoromethane	3.75	3.82	3.71	102	99.0	69.0-143			2.85	25
1,2-Dichlorotetrafluoroethane	3.75	3.83	3.86	102	103	70.0-130			0.697	25
Chloromethane	3.75	3.81	3.82	102	102	70.0-130			0.310	25



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

(LCS) R3326152-1 07/17/18 08:04 • (LCSD) R3326152-2 07/17/18 08:50

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	3.57	3.71	95.2	99.1	70.0-130			4.00	25
1,3-Butadiene	3.75	3.53	3.75	94.0	100	70.0-130			6.19	25
Bromomethane	3.75	3.84	3.75	102	100	70.0-130			2.48	25
Chloroethane	3.75	3.72	3.73	99.3	99.5	70.0-130			0.248	25
Trichlorofluoromethane	3.75	3.84	3.83	102	102	70.0-130			0.0988	25
1,1,2-Trichlorotrifluoroethane	3.75	3.79	3.78	101	101	70.0-130			0.103	25
1,1-Dichloroethene	3.75	3.80	3.77	101	101	70.0-130			0.739	25
1,1-Dichloroethane	3.75	3.76	3.75	100	100	70.0-130			0.234	25
Acetone	3.75	3.86	3.87	103	103	70.0-130			0.339	25
2-Propanol	3.75	3.85	3.84	103	103	66.0-150			0.0709	25
Carbon disulfide	3.75	3.80	3.81	101	102	70.0-130			0.331	25
Methylene Chloride	3.75	3.69	3.67	98.4	98.0	70.0-130			0.409	25
MTBE	3.75	3.82	3.83	102	102	70.0-130			0.206	25
trans-1,2-Dichloroethene	3.75	3.81	3.83	102	102	70.0-130			0.361	25
n-Hexane	3.75	3.77	3.78	101	101	70.0-130			0.185	25
Vinyl acetate	3.75	3.93	3.95	105	105	70.0-130			0.313	25
Methyl Ethyl Ketone	3.75	3.87	3.86	103	103	70.0-130			0.238	25
cis-1,2-Dichloroethene	3.75	3.78	3.79	101	101	70.0-130			0.383	25
Chloroform	3.75	3.78	3.79	101	101	70.0-130			0.172	25
Cyclohexane	3.75	3.77	3.76	100	100	70.0-130			0.225	25
1,1,1-Trichloroethane	3.75	3.85	3.85	103	103	70.0-130			0.0810	25
Carbon tetrachloride	3.75	3.85	3.85	103	103	70.0-130			0.0554	25
Benzene	3.75	3.79	3.78	101	101	70.0-130			0.193	25
1,2-Dichloroethane	3.75	3.86	3.83	103	102	70.0-130			0.544	25
Heptane	3.75	3.79	3.76	101	100	70.0-130			0.793	25
Trichloroethylene	3.75	3.82	3.81	102	102	70.0-130			0.238	25
1,2-Dichloropropane	3.75	3.74	3.73	99.8	99.6	70.0-130			0.192	25
1,4-Dioxane	3.75	3.91	3.95	104	105	70.0-152			1.13	25
Bromodichloromethane	3.75	3.88	3.89	103	104	70.0-130			0.181	25
cis-1,3-Dichloropropene	3.75	3.89	3.90	104	104	70.0-130			0.325	25
4-Methyl-2-pentanone (MIBK)	3.75	3.92	4.01	105	107	70.0-142			2.15	25
Toluene	3.75	3.87	3.87	103	103	70.0-130			0.130	25
trans-1,3-Dichloropropene	3.75	3.92	3.97	104	106	70.0-130			1.44	25
1,1,2-Trichloroethane	3.75	3.83	3.85	102	103	70.0-130			0.303	25
Tetrachloroethylene	3.75	3.88	3.89	103	104	70.0-130			0.245	25
Methyl Butyl Ketone	3.75	4.05	4.06	108	108	70.0-150			0.259	25
Dibromochloromethane	3.75	3.99	4.02	106	107	70.0-130			0.699	25
1,2-Dibromoethane	3.75	3.92	3.95	105	105	70.0-130			0.673	25
Chlorobenzene	3.75	3.85	3.89	103	104	70.0-130			1.05	25
Ethylbenzene	3.75	3.83	3.83	102	102	70.0-130			0.0246	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) R3326152-1 07/17/18 08:04 • (LCSD) R3326152-2 07/17/18 08:50

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	7.53	7.52	100	100	70.0-130			0.0464	25
o-Xylene	3.75	3.95	3.94	105	105	70.0-130			0.0756	25
Styrene	3.75	4.14	4.14	110	110	70.0-130			0.0327	25
Bromoform	3.75	4.19	4.20	112	112	70.0-130			0.350	25
1,1,2,2-Tetrachloroethane	3.75	3.93	3.93	105	105	70.0-130			0.0562	25
4-Ethyltoluene	3.75	3.94	3.93	105	105	70.0-130			0.101	25
1,3,5-Trimethylbenzene	3.75	4.06	4.07	108	108	70.0-130			0.0516	25
1,2,4-Trimethylbenzene	3.75	3.95	3.92	105	105	70.0-130			0.612	25
1,3-Dichlorobenzene	3.75	4.15	4.14	111	110	70.0-130			0.229	25
1,4-Dichlorobenzene	3.75	4.31	4.31	115	115	70.0-130			0.152	25
Benzyl Chloride	3.75	4.38	4.37	117	117	70.0-144			0.236	25
1,2-Dichlorobenzene	3.75	4.09	4.08	109	109	70.0-130			0.147	25
1,2,4-Trichlorobenzene	3.75	4.55	4.48	121	120	70.0-155			1.45	25
Hexachloro-1,3-butadiene	3.75	4.16	4.16	111	111	70.0-145			0.110	25
Naphthalene	3.75	4.51	4.42	120	118	70.0-155			1.86	25
Allyl Chloride	3.75	3.89	3.90	104	104	70.0-130			0.373	25
2-Chlorotoluene	3.75	4.02	4.03	107	108	70.0-130			0.322	25
Methyl Methacrylate	3.75	3.93	3.92	105	105	70.0-130			0.0373	25
Tetrahydrofuran	3.75	3.76	3.74	100	99.8	70.0-140			0.320	25
2,2,4-Trimethylpentane	3.75	3.77	3.77	101	101	70.0-130			0.135	25
Vinyl Bromide	3.75	3.79	3.79	101	101	70.0-130			0.0831	25
Isopropylbenzene	3.75	3.82	3.83	102	102	70.0-130			0.273	25
(S) 1,4-Bromofluorobenzene				101	101	60.0-140				

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>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.	<sup>1</sup> Cp
ND	Not detected at the Reporting Limit (or MDL where applicable).	<sup>2</sup> Tc
RDL	Reported Detection Limit.	<sup>3</sup> Ss
Rec.	Recovery.	<sup>4</sup> Cn
RPD	Relative Percent Difference.	<sup>5</sup> Sr
SDG	Sample Delivery Group.	<sup>6</sup> 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.	<sup>7</sup> GI
U	Not detected at the Reporting Limit (or MDL where applicable).	<sup>8</sup> AI
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.	<sup>9</sup> Sc
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).
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.



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
Alaska	17-026
Arizona	AZ0612
Arkansas	88-0469
California	2932
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia <sup>1</sup>	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
Iowa	364
Kansas	E-10277
Kentucky <sup>1,6</sup>	90010
Kentucky <sup>2</sup>	16
Louisiana	AI30792
Louisiana <sup>1</sup>	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 <sup>1</sup>	n/a
New York	11742
North Carolina	Env375
North Carolina <sup>1</sup>	DW21704
North Carolina <sup>3</sup>	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 <sup>1,4</sup>	2006
Texas	T 104704245-17-14
Texas <sup>5</sup>	LAB0152
Utah	TN00003
Vermont	VT2006
Virginia	460132
Washington	C847
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

## Third Party Federal Accreditations

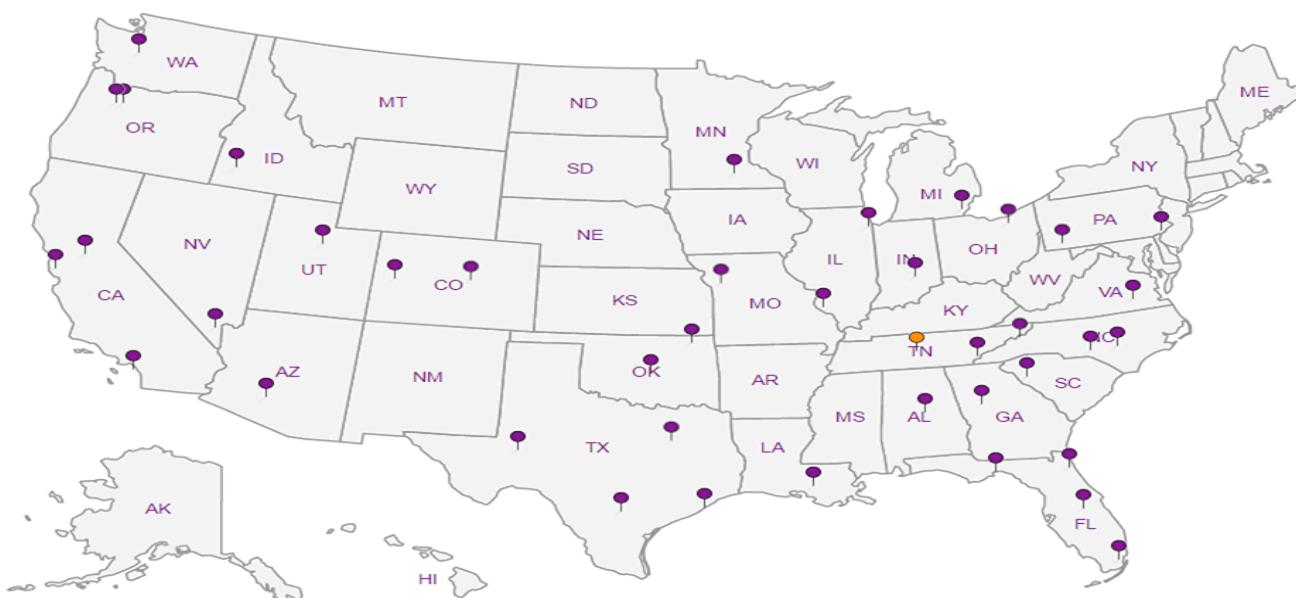
A2LA – ISO 17025	1461.01
A2LA – ISO 17025 <sup>5</sup>	1461.02
Canada	1461.01
EPA-Crypto	TN00003

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

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.



- |                 |
|-----------------|
| <sup>1</sup> Cp |
| <sup>2</sup> Tc |
| <sup>3</sup> Ss |
| <sup>4</sup> Cn |
| <sup>5</sup> Sr |
| <sup>6</sup> Qc |
| <sup>7</sup> Gl |
| <sup>8</sup> Al |
| <sup>9</sup> Sc |



## Indoor Air Monitoring (Bi-Weekly Sampling)

Borg Warner Facility

Water Valley, Yalobusha Co., MS

July 12-13, 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 Date/time	Vacuum ("Hg)	Final Date/time	Vacuum ("Hg)	Sampler
IA-1	Maintenance Room	8493	8028	6	7/12/18 15:54	29	7/13/18 16:06	10	M. Slack
IA-2	ATS Room	7829	5100	6	7/12/18 15:52	29	7/13/18 15:54	8	M. Slack
IA-6	Training Room	6001	8005	6	7/12/18 15:50	30	7/13/18 15:50	14	M. Slack
IA-17	Cafeteria	B452	9206	6	7/12/18 15:48	29	7/13/18 15:48	2	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	5045	40894	6	7/12/18 15:45	28 -15:44-13	7/13/18 15:40	2	M. Slack

Weather Conditions (@ time of canister placement): HOT - Humid - Mid 90's F - WINDS from W - 5 mph - Sunny Michael T. Slack (First Environment)

Weather Conditions during 24-hr sampling period:

WARM - 80's - Mid 90's - SUNNY - Humid - WINDS from W to NW - 5 mph

MTS/7/13/18

NS - Not Sampled

Invo: FIRENBNJ-OKFOR Date : 18Jun18  
 Customer : P659130 Weight : 10 LBS  
 Phone : (615)758-5858 COD :  
 SAT Del : Y DV : 0.00 Total : 0.00

Svc: PRIORITY OVERNIGHT  
 TRCK: 4430 3428 0439

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

Invo: FIRENBNJ-OKFOR Date : 18Jun18  
 Customer : P659130 Weight : 10 LBS  
 Phone : (615)758-5858 COD :  
 SAT Del : Y DV : 0.00 Total : 0.00

Svc: PRIORITY OVERNIGHT  
 TRCK: 4430 3428 0428

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

Pace Analytical National Center for Testing & Innovation  
Cooler Receipt Form

Client:	FIREN B NJ	SDG#	/0094/1
Cooler Received/Opened On:	7/14 /18	Temperature:	Amb
Received By:	Eric Struck		
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?			