

Leader Professional Services, Inc.

271 Marsh Road, Suite 2
Pittsford, New York 14534

900.002

(585) 248-2413
(585) 248-2834 (Fax)
www.leaderlink.com

June 22, 2016



Alan J. Knauf, Esq.
Flint Redevelopment LLC
c/o Knauf Shaw LLP
1400 Crossroads Building
2 State Street
Rochester, New York 14614

Re: Supplemental Phase II Environmental Site Investigation
Sub-slab Vapor Sampling
936 Exchange Street and 22 Flint Street
Rochester, New York

Dear Mr. Knauf:

Leader Professional Services, Inc. ("Leader") has received the sample results from our Supplemental Phase II Environmental Site Investigation ("Phase II") conducted on June 2, 2016 to evaluate the sub-slab vapor impacts beneath the buildings located at the referenced property.

SCOPE OF WORK

The goal of the Phase II was to sample the sub-slab soil vapor and evaluate the potential for impacts to the indoor environment. As a result of our Phase II soil and groundwater sampling project conducted on March 10 and 11, 2016, volatile organic compounds were found and organic compounds were tentatively found and strong evidence (stains, odors and free product) of more significant contamination was present.

Also, we recognized the potential for many interferences to be present within the buildings that could cause false positives with the sample results. These interferences included the storage of bicycles and bicycle parts, vehicles, unused equipment and maintenance and cleaning products. To minimize this effect on the resulting data, no indoor air samples were collected and each sampling location was tested with Helium to ensure the sample boring was sealed from the ambient air.

Each sample was split with Roux Associates, Inc. ("Roux"), ExxonMobil's consultant. After discussing the mechanics of splitting the samples with Roux and the New York State Department of Environmental Conservation ("NYSDEC"), Roux and Leader agreed to use the same size sample Summa canisters and the same flow rate during sampling. The flow rate was set by the laboratories providing the sample flow valves and Summa canisters. The sampling train consisted of the following:



- The sampling point was selected and constructed by Leader, which included using a food and beverage grade Polyethylene tubing sealed into a 3/8 to 1/2 inch diameter hole drilled through the floor slab and into the subsurface.
- The tubing was connected to a stainless steel flow splitter provided by Roux with two legs; one leg going to Leader's and one to Roux's Summa canister. The length of food and beverage grade tubing from the splitter to the Summa canisters was approximately the same.
- The samples were collected over approximately one hour; however, the conditions of the subsurface below the floor slab and the differences between flow valves varied causing in some cases for sampling to exceed one hour. During the sampling, the regulator on the Summa canister was monitored so the vacuum remaining in the canister did not drop to zero. If one canister filled faster than the other, the canister that filled faster was closed to allow the other canister to fill.
- Each sample collected by Leader was analyzed for volatile organic compounds following USEPA Method TO-15.

Discussion

Sample locations were selected by Leader to provide information on the sub-slab vapor conditions below the buildings 936 Exchange Street and 22 Flint Street. The interior of each building was inspected prior to sampling to evaluate building conditions which might impact sampling. These conditions included holes in the floor, tenant traffic within the building area, presence of basements or crawl spaces and the sample locations relative to soil and groundwater samples collected during the previous Phase II. During the assessment, certain areas of both buildings were avoided because of the presence of a concrete floor heating system located in the southeast corner of the 936 Exchange Street building and crawl space beneath the north side of 22 Flint Street. The sampling locations are shown on Figure 1.

Prior to the collection of samples, each hole was tested to determine if the seal formed around the sample tube the day before was competent. This was determined by placing and sealing a sheet of plastic over the sample location, connecting the sample tube to an instrument with a Helium detector, and then introducing Helium beneath the plastic sheet and monitoring the Helium detector. The monitoring was performed for several minutes. If Helium was detected then the seal was repaired and retested. Following seal testing the soil vapor was measured using a Mini Rae 3000 volatile organic analyzer using a photoionization detector ("PID") with a 10.6 electron volt lamp.

The results of the TO-15 analysis and the PID measurements are shown on Table 1. In general, the PID measurements did not show any elevated concentrations. The laboratory report for the testing is provided in Attachment 1. In general, the most significant of the results is the presence of chlorinated solvents: Tetrachloroethene ranging in concentration from 1.73 $\mu\text{g}/\text{m}^3$ to 652.0



micrograms per cubic meter ($\mu\text{g}/\text{m}^3$); Trichloroethene ranging in concentration from 1.26 $\mu\text{g}/\text{m}^3$ to 1,230.0 $\mu\text{g}/\text{m}^3$; cis-1,2-Dichloroethene found at 9.13 $\mu\text{g}/\text{m}^3$ and 247.0 $\mu\text{g}/\text{m}^3$; Trans 1,2-Dichloroethene was found at 4.77 $\mu\text{g}/\text{m}^3$ and 9.78 $\mu\text{g}/\text{m}^3$. Figure 2 provides the distribution of the chlorinated solvents on the site.

Petroleum related products were also found widespread across the site. These included: Benzene was found at concentrations ranging from 0.684 $\mu\text{g}/\text{m}^3$ to 7.43 $\mu\text{g}/\text{m}^3$; Toluene was found at concentrations ranging from 1.5 $\mu\text{g}/\text{m}^3$ to 37.8 $\mu\text{g}/\text{m}^3$; M&P Xylene was found at concentrations ranging from 2.67 $\mu\text{g}/\text{m}^3$ to 18.2 $\mu\text{g}/\text{m}^3$; O-Xylene was found at concentrations ranging from 1.2 $\mu\text{g}/\text{m}^3$ to 6.96 $\mu\text{g}/\text{m}^3$; Trimethylbenzenes were found at concentrations ranging from 1.08 $\mu\text{g}/\text{m}^3$ to 7.64 $\mu\text{g}/\text{m}^3$; and Ethylbenzene was found at two locations at 2.72 $\mu\text{g}/\text{m}^3$ and 4.82 $\mu\text{g}/\text{m}^3$.

Other compounds were also found at relatively low concentrations. The following are of interest because of their detected concentration, but also because they were all found at location SV-7 located at 22 Flint Street at the southernmost end of the building: Acetone was found at a concentration of 22.4 $\mu\text{g}/\text{m}^3$; Ethanol was found at a concentration of 109.0 $\mu\text{g}/\text{m}^3$; Heptane was found at a concentration of 5.79 $\mu\text{g}/\text{m}^3$; N-Hexane was found at a concentration of 20.2 $\mu\text{g}/\text{m}^3$; Methylene Chloride was found at a concentration of 40.8 $\mu\text{g}/\text{m}^3$ (also found at lower concentrations in sample blanks); 2-Butanone was found at a concentration of 16.0 $\mu\text{g}/\text{m}^3$; 2-Propanol was found at a concentration of 9.81 $\mu\text{g}/\text{m}^3$; and 2,2,4-Trimethylpentane was found at a concentration of 10.3 $\mu\text{g}/\text{m}^3$.

Findings

NYSDEC and the New York State Department of Health (“NYSDOH”) has not developed guidelines or standards for sub-slab soil vapor samples to compare to the sample results. The United States Environmental Protection Agency (“USEPA”) has screening levels for shallow soil gas concentrations which are used in their vapor intrusion attenuation models to meet risk based indoor air quality values.¹ The risk-based shallow soil gas values use a risk of 10^{-5} which would be suitable for a commercial building setting. Comparing the results to the risk-based shallow soil gas values, three compounds appear potentially problematic: Chloroform, Trichloroethene and Tetrachloroethene.

Aside from the potential health risks, the sampling results show that the Site has widespread contamination, potentially from various sources.

¹ USEPA Office of Solid Waste and Emergency Response, “Draft Guidance for Evaluating the Vapor to Indoor Air Pathway from Groundwater and Soils,” November 2002.



We appreciate the opportunity to conduct the investigation and provide you with this report.
Please call us at (585) 248-2413 if you have any questions or comments.

Very truly yours,
LEADER PROFESSIONAL SERVICES, INC.

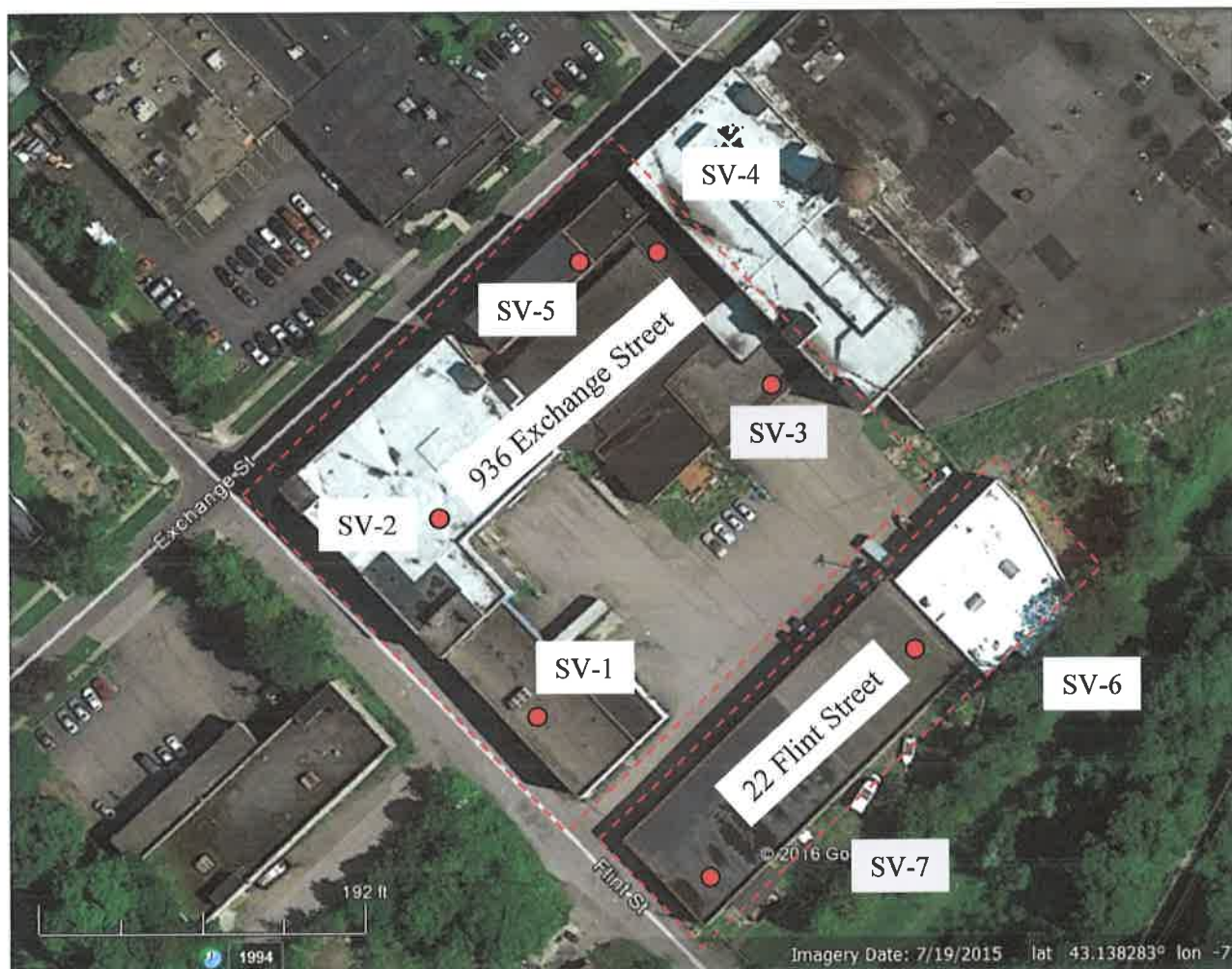
A handwritten signature in cursive script, reading "Peter von Schondorf".

Peter von Schondorf
Senior Project Manager

A handwritten signature in cursive script, reading "Michael P. Rumrill".

Michael P. Rumrill
President

Enclosures as noted



● SV-1 = Sub-slab Vapor Sampling Location

Title Soil Vapor Sample Location Map
22 Flint Street and 936 Exchange Street
Rochester, New York

Prepared For Flint Redevelopment, LLC
1400 Crossroads Building
Rochester, New York

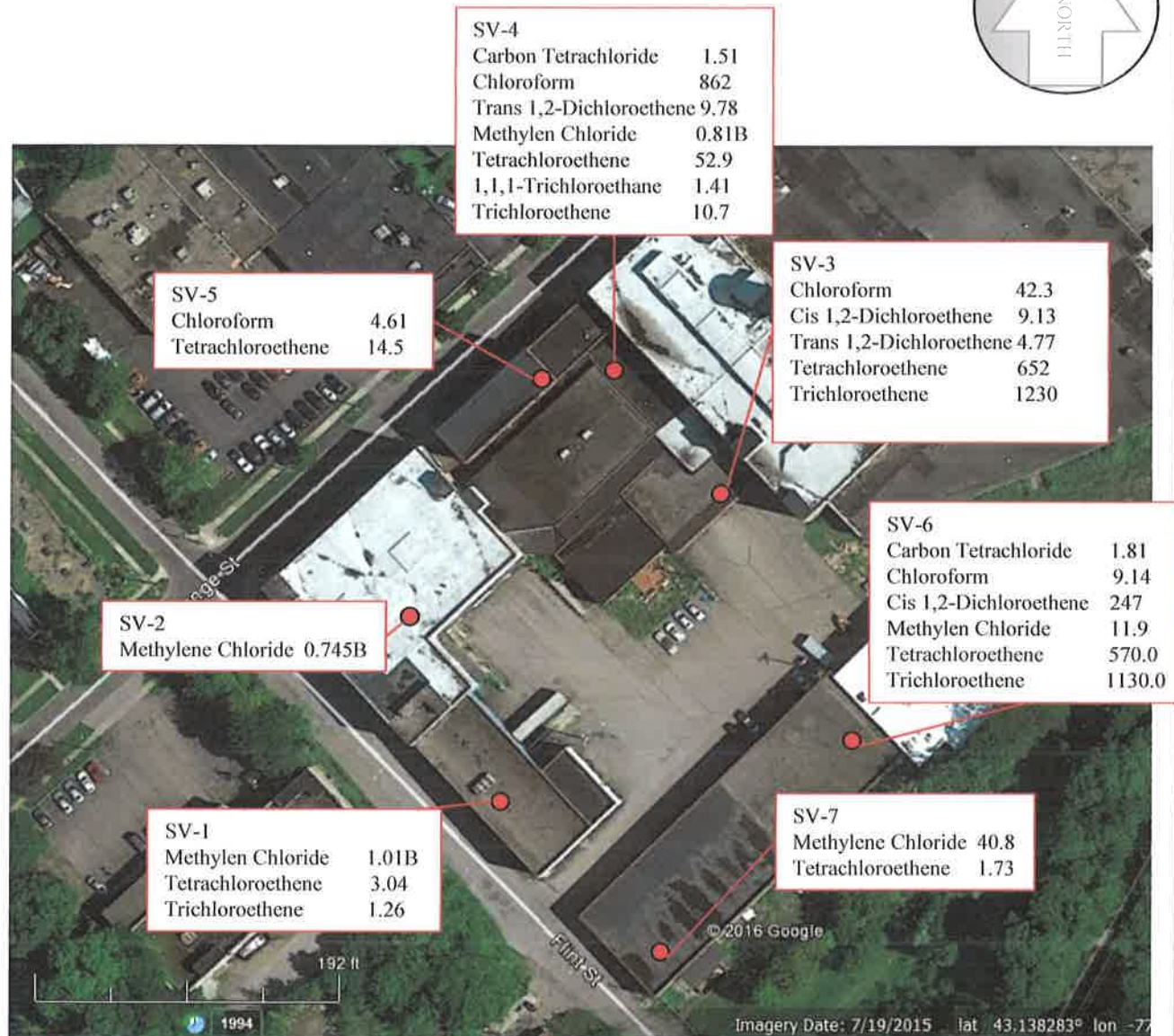
LEADER
Leader Professional Services
271 Marsh Road, Suite 2
Pittsford, NY 14534
(585) 248-2413
FAX (585) 248-2834

Project 900.002
Date 6/16/16
Scale NTS

Drawn PVS
Checked MPR
File Name Site Map

Figure

1

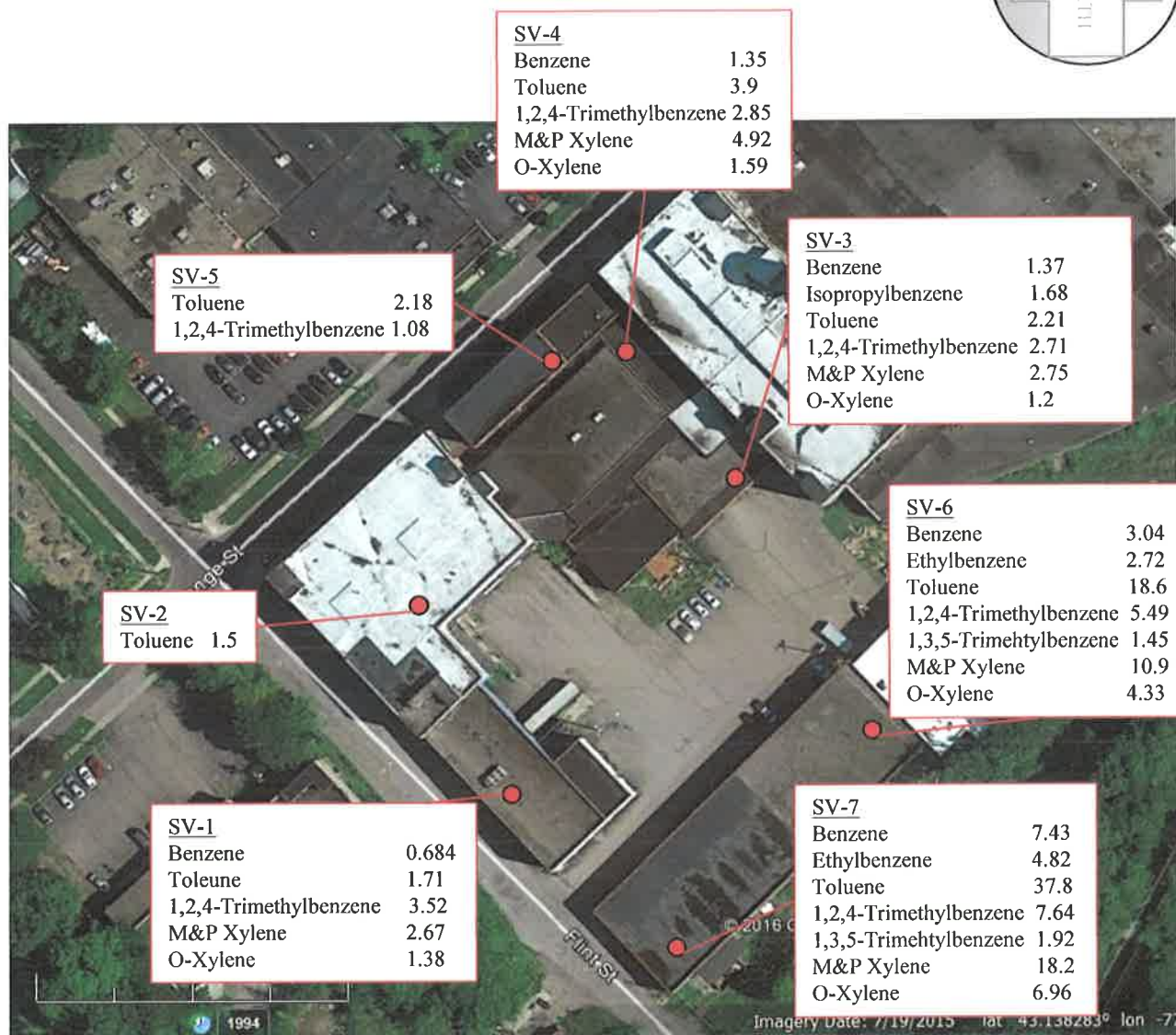
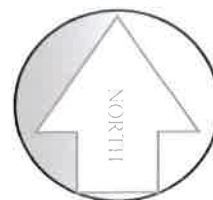


● SV-1 = Sub-slab Vapor Sampling Location

All concentrations shown in units of micrograms per cubic meter.

B = Compound was found with the laboratory blank analyzed with the sample and is a possible laboratory contaminant.

Title Chlorinated Solvent Contaminants Concentrations and their Locations 22 Flint Street and 936 Exchange Street	 Leader Professional Services 271 Marsh Road, Suite 2 Pittsford, NY 14534 (585) 248-2413 FAX (585) 248-2834	Project 900.002 Date 6/16/16 Scale NTS	Drawn PVS Checked MPB File Name Site Map	Figure 2
Prepared For Flint Redevelopment, LLC 1400 Crossroads Building Rochester, New York				



● SV-1 = Sub-slab Vapor Sampling Location

All concentrations shown in units of micrograms per cubic meter.

Title
Petroleum Related Contaminants
Concentrations and Locations
22 Flint Street and 936 Exchange Street

Prepared
For
Flint Redevelopment, LLC
1400 Crossroads Building
Rochester, New York

LEADER
Leader Professional Services
271 Marsh Road, Suite 2
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Project
900.002
Date
6/16/16
Scale
NTS

Drawn
PVS
Checked
MPR
File Name
Site Map

Figure
3

TABLE 1
Summary of Sample Results
Sub-slab Vapor Sampling 936 Exchange and 15 Flint Street
Rochester, New York

Lab Sample ID	L839577-01	L839577-02	L839577-03	L839577-04	L839577-05	L839577-06	L839577-07
Client Sample ID	SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SV-7
Date Collected	06/02/2016	06/02/2016	06/02/2016	06/02/2016	06/02/2016	06/02/2016	06/02/2016
Analyte	Units	Result	Qualifier	Result	Qualifier	Result	Qualifier
ACETONE	ug/m3	6.38	7.04	10.1	ND	6.32	22.4
ALLYL CHLORIDE	ug/m3	ND	0.93	ND	ND	ND	ND
BENZENE	ug/m3	0.684	ND	1.37	1.35	3.04	7.43
CARBON DISULFIDE	ug/m3	ND	ND	ND	1.1	ND	ND
CARBON TETRACHLORIDE	ug/m3	ND	ND	ND	1.51	1.81	ND
CHLOROFORM	ug/m3	ND	ND	42.3	4.61	9.14	ND
CHLOROMETHANE	ug/m3	ND	1.12	0.83	ND	ND	0.887
CYCLOHEXANE	ug/m3	ND	ND	0.745	ND	1.79	3.34
CIS-1,2-DICHLOROETHENE	ug/m3	ND	ND	9.13	ND	247	ND
TRANS-1,2-DICHLOROETHENE	ug/m3	ND	ND	4.77	9.78	ND	ND
ETHANOL	ug/m3	15.3	10.7	9.85	17.2	41.5	109
ETHYLBENZENE	ug/m3	ND	ND	ND	ND	2.72	4.82
4-ETHYLTOLUENE	ug/m3	ND	ND	ND	ND	3.25	4.62
TRICHLOROFLUOROMETHANE	ug/m3	2	1.35	1.94	3.42	2.28	2.02
DICHLORODIFLUOROMETHANE	ug/m3	1.71	3.31	1.79	1.8	2.24	2.08
HEPTANE	ug/m3	ND	ND	ND	0.846	3.58	5.79
N-HEXANE	ug/m3	0.958	ND	ND	0.866	9.35	20.2
ISOPROPYLBENZENE	ug/m3	ND	ND	1.68	ND	ND	ND
METHYLENE CHLORIDE	ug/m3	1.01	0.745	B	0.81	11.9	40.8
2-BUTANONE (MEK)	ug/m3	ND	ND	ND	ND	ND	16
2-PROPANOL	ug/m3	ND	5.39	ND	ND	3.79	9.81
PROPENE	ug/m3	0.836	B	ND	ND	ND	J3
STYRENE	ug/m3	1.45	ND	0.895	ND	1	ND
TETRACHLOROETHENE	ug/m3	3.04	ND	652	52.9	570	1.73
TETRAHYDROFURAN	ug/m3	ND	ND	ND	2.09	ND	ND
TOLUENE	ug/m3	1.71	1.5	2.21	3.9	18.6	37.8
1,1,1-TRICHLOROETHANE	ug/m3	ND	ND	ND	1.41	ND	ND
TRICHLOROETHENE	ug/m3	1.26	ND	1230	10.7	1130	ND
1,2,4-TRIMETHYLBENZENE	ug/m3	3.52	ND	2.71	2.85	5.49	7.64
1,3,5-TRIMETHYLBENZENE	ug/m3	ND	ND	ND	ND	1.45	1.92
2,2,4-TRIMETHYLPENTANE	ug/m3	3.18	1.31	1.58	0.966	5.44	10.3
M&P-XYLENE	ug/m3	2.67	ND	2.75	4.92	10.9	18.2
O-XYLENE	ug/m3	1.38	ND	1.2	1.59	4.33	6.96
PID Results	PPM	4.6	0	1.5	1.6	0.3	1.7

Notes:
 ug/M³ = micrograms per cubic liter.
 ND = Not detected above reporting limits.
 B= Contaminant was also found in laboratory blank.
 J3 = The associated batch QA/QC was outside the established quality control range for precision.
 PID = Total volatile organic vapors measured using a photoionization detector.
 PPM = parts per million.

TABLE 2
Summary of Sample Results Compared to USEPA Shallow Soil Gas Concentrations for 10⁻⁵ Cancer Risk Within Indoor Air
Sub-slab Vapor Sampling 936 Exchange and 15 Flint Street
Rochester, New York

Lab Sample ID					L839577-01	L839577-02	L839577-03	L839577-04	L839577-05	L839577-06	L839577-07	
Client Sample ID					SV-1	SV-2	SV-3	SV-4	SV-5	SV-6	SV-7	
Date Collected					06/02/2016	06/02/2016	06/02/2016	06/02/2016	06/02/2016	06/02/2016	06/02/2016	
Analyte	Units	USEPA	Guidance		Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
ACETONE	ug/m3		2,100		6.38	7.04	10.1	ND	ND	6.32	22.4	
ALLYL CHLORIDE	ug/m3		NS		ND	0.93	ND	ND	ND	ND	ND	
BENZENE	ug/m3	31	0.684		ND	ND	1.37	1.35	ND	3.04	7.43	
CARBON DISULFIDE	ug/m3	7,000	ND		ND	ND	1.1	1.1	ND	ND	7.43	
CARBON TETRACHLORIDE	ug/m3	16	ND		ND	ND	1.51	1.81	ND	ND	ND	
CHLOROFORM	ug/m3	11	ND		ND	ND	42.3	862	4.61	9.14	ND	
CHLOROMETHANE	ug/m3	NS	ND		ND	1.12	0.83	ND	ND	ND	0.887	
CYCLOHEXANE	ug/m3	NS	ND		ND	ND	0.745	ND	ND	1.79	3.34	
CIS-1,2-DICHLOROETHENE	ug/m3	350	ND		ND	ND	9.13	ND	ND	247	ND	
TRANS-1,2-DICHLOROETHENE	ug/m3	700	ND		ND	ND	4.77	9.78	ND	ND	ND	
ETHANOL	ug/m3	NS	15.3		10.7		9.85	17.2	23.3	41.5	109	
ETHYLBENZENE	ug/m3	220	ND		ND	ND	ND	ND	ND	2.72	4.82	
4-ETHYLTOLUENE	ug/m3	NS	ND		ND	ND	ND	ND	ND	3.25	4.62	
TRICHLOROFLUOROMETHANE	ug/m3	NS	2		1.35		1.94	3.42	1.56	2.28	2.02	
DICHLORODIFLUOROMETHANE	ug/m3	NS	1.71		3.31		1.79	1.8	1.58	2.24	2.08	
HEPTANE	ug/m3	NS	ND		ND		ND	0.846	ND	3.58	5.79	
N-HEXANE	ug/m3	2,000	0.958		ND	ND	ND	0.866	ND	9.35	20.2	
ISOPROPYLBENZENE	ug/m3	4,000	ND		ND	ND	1.68	ND	ND	ND	ND	
METHYLENE CHLORIDE	ug/m3	240	1.01	B	0.745	B	ND	0.81	ND	11.9	40.8	
2-BUTANONE (MEK)	ug/m3	10,000	ND		ND	ND	ND	ND	ND	ND	16	
2-PROPANOL	ug/m3	NS	ND		5.39		ND	ND	ND	3.79	9.81	
PROPENE	ug/m3	NS	0.836	B	ND	ND	ND	ND	ND	ND	J3	
STYRENE	ug/m3	10,000	1.45		ND	ND	0.895	ND	ND	1	ND	
TETRACHLOROETHENE	ug/m3	81	3.04		ND	ND	652	52.9	14.5	570	1.73	
TETRAHYDROFURAN	ug/m3	NS	ND		ND	NS	ND	2.09	ND	ND	ND	
TOLUENE	ug/m3	4,000	1.71		1.5		2.21	3.9	2.18	18.6	37.8	
1,1,1-TRICHLOROETHANE	ug/m3	22,000	ND		ND	ND	ND	1.41	ND	ND	ND	
TRICHLOROETHENE	ug/m3	2.2	1.26		ND	ND	1230	10.7	ND	1130	ND	
1,2,4-TRIMETHYLBENZENE	ug/m3	60	3.52		2.71		2.85	1.08	1.08	5.49	7.64	
1,3,5-TRIMETHYLBENZENE	ug/m3	60	ND		ND	ND	ND	ND	ND	1.45	1.92	
2,2,4-TRIMETHYLPENTANE	ug/m3	NS	3.18		1.31		1.58	0.966	ND	5.44	10.3	
M&P-XYLENE	ug/m3	70,000	2.67		2.75		4.92	4.92	ND	10.9	18.2	
O-XYLENE	ug/m3	70,000	1.38		ND	ND	1.2	1.59	ND	4.33	6.96	

Notes:
 USEPA Values from "OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and soils, November 2002."
 ND =Not detected
 NS = No standard or guidance level
 ug/M3 = micrograms per cubic meter.

ATTACHMENT 1
LABORATORY REPORT

Leader Environmental

Sample Delivery Group: L839577
Samples Received: 06/04/2016
Project Number: 900002
Description: Flint Street Redevelopment Project 2

Report To: Mr. Peter von Schondorf
271 Marsh Road, Suite 2
Pittsford, NY 14534

Entire Report Reviewed By:



Terrie Fudge
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SV-2 L839577-02	7
SV-3 L839577-03	9
SV-4 L839577-04	11
SV-5 L839577-05	13
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⁶Qc: Quality Control Summary	19
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⁸Al: Accreditations & Locations	31
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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



SV-1 L839577-01 Air

Collected by
Pete Von Schondorf

Collected date/time
06/02/16 10:55

Received date/time
06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878843	1	06/09/16 07:01	06/09/16 07:01	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG879370	1	06/10/16 15:27	06/10/16 15:27	SNH

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SV-2 L839577-02 Air

Collected by
Pete Von Schondorf

Collected date/time
06/02/16 11:10

Received date/time
06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878843	1	06/09/16 07:43	06/09/16 07:43	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG879370	1	06/10/16 16:16	06/10/16 16:16	SNH

SV-3 L839577-03 Air

Collected by
Pete Von Schondorf

Collected date/time
06/02/16 11:30

Received date/time
06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878843	1	06/09/16 08:24	06/09/16 08:24	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG879340	1	06/10/16 11:08	06/10/16 11:08	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG879340	20	06/10/16 13:56	06/10/16 13:56	MBF

SV-4 L839577-04 Air

Collected by
Pete Von Schondorf

Collected date/time
06/02/16 12:15

Received date/time
06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878843	1	06/09/16 09:06	06/09/16 09:06	SNH
Volatile Organic Compounds (MS) by Method TO-15	WG879340	20	06/10/16 11:54	06/10/16 11:54	MBF

SV-5 L839577-05 Air

Collected by
Pete Von Schondorf

Collected date/time
06/02/16 14:04

Received date/time
06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878625	1	06/08/16 21:35	06/08/16 21:35	MBF

SV-6 L839577-06 Air

Collected by
Pete Von Schondorf

Collected date/time
06/02/16 14:20

Received date/time
06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878625	1	06/08/16 22:25	06/08/16 22:25	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG879045	20	06/09/16 23:22	06/09/16 23:22	MBF

SV-7 L839577-07 Air

Collected by
Pete Von Schondorf

Collected date/time
06/02/16 15:10

Received date/time
06/04/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG878625	1	06/08/16 23:11	06/08/16 23:11	MBF
Volatile Organic Compounds (MS) by Method TO-15	WG879045	10	06/10/16 00:02	06/10/16 00:02	MBF



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Terrie Fudge
Technical Service Representative

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 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.68	6.38		1	WG879370
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878843
Benzene	71-43-2	78.10	0.200	0.639	0.214	0.684		1	WG878843
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878843
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878843
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878843
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878843
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878843
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878843
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878843
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878843
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878843
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG878843
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG878843
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878843
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG878843
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878843
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878843
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878843
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878843
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878843
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878843
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878843
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878843
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878843
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878843
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878843
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878843
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878843
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878843
Ethanol	64-17-5	46.10	0.630	1.19	8.14	15.3		1	WG878843
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878843
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878843
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.355	2.00		1	WG878843
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.346	1.71		1	WG878843
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878843
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878843
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG878843
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878843
n-Hexane	110-54-3	86.20	0.200	0.705	0.272	0.958		1	WG878843
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878843
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.291	1.01	B	1	WG878843
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878843
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878843
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878843
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878843
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878843
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878843
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG878843
Propene	115-07-1	42.10	0.400	0.689	0.485	0.836	B	1	WG878843
Styrene	100-42-5	104	0.200	0.851	0.340	1.45		1	WG878843
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878843
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.447	3.04		1	WG878843
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878843
Toluene	108-88-3	92.10	0.200	0.753	0.454	1.71		1	WG878843
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878843

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/02/16 10:55

L839577

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	WG878843
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878843
Trichloroethylene	79-01-6	131	0.200	1.07	0.234	1.26		1	WG878843
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.718	3.52		1	WG878843
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878843
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.680	3.18		1	WG878843
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878843
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878843
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878843
m&p-Xylene	1330-20-7	106	0.400	1.73	0.616	2.67		1	WG878843
o-Xylene	95-47-6	106	0.200	0.867	0.319	1.38		1	WG878843
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG878843
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.9				WG879370

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.96	7.04		1	WG879370
Allyl chloride	107-05-1	76.53	0.200	0.626	0.297	0.930		1	WG878843
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG878843
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878843
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878843
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878843
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878843
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878843
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878843
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878843
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878843
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878843
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG878843
Chloromethane	74-87-3	50.50	0.200	0.413	0.542	1.12		1	WG878843
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878843
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG878843
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878843
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878843
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878843
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878843
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878843
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878843
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878843
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878843
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878843
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878843
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878843
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878843
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878843
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878843
Ethanol	64-17-5	46.10	0.630	1.19	5.67	10.7		1	WG878843
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878843
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878843
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.241	1.35		1	WG878843
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.669	3.31		1	WG878843
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878843
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878843
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG878843
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878843
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG878843
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878843
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.215	0.745	B	1	WG878843
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878843
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878843
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878843
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878843
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878843
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878843
2-Propanol	67-63-0	60.10	1.25	3.07	2.19	5.39		1	WG878843
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG878843
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG878843
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878843
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG878843
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878843
Toluene	108-88-3	92.10	0.200	0.753	0.397	1.50		1	WG878843
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878843

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 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	WG878843
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878843
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG878843
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	ND	ND		1	WG878843
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878843
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.279	1.31		1	WG878843
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878843
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878843
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878843
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG878843
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG878843
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		97.6				WG879370
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		101				WG878843

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



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	4.26	10.1		1	WG879340
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878843
Benzene	71-43-2	78.10	0.200	0.639	0.430	1.37		1	WG878843
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878843
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878843
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878843
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878843
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878843
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878843
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878843
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878843
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878843
Chloroform	67-66-3	119	0.200	0.973	8.68	42.3		1	WG878843
Chloromethane	74-87-3	50.50	0.200	0.413	0.402	0.830		1	WG878843
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878843
Cyclohexane	110-82-7	84.20	0.200	0.689	0.216	0.745		1	WG878843
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878843
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878843
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878843
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878843
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878843
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878843
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878843
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878843
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	2.30	9.13		1	WG878843
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	1.20	4.77		1	WG878843
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878843
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878843
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878843
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878843
Ethanol	64-17-5	46.10	0.630	1.19	5.22	9.85		1	WG878843
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878843
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878843
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.345	1.94		1	WG878843
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.362	1.79		1	WG878843
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878843
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878843
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG878843
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878843
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG878843
Isopropylbenzene	98-82-8	120.20	0.200	0.983	0.342	1.68		1	WG878843
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG878843
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878843
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878843
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878843
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878843
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878843
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878843
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG878843
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG878843
Styrene	100-42-5	104	0.200	0.851	0.210	0.895		1	WG878843
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878843
Tetrachloroethylene	127-18-4	166	4.00	27.2	96.0	652		20	WG879340
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878843
Toluene	108-88-3	92.10	0.200	0.753	0.587	2.21		1	WG878843
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878843

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 06/02/16 11:30

L839577

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	WG878843
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878843
Trichloroethylene	79-01-6	131	4.00	21.4	229	1230		20	WG879340
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.552	2.71		1	WG878843
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878843
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.338	1.58		1	WG878843
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878843
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878843
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878843
m&p-Xylene	1330-20-7	106	0.400	1.73	0.634	2.75		1	WG878843
o-Xylene	95-47-6	106	0.200	0.867	0.276	1.20		1	WG878843
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		100				WG878843
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		93.4				WG879340
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				WG879340

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	25.0	59.4	ND	ND		20	WG879340
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878843
Benzene	71-43-2	78.10	0.200	0.639	0.423	1.35		1	WG878843
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878843
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878843
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878843
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878843
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878843
Carbon disulfide	75-15-0	76.10	0.200	0.622	0.354	1.10		1	WG878843
Carbon tetrachloride	56-23-5	154	0.200	1.26	0.239	1.51		1	WG878843
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878843
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878843
Chloroform	67-66-3	119	4.00	19.5	177	862		20	WG879340
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG878843
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878843
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG878843
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878843
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878843
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878843
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878843
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878843
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878843
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878843
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878843
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878843
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	2.47	9.78		1	WG878843
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878843
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878843
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878843
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878843
Ethanol	64-17-5	46.10	0.630	1.19	9.10	17.2		1	WG878843
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878843
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878843
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.608	3.42		1	WG878843
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.364	1.80		1	WG878843
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878843
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878843
Heptane	142-82-5	100	0.200	0.818	0.207	0.846		1	WG878843
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878843
n-Hexane	110-54-3	86.20	0.200	0.705	0.246	0.866		1	WG878843
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878843
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.233	0.810	B	1	WG878843
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878843
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878843
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878843
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878843
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878843
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878843
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG878843
Propene	115-07-1	42.10	0.400	0.689	ND	ND		1	WG878843
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG878843
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878843
Tetrachloroethylene	127-18-4	166	0.200	1.36	7.79	52.9		1	WG878843
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	0.708	2.09		1	WG878843
Toluene	108-88-3	92.10	0.200	0.753	1.04	3.90		1	WG878843
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878843

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 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	0.260	1.41		1	WG878843
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878843
Trichloroethylene	79-01-6	131	0.200	1.07	2.00	10.7		1	WG878843
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.581	2.85		1	WG878843
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878843
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	0.207	0.966		1	WG878843
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878843
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878843
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878843
m&p-Xylene	1330-20-7	106	0.400	1.73	1.13	4.92		1	WG878843
o-Xylene	95-47-6	106	0.200	0.867	0.366	1.59		1	WG878843
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		106				WG878843
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.9				WG879340

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

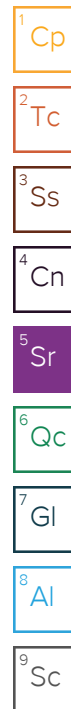
9

Sc



Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	ND	ND		1	WG878625
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878625
Benzene	71-43-2	78.10	0.200	0.639	ND	ND		1	WG878625
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878625
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878625
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878625
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878625
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878625
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878625
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878625
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878625
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878625
Chloroform	67-66-3	119	0.200	0.973	0.948	4.61		1	WG878625
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG878625
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878625
Cyclohexane	110-82-7	84.20	0.200	0.689	ND	ND		1	WG878625
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878625
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878625
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878625
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878625
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878625
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878625
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878625
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878625
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878625
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878625
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878625
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878625
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878625
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878625
Ethanol	64-17-5	46.10	0.630	1.19	12.4	23.3		1	WG878625
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG878625
4-Ethyltoluene	622-96-8	120	0.200	0.982	ND	ND		1	WG878625
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.278	1.56		1	WG878625
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.319	1.58		1	WG878625
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878625
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878625
Heptane	142-82-5	100	0.200	0.818	ND	ND		1	WG878625
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878625
n-Hexane	110-54-3	86.20	0.200	0.705	ND	ND		1	WG878625
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878625
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG878625
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878625
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878625
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878625
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878625
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878625
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878625
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG878625
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3	1	WG878625
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG878625
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878625
Tetrachloroethylene	127-18-4	166	0.200	1.36	2.13	14.5		1	WG878625
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878625
Toluene	108-88-3	92.10	0.200	0.753	0.579	2.18		1	WG878625
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878625



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	WG878625
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878625
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG878625
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	0.220	1.08		1	WG878625
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	ND	ND		1	WG878625
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	WG878625
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878625
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878625
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878625
m&p-Xylene	1330-20-7	106	0.400	1.73	ND	ND		1	WG878625
o-Xylene	95-47-6	106	0.200	0.867	ND	ND		1	WG878625
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.7				WG878625

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 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	1.25	2.97	2.66	6.32		1	WG878625
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878625
Benzene	71-43-2	78.10	0.200	0.639	0.952	3.04		1	WG878625
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878625
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878625
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878625
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878625
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878625
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878625
Carbon tetrachloride	56-23-5	154	0.200	1.26	0.288	1.81		1	WG878625
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878625
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878625
Chloroform	67-66-3	119	0.200	0.973	1.88	9.14		1	WG878625
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	WG878625
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878625
Cyclohexane	110-82-7	84.20	0.200	0.689	0.521	1.79		1	WG878625
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878625
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878625
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878625
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878625
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878625
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878625
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878625
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878625
cis-1,2-Dichloroethene	156-59-2	96.90	4.00	15.9	62.3	247		20	WG879045
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878625
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878625
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878625
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878625
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878625
Ethanol	64-17-5	46.10	0.630	1.19	22.0	41.5		1	WG878625
Ethylbenzene	100-41-4	106	0.200	0.867	0.627	2.72		1	WG878625
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.661	3.25		1	WG878625
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.406	2.28		1	WG878625
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.453	2.24		1	WG878625
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878625
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878625
Heptane	142-82-5	100	0.200	0.818	0.875	3.58		1	WG878625
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878625
n-Hexane	110-54-3	86.20	0.200	0.705	2.65	9.35		1	WG878625
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878625
Methylene Chloride	75-09-2	84.90	0.200	0.694	3.44	11.9		1	WG878625
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878625
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	WG878625
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878625
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878625
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878625
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878625
2-Propanol	67-63-0	60.10	1.25	3.07	1.54	3.79		1	WG878625
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3	1	WG878625
Styrene	100-42-5	104	0.200	0.851	0.235	1.00		1	WG878625
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878625
Tetrachloroethylene	127-18-4	166	4.00	27.2	83.9	570		20	WG879045
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878625
Toluene	108-88-3	92.10	0.200	0.753	4.95	18.6		1	WG878625
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878625

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 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	WG878625
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878625
Trichloroethylene	79-01-6	131	4.00	21.4	212	1130		20	WG879045
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.12	5.49		1	WG878625
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.295	1.45		1	WG878625
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	1.17	5.44		1	WG878625
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878625
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878625
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878625
m&p-Xylene	1330-20-7	106	0.400	1.73	2.52	10.9		1	WG878625
o-Xylene	95-47-6	106	0.200	0.867	0.998	4.33		1	WG878625
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.3				WG878625
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		95.9				WG879045

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



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	9.45	22.4		1	WG878625
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG878625
Benzene	71-43-2	78.10	0.200	0.639	2.33	7.43		1	WG878625
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG878625
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG878625
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG878625
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG878625
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG878625
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	WG878625
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG878625
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG878625
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG878625
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG878625
Chloromethane	74-87-3	50.50	0.200	0.413	0.430	0.887		1	WG878625
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG878625
Cyclohexane	110-82-7	84.20	0.200	0.689	0.970	3.34		1	WG878625
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG878625
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG878625
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG878625
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG878625
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG878625
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG878625
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG878625
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG878625
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG878625
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG878625
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG878625
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG878625
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG878625
1,4-Dioxane	123-91-1	88.10	0.200	0.721	ND	ND		1	WG878625
Ethanol	64-17-5	46.10	6.30	11.9	57.9	109		10	WG879045
Ethylbenzene	100-41-4	106	0.200	0.867	1.11	4.82		1	WG878625
4-Ethyltoluene	622-96-8	120	0.200	0.982	0.941	4.62		1	WG878625
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	0.359	2.02		1	WG878625
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.421	2.08		1	WG878625
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG878625
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG878625
Heptane	142-82-5	100	0.200	0.818	1.42	5.79		1	WG878625
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG878625
n-Hexane	110-54-3	86.20	0.200	0.705	5.74	20.2		1	WG878625
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG878625
Methylene Chloride	75-09-2	84.90	0.200	0.694	11.8	40.8		1	WG878625
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG878625
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	5.44	16.0		1	WG878625
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG878625
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG878625
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG878625
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG878625
2-Propanol	67-63-0	60.10	1.25	3.07	3.99	9.81		1	WG878625
Propene	115-07-1	42.10	0.400	0.689	ND	ND	J3	1	WG878625
Styrene	100-42-5	104	0.200	0.851	ND	ND		1	WG878625
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG878625
Tetrachloroethylene	127-18-4	166	0.200	1.36	0.254	1.73		1	WG878625
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG878625
Toluene	108-88-3	92.10	0.200	0.753	10.0	37.8		1	WG878625
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG878625

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 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	WG878625
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG878625
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG878625
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	1.56	7.64		1	WG878625
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	0.390	1.92		1	WG878625
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	2.21	10.3		1	WG878625
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG878625
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG878625
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	WG878625
m&p-Xylene	1330-20-7	106	0.400	1.73	4.19	18.2		1	WG878625
o-Xylene	95-47-6	106	0.200	0.867	1.60	6.96		1	WG878625
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.6				WG878625
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.5				WG879045

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3142483-3 06/08/16 09:46

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL 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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3142483-3 06/08/16 09:46

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL 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	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	96.9			60.0-140

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3142483-1 06/08/16 08:16 • (LCSD) R3142483-2 06/08/16 09:01

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.88	3.95	103	105	34.3-167			2.03	25
Propene	3.75	3.75	2.34	100	62.5	53.9-143		J3	46.2	25
Dichlorodifluoromethane	3.75	3.77	3.65	101	97.3	56.7-140			3.34	25
1,2-Dichlorotetrafluoroethane	3.75	3.82	4.05	102	108	70.0-130			5.90	25
Chloromethane	3.75	3.78	4.01	101	107	70.0-130			6.12	25



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

(LCS) R3142483-1 06/08/16 08:16 • (LCSD) R3142483-2 06/08/16 09:01

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	3.86	4.09	103	109	70.0-130			5.82	25
1,3-Butadiene	3.75	3.60	4.11	96.0	110	70.0-130			13.2	25
Bromomethane	3.75	4.36	4.44	116	118	70.0-130			1.86	25
Chloroethane	3.75	4.35	4.52	116	120	70.0-130			3.86	25
Trichlorofluoromethane	3.75	4.31	4.39	115	117	70.0-130			1.70	25
1,1,2-Trichlorotrifluoroethane	3.75	4.24	4.33	113	116	70.0-130			2.28	25
1,1-Dichloroethene	3.75	4.05	4.15	108	111	70.0-130			2.40	25
1,1-Dichloroethane	3.75	3.97	3.94	106	105	70.0-130			0.690	25
Acetone	3.75	4.00	4.18	107	111	70.0-130			4.27	25
2-Propanol	3.75	3.80	3.88	101	103	50.4-152			1.97	25
Carbon disulfide	3.75	4.13	4.26	110	113	70.0-130			2.99	25
Methylene Chloride	3.75	3.53	3.55	94.2	94.6	70.0-130			0.460	25
MTBE	3.75	3.95	3.95	105	105	70.0-130			0.0800	25
trans-1,2-Dichloroethene	3.75	3.95	3.95	105	105	70.0-130			0.140	25
n-Hexane	3.75	3.96	3.98	106	106	70.0-130			0.480	25
Vinyl acetate	3.75	4.03	4.05	107	108	70.0-130			0.480	25
Methyl Ethyl Ketone	3.75	4.04	4.06	108	108	70.0-130			0.400	25
cis-1,2-Dichloroethene	3.75	3.98	3.99	106	106	70.0-130			0.270	25
Chloroform	3.75	3.95	3.94	105	105	70.0-130			0.450	25
Cyclohexane	3.75	4.01	4.02	107	107	70.0-130			0.290	25
1,1,1-Trichloroethane	3.75	3.94	3.96	105	105	70.0-130			0.280	25
Carbon tetrachloride	3.75	3.99	4.00	107	107	70.0-130			0.180	25
Benzene	3.75	3.99	3.98	106	106	70.0-130			0.0300	25
1,2-Dichloroethane	3.75	3.96	3.90	106	104	70.0-130			1.40	25
Heptane	3.75	4.05	4.07	108	108	70.0-130			0.410	25
Trichloroethylene	3.75	4.02	3.94	107	105	70.0-130			1.99	25
1,2-Dichloropropane	3.75	3.96	3.92	106	104	70.0-130			1.16	25
1,4-Dioxane	3.75	4.28	4.23	114	113	48.0-156			1.09	25
Bromodichloromethane	3.75	3.98	3.96	106	106	70.0-130			0.530	25
cis-1,3-Dichloropropene	3.75	4.04	4.02	108	107	70.0-130			0.630	25
4-Methyl-2-pentanone (MIBK)	3.75	4.06	4.04	108	108	55.3-154			0.390	25
Toluene	3.75	4.03	4.02	107	107	70.0-130			0.270	25
trans-1,3-Dichloropropene	3.75	4.04	3.99	108	106	70.0-130			1.37	25
1,1,2-Trichloroethane	3.75	3.99	3.95	106	105	70.0-130			0.870	25
Tetrachloroethylene	3.75	4.08	4.06	109	108	70.0-130			0.540	25
Methyl Butyl Ketone	3.75	4.11	4.10	109	109	47.9-165			0.110	25
Dibromochloromethane	3.75	4.16	4.10	111	109	70.0-130			1.34	25
1,2-Dibromoethane	3.75	4.07	4.03	108	107	70.0-130			0.980	25
Chlorobenzene	3.75	4.07	4.02	108	107	70.0-130			1.13	25
Ethylbenzene	3.75	4.04	4.03	108	108	70.0-130			0.0300	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) R3142483-1 06/08/16 08:16 • (LCSD) R3142483-2 06/08/16 09:01

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
m&p-Xylene	7.50	7.97	7.97	106	106	70.0-130			0.0300	25
o-Xylene	3.75	4.08	4.06	109	108	70.0-130			0.370	25
Styrene	3.75	4.19	4.18	112	111	70.0-130			0.390	25
Bromoform	3.75	4.27	4.23	114	113	70.0-130			0.830	25
1,1,2,2-Tetrachloroethane	3.75	4.01	4.01	107	107	70.0-130			0.100	25
4-Ethyltoluene	3.75	4.12	4.12	110	110	70.0-130			0.170	25
1,3,5-Trimethylbenzene	3.75	4.11	4.11	110	110	70.0-130			0.0800	25
1,2,4-Trimethylbenzene	3.75	4.15	4.11	111	110	70.0-130			0.930	25
1,3-Dichlorobenzene	3.75	4.12	4.12	110	110	70.0-130			0.120	25
1,4-Dichlorobenzene	3.75	4.13	4.13	110	110	70.0-130			0.0400	25
Benzyl Chloride	3.75	4.18	4.16	112	111	55.6-160			0.670	25
1,2-Dichlorobenzene	3.75	4.12	4.10	110	109	70.0-130			0.540	25
1,2,4-Trichlorobenzene	3.75	4.39	4.39	117	117	53.6-154			0.0400	25
Hexachloro-1,3-butadiene	3.75	4.21	4.18	112	112	62.1-143			0.620	25
Naphthalene	3.75	4.38	4.37	117	116	52.0-158			0.360	25
Allyl Chloride	3.75	4.08	3.99	109	106	70.0-130			2.27	25
2-Chlorotoluene	3.75	4.03	4.04	108	108	70.0-130			0.250	25
Methyl Methacrylate	3.75	3.74	3.69	99.7	98.5	70.0-130			1.22	25
Tetrahydrofuran	3.75	4.01	4.00	107	107	65.0-140			0.160	25
2,2,4-Trimethylpentane	3.75	4.03	4.02	108	107	70.0-130			0.280	25
Vinyl Bromide	3.75	4.39	4.44	117	118	70.0-130			1.01	25
Isopropylbenzene	3.75	4.12	4.11	110	110	70.0-130			0.270	25
(S) 1,4-Bromofluorobenzene				98.2	98.8	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) R3142646-2 06/09/16 04:01

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL 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	0.0719	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) R3142646-2 06/09/16 04:01

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	0.102	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	97.1		60.0-140	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3142646-1 06/09/16 03:20 • (LCSD) R3142646-3 06/09/16 11:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.63	4.47	96.7	119	34.3-167			20.9	25
Propene	3.75	3.78	3.39	101	90.3	53.9-143			11.0	25
Dichlorodifluoromethane	3.75	3.82	3.44	102	91.7	56.7-140			10.5	25
1,2-Dichlorotetrafluoroethane	3.75	3.98	3.65	106	97.5	70.0-130			8.62	25
Chloromethane	3.75	3.91	3.41	104	91.0	70.0-130			13.5	25
Vinyl chloride	3.75	3.75	3.36	99.9	89.6	70.0-130			10.8	25

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

(LCS) R3142646-1 06/09/16 03:20 • (LCSD) R3142646-3 06/09/16 11:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,3-Butadiene	3.75	3.55	3.10	94.8	82.6	70.0-130			13.7	25
Bromomethane	3.75	3.65	3.32	97.3	88.6	70.0-130			9.33	25
Chloroethane	3.75	3.70	3.25	98.6	86.7	70.0-130			12.9	25
Trichlorofluoromethane	3.75	3.82	4.03	102	108	70.0-130			5.51	25
1,1,2-Trichlorotrifluoroethane	3.75	3.72	4.47	99.3	119	70.0-130			18.2	25
1,1-Dichloroethene	3.75	3.88	4.42	103	118	70.0-130			13.0	25
1,1-Dichloroethane	3.75	3.57	4.33	95.2	115	70.0-130			19.2	25
2-Propanol	3.75	4.30	5.13	115	137	50.4-152			17.5	25
Carbon disulfide	3.75	3.82	4.75	102	127	70.0-130			21.7	25
Methylene Chloride	3.75	3.48	4.24	92.9	113	70.0-130			19.6	25
MTBE	3.75	3.74	4.37	99.8	117	70.0-130			15.5	25
trans-1,2-Dichloroethene	3.75	3.76	4.41	100	118	70.0-130			15.9	25
n-Hexane	3.75	3.70	4.73	98.8	126	70.0-130			24.3	25
Vinyl acetate	3.75	3.62	4.51	96.6	120	70.0-130			21.9	25
Methyl Ethyl Ketone	3.75	3.97	3.78	106	101	70.0-130			4.92	25
cis-1,2-Dichloroethene	3.75	3.92	3.73	104	99.3	70.0-130			4.97	25
Chloroform	3.75	3.91	3.65	104	97.4	70.0-130			6.66	25
Cyclohexane	3.75	4.00	3.83	107	102	70.0-130			4.38	25
1,1,1-Trichloroethane	3.75	3.94	3.69	105	98.3	70.0-130			6.75	25
Carbon tetrachloride	3.75	3.90	3.63	104	96.9	70.0-130			7.23	25
Benzene	3.75	3.93	3.60	105	96.0	70.0-130			8.85	25
1,2-Dichloroethane	3.75	3.94	3.57	105	95.1	70.0-130			10.0	25
Heptane	3.75	4.10	3.71	109	98.9	70.0-130			10.0	25
Trichloroethylene	3.75	3.90	3.64	104	97.1	70.0-130			6.82	25
1,2-Dichloropropane	3.75	3.92	3.58	105	95.5	70.0-130			9.05	25
1,4-Dioxane	3.75	4.44	4.02	118	107	48.0-156			9.93	25
Bromodichloromethane	3.75	3.92	3.58	105	95.5	70.0-130			9.13	25
cis-1,3-Dichloropropene	3.75	4.03	3.78	107	101	70.0-130			6.43	25
4-Methyl-2-pentanone (MIBK)	3.75	4.10	3.76	109	100	55.3-154			8.59	25
Toluene	3.75	4.00	3.69	107	98.3	70.0-130			8.28	25
trans-1,3-Dichloropropene	3.75	4.05	3.76	108	100	70.0-130			7.32	25
1,1,2-Trichloroethane	3.75	3.91	3.60	104	95.9	70.0-130			8.41	25
Tetrachloroethylene	3.75	3.89	3.58	104	95.5	70.0-130			8.41	25
Methyl Butyl Ketone	3.75	4.28	3.94	114	105	47.9-165			8.37	25
Dibromochloromethane	3.75	4.01	3.62	107	96.5	70.0-130			10.1	25
1,2-Dibromoethane	3.75	3.96	3.62	106	96.5	70.0-130			9.00	25
Chlorobenzene	3.75	3.89	3.56	104	95.0	70.0-130			8.95	25
Ethylbenzene	3.75	3.98	3.68	106	98.0	70.0-130			7.99	25
m&p-Xylene	7.50	8.09	7.42	108	98.9	70.0-130			8.62	25
o-Xylene	3.75	4.04	3.74	108	99.8	70.0-130			7.72	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) R3142646-1 06/09/16 03:20 • (LCSD) R3142646-3 06/09/16 11:40

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Styrene	3.75	4.14	3.83	110	102	70.0-130			7.79	25
Bromoform	3.75	4.07	3.69	109	98.4	70.0-130			9.90	25
1,1,2,2-Tetrachloroethane	3.75	3.96	3.54	106	94.5	70.0-130			11.1	25
4-Ethyltoluene	3.75	4.00	3.64	107	97.0	70.0-130			9.45	25
1,3,5-Trimethylbenzene	3.75	4.07	3.69	109	98.3	70.0-130			10.0	25
1,2,4-Trimethylbenzene	3.75	4.03	3.65	108	97.3	70.0-130			10.0	25
1,3-Dichlorobenzene	3.75	3.99	3.55	107	94.6	70.0-130			11.8	25
1,4-Dichlorobenzene	3.75	4.12	3.65	110	97.3	70.0-130			12.1	25
Benzyl Chloride	3.75	4.30	3.90	115	104	55.6-160			9.72	25
1,2-Dichlorobenzene	3.75	3.97	3.51	106	93.7	70.0-130			12.3	25
1,2,4-Trichlorobenzene	3.75	4.20	3.85	112	103	53.6-154			8.74	25
Hexachloro-1,3-butadiene	3.75	3.88	3.47	104	92.6	62.1-143			11.2	25
Naphthalene	3.75	4.27	3.86	114	103	52.0-158			10.2	25
Allyl Chloride	3.75	3.71	4.65	98.9	124	70.0-130			22.6	25
2-Chlorotoluene	3.75	4.04	3.58	108	95.3	70.0-130			12.3	25
Methyl Methacrylate	3.75	3.87	3.59	103	95.6	70.0-130			7.60	25
Tetrahydrofuran	3.75	4.00	3.73	107	99.5	65.0-140			6.87	25
2,2,4-Trimethylpentane	3.75	4.07	3.83	109	102	70.0-130			6.18	25
Vinyl Bromide	3.75	3.75	4.33	100	116	70.0-130			14.4	25
Isopropylbenzene	3.75	4.06	3.77	108	100	70.0-130			7.55	25
(S) 1,4-Bromofluorobenzene				99.5	99.9	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) R3142703-3 06/09/16 09:38

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
cis-1,2-Dichloroethene	U		0.0389	0.200
Tetrachloroethylene	U		0.0497	0.200
Trichloroethylene	U		0.0545	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	96.3			60.0-140

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

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

(LCS) R3142703-1 06/09/16 08:11 • (LCSD) R3142703-2 06/09/16 08:54

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	3.85	3.75	103	100	34.3-167			2.77	25
cis-1,2-Dichloroethene	3.75	4.04	4.07	108	109	70.0-130			0.740	25
Trichloroethylene	3.75	3.98	4.06	106	108	70.0-130			1.96	25
Tetrachloroethylene	3.75	4.16	4.20	111	112	70.0-130			0.920	25
(S) 1,4-Bromofluorobenzene				96.4	97.7	60.0-140				

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3142829-3 06/10/16 05:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Acetone	U		0.0569	1.25
Chloroform	U		0.0574	0.200
Tetrachloroethylene	0.0648	J	0.0497	0.200
Trichloroethylene	U		0.0545	0.200
(S) 1,4-Bromofluorobenzene	95.4			60.0-140

1Cp

2Tc

3Ss

4Cn

5Sr

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

(LCS) R3142829-1 06/10/16 03:50 • (LCSD) R3142829-2 06/10/16 04:36

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Acetone	3.75	4.33	4.28	115	114	70.0-130			1.00	25
Chloroform	3.75	3.80	3.78	101	101	70.0-130			0.520	25
Trichloroethylene	3.75	3.80	3.77	101	101	70.0-130			0.770	25
Tetrachloroethylene	3.75	3.85	3.72	103	99.3	70.0-130			3.31	25
(S) 1,4-Bromofluorobenzene				103	103	60.0-140				

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3142904-3 06/10/16 09:25

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Acetone	U		0.0569	1.25
(S) 1,4-Bromofluorobenzene	95.2			60.0-140

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

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

(LCS) R3142904-1 06/10/16 07:57 • (LCSD) R3142904-2 06/10/16 08:41

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Acetone	3.75	3.89	3.28	104	87.5	70.0-130			16.9	25
(S) 1,4-Bromofluorobenzene				94.9	95.1	60.0-140				



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



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

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

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

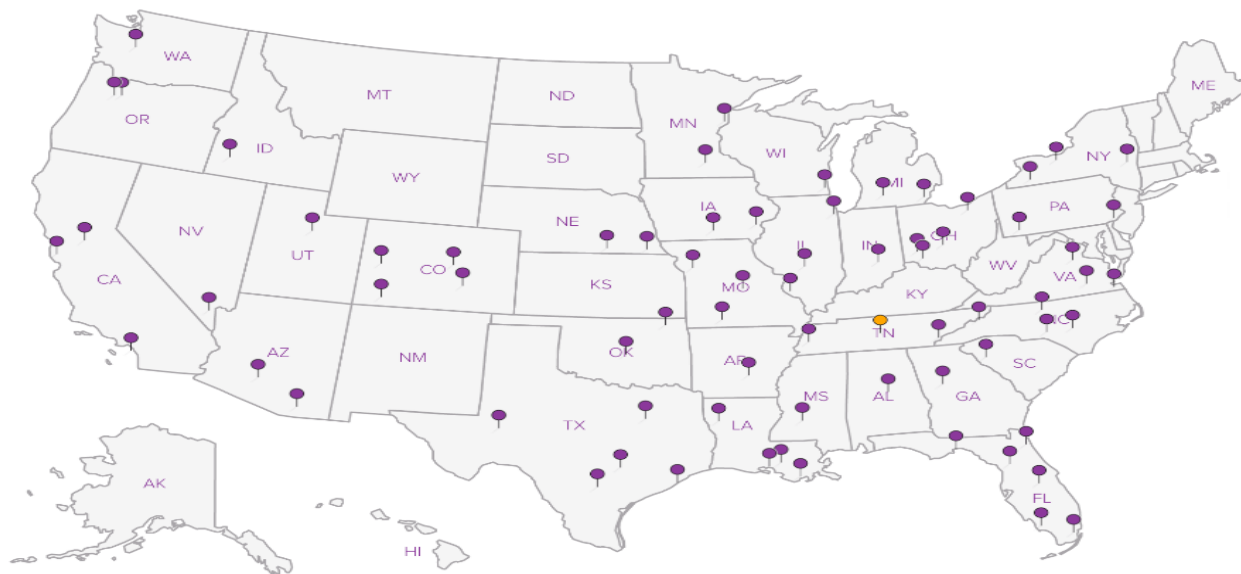
Third Party & Federal Accreditations

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

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

Our Locations

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



Leader Environmental

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Report to:
Mr. Peter von Schondorf

Email To: pvonschondorf@leaderlink.com

Project
Description: **Flint Street Redevelopment Project 2**

City/State
Collected:

Phone: **585-248-2413**

Fax:

Client Project #

900 002

Lab Project #

LEADERPNY-FLINT

Collected by (print):

PETE VON SCHONDORF

Site/Facility ID #

P.O. #

Collected by (signature):

Pete von Schondorf

Rush? (Lab MUST Be Notified)

___ Same Day200%
___ Next Day100%
___ Two Day50%
___ Three Day25%

Date Results Needed

Email? ___ No ☒ Yes

FAX? ___ No ___ Yes

No.
of
Cntrs

Immediately
Packed on Ice N ☒ Y ___

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TO-15 Summa													
SV-1	G	Air		6-2-16	10:55	1	X													-01
SV-2	G	Air		"	11:10	1	X													-02
SV-3	G	Air		"	11:30	1	X													-03
SV-4	G	Air		"	12:15	1	X													-04
SV-5	G	Air		"	2:04	1	X													-05
SV-6	G	Air		"	2:20	1	X													-06
SV-7	G	Air		"	2:55	1	X													-07
					3:10															

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks:

6711 0340 0778

pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature)

Pete von Schondorf

Date:

6-3-16

Time:

5:00

Received by: (Signature)

Forrest

Samples returned via: ☐ UPS

☒ FedEx ☐ Courier ☐ _____

Temp: _____ °C Bottles Received: **7**

AMB

Date: **6/4/16** Time: **9:00**

Hold #

Condition: (lab use only)

stx7 **GRU**

COC Seal Intact: ___ Y ___ N ☒ NA

pH Checked:

NCF:

Chain of Custody Page **1** of **1**



YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L # **6839577**

Ta **F150**

Acctnum: **LEADERPNY**

Template: **T110779**

Prelogin: **P553717**

TSR: **064 - Terrie Fudge**

PB: **84K 5-18-16**

Shipped Via: **FedEX 2nd Day**

Rem./Contaminant Sample # (lab only)