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DATE: August 7, 2019

TO: Jeff Catanzarita, U.S. EPA/ERT Work Assignment Manager

THROUGH: Paul Carter, SERAS Program Manager PC

FROM: Colleen Grell, SERAS Task Leader CG

SUBJECT: FULTON AVENUE SITE, GARDEN CITY PARK, NEW YORK
APRIL 2019 SUB-SLAB SOIL GAS SAMPLING /INDOOR AIR SAMPLING
WORK ASSIGNMENT #SER00098 – TRIP REPORT

BACKGROUND

The Fulton Avenue Site (Site) is located at 150 Fulton Avenue in Garden City Park, Nassau County, New York (NY), on a property formerly used as a cutting mill and dry cleaning facility. The property is approximately 0.8 acre in size and houses a 20,000-square foot (ft^2) building. Businesses utilizing dry cleaning processes have previously occupied the Site building. Analytical data suggest that a plume of volatile organic compounds (VOCs), composed chiefly of the dry cleaning solvent tetrachloroethene (PCE), had impacted groundwater by way of a dry well formerly located on the property. One or more solvent plumes composed primarily of the cleaning solvent trichloroethene (TCE) believed to originate from sources other than the dry well were subsequently identified in the site area.

To date, several remedial actions have been taken to evaluate and address contamination at the Site. Contaminated soil was removed from the base of the dry well and an air sparging/soil vapor extraction (SVE) system was installed at some time between 1998 and 2001 by potentially responsible parties. Additional investigations focused primarily on impact to the local groundwater system revealed that multiple sources were present. A Record of Decision (ROD) issued by Environmental Protection Agency (EPA) Region 2 in September 2007 divided subsequent remedial actions into two operable units: Operable Unit (OU) #1 to investigate the PCE-dominant plume, and OU #2 to investigate area-wide TCE contamination.

At the request of the EPA/Environmental Response Team (ERT), Scientific, Engineering, Response and Analytical Services (SERAS) personnel conducted soil vapor intrusion sampling studies in the vicinity of the Site (November 2011, December 2011, March 2016, May 2016, January/February 2017, January 2018 and March 2018). The most recent sampling event was performed in April 2019.

OBSERVATIONS AND ACTIVITIES

From April 9 to April 12, 2019, SERAS personnel, at the request of the EPA/ERT, traveled to the Site and collected samples from five previously sampled commercial buildings. Three new sub-slab soil gas sampling probes were installed where the original ports failed the helium leak test within the interior of two commercial buildings. Sub-slab soil gas and indoor air samples were collected within these buildings.

Commercial building locations were identified as 194-ATL, 195-ATL, 197-ATL, 150-FUL and 200-FUL.

Helium Leak Testing and Sub-Slab Soil Gas Probe Installation

Helium leak testing was performed at each of the existing sub-slab soil gas ports to verify the integrity of the port. Three of the 27 ports failed the leak test; failing ports were removed and a new port was installed. One port was not able to be leak tested due to the proximity of a shelving unit. The helium leak test was conducted at each well by covering the well annulus with a shroud containing three ports. The sample tube connecting the probe to a vacuum-box Tedlar® bag sampler passed through the center port. The two side ports were used to introduce a steady flow of helium into the shroud and to monitor the helium concentration within the shroud. When the shroud helium concentration stabilized at or above 90 percent (%), a Tedlar bag sample was collected from the well using one-liter (L) bags.

After collecting the sample, the helium cylinder was shut off, the detector was removed, and the reading was allowed to return to zero. To verify the integrity of the soil gas well, the Tedlar® bag sample was removed from the vacuum-box, the tubing was sealed and the Tedlar® bag sample was screened with the detector to determine the helium concentration. The leak test passed if the helium concentration in the Tedlar bag sample contained less than 5% of helium. Due to time constraints, the helium test was not performed on the three re-installed probes.

Leaking sub-slab soil gas probes were removed and a new port was installed in or next to the original opening. Probes were installed flush with the slab and capped with a Teflon® fitting that was removed during sampling operations. Sub-slab soil gas sampling probes were installed in accordance with SERAS standard operating procedure (SOP) #2082, *Construction and Installation of Permanent Sub-Slab Soil Gas Vapor Probes.*. Old probe openings were removed and filled with concrete.

SUMMA® Canister Sampling and Analysis

SERAS personnel collected one 24-hour sub-slab soil gas sample from each of the locations using a 6- L SUMMA® canister in accordance with SERAS SOP #1704, *SUMMA® Canister Sampling*. Sub-slab soil gas, indoor air, ambient air and collocated samples were collected during 24-hour sampling periods yielding a 4 to 5-L time-weighted average (TWA) sample. A minimum of one ambient air sample was collected during the sample period and one trip blank was submitted with the shipment. All samples collected in SUMMA® canisters were properly documented using Scribe. A total of 59 samples were collected, including 27 sub-slab soil gas, one SVE, 25 indoor air, three collocated, two ambient air samples and one trip blank. Of these samples, two (one sub-slab soil gas from 200-FUL and one ambient air sample from 150-FUL) were not analyzed due to the SUMMA® canisters having been moved during the sample period. A summary of samples collected is presented in Table 1. The sample locations are depicted in Figures 1 and 2.

For this sampling event, samples were shipped to Con-Test Laboratory in East Longmeadow, Massachusetts (MA) for VOC analysis. Analysis of the sub-slab soil gas, indoor and ambient air samples was performed in accordance with EPA Method TO-15, *Analysis of Volatile Organic Compounds (VOCs) in SUMMA Canister Air Samples by Gas Chromatography/Mass Spectrometry (GC/MS).* An abbreviated analyte list was applied for samples collected from all buildings, as all have been sampled in the past. The abbreviated list includes: vinyl chloride (VC), trans-1,2-dichloroethene (trans-1,2-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), chloroform, TCE, 1,1,2-trichloroethane (1,1,2-TCA), PCE, 1,1,2,2-tetrachloroethane and naphthalene. Reporting Limits (RLs) for VOCs were set at 0.020 parts per billion

by volume (ppbv) for all contaminants for the sub-slab soil gas and indoor air samples collected using SUMMA® canisters. Results were reported in both ppbv and micrograms per cubic meter ($\mu g/m^3$).

RESULTS

Analytical results are compared against two benchmark sets, Benchmark A and B, based on values derived using EPA's Vapor Intrusion Screening Level (VISL) Calculator. The VISLs are chemical- and media-specific, risk-based screening values used by the Agency to screen vapor intrusion data. Within each set of benchmarks, sub-slab soil gas and indoor air values have been calculated for residential and commercial structures.

Two sets of benchmarks for sub-slab soil gas and indoor air were used for comparison of sample results in commercial structures. Benchmark A is defined as the chemical-specific VISL values corresponding to either a 10^{-6} cancer risk range for carcinogenic chemicals, or a non-cancer hazard quotient (HQ) of 1 for non-carcinogens. In instances where both cancer and non-cancer based VISLs were available for a chemical, the lowest, or most conservative value, was selected. Benchmark B is defined as EPA's VISL values corresponding to the lower of the 10^{-4} cancer risk range for carcinogens or a HQ of 1 for non-carcinogens.

Sub-Slab Soil Gas Results

Analytical results for sub-slab soil gas were compared against Benchmark A criteria, derived from the Commercial VISL set at a cancer risk = 10^{-6}. During the April 2019 sampling event, PCE was detected in each of the 27 sub-slab soil gas samples. PCE concentrations were detected above the sub-slab soil gas Benchmark A (1,600 $\mu g/m^3$) in 17 samples. All 27 sub-slab soil gas samples indicated TCE concentrations, with five detected above the sub-slab soil gas Benchmark A of 100 $\mu g/m^3$. Chloroform concentrations in three sub-slab soil gas samples were detected above the sub-slab soil gas Benchmark A of 18 $\mu g/m^3$. A summary of the analytical results that exceeded commercial Benchmark A is presented in Table 2A.

Analytical results for sub-slab soil gas were also compared with Benchmark B criteria, derived from the Commercial VISL set at a cancer risk = 10^{-4}. PCE was detected in 12 sub-slab soil gas samples above the sub-slab soil gas Benchmark B of 5,840 $\mu g/m^3$. The TCE concentration in two samples was detected above the sub-slab soil gas Benchmark B of 292 $\mu g/m^3$. Results that exceed Benchmark B are shown in Table 2B.

The sample locations and sub-slab soil gas sample results for PCE and TCE are depicted in Figure 3.

Indoor and Ambient Air Results

Analytical results for indoor and ambient air were compared against Benchmark A criteria, derived from the Commercial VISL set at a cancer risk = 10^{-6}. In 10 indoor and ambient air samples, TCE was detected; one sample exceeded the Benchmark A of 3 $\mu g/m^3$. Naphthalene was detected above the reporting limit in 21 of the indoor and ambient air samples, with 20 sample results exceeding Benchmark A (0.36 $\mu g/m^3$). PCE was detected above the reporting limit in each of the 29 samples; it exceeded Benchmark A in one sample. This data is presented in Table 3A.

Analytical results for indoor and air were also compared with Benchmark B criteria, derived from the Commercial VISL set at a cancer risk = 10^{-4}. No samples exceeded Benchmark B for TCE (8.8 $\mu g/m^3$), PCE (175 $\mu g/m^3$) or naphthalene (13 $\mu g/m^3$). A summary is shown in Table 3B.

The indoor and ambient air sample locations and sample results for PCE and TCE are depicted in Figure 4.

Ambient Air
Only one ambient air sample was collected. Analytical results for ambient air were compared against Benchmark A criteria, derived from the Commercial VISL set at a cancer risk = 10^{-6}. Naphthalene and PCE were detected in this sample, but did not exceed Benchmark A (0.36 µg/m^3 for naphthalene and 3 µg/m^3 for PCE). Data is presented in Table 3A.

No analytes were detected above the indoor/ambient air Benchmark B (Commercial VISL set at a cancer risk = 10^{-4}). This is summarized in Table 3B.

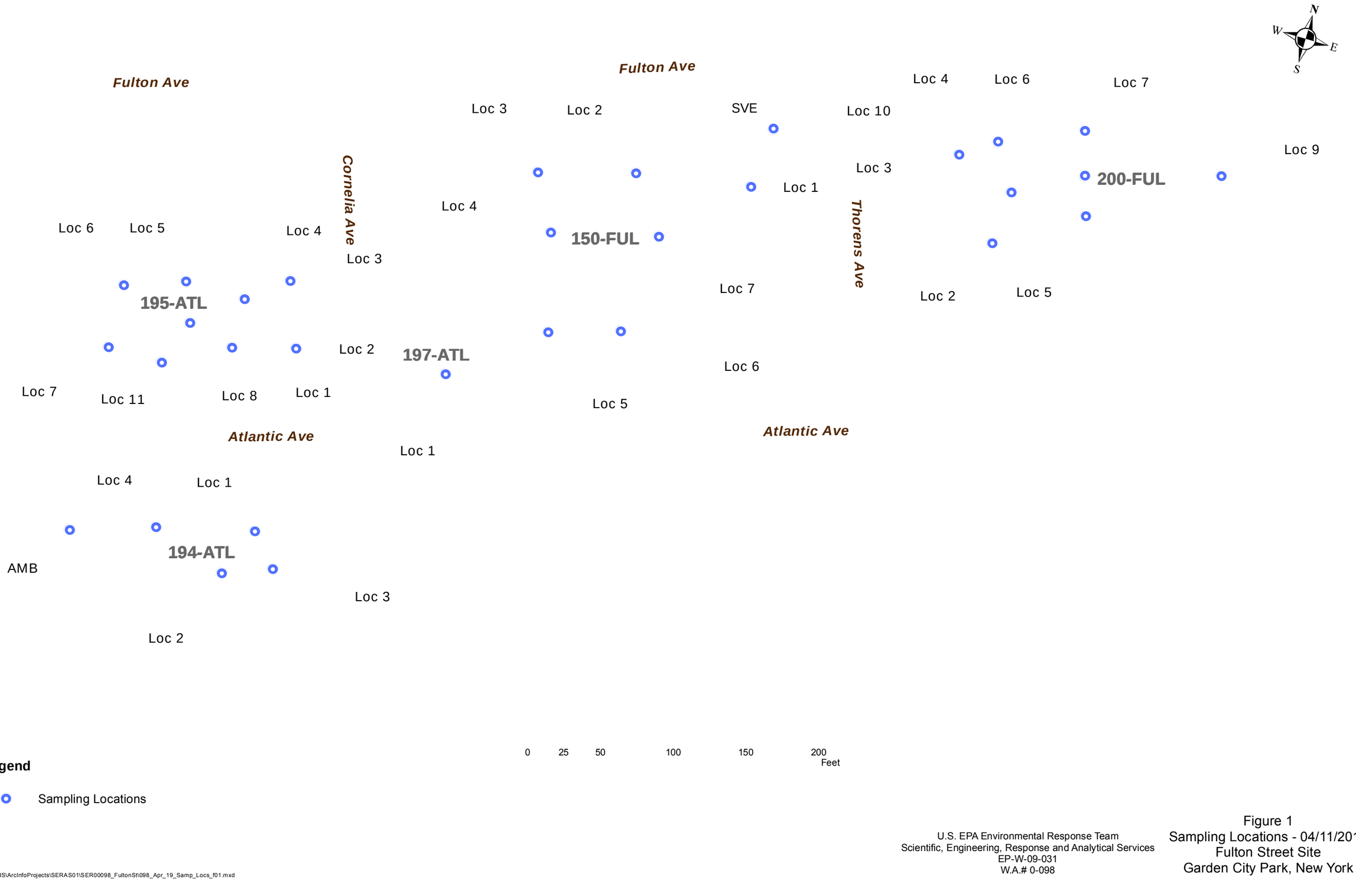
The ambient air sample location and results for PCE and TCE are depicted in Figure 4.

Appendix A - Air Sampling Worksheets
Appendix B - SUMMA® Canister Analytical Report
Appendix C - Photographs of Sampling Locations (electronic copy only)
Appendix D - SCRIBE database (electronic copy only) Note: The SCRIBE database contains confidential information.
Appendix E – QAPP (electronic copy only)

FUTURE ACTIVITIES

Future activities will be determined by ERT and EPA Region 2 personnel.

cc: Central File WA SERAS-098 (w/attachments)
Electronic File: I:\Archive\SERAS\098\D\TR\SERAS-DTR-080719
Paul Carter, SERAS Program Manager (cover page only)



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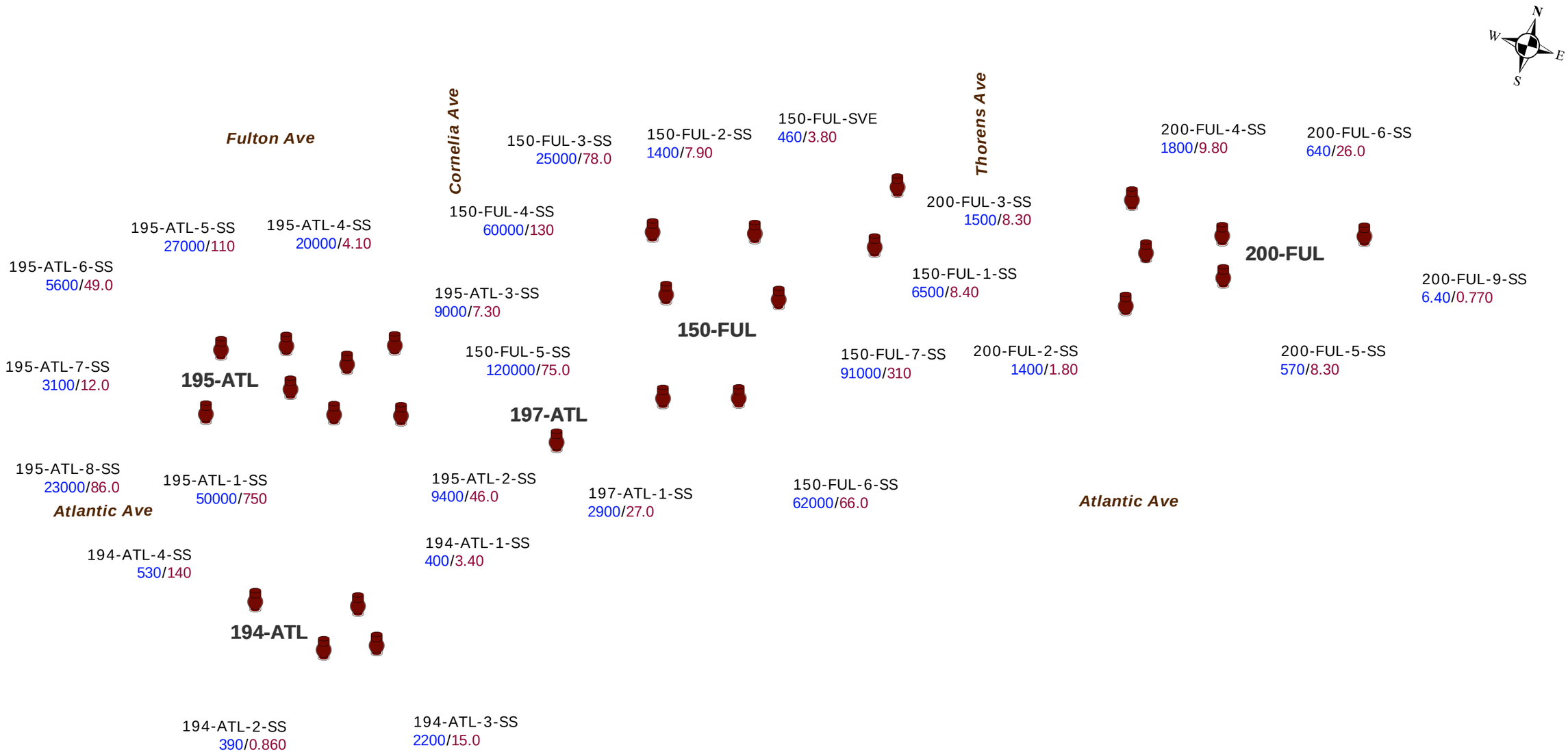
EP-W-09-031
W.A.# 0-098

Figure 1
Sampling Locations - 04/11/2019
Fulton Street Site
Garden City Park, New York



Legend

Sub-Slab SUMMA

PCE Tetrachloroethene

TCE Trichloroethene

194-ATL-4-SS 530/140 — the 530 indicates the PCE concentration and the 140 indicates the TCE concentration in µg/m^3

µg/m^3 micrograms per cubic meter

0 25 50 100 150 200 Feet

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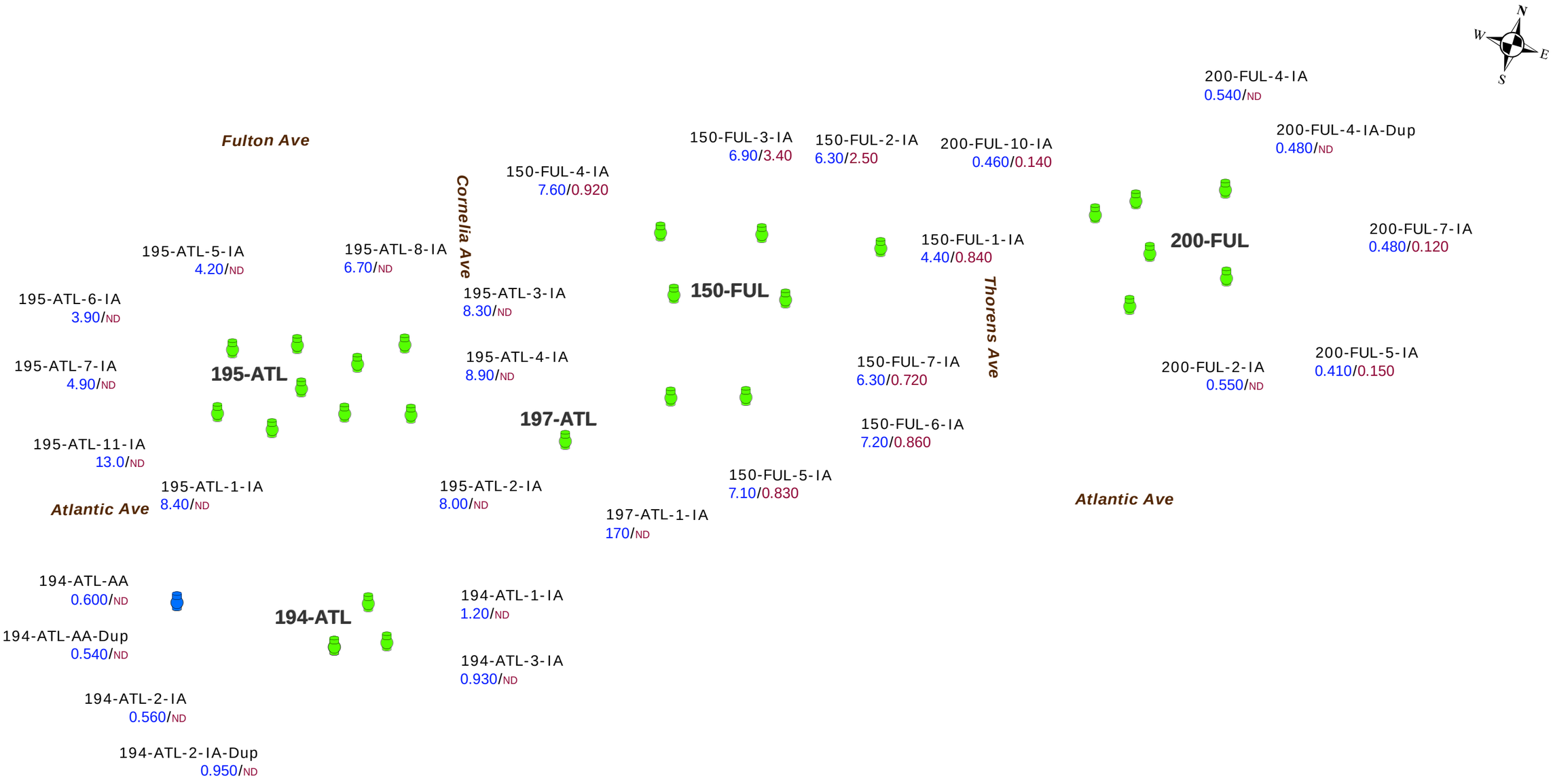
Figure 2
PCE/TCE Sub-Slab Soil Gas Sampling Results - 04/11/2019
Fulton Street Site
Garden City Park, New York



Legend

	Indoor Air	**150-FUL-3-IA** 6.90/3.40	the 6.90 indicates the PCE concentration and the 3.40 indicates the TCE concentration in µg/m^3
	Ambient		
PCE	Tetrachloroethene	µg/m^3	micrograms per cubic meter
TCE	Trichloroethene	ND	Not Detected

0 25 50 100 150 200 Feet

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EP-W-09-031
W.A.# 0-098

Figure 3
PCE/TCE Ambient and Indoor Air
Sampling Results - 04/11/2019
Fulton Street Site
Garden City Park, New York

Table 1
Sample Summary
Fulton Avenue Site
August 2019

Location	Number of Samples				
	Sub-Slab Soil Gas	Indoor Air	Collocated	Ambient Air	Soil Vapor Extraction System
194-ATL	4	3	2	1	
195-ATL	8	9			
197-ATL	1	1			
150-FUL	7	7			1
200-FUL	6	5	1		

Table 2A
Benchmark A - Sub-Slab Soil Gas Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0362		098-0364		098-0367		098-0369		098-0372	
Location		**Commercial Sub-**	194-ATL-1-SS		194-ATL-2-SS		194-ATL-3-SS		194-ATL-4-SS		197-ATL-1-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**18**	0.54		0.45		1.2		1.2		3.6	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.20	U	0.20	U	0.20	U	0.20	U	0.25	
trans-1,2-Dichloroethene	156-60-5	**NA**	0.20	U	0.20	U	0.20	U	0.20	U	1.3	
Naphthalene	91-20-3	**12**	0.65		0.52	U	0.52	U	0.71		0.52	U
1,1,2,2-Tetrachloroethane	79-34-5	**7**	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
Tetrachloroethene	127-18-4	**1600**	400		390		**2200**		530		**2900**	
1,1,2-Trichloroethane	79-00-5	**26**	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U
Vinyl chloride	75-01-4	**93**	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U
Trichloroethene	79-01-6	**100**	3.4		0.86		15		**140**		27	

Sample Number		**VISL***	098-0374		098-0376		098-0378		098-0380		098-0382	
Location		**Commercial Sub-**	195-ATL-1-SS		195-ATL-2-SS		195-ATL-3-SS		195-ATL-4-SS		195-ATL-5-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**18**	4.9	U	6.7		1.1		1.9		**27**	
cis-1,2-Dichloroethene	156-59-2	**NA**	5.6		0.40	U	0.40	U	0.99	U	0.99	U
trans-1,2-Dichloroethene	156-60-5	**NA**	4.0	U	0.40	U	0.40	U	0.99	U	0.99	U
Naphthalene	91-20-3	**12**	10	U	1.0	U	1.0	U	2.6	U	2.6	U
1,1,2,2-Tetrachloroethane	79-34-5	**7**	6.9	U	0.69	U	0.69	U	1.7	U	1.7	U
Tetrachloroethene	127-18-4	**1600**	**50000**		**9400**		**9000**		**20000**		**27000**	
1,1,2-Trichloroethane	79-00-5	**26**	5.5	U	0.55	U	0.55	U	1.4	U	1.4	U
Vinyl chloride	75-01-4	**93**	5.1	U	0.51	U	0.51	U	1.3	U	1.3	U
Trichloroethene	79-01-6	**100**	**750**		46		7.3		4.1		**110**	

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 2A
Benchmark A - Sub-Slab Soil Gas Sample Results
Fulton Avenue Site
August 2019

Sample Number		VISL*	098-0384		098-0386		098-0388		098-0391		098-0392	
Location		Commercial Sub-	195-ATL-6-SS		195-ATL-7-SS		195-ATL-8-SS		150-FUL-SVE		150-FUL-1-SS	
Sample Type		Slab Soil Gas	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		Benchmark A	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	CAS											
Chloroform	67-66-3	**18**	4.0		1.4		11		2.5		17	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.40	U	0.20	U	0.99	U	0.20	U	0.40	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.40	U	0.20	U	0.99	U	0.20	U	0.40	U
Naphthalene	91-20-3	**12**	1.0	U	0.52	U	2.6	U	0.52	U	1.6	
1,1,2,2-Tetrachloroethane	79-34-5	**7**	0.69	U	0.34	U	1.7	U	0.34	U	0.69	U
Tetrachloroethene	127-18-4	**1600**	**5600**		**3100**		**23000**		460		**6500**	
1,1,2-Trichloroethane	79-00-5	**26**	0.55	U	0.27	U	1.4	U	0.27	U	0.55	U
Vinyl chloride	75-01-4	**93**	0.51	U	0.26	U	1.3	U	0.26	U	0.51	U
Trichloroethene	79-01-6	**100**	49		12		86		3.8		8.4	

Sample Number		VISL*	098-0394		098-0396		098-0398		098-0400		098-0402	
Location		Commercial Sub-	150-FUL-2-SS		150-FUL-3-SS		150-FUL-4-SS		150-FUL-5-SS		150-FUL-6-SS	
Sample Type		Slab Soil Gas	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		Benchmark A	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	CAS											
Chloroform	67-66-3	**18**	0.24	U	3.3		11		**44**		12	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.20	U	0.99	U	4.0	U	4.0	U	4.0	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.20	U	0.99	U	4.0	U	4.0	U	4.0	U
Naphthalene	91-20-3	**12**	0.52	U	2.6	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	**7**	0.34	U	1.7	U	6.9	U	6.9	U	6.9	U
Tetrachloroethene	127-18-4	**1600**	1400		**25000**		**60000**		**120000**		**62000**	
1,1,2-Trichloroethane	79-00-5	**26**	0.27	U	1.4	U	5.5	U	5.5	U	5.5	U
Vinyl chloride	75-01-4	**93**	0.26	U	1.3	U	5.1	U	5.1	U	5.1	U
Trichloroethene	79-01-6	**100**	7.9		78		**130**		75		66	

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 2A
Benchmark A - Sub-Slab Soil Gas Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0404		098-0406		098-0409		098-0410		098-0412	
Location		**Commercial Sub-**	150-FUL-7-SS		200-FUL-4-SS		200-FUL-3-SS		200-FUL-2-SS		200-FUL-5-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**18**	**21**		5.8		17		3.7		8.1	
cis-1,2-Dichloroethene	156-59-2	**NA**	9.0		0.20	U	1.0		0.20	U	0.20	U
trans-1,2-Dichloroethene	156-60-5	**NA**	4.0	U	0.20	U	0.20	U	0.20	U	0.20	U
Naphthalene	91-20-3	**12**	10	U	0.52	U	0.52	U	0.52	U	0.58	
1,1,2,2-Tetrachloroethane	79-34-5	**7**	6.9	U	0.34	U	0.34	U	0.34	U	0.34	U
Tetrachloroethene	127-18-4	**1600**	**91000**		**1800**		1500		1400		570	
1,1,2-Trichloroethane	79-00-5	**26**	5.5	U	0.27	U	0.27	U	0.27	U	0.27	U
Vinyl chloride	75-01-4	**93**	5.1	U	0.26	U	0.26	U	0.26	U	0.26	U
Trichloroethene	79-01-6	**100**	**310**		9.8		8.3		1.8		8.3	

Sample Number		**VISL***	098-0414		098-0417	
Location		**Commercial Sub-**	200-FUL-6-SS		200-FUL-9-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019	
Analyte	**CAS**					
Chloroform	67-66-3	**18**	**41**		0.66	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.20	U	0.20	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.20	U	0.20	U
Naphthalene	91-20-3	**12**	0.52	U	0.52	U
1,1,2,2-Tetrachloroethane	79-34-5	**7**	0.34	U	0.34	U
Tetrachloroethene	127-18-4	**1600**	640		6.4	
1,1,2-Trichloroethane	79-00-5	**26**	0.27	U	0.27	U
Vinyl chloride	75-01-4	**93**	0.26	U	0.26	U
Trichloroethene	79-01-6	**100**	26		0.77	

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 2B
Benchmark B - Sub-Slab Soil Gas Sample Results
Fulton Avenue Site
August 2019

Sample Number		VISL*	098-0362		098-0364		098-0367		098-0369		098-0372	
Location		**Commercial Sub-**	194-ATL-1-SS		194-ATL-2-SS		194-ATL-3-SS		194-ATL-4-SS		197-ATL-1-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**1780**	0.54		0.45		1.2		1.2		3.6	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.20	U	0.20	U	0.20	U	0.20	U	0.25	
trans-1,2-Dichloroethene	156-60-5	**NA**	0.20	U	0.20	U	0.20	U	0.20	U	1.3	
Naphthalene	91-20-3	**438**	0.65		0.52	U	0.52	U	0.71		0.52	U
1,1,2,2-Tetrachloroethane	79-34-5	**705**	0.34	U	0.34	U	0.34	U	0.34	U	0.34	U
Tetrachloroethene	127-18-4	**5840**	400		390		2200		530		2900	
1,1,2-Trichloroethane	79-00-5	**29**	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U
Vinyl chloride	75-01-4	**9290**	0.26	U	0.26	U	0.26	U	0.26	U	0.26	U
Trichloroethene	79-01-6	**292**	3.4		0.86		15		140		27	

Sample Number		VISL*	098-0374		098-0376		098-0378		098-0380		098-0382	
Location		**Commercial Sub-**	195-ATL-1-SS		195-ATL-2-SS		195-ATL-3-SS		195-ATL-4-SS		195-ATL-5-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**1780**	4.9	U	6.7		1.1		1.9		27	
cis-1,2-Dichloroethene	156-59-2	**NA**	5.6		0.40	U	0.40	U	0.99	U	0.99	U
trans-1,2-Dichloroethene	156-60-5	**NA**	4.0	U	0.40	U	0.40	U	0.99	U	0.99	U
Naphthalene	91-20-3	**438**	10	U	1.0	U	1.0	U	2.6	U	2.6	U
1,1,2,2-Tetrachloroethane	79-34-5	**705**	6.9	U	0.69	U	0.69	U	1.7	U	1.7	U
Tetrachloroethene	127-18-4	**5840**	**50000**		**9400**		**9000**		**20000**		**27000**	
1,1,2-Trichloroethane	79-00-5	**29**	5.5	U	0.55	U	0.55	U	1.4	U	1.4	U
Vinyl chloride	75-01-4	**9290**	5.1	U	0.51	U	0.51	U	1.3	U	1.3	U
Trichloroethene	79-01-6	**292**	**750**		46		7.3		4.1		110	

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 2B
Benchmark B - Sub-Slab Soil Gas Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0384		098-0386		098-0388		098-0391		098-0392	
Location		**Commercial Sub-**	195-ATL-6-SS		195-ATL-7-SS		195-ATL-8-SS		150-FUL-SVE		150-FUL-1-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**1780**	4.0		1.4		11		2.5		17	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.40	U	0.20	U	0.99	U	0.20	U	0.40	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.40	U	0.20	U	0.99	U	0.20	U	0.40	U
Naphthalene	91-20-3	**438**	1.0	U	0.52	U	2.6	U	0.52	U	1.6	
1,1,2,2-Tetrachloroethane	79-34-5	**705**	0.69	U	0.34	U	1.7	U	0.34	U	0.69	U
Tetrachloroethene	127-18-4	**5840**	5600		3100		**23000**		460		**6500**	
1,1,2-Trichloroethane	79-00-5	**29**	0.55	U	0.27	U	1.4	U	0.27	U	0.55	U
Vinyl chloride	75-01-4	**9290**	0.51	U	0.26	U	1.3	U	0.26	U	0.51	U
Trichloroethene	79-01-6	**292**	49		12		86		3.8		8.4	

Sample Number		**VISL***	098-0394		098-0396		098-0398		098-0400		098-0402	
Location		**Commercial Sub-**	150-FUL-2-SS		150-FUL-3-SS		150-FUL-4-SS		150-FUL-5-SS		150-FUL-6-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**1780**	0.24	U	3.3		11		44		12	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.20	U	0.99	U	4.0	U	4.0	U	4.0	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.20	U	0.99	U	4.0	U	4.0	U	4.0	U
Naphthalene	91-20-3	**438**	0.52	U	2.6	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	79-34-5	**705**	0.34	U	1.7	U	6.9	U	6.9	U	6.9	U
Tetrachloroethene	127-18-4	**5840**	1400		**25000**		**60000**		**120000**		**62000**	
1,1,2-Trichloroethane	79-00-5	**29**	0.27	U	1.4	U	5.5	U	5.5	U	5.5	U
Vinyl chloride	75-01-4	**9290**	0.26	U	1.3	U	5.1	U	5.1	U	5.1	U
Trichloroethene	79-01-6	**292**	7.9		78		130		75		66	

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 2B
Benchmark B - Sub-Slab Soil Gas Sample Results
Fulton Avenue Site
August 2019

Sample Number		VISL*	098-0404		098-0406		098-0409		098-0410		098-0412	
Location		**Commercial Sub-**	150-FUL-7-SS		200-FUL-4-SS		200-FUL-3-SS		200-FUL-2-SS		200-FUL-5-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**1780**	21		5.8		17		3.7		8.1	
cis-1,2-Dichloroethene	156-59-2	**NA**	9.0		0.20	U	1.0		0.20	U	0.20	U
trans-1,2-Dichloroethene	156-60-5	**NA**	4.0	U	0.20	U	0.20	U	0.20	U	0.20	U
Naphthalene	91-20-3	**438**	10	U	0.52	U	0.52	U	0.52	U	0.58	
1,1,2,2-Tetrachloroethane	79-34-5	**705**	6.9	U	0.34	U	0.34	U	0.34	U	0.34	U
Tetrachloroethene	127-18-4	**5840**	**91000**		1800		1500		1400		570	
1,1,2-Trichloroethane	79-00-5	**29**	5.5	U	0.27	U	0.27	U	0.27	U	0.27	U
Vinyl chloride	75-01-4	**9290**	5.1	U	0.26	U	0.26	U	0.26	U	0.26	U
Trichloroethene	79-01-6	**292**	**310**		9.8		8.3		1.8		8.3	

Sample Number		VISL*	098-0414		098-0417	
Location		**Commercial Sub-**	200-FUL-6-SS		200-FUL-9-SS	
Sample Type		**Slab Soil Gas**	Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019	
Analyte	**CAS**					
Chloroform	67-66-3	**1780**	41		0.66	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.20	U	0.20	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.20	U	0.20	U
Naphthalene	91-20-3	**438**	0.52	U	0.52	U
1,1,2,2-Tetrachloroethane	79-34-5	**705**	0.34	U	0.34	U
Tetrachloroethene	127-18-4	**5840**	640		6.4	
1,1,2-Trichloroethane	79-00-5	**29**	0.27	U	0.27	U
Vinyl chloride	75-01-4	**9290**	0.26	U	0.26	U
Trichloroethene	79-01-6	**292**	26		0.77	

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 3A
Benchmark A - Indoor and Ambient Air Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0363		098-0365		098-0366		098-0368		098-0370	
Location		**Commercial**	194-ATL-1-IA		194-ATL-2-IA		194-ATL-2-IA-Dup		194-ATL-3-IA		194-ATL-AA	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**0.53**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**0.36**	**4.6**		**0.57**		**3.7**		**1.7**		0.26	
1,1,2,2-Tetrachloroethane	79-34-5	**0.21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**47**	1.2		0.56		0.95		0.93		0.60	
1,1,2-Trichloroethane	79-00-5	**0.77**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**2.8**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**3**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

Sample Number		**VISL***	098-0371		098-0373		098-0375		098-0377		098-0379	
Location		**Commercial**	194-ATL-AA-Dup		197-ATL-1-IA		195-ATL-1-IA		195-ATL-2-IA		195-ATL-3-IA	
Sample Type		**Indoor Air**	Collocated		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**0.53**	0.10		0.10	U	0.10	U	0.10	U	0.10	U
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**0.36**	**0.38**		**0.67**		**0.48**		**0.44**		**0.44**	
1,1,2,2-Tetrachloroethane	79-34-5	**0.21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**47**	0.54		**170**		8.4		8.0		8.3	
1,1,2-Trichloroethane	79-00-5	**0.77**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**2.8**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**3**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 3A
Benchmark A - Indoor and Ambient Air Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0381		098-0383		098-0385		098-0387		098-0389	
Location		**Commercial**	195-ATL-4-IA		195-ATL-5-IA		195-ATL-6-IA		195-ATL-7-IA		195-ATL-8-IA	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**0.53**	0.11		0.11		0.11		0.10		0.10	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**0.36**	**0.47**		**0.43**		0.21	U	**0.40**		**0.60**	
1,1,2,2-Tetrachloroethane	79-34-5	**0.21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**47**	8.9		4.2		3.9		4.9		6.7	
1,1,2-Trichloroethane	79-00-5	**0.77**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**2.8**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**3**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

Sample Number		**VISL***	098-0390		098-0393		098-0395		098-0397		098-0399	
Location		**Commercial**	195-ATL-11-IA		150-FUL-1-IA		150-FUL-2-IA		150-FUL-3-IA		150-FUL-4-IA	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**0.53**	0.13		0.12		0.17		0.19		0.10	U
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**0.36**	**0.60**		0.21	U	0.21	U	0.21	U	0.21	U
1,1,2,2-Tetrachloroethane	79-34-5	**0.21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**47**	13		4.4		6.3		6.9		7.6	
1,1,2-Trichloroethane	79-00-5	**0.77**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**2.8**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**3**	0.11	U	0.84		2.5		**3.4**		0.92	

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 3A
Benchmark A - Indoor and Ambient Air Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0401		098-0403		098-0405		098-0407		098-0408	
Location		**Commercial**	150-FUL-5-IA		150-FUL-6-IA		150-FUL-7-IA		200-FUL-4-IA		200-FUL-4-IA-Dup	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Collocated	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**0.53**	0.12		0.13		0.10	U	0.10	U	0.10	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**0.36**	0.21	U	0.21	U	0.21	U	**0.77**		**0.71**	
1,1,2,2-Tetrachloroethane	79-34-5	**0.21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**47**	7.1		7.2		6.3		0.54		0.48	
1,1,2-Trichloroethane	79-00-5	**0.77**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**2.8**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**3**	0.83		0.86		0.72		0.11	U	0.11	U

Sample Number		**VISL***	098-0411		098-0413		098-0416		098-0418		098-0420	
Location		**Commercial**	200-FUL-2-IA		200-FUL-5-IA		200-FUL-7-IA		200-FUL-10-IA		Trip Blank	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Blank	
Date Collected		**Benchmark A**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**0.53**	0.11		0.14		0.11		0.11		0.098	U
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**0.36**	**0.58**		**0.53**		**0.60**		**0.74**		0.21	U
1,1,2,2-Tetrachloroethane	79-34-5	**0.21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**47**	0.55		0.41		0.48		0.46		0.27	U
1,1,2-Trichloroethane	79-00-5	**0.77**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**2.8**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**3**	0.11	U	0.15		0.12		0.14		0.11	U

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 3B
Benchmark B - Indoor and Ambient Air Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0363		098-0365		098-0366		098-0368		098-0370	
Location		**Commercial**	194-ATL-1-IA		194-ATL-2-IA		194-ATL-2-IA-Dup		194-ATL-3-IA		194-ATL-AA	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**53**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**13**	4.6		0.57		3.7		1.7		0.26	
1,1,2,2-Tetrachloroethane	79-34-5	**21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**175**	1.2		0.56		0.95		0.93		0.60	
1,1,2-Trichloroethane	79-00-5	**0.88**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**280**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**8.8**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

Sample Number		**VISL***	098-0371		098-0373		098-0375		098-0377		098-0379	
Location		**Commercial**	194-ATL-AA-Dup		197-ATL-1-IA		195-ATL-1-IA		195-ATL-2-IA		195-ATL-3-IA	
Sample Type		**Indoor Air**	Collocated		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**53**	0.10		0.10	U	0.10	U	0.10	U	0.10	U
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**13**	0.38		0.67		0.48		0.44		0.44	
1,1,2,2-Tetrachloroethane	79-34-5	**21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**175**	0.54		170		8.4		8.0		8.3	
1,1,2-Trichloroethane	79-00-5	**0.88**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**280**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**8.8**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 3B
Benchmark B - Indoor and Ambient Air Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0381		098-0383		098-0385		098-0387		098-0389	
Location		**Commercial**	195-ATL-4-IA		195-ATL-5-IA		195-ATL-6-IA		195-ATL-7-IA		195-ATL-8-IA	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**53**	0.11		0.11		0.11		0.10		0.10	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**13**	0.47		0.43		0.21	U	0.40		0.60	
1,1,2,2-Tetrachloroethane	79-34-5	**21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**175**	8.9		4.2		3.9		4.9		6.7	
1,1,2-Trichloroethane	79-00-5	**0.88**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**280**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**8.8**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

Sample Number		**VISL***	098-0390		098-0393		098-0395		098-0397		098-0399	
Location		**Commercial**	195-ATL-11-IA		150-FUL-1-IA		150-FUL-2-IA		150-FUL-3-IA		150-FUL-4-IA	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Field Sample	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**53**	0.13		0.12		0.17		0.19		0.10	U
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**13**	0.60		0.21	U	0.21	U	0.21	U	0.21	U
1,1,2,2-Tetrachloroethane	79-34-5	**21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**175**	13		4.4		6.3		6.9		7.6	
1,1,2-Trichloroethane	79-00-5	**0.88**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**280**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**8.8**	0.11	U	0.84		2.5		3.4		0.92	

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

Table 3B
Benchmark B - Indoor and Ambient Air Sample Results
Fulton Avenue Site
August 2019

Sample Number		**VISL***	098-0401		098-0403		098-0405		098-0407		098-0408	
Location		**Commercial**	150-FUL-5-IA		150-FUL-6-IA		150-FUL-7-IA		200-FUL-4-IA		200-FUL-4-IA-Dup	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Collocated	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**53**	0.12		0.13		0.10	U	0.10	U	0.10	
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**13**	0.21	U	0.21	U	0.21	U	0.77		0.71	
1,1,2,2-Tetrachloroethane	79-34-5	**21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**175**	7.1		7.2		6.3		0.54		0.48	
1,1,2-Trichloroethane	79-00-5	**0.88**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**280**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**8.8**	0.83		0.86		0.72		0.11	U	0.11	U

Sample Number		**VISL***	098-0411		098-0413		098-0416		098-0418		098-0420	
Location		**Commercial**	200-FUL-2-IA		200-FUL-5-IA		200-FUL-7-IA		200-FUL-10-IA		Trip Blank	
Sample Type		**Indoor Air**	Field Sample		Field Sample		Field Sample		Field Sample		Blank	
Date Collected		**Benchmark B**	4/12/2019		4/12/2019		4/12/2019		4/12/2019		4/12/2019	
Analyte	**CAS**											
Chloroform	67-66-3	**53**	0.11		0.14		0.11		0.11		0.098	U
cis-1,2-Dichloroethene	156-59-2	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
trans-1,2-Dichloroethene	156-60-5	**NA**	0.079	U	0.079	U	0.079	U	0.079	U	0.079	U
Naphthalene	91-20-3	**13**	0.58		0.53		0.60		0.74		0.21	U
1,1,2,2-Tetrachloroethane	79-34-5	**21**	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Tetrachloroethene	127-18-4	**175**	0.55		0.41		0.48		0.46		0.27	U
1,1,2-Trichloroethane	79-00-5	**0.88**	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U
Vinyl chloride	75-01-4	**280**	0.10	U	0.10	U	0.10	U	0.10	U	0.10	U
Trichloroethene	79-01-6	**8.8**	0.11	U	0.15		0.12		0.14		0.11	U

Notes

Results are in micrograms per cubic meter (ug/m^3)

*Vapor Intrusion Screening Levels

U = Analyte was not detected above the indicated concentration.

Red = Result exceeds the VISL

EPA/Environmental Response Team
Scientific, Engineering, Response and Analytical Services
Lockheed Martin Corp., Edison, NJ
U.S. EPA Contract No. EP-W-09-031

SUMMA Sampling Work Sheet

Site: Fulton Ave
Sampler: Grell / Solinski
Date Start: 4/11/19 Date Stop: 4/12/19

WA# 0-098
U.S. EPA/ERT WAM: Catanzaniton
SERAS Task Leader: Grell

Sample #	Location	Sub-Location	Matrix	Summa #	Orifice ID	Analysis/ Method	Start Pressure	Flow Rate (Start)	Time/(Start)	Time/(Stop)	End Pressure
098-0362	194-ATL-1-SS	Retail	SS	1260	3484	TO-15	-30	3.23	0723	0730	-11.5
098-0363	194-ATL-1-IA	Retail	IA	2074	3690		-30	2.98	0725	0730	-9
098-0364	194-ATL-2-SS	warehouse	SS	1966	3474		-30	2.94	0729	0737	-8.5
098-0365	194-ATL-2-IA	warehouse	IA	1663	3356		-30	3.05	0729	0737	-8
098-0366	194-ATL-2-IA-Dup	warehouse	IA	2167	3473		-30	3.23	0729	0737	-9
098-0367	194-ATL-3-SS	warehouse	SS	2071	3691		-30	2.93	0736	0743	-9
098-0368	194-ATL-3-IA	warehouse	IA	1238	3483		-30	2.88	0738	0743	-10.5
098-0369	194-ATL-4-SS	machine shop	SS	1344	3261		-30	3.00	0742	0750	-8.5
098-0370	194-ATL-AA	Fence	AA	2440	3507		-30	2.98	0759	0755	-8
098-0371	194-ATL-AA-Dup	Fence	AA	1784	3057		-28.5	2.81	0759	0755	-7

MET Station on Site?: Y / (N)	Flow meter: 14415	NIST Gauge#:	42189	NIST Gauge#:	

SS gauge - 42130
IA gauge 42189

EPA/Environmental Response Team
Scientific, Engineering, Response and Analytical Services
Lockheed Martin Corp., Edison, NJ
U.S. EPA Contract No. EP-W-09-031

SUMMA Sampling Work Sheet

Site: Fulton Ave
Sampler: Grell/Solinski
Date Start: 4/11/19 Date Stop: 4/12/19

WA# 0-098
U.S. EPA/ERT WAM: Catanzarita
SERAS Task Leader: Grell

Sample #	Location	Sub-Location	Matrix	Summa #	Orifice ID	Analysis/ Method	Start Pressure	Flow Rate (Start)	Time/(Start)	Time/(Stop)	End Pressure
098-0372	197-ATL-1-SS	Back Room	SS	2170	3694	TO-15	-30	3.21	0813	0808	-8
098-0373	197-ATL-1-IA	Back Room	IA	1968	3409		-30	2.94	0816	0808	-8
098-0374	195-ATL-1-SS		SS	1160	3489		-30	2.91	0957	0951	-8.5
098-0375	195-ATL-1-IA		IA	1486	3458		-30	3.06	0957	0951	-9
098-0376	195-ATL-2-SS		SS	2197	3539		-30	3.01	1002	0957	-9.5
098-0377	195-ATL-2-IA		IA	1730	3602		-30	2.93	1002	0957	-8.5
098-0378	195-ATL-3-SS		SS	1877	3495		-30	2.94	1007	1002	-9.5
098-0379	195-ATL-3-IA		IA	2136	3470		-30	3.00	1007	1002	-7.5
098-0380	195-ATL-4-SS		SS	2130	3476		-30	3.00	1012	1006	-9.5
098-0381	195-ATL-4-IA		IA	1846	3510		-30	3.01	1012	1006	-10

MET Station on Site?: Y / (N) | Flow meter: 14415 | NIST Gauge#: 42189 | NIST Gauge#:

SS gauge - 42130
IA gauge - 42189

EPA/Environmental Response Team
Scientific, Engineering, Response and Analytical Services
Lockheed Martin Corp., Edison, NJ
U.S. EPA Contract No. EP-W-09-031

SUMMA Sampling Work Sheet

Site: Fulton Ave

WA# 0-098

Sampler: Grell / Solinski

U.S. EPA/ERT WAM: Catanzarita

Date Start: 4/11/19 Date Stop: 4/12/19

SERAS Task Leader: Grell

Sample #	Location	Sub-Location	Matrix	Summa #	Orifice ID	Analysis/ Method	Start Pressure	Flow Rate (Start)	Time/(Start)	Time (Stop)	End Pressure
098-0382	195-ATL-5-SS		SS	1047	3521	TO-15	-30	3.00	1018	1010	-8.5
098-0383	195-ATL-5-IA		IA	1924	3255		-30	3.03	1018	1010	-8
098-0384	195-ATL-6-SS		SS	2057	3538		-30	2.92	1021	1017	-8.5
098-0385	195-ATL-6-IA		IA	1012	3265		-30	3.05	1021	1017	-7.5
098-0386	195-ATL-7-SS		SS	1030	3471		-30	2.87	1025	1020	-10
098-0387	195-ATL-7-IA		IA	1671	3679		-29	3.19	1025	1020	-8
098-0388	195-ATL-8-SS		SS	1724	3399		-30	2.96	1029	1024	-8
098-0389	195-ATL-8-IA		IA	2456	3346		-30	3.01	1029	1024	-7
098-0390	195-ATL-11-IA		IA	1024 (1463)	3603		-30	2.92	1038	1028	-9
098-0391	150-FUL-SVE	SVE system	SG	1225	—	↓	-30	Grab	1136	—	0

MFT Station on Site?: Y / (N) | Flow meter: 14415 | NIST Gauge#: 42189 | NIST Gauge#:

SVE System sample was a grab sample

SS gauge - 42130
IA gauge - 42189

EPA/Environmental Response Team
Scientific, Engineering, Response and Analytical Services
Lockheed Martin Corp., Edison, NJ
U.S. EPA Contract No. EP-W-09-031

SUMMA Sampling Work Sheet

Site: Fulton Ave WA# 0-098

Sampler: Grell U.S. EPA/ERT WAM: Catanzarita

Date Start: 4/11/19 Date Stop: 4/12/19 SERAS Task Leader: Grell

Sample #	Location	Sub-Location	Matrix	Summa #	Orifice ID	Analysis/ Method	Start Pressure	Flow Rate (Start)	Time (Start)	Time/(Stop)	End Pressure
098-0392	150-FUL-1-SS		SS	1750	3618	TO-15	-30	2.99	1147	1158	-26
098-0393	150-FUL-1-IA		IA	1094	3619		-30	2.87	1147	1158	-9
098-0394	150-FUL-2-SS		SS	1649	3075		-30	3.01	1154	1204	-7.5
098-0395	150-FUL-2-IA		IA	1153	3671		-30	2.85	1154	1204	-9
098-0396	150-FUL-3-SS		SS	1837	3056		-30	3.00	1158	1210	-20
098-0397	150-FUL-3-IA		IA	2461	3254		-30	2.92	1158	1210	-8.5
098-0398	150-FUL-4-SS		SS	1811	3670		-30	2.85	1203	1215	-16.5
098-0399	150-FUL-4-IA		IA	2462	3692		-30	3.00	1203	1215	-8.5
098-0400	150-FUL-5-SS		SS	1954	3527		-30	3.05	1210	1221	-8
098-0401	150-FUL-5-IA		IA	1961	3055		-29	2.83	1210	1221	-8

MFT Station on Site?: Y (N) Flow meter: 14415 NIST Gauge#: 42189 NIST Gauge#:

EPA/Environmental Response Team
Scientific, Engineering, Response and Analytical Services
Lockheed Martin Corp., Edison, NJ
U.S. EPA Contract No. EP-W-09-031

SUMMA Sampling Work Sheet

Site: Fulton Ave
Sampler: Grell/Solinski
Date Start: 4/11/19 Date Stop: 4/12/19

WA# 0-098
U.S. EPA/FRT WAM: Catanzarita
SERAS Task Leader: Grell

Sample #	Location	Sub-Location	Matrix	Summa #	Orifice ID	Analysis/ Method	Start Pressure	Flow Rate (Start)	Time (Start)	Time (Stop)	End Pressure
098-0402	150-FUL-6SS		SS	9008	3497	TO-15	-30	3.12	1215	1226	-8
098-0403	150-FUL-6-IA		IA	2467	3462		-30	3.02	1215	1226	-9
098-0404	150-FUL-7-SS		SS	1928	3472		-30	2.86	1219	1230	-9.5
098-0405	150-FUL-7-IA		IA	1327	3355		-30	3.22	1219	1230	-11.5
098-0406	200-FUL-4-SS		SS	1259	3467		-30	2.71	1237	1252	-9
098-0407	200-FUL-4-IA		IA	1942	3541		-30	2.52	1237	1252	-12.5
098-0408	200-FUL-4-IA-DUP		IA	2474	3499		-30	2.88	1237	1252	-9
098-0409	200-FUL-3-SS		SS	2443	3454		-30	2.81	1240	1256	-10.5
098-0410	200-FUL-2-SS		SS	1388	3490		-30	3.06	1243	1259	-8
098-0411	200-FUL-2-IA		IA	2028	3689	↓	-30	3.12	1243	1259	-9

MET Station on Site?: Y (N) | Flow meter: 14415 | NIST Gauge#: | NIST Gauge#:

EPA/Environmental Response Team
Scientific, Engineering, Response and Analytical Services
Lockheed Martin Corp., Edison, NJ
U.S. EPA Contract No. EP-W-09-031

SUMMA Sampling Work Sheet

Site: Fulton Ave
Sampler: Grell/Salinski
Date Start: 4/11/19 Date Stop: 4/12/19

WA#: 0-098
U.S. EPA/FRT WAM: Catanzarita
SERAS Task Leader: Grell

Sample #	Location	Sub-Location	Matrix	Summa #	Orifice ID	Analysis/ Method	Start Pressure	Flow Rate (Start)	Time/(Start)	Time/(Stop)	End Pressure
098-0412	200-FUL-5-SS		SS	2061	~~3363~~ ~~3054~~ 3054	TO-15	-30	3.09	1248	1303	-9.5
098-0413	200-FUL-5-IA		IA	1810	3543		-30	2.97	1248	1303	-10
098-0414	200-FUL-6-SS		SS	2155	3361		-30	3.16	1250	1308	-6.5
~~098-0415~~	~~200-FUL-7-SS~~		~~SS~~	~~1020~~	~~3468~~		~~-30~~	~~2.85~~	~~1253~~	~~1309~~	~~-11~~
098-0416	200-FUL-7-IA		IA	2216	3688		-30	2.99	1253	1309	-8
098-0417	200-FUL-9-SS		SS	1838	3425		-30	3.09	1257	1323	-7
098-0418	200-FUL-10-IA	office	IA	1242	3352		-30	2.92	1259	139	-8.5
~~098-0419~~	~~150-FUL-AA~~	~~ambient~~	~~AA~~	~~1713~~	~~3424~~		~~-30~~	~~2.66~~	~~1305~~		
098-0420	Trip		Blank	1066	—		-30	—	1086	—	—

MFT Station on Site?: Y (N) | Flow meter: 14415 | NIST Gauge#: 42189 | NIST Gauge#:

Ambient on electrical substation fence by 150 Fulton
098-0419 ambient sample was removed by SWAT.
098-0415 Disconnected during sample period - got run over in warehouse

SS gauge - 42136
IA gauge - 42187

ANALYTICAL REPORT

Prepared by
Leidos Innovations Corporation

Fulton Avenue
Long Island, New York

May 2019

EPA Work Assignment No. SERAS-098
LEIDOS Work Order No. SER00098
EPA Contract No. EP-W-09-031

Submitted to
J. Catanzarita
EPA/ERT
2890 Woodbridge Avenue
Edison, NJ 08837

5/30/19
D. Killeen Date
QA/QC Officer

5/30/19
P. Carter Date
Program Manager

Analysis by:
Con-test Analytical

Prepared by:/Reviewed by:
S. Capil / R. Varsolona

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Appendix A Data for VOC in Air — AE 028

Appendix will be furnished on request.

REPORT OF LABORATORY ANALYSIS
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Environmental Response Team/Scientific Engineering, Response and Analytical Services
2890 Woodbridge Avenue, Building 209 Annex
Edison NJ 08837

TESTING LABORATORIES INFORMATION

Analysis of Volatile Organic Compounds in Air by Method EPA TO-15 "*Determination of Volatile Oorganic Compounds (VOCs) In Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)"*

Con-test Analytical Laboratory
39 Spruce Street
East Longmeadow, MA 01028

All analyses were performed according to Con-test's NELAP-approved quality assurance program. The test results meet the requirements of the current NELAP standards, where applicable, except as noted in the laboratory case narrative provided. Results are intended to be considered in their entirety and apply only to those analyzed and reported herein.

Con-test Laboratory is certified by the New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID # MA007 for VOC analysis in air.

REPORT OF LABORATORY ANALYSIS
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Environmental Response Team/Scientific Engineering, Response and Analytical Services
2890 Woodbridge Avenue, Building 209 Annex
Edison NJ 08837

Detailed Sample Information

Laboratory Sample #	Field Sample #
19D0834-01	098-0362
19D0834-02	098-0363
19D0834-03	098-0364
19D0834-04	098-0365
19D0834-05	098-0366
19D0834-06	098-0367
19D0834-07	098-0368
19D0834-08	098-0369
19D0834-09	098-0370
19D0834-10	098-0371
19D0834-11	098-0372
19D0834-12	098-0373
19D0834-13	098-0374
19D0834-14	098-0375
19D0834-15	098-0376
19D0834-16	098-0377
19D0834-17	098-0378
19D0834-18	098-0379
19D0834-19	098-0380
19D0834-20	098-0381
19D0834-21	098-0382
19D0834-22	098-0383
19D0834-23	098-0384
19D0834-24	098-0385
19D0834-25	098-0386
19D0834-26	098-0387
19D0834-27	098-0388
19D0834-28	098-0389
19D0834-29	098-0390
19D0834-30	098-0391
19D0834-31	098-0392
19D0834-32	098-0393
19D0834-33	098-0394
19D0834-34	098-0395
19D0834-35	098-0396
19D0834-36	098-0397
19D0834-37	098-0398
19D0834-38	098-0399
19D0834-39	098-0400
19D0834-40	098-0401
19D0834-41	098-0402
19D0834-42	098-0403
19D0834-43	098-0404
19D0834-44	098-0405
19D0834-45	098-0406
19D0834-46	098-0407
19D0834-47	098-0408
19D0834-48	098-0409
19D0834-49	098-0410
19D0834-50	098-0411
19D0834-51	098-0412

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Environmental Response Team/Scientific Engineering, Response and Analytical Services
2890 Woodbridge Avenue, Building 209 Annex
Edison NJ 08837

Detailed Sample Information

Laboratory Sample #	Field Sample #
19D0834-52	098-0413
19D0834-53	098-0414
19D0834-55	098-0416
19D0834-56	098-0417
19D0834-57	098-0418
19D0834-59	098-0420

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Introduction

SERAS personnel, in response to WA# SERAS-098, provided analytical support for environmental samples collected from the Fulton Avenue Site located in Long Island, New York as described in the following table. The support also included QA/QC, data review and preparation of an analytical report containing analytical and QA/QC results.

Chain of Custody #	Number of Samples	Sampling Date	Date Received	Date Analyzed	Matrix	Analysis/ Method	Laboratory	Data Package
2-041219-113508-0015	2	04/12/19	04/16/19	04/19/2019 through 04/25/2019	Air	TO-15(VOC)	Con-test Analytical	AE 028
	2				Soil Gas			
2-041519-111244-0016	2				Air			
	2				Soil Gas			
2-041519-111742-0017	3				Air			
	1				Soil Gas			
2-041519-111947-0018	2				Air			
	2				Soil Gas			
2-041519-112151-0019	2				Air			
	2				Soil Gas			
2-041519-112311-0020	2				Air			
	2				Soil Gas			
2-041519-112453-0021	2				Air			
	2				Soil Gas			
2-041519-112631-0022	2				Air			
	2				Soil Gas			
2-041519-112808-0023	2				Air			
	2				Soil Gas			
2-041519-112928-0024	2				Air			
	2				Soil Gas			
2-041519-113051-0025	2				Air			
	2				Soil Gas			
2-041519-113218-0026	2				Air			
	2				Soil Gas			
2-041519-113340-	2				Air			

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0027	2	Soil Gas
2-041519-113505-0028	1	Air
	2	Soil Gas
2-041519-113930-0029	1	Air
	1	Blank

Case Narrative

Sampling was conducted as per the site-specific Quality Assurance Project Plan (QAPP) and analyzed by the analytical methods as stated in the QAPP. The laboratory reported the data to two significant figures. Any other representation of the data is the responsibility of the user. Data were validated using a Stage 4 validation done manually (S4VM) in accordance with the "Guidance for Labeling Externally Validated Data for Superfund Use." All data validation flags have been inserted into the results tables.

Samples 098-0425 and 098-0419 were not submitted to the laboratory for analysis.

The following samples and analytes exceeded the project action levels and are highlighted in the results table:

- Chloroform for samples 098-0382, 098-0400, 098-0404 and 098-0414;
- Naphthalene for 098-0363, 098-0365, 098-0366, 098-0368, 098-0371, 098-0373, 098-0375, 098-0377, 098-0379, 098-0381, 098-0383, 098-0387, 098-0389, 098-0390, 098-0407, 098-0408, 098-0411, 098-0413, 098-0416 and 098-0418;
- Trichloroethene for 098-0369, 098-0374, 098-0382, 098-0397, 098-0398 and 098-0404; and
- Tetrachloroethene for 098-0367, 098-0372, 098-0373, 098-0374, 098-0376, 098-0378, 098-0380, 098-0382, 098-0384, 098-0386, 098-0388, 098-0392, 98-0396, 098-0398, 098-0400, 098-0402, 098-0404 and 098-0406.

VOCs in Air Package AE 028

The data package was examined and found to be acceptable.

The results presented in this report only relate to the samples analyzed. All results are intended to be considered in their entirety. The Environmental Response Team/Scientific, Engineering, Response and Analytical Services laboratory is not responsible for utilization of less than the complete report.

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Summary of Abbreviations

BFB	Bromofluorobenzene
BS	Blank Spike
BSD	Blank Spike Duplicate
^{O}C	Degree Centigrade
COC	Chain of Custody
conc	concentration
cont	continued
PCDD/PCDF	Polychlorinated dibenzo-p-dioxins (PCDD) and Polychlorinated dibenzofurans (PCDF)
DFTPP	Decafluorotriphenylphosphine
EMPC	Estimated maximum possible concentration
GC/ECD	Gas Chromatography/Electron Capture Detector
GC/MS	Gas Chromatography/ Mass Spectrometry
Hg-CVAA	Mercury-Cold Vapor Atomic Absorption
ICP-AES	Inductively Coupled Plasma- Atomic Emission Spectroscopy
ID	Identification
IS	Internal Standard
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MW	Molecular Weight
NA	Not Applicable or Not Available
NAD	Normalized Absolute Difference
NC	Not Calculated
NR	Not Requested/Not Reported
% D	Percent Difference
% R	Percent Recovery
SOP	Standard Operating Procedure
PCB	Polychlorinated Biphenyl
PDS	Post Digestion Spike
Percent RSD	Percent Relative Standard Deviation
ppbv	parts per billion by volume
ppm	parts per million
pptv	parts per trillion by volume
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RL	Reporting Limit
RPD	Relative Percent Difference
S4VM	Stage 4 validation done manually
SIM	Selected Ion Monitoring
SERAS	Scientific Engineering Response and Analytical Services
TIC	Tentatively Identified Compound
TCLP	Toxicity Characteristic Leaching Procedure
SVOC	Semi Volatile Organic Compound
VOC	Volatile Organic Compound
*	Value exceeds the acceptable QC limits

m^3	cubic meter	g	gram	kg	kilogram	L	liter
µg	microgram	µL	microliter	mg	milligram	mL	milliliter
ng	nanogram	pg	picogram	pCi	picocurie	σ	sigma

Data Validation Flags

J	Value is estimated	R	Rejected or Value is unusable
J+	Value is estimated high	U	Not detected
J-	Value is estimated low	UJ	Not detected and RL is estimated

Rev. 01/01/15, YRM

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Table 1.1a Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B228801-BLK1 4/19/2019			19D0834-02		
Sample Number		Method Blank 4/19/2019			098-0363		
Sample Location					194-ATL-1-1A		
Date Analyzed		4/19/2019			4/19/2019		
Matrix		Air			Air		
Test Type					Initial		
Total or Dissolved		N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.018	0.013	U	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.018	0.014	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.018	0.014	U	0.020	0.016
91-20-3	Naphthalene	U	0.035	0.027	0.88	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.018	0.016	U	0.020	0.018
127-18-4	Tetrachloroethylene	U	0.035	0.020	0.17	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.018	0.014	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.035	0.022	U	0.040	0.025
79-01-6	Trichloroethylene	U	0.018	0.014	U	0.020	0.016

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B228814-BLK1 4/20/2019			19D0834-28			19D0834-29		
Sample Number		Method Blank 4/20/2019			098-0389			098-0390		
Sample Location					195-ATL-8-1A			195-ATL-11-1A		
Date Analyzed		4/20/2019			4/20/2019			4/20/2019		
Matrix		Air			Air			Air		
Test Type					Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.018	0.013	0.020	0.020	0.015	0.026	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.018	0.014	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.018	0.014	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	U	0.035	0.027	0.11	0.040	0.031	0.11	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.018	0.016	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	U	0.035	0.020	0.98	0.040	0.022	1.9	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.018	0.014	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.035	0.022	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	U	0.018	0.014	U	0.020	0.016	U	0.020	0.016

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-32			19D0834-34			19D0834-36	
Sample Number		098-0393			098-0395			098-0397	
Sample Location		150-FUL-1-1A			150-FUL-2-1A			150-FUL-3-1A	
Date Analyzed		4/20/2019			4/20/2019			4/20/2019	
Matrix		Air			Air			Air	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	0.024	0.020	0.015	0.035	0.020	0.015	0.039	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	U	0.040	0.031	U	0.040	0.031	U	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	0.64	0.040	0.022	0.93	0.040	0.022	1.0	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	0.16	0.020	0.016	0.47	0.020	0.016	0.63	0.020	0.016

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-38			19D0834-40			19D0834-42	
Sample Number		098-0399			098-0401			098-0403	
Sample Location		150-FUL-4-1A			150-FUL-5-1A			150-FUL-6-1A	
Date Analyzed		4/20/2019			4/20/2019			4/20/2019	
Matrix		Air			Air			Air	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.020	0.015	0.026	0.020	0.015	0.026	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	U	0.040	0.031	U	0.040	0.031	U	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	1.1	0.040	0.022	1.0	0.040	0.022	1.1	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	0.17	0.020	0.016	0.16	0.020	0.016	0.16	0.020	0.016

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-44			19D0834-46			19D0834-47		
Sample Number		098-0405			098-0407			098-0408		
Sample Location		150-FUL-7-1A			200-FUL-4-1A			200-FUL-4-1A-Dup		
Date Analyzed		4/21/2019			4/21/2019			4/21/2019		
Matrix		Air			Air			Air		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.020	0.015	U	0.020	0.015	0.021	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	U	0.040	0.031	0.15	0.040	0.031	0.14	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	0.93	0.040	0.022	0.080	0.040	0.022	0.070	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	0.13	0.020	0.016	U	0.020	0.016	U	0.020	0.016

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-50			19D0834-52			19D0834-55		
Sample Number		098-0411			098-0413			098-0416		
Sample Location		200-FUL-2-1A			200-FUL-5-1A			200-FUL-7-1A		
Date Analyzed		4/21/2019			4/21/2019			4/21/2019		
Matrix		Air			Air			Air		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	0.023	0.020	0.015	0.028	0.020	0.015	0.023	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	0.11	0.040	0.031	0.10	0.040	0.031	0.11	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	0.082	0.040	0.022	0.060	0.040	0.022	0.071	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	U	0.020	0.016	0.028	0.020	0.016	0.022	0.020	0.016

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-57			19D0834-59		
Sample Number		098-0418			098-0420		
Sample Location		200-FUL-10-1A			Trip Blank		
Date Analyzed		4/21/2019			4/21/2019		
Matrix		Air			Air		
Test Type		Initial			Initial		
Total or Dissolved		N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	0.022	0.020	0.015	U	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	0.14	0.040	0.031	U	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	0.068	0.040	0.022	U	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	0.026	0.020	0.016	U	0.020	0.016

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B228892-BLK1 4/22/2019			19D0834-04			19D0834-05		
Sample Number		Method Blank 4/22/2019			098-0365			098-0366		
Sample Location					194-ATL-2-1A			194-ATL-2-1A-Dup		
Date Analyzed		4/22/2019			4/22/2019			4/23/2019		
Matrix		Air			Air			Air		
Test Type					Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.018	0.013	U	0.020	0.015	U	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.018	0.014	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.018	0.014	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	U	0.035	0.027	0.11	0.040	0.031	0.71	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.018	0.016	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	U	0.035	0.020	0.083	0.040	0.022	0.14	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.018	0.014	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.035	0.022	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	U	0.018	0.014	U	0.020	0.016	U	0.020	0.016

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-07			19D0834-09			19D0834-10	
Sample Number		098-0368			098-0370			098-0371	
Sample Location		194-ATL-3-1A			194-ATL-AA			194-ATL-AA-Dup	
Date Analyzed		4/23/2019			4/22/2019			4/22/2019	
Matrix		Air			Air			Air	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.020	0.015	U	0.020	0.015	0.021	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	0.33	0.040	0.031	0.050	0.040	0.031	0.073	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	0.14	0.040	0.022	0.088	0.040	0.022	0.079	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-12			19D0834-14			19D0834-16	
Sample Number		098-0373			098-0375			098-0377	
Sample Location		197-ATL-1-1A			195-ATL-1-1A			195-ATL-2-1A	
Date Analyzed		4/22/2019			4/22/2019			4/22/2019	
Matrix		Air			Air			Air	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.020	0.015	U	0.020	0.015	U	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	0.13	0.040	0.031	0.092	0.040	0.031	0.085	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	25	0.040	0.022	1.2	0.040	0.022	1.2	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-18			19D0834-20			19D0834-22	
Sample Number		098-0379			098-0381			098-0383	
Sample Location		195-ATL-3-1A			195-ATL-4-1A			195-ATL-5-1A	
Date Analyzed		4/22/2019			4/22/2019			4/22/2019	
Matrix		Air			Air			Air	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.020	0.015	0.022	0.020	0.015	0.022	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	0.085	0.040	0.031	0.090	0.040	0.031	0.082	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	1.2	0.040	0.022	1.3	0.040	0.022	0.62	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	U	0.020	0.016	U	0.020	0.016	U	0.020	0.016

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-24			19D0834-26		
Sample Number		098-0385			098-0387		
Sample Location		195-ATL-6-1A			195-ATL-7-1A		
Date Analyzed		4/22/2019			4/22/2019		
Matrix		Air			Air		
Test Type		Initial			Initial		
Total or Dissolved		N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	0.022	0.020	0.015	0.020	0.020	0.015
156-59-2	cis-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016
156-60-5	trans-1,2-Dichloroethylene	U	0.020	0.016	U	0.020	0.016
91-20-3	Naphthalene	U	0.040	0.031	0.077	0.040	0.031
79-34-5	1,1,2,2-Tetrachloroethane	U	0.020	0.018	U	0.020	0.018
127-18-4	Tetrachloroethylene	0.58	0.040	0.022	0.72	0.040	0.022
79-00-5	1,1,2-Trichloroethane	U	0.020	0.016	U	0.020	0.016
75-01-4	Vinyl Chloride	U	0.040	0.025	U	0.040	0.025
79-01-6	Trichloroethylene	U	0.020	0.016	U	0.020	0.016

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B229004-BLK1 4/23/2019			19D0834-01			19D0834-03	
Sample Number		Method Blank 4/23/2019			098-0362			098-0364	
Sample Location					194-ATL-1-SS			194-ATL-2-SS	
Date Analyzed		4/23/2019			4/23/2019			4/23/2019	
Matrix		Air			Soil Gas			Soil Gas	
Test Type					Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.018	0.013	0.11	0.050	0.037	0.092	0.050	0.037
156-59-2	cis-1,2-Dichloroethylene	U	0.018	0.014	U	0.050	0.041	U	0.050	0.041
156-60-5	trans-1,2-Dichloroethylene	U	0.018	0.014	U	0.050	0.041	U	0.050	0.041
91-20-3	Naphthalene	U	0.035	0.027	0.12	0.10	0.077	U	0.10	0.077
79-34-5	1,1,2,2-Tetrachloroethane	U	0.018	0.016	U	0.050	0.044	U	0.050	0.044
127-18-4	Tetrachloroethylene	U	0.035	0.020	59	0.10	0.056	57	0.10	0.056
79-00-5	1,1,2-Trichloroethane	U	0.018	0.014	U	0.050	0.041	U	0.050	0.041
75-01-4	Vinyl Chloride	U	0.035	0.022	U	0.10	0.063	U	0.10	0.063
79-01-6	Trichloroethylene	U	0.018	0.014	0.63	0.050	0.040	0.16	0.050	0.040

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-06			19D0834-08			19D0834-11	
Sample Number		098-0367			098-0369			098-0372	
Sample Location		194-ATL-3-SS			194-ATL-4-SS			197-ATL-1-SS	
Date Analyzed		4/23/2019			4/23/2019			4/23/2019	
Matrix		Soil Gas			Soil Gas			Soil Gas	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	0.25	0.050	0.037	0.24	0.050	0.037	0.74	0.050	0.037
156-59-2	cis-1,2-Dichloroethylene	U	0.050	0.041	U	0.050	0.041	0.064	0.050	0.041
156-60-5	trans-1,2-Dichloroethylene	U	0.050	0.041	U	0.050	0.041	0.32	0.050	0.041
91-20-3	Naphthalene	U	0.10	0.077	0.14	0.10	0.077	U	0.10	0.077
79-34-5	1,1,2,2-Tetrachloroethane	U	0.05	0.044	U	0.050	0.044	U	0.050	0.044
127-18-4	Tetrachloroethylene				79	0.10	0.056			
79-00-5	1,1,2-Trichloroethane	U	0.050	0.041	U	0.050	0.041	U	0.050	0.041
75-01-4	Vinyl Chloride	U	0.10	0.063	U	0.10	0.063	U	0.10	0.063
79-01-6	Trichloroethylene	2.8	0.050	0.040	26	0.050	0.040	4.9	0.050	0.040

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-06			19D0834-11		
Sample Number		098-0367			098-0372		
Sample Location		194-ATL-3-SS			197-ATL-1-SS		
Date Analyzed		4/23/2019			4/23/2019		
Matrix		Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1		
Total or Dissolved		N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
127-18-4	Tetrachloroethylene	320	1.0	0.56	430	1.0	0.56

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-13			19D0834-15			19D0834-17		
Sample Number		098-0374			098-0376			098-0378		
Sample Location		195-ATL-1-SS			195-ATL-2-SS			195-ATL-3-SS		
Date Analyzed		4/24/2019			4/23/2019			4/23/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	1.0	0.74	1.4	0.10	0.074	0.23	0.10	0.074
156-59-2	cis-1,2-Dichloroethylene	1.4	1.0	0.82	U	0.10	0.082	U	0.10	0.082
156-60-5	trans-1,2-Dichloroethylene	U	1.0	0.81	U	0.10	0.081	U	0.10	0.081
91-20-3	Naphthalene	U	2.0	1.5	U	0.20	0.15	U	0.20	0.15
79-34-5	1,1,2,2-Tetrachloroethane	U	1.0	0.89	U	0.10	0.089	U	0.10	0.089
79-00-5	1,1,2-Trichloroethane	U	1.0	0.82	U	0.10	0.082	U	0.10	0.082
75-01-4	Vinyl Chloride	U	2.0	1.3	U	0.20	0.13	U	0.20	0.13
79-01-6	Trichloroethylene	140	1.0	0.81	8.6	0.10	0.081	1.4	0.10	0.081

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-13			19D0834-15			19D0834-17		
Sample Number		098-0374			098-0376			098-0378		
Sample Location		195-ATL-1-SS			195-ATL-2-SS			195-ATL-3-SS		
Date Analyzed		4/24/2019			4/23/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
127-18-4	Tetrachloroethylene	7400	15	8.3	1400	2.0	1.1	1300	2.0	1.1

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-19			19D0834-21			19D0834-23	
Sample Number		098-0380			098-0382			098-0384	
Sample Location		195-ATL-4-SS			195-ATL-5-SS			195-ATL-6-SS	
Date Analyzed		4/24/2019			4/24/2019			4/24/2019	
Matrix		Soil Gas			Soil Gas			Soil Gas	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	0.38	0.25	0.20	5.4	0.25	0.19	0.82	0.10	0.074
156-59-2	cis-1,2-Dichloroethylene	U	0.25	0.19	U	0.25	0.20	U	0.10	0.082
156-60-5	trans-1,2-Dichloroethylene	U	0.25	0.20	U	0.25	0.20	U	0.10	0.081
91-20-3	Naphthalene	U	0.50	0.38	U	0.50	0.38	U	0.20	0.15
79-34-5	1,1,2,2-Tetrachloroethane	U	0.25	0.22	U	0.25	0.22	U	0.10	0.089
127-18-4	Tetrachloroethylene									
79-00-5	1,1,2-Trichloroethane	U	0.25	0.21	U	0.25	0.21	U	0.10	0.082
75-01-4	Vinyl Chloride	U	0.50	0.32	U	0.50	0.32	U	0.20	0.13
79-01-6	Trichloroethylene	0.77	0.25	0.21	20	0.25	0.20	9.2	0.10	0.081

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-25			19D0834-27			19D0834-30	
Sample Number		098-0386			098-0388			098-0391	
Sample Location		195-ATL-7-SS			195-ATL-8-SS			150-FUL-SVE	
Date Analyzed		4/23/2019			4/24/2019			4/23/2019	
Matrix		Soil Gas			Soil Gas			Soil Gas	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	0.28	0.050	0.037	2.3	0.25	0.19	0.52	0.050	0.037
156-59-2	cis-1,2-Dichloroethylene	U	0.050	0.041	U	0.25	0.20	U	0.050	0.041
156-60-5	trans-1,2-Dichloroethylene	U	0.050	0.041	U	0.25	0.20	U	0.050	0.041
91-20-3	Naphthalene	U	0.10	0.077	U	0.50	0.38	U	0.10	0.077
79-34-5	1,1,2,2-Tetrachloroethane	U	0.050	0.044	U	0.25	0.22	U	0.050	0.044
127-18-4	Tetrachloroethylene							68	0.10	0.056
79-00-5	1,1,2-Trichloroethane	U	0.050	0.041	U	0.25	0.21	U	0.050	0.041
75-01-4	Vinyl Chloride	U	0.10	0.063	U	0.50	0.32	U	0.10	0.063
79-01-6	Trichloroethylene	2.2	0.050	0.040	16	0.25	0.20	0.71	0.050	0.040

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-19			19D0834-21			19D0834-23		
Sample Number		098-0380			098-0382			098-0384		
Sample Location		195-ATL-4-SS			195-ATL-5-SS			195-ATL-6-SS		
Date Analyzed		4/24/2019			4/24/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
127-18-4	Tetrachloroethylene	2900	15	8.3	4000	15	8.3	820	2.0	1.1

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-25			19D0834-27		
Sample Number		098-0386			098-0388		
Sample Location		195-ATL-7-SS			195-ATL-8-SS		
Date Analyzed		4/23/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1		
Total or Dissolved		N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
127-18-4	Tetrachloroethylene	460	0.50	0.28	3400	15	8.4

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B229095-BLK1 4/24/2019			19D0834-31			19D0834-33		
Sample Number		Method Blank 4/24/2019			098-0392			098-0394		
Sample Location					150-FUL-1-SS			150-FUL-2-SS		
Date Analyzed		4/24/2019			4/24/2019			4/24/2019		
Matrix		Air			Soil Gas			Soil Gas		
Test Type					Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	U	0.018	0.013	3.5	0.10	0.074	U	0.050	0.037
156-59-2	cis-1,2-Dichloroethylene	U	0.018	0.014	U	0.10	0.082	U	0.050	0.041
156-60-5	trans-1,2-Dichloroethylene	U	0.018	0.014	U	0.10	0.081	U	0.050	0.041
91-20-3	Naphthalene	U	0.035	0.027	0.30	0.20	0.15	U	0.10	0.077
79-34-5	1,1,2,2-Tetrachloroethane	U	0.018	0.016	U	0.10	0.089	U	0.050	0.044
127-18-4	Tetrachloroethylene	U	0.035	0.020						
79-00-5	1,1,2-Trichloroethane	U	0.018	0.014	U	0.10	0.082	U	0.050	0.041
75-01-4	Vinyl Chloride	U	0.035	0.022	U	0.20	0.13	U	0.10	0.063
79-01-6	Trichloroethylene	U	0.018	0.014	1.6	0.10	0.081	1.5	0.050	0.040

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-35			19D0834-37			19D0834-39	
Sample Number		098-0396			098-0398			098-0400	
Sample Location		150-FUL-3-SS			150-FUL-4-SS			150-FUL-5-SS	
Date Analyzed		4/25/2019			4/25/2019			4/25/2019	
Matrix		Soil Gas			Soil Gas			Soil Gas	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	0.67	0.25	0.19	2.2	1.0	0.74	8.9	1.0	0.74
156-59-2	cis-1,2-Dichloroethylene	U	0.25	0.20	U	1.0	0.82	U	1.0	0.82
156-60-5	trans-1,2-Dichloroethylene	U	0.25	0.20	U	1.0	0.81	U	1.0	0.81
91-20-3	Naphthalene	U	0.50	0.38	U	2.0	1.5	U	2.0	1.5
79-34-5	1,1,2,2-Tetrachloroethane	U	0.25	0.22	U	1.0	0.89	U	1.0	0.89
127-18-4	Tetrachloroethylene									
79-00-5	1,1,2-Trichloroethane	U	0.25	0.21	U	1.0	0.82	U	1.0	0.82
75-01-4	Vinyl Chloride	U	0.50	0.32	U	2.0	1.3	U	2.0	1.3
79-01-6	Trichloroethylene	15	0.25	0.20	24	1.0	0.81	14	1.0	0.81

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-41			19D0834-43			19D0834-45	
Sample Number		098-0402			098-0404			098-0406	
Sample Location		150-FUL-6-SS			150-FUL-7-SS			200-FUL-4-SS	
Date Analyzed		4/25/2019			4/25/2019			4/24/2019	
Matrix		Soil Gas			Soil Gas			Soil Gas	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	2.5	1.0	0.74	4.3	1.0	0.74	1.2	0.050	0.037
156-59-2	cis-1,2-Dichloroethylene	U	1.0	0.82	2.3	1.0	0.82	U	0.050	0.041
156-60-5	trans-1,2-Dichloroethylene	U	1.0	0.81	U	1.0	0.81	U	0.050	0.041
91-20-3	Naphthalene	U	2.0	1.5	U	2.0	1.5	U	0.10	0.077
79-34-5	1,1,2,2-Tetrachloroethane	U	1.0	0.89	U	1.0	0.89	U	0.050	0.044
127-18-4	Tetrachloroethylene									
79-00-5	1,1,2-Trichloroethane	U	1.0	0.82	U	1.0	0.82	U	0.050	0.041
75-01-4	Vinyl Chloride	U	2.0	1.3	U	2.0	1.3	U	0.10	0.063
79-01-6	Trichloroethylene	12	1.0	0.81	58	1.0	0.81	1.8	0.050	0.040

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-48			19D0834-49		
Sample Number		098-0409			098-0410		
Sample Location		200-FUL-3-SS			200-FUL-2-SS		
Date Analyzed		4/24/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas		
Test Type		Initial			Initial		
Total or Dissolved		N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	3.5	0.050	0.037	0.76	0.050	0.037
156-59-2	cis-1,2-Dichloroethylene	0.26	0.050	0.041	U	0.050	0.041
156-60-5	trans-1,2-Dichloroethylene	U	0.050	0.041	U	0.050	0.041
91-20-3	Naphthalene	U	0.10	0.077	U	0.10	0.077
79-34-5	1,1,2,2-Tetrachloroethane	U	0.050	0.044	U	0.050	0.044
127-18-4	Tetrachloroethylene						
79-00-5	1,1,2-Trichloroethane	U	0.050	0.041	U	0.050	0.041
75-01-4	Vinyl Chloride	U	0.10	0.063	U	0.10	0.063
79-01-6	Trichloroethylene	1.5	0.050	0.040	0.34	0.050	0.040

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-31			19D0834-33			19D0834-35		
Sample Number		098-0392			098-0394			098-0396		
Sample Location		150-FUL-1-SS			150-FUL-2-SS			150-FUL-3-SS		
Date Analyzed		4/25/2019			4/24/2019			4/25/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL	Result ppbv	RL ppbv	MDL ppbv
127-18-4	Tetrachloroethylene	960	2.0	1.1	210	0.50	0.28	3700	40	22

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-37			19D0834-39			19D0834-41		
Sample Number		098-0398			098-0400			098-0402		
Sample Location		150-FUL-4-SS			150-FUL-5-SS			150-FUL-6-SS		
Date Analyzed		4/25/2019			4/25/2019			4/25/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
127-18-4	Tetrachloroethylene	8900	30	17	18000	30	17	9100	30	17

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Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-43			19D0834-45			19D0834-48	
Sample Number		098-0404			098-0406			098-0409	
Sample Location		150-FUL-7-SS			200-FUL-4-SS			200-FUL-3-SS	
Date Analyzed		4/25/2019			4/24/2019			4/24/2019	
Matrix		Soil Gas			Soil Gas			Soil Gas	
Test Type		Dilution 1			Dilution 1			Dilution 1	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
127-18-4	Tetrachloroethylene	13000	40	22	270	1.0	0.56	220	1.0	0.56

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-49		
Sample Number		098-0410		
Sample Location		200-FUL-2-SS		
Date Analyzed		4/24/2019		
Matrix		Soil Gas		
Test Type		Dilution 1		
Total or Dissolved		N		
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv
127-18-4	Tetrachloroethylene	210	1.0	0.56

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-51			19D0834-53			19D0834-56	
Sample Number		098-0412			098-0414			098-0417	
Sample Location		200-FUL-5-SS			200-FUL-6-SS			200-FUL-9-SS	
Date Analyzed		4/24/2019			4/25/2019			4/24/2019	
Matrix		Soil Gas			Soil Gas			Soil Gas	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv	Result ppbv	RL ppbv	MDL ppbv
67-66-3	Chloroform	1.7	0.050	0.037	8.4	0.050	0.037	0.14	0.050	0.037
156-59-2	cis-1,2-Dichloroethylene	U	0.050	0.041	U	0.050	0.041	U	0.050	0.041
156-60-5	trans-1,2-Dichloroethylene	U	0.050	0.041	U	0.050	0.041	U	0.050	0.041
91-20-3	Naphthalene	0.11	0.10	0.077	U	0.10	0.077	U	0.10	0.077
79-34-5	1,1,2,2-Tetrachloroethane	U	0.050	0.044	U	0.050	0.044	U	0.050	0.044
127-18-4	Tetrachloroethylene	84	0.10	0.056	94	0.10	0.056	0.95	0.10	0.056
79-00-5	1,1,2-Trichloroethane	U	0.050	0.041	U	0.050	0.041	U	0.050	0.041
75-01-4	Vinyl Chloride	U	0.10	0.063	U	0.10	0.063	U	0.10	0.063
79-01-6	Trichloroethylene	1.5	0.050	0.040	4.9	0.050	0.040	0.14	0.050	0.040

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Table 1.1b Results of the Analysis for VOC (ug/m3) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B228801-BLK1			19D0834-02		
Sample Number		Method Blank 4/19/2019			098-0363		
Sample Location					194-ATL-1-1A		
Date Analyzed		4/19/2019			4/19/2019		
Matrix		Air			Air		
Test Type					Initial		
Total or Dissolved		N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.086	0.064	U	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.070	0.057	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.070	0.056	U	0.079	0.064
91-20-3	Naphthalene	U	0.18	0.14	4.6	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.12	0.11	U	0.14	0.12
127-18-4	Tetrachloroethylene	U	0.24	0.13	1.2	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.096	0.079	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.090	0.057	U	0.10	0.064
79-01-6	Trichloroethylene	U	0.094	0.076	U	0.11	0.087

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B228814-BLK1 4/20/2019			19D0834-28			19D0834-29		
Sample Number		Method Blank 4/20/2019			098-0389			098-0390		
Sample Location					195-ATL-8-1A			195-ATL-11-1A		
Date Analyzed		4/20/2019			4/20/2019			4/20/2019		
Matrix		Air			Air			Air		
Test Type					Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.086	0.064	0.098	0.098	0.073	0.13	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.070	0.057	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.070	0.056	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	U	0.18	0.14	0.60	0.21	0.16	0.60	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.12	0.11	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	U	0.24	0.13	6.7	0.27	0.15	13	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.096	0.079	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.090	0.057	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	U	0.094	0.076	U	0.11	0.087	U	0.11	0.087

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-32			19D0834-34			19D0834-36	
Sample Number		098-0393			098-0395			098-0397	
Sample Location		150-FUL-1-1A			150-FUL-2-1A			150-FUL-3-1A	
Date Analyzed		4/20/2019			4/20/2019			4/20/2019	
Matrix		Air			Air			Air	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	0.12	0.098	0.073	0.17	0.098	0.073	0.19	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	U	0.21	0.16	U	0.21	0.16	U	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	4.4	0.27	0.15	6.3	0.27	0.15	6.9	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	0.84	0.11	0.087	2.5	0.11	0.087	3.4	0.11	0.087

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-38			19D0834-40			19D0834-42	
Sample Number		098-0399			098-0401			098-0403	
Sample Location		150-FUL-4-1A			150-FUL-5-1A			150-FUL-6-1A	
Date Analyzed		4/20/2019			4/20/2019			4/20/2019	
Matrix		Air			Air			Air	
Test Type		Initial			Initial			Initial	
Total or Dissolved		N			N			N	
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.098	0.073	0.12	0.098	0.073	0.13	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	U	0.21	0.16	U	0.21	0.16	U	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	7.6	0.27	0.15	7.1	0.27	0.15	7.2	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	0.92	0.11	0.087	0.83	0.11	0.087	0.86	0.11	0.087

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-44			19D0834-46			19D0834-47		
Sample Number		098-0405			098-0407			098-0408		
Sample Location		150-FUL-7-1A			200-FUL-4-1A			200-FUL-4-1A-Dup		
Date Analyzed		4/21/2019			4/21/2019			4/21/2019		
Matrix		Air			Air			Air		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.098	0.073	U	0.098	0.073	0.10	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	U	0.21	0.16	0.77	0.21	0.16	0.71	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	6.3	0.27	0.15	0.54	0.27	0.15	0.48	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	0.72	0.11	0.087	U	0.11	0.087	U	0.11	0.087

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-50			19D0834-52			19D0834-55		
Sample Number		098-0411			098-0413			098-0416		
Sample Location		200-FUL-2-1A			200-FUL-5-1A			200-FUL-7-1A		
Date Analyzed		4/21/2019			4/21/2019			4/21/2019		
Matrix		Air			Air			Air		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	0.11	0.098	0.073	0.14	0.098	0.073	0.11	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	0.58	0.21	0.16	0.53	0.21	0.16	0.60	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	0.55	0.27	0.15	0.41	0.27	0.15	0.48	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	U	0.11	0.087	0.15	0.11	0.087	0.12	0.11	0.087

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-57			19D0834-59		
Sample Number		098-0418			098-0420		
Sample Location		200-FUL-10-1A			Trip Blank		
Date Analyzed		4/21/2019			4/21/2019		
Matrix		Air			Air		
Test Type		Initial			Initial		
Total or Dissolved		N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	0.11	0.098	0.073	U	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	0.74	0.21	0.16	U	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	0.46	0.27	0.15	U	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	0.14	0.11	0.087	U	0.11	0.087

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B228892-BLK1 4/22/2019			19D0834-04			19D0834-05		
Sample Number		Method Blank 4/22/2019			098-0365			098-0366		
Sample Location					194-ATL-2-1A			194-ATL-2-1A-Dup		
Date Analyzed		4/22/2019			4/22/2019			4/23/2019		
Matrix		Air			Air			Air		
Test Type					Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.086	0.013	U	0.098	0.073	U	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.070	0.014	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.070	0.014	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	U	0.18	0.027	0.57	0.21	0.16	3.7	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.12	0.016	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	U	0.24	0.020	0.56	0.27	0.15	0.95	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.096	0.014	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.090	0.022	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	U	0.094	0.014	U	0.11	0.087	U	0.11	0.087

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-07			19D0834-09			19D0834-10		
Sample Number		098-0368			098-0370			098-0371		
Sample Location		194-ATL-3-1A			194-ATL-AA			194-ATL-AA-Dup		
Date Analyzed		4/23/2019			4/22/2019			4/22/2019		
Matrix		Air			Air			Air		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.098	0.073	U	0.098	0.073	0.10	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	1.7	0.21	0.16	0.26	0.21	0.16	0.38	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	0.93	0.27	0.15	0.60	0.27	0.15	0.54	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	U	0.11	0.087	U	0.11	0.087	U	0.11	0.087

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-12			19D0834-14			19D0834-16		
Sample Number		098-0373			098-0375			098-0377		
Sample Location		197-ATL-1-1A			195-ATL-1-1A			195-ATL-2-1A		
Date Analyzed		4/22/2019			4/22/2019			4/22/2019		
Matrix		Air			Air			Air		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.098	0.073	U	0.098	0.073	U	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	0.67	0.21	0.16	0.48	0.21	0.16	0.44	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	170	0.27	0.15	8.4	0.27	0.15	8.0	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	U	0.11	0.087	U	0.11	0.087	U	0.11	0.087

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-18			19D0834-20			19D0834-22		
Sample Number		098-0379			098-0381			098-0383		
Sample Location		195-ATL-3-1A			195-ATL-4-1A			195-ATL-5-1A		
Date Analyzed		4/22/2019			4/22/2019			4/22/2019		
Matrix		Air			Air			Air		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.098	0.073	0.11	0.098	0.073	0.11	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	0.44	0.21	0.16	0.47	0.21	0.16	0.43	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	8.3	0.27	0.15	8.9	0.27	0.15	4.2	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	U	0.11	0.087	U	0.11	0.087	U	0.11	0.087

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-24			19D0834-26		
Sample Number		098-0385			098-0387		
Sample Location		195-ATL-6-1A			195-ATL-7-1A		
Date Analyzed		4/22/2019			4/22/2019		
Matrix		Air			Air		
Test Type		Initial			Initial		
Total or Dissolved		N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	0.11	0.098	0.073	0.098	0.098	0.073
156-59-2	cis-1,2-Dichloroethylene	U	0.079	0.065	U	0.079	0.065
156-60-5	trans-1,2-Dichloroethylene	U	0.079	0.064	U	0.079	0.064
91-20-3	Naphthalene	U	0.21	0.16	0.40	0.21	0.16
79-34-5	1,1,2,2-Tetrachloroethane	U	0.14	0.12	U	0.14	0.12
127-18-4	Tetrachloroethylene	3.9	0.27	0.15	4.9	0.27	0.15
79-00-5	1,1,2-Trichloroethane	U	0.11	0.090	U	0.11	0.090
75-01-4	Vinyl Chloride	U	0.10	0.064	U	0.10	0.064
79-01-6	Trichloroethylene	U	0.11	0.087	U	0.11	0.087

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B229004-BLK1 4/23/2019			19D0834-01			19D0834-03		
Sample Number		Method Blank 4/23/2019			098-0362			098-0364		
Sample Location					194-ATL-1-SS			194-ATL-2-SS		
Date Analyzed		4/23/2019			4/23/2019			4/23/2019		
Matrix		Air			Soil Gas			Soil Gas		
Test Type					Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.086	0.064	0.54	0.24	0.18	0.45	0.24	0.18
156-59-2	cis-1,2-Dichloroethylene	U	0.070	0.057	U	0.20	0.16	U	0.20	0.16
156-60-5	trans-1,2-Dichloroethylene	U	0.070	0.056	U	0.20	0.16	U	0.20	0.16
91-20-3	Naphthalene	U	0.18	0.14	0.65	0.52	0.40	U	0.52	0.40
79-34-5	1,1,2,2-Tetrachloroethane	U	0.12	0.11	U	0.34	0.30	U	0.34	0.30
127-18-4	Tetrachloroethylene	U	0.24	0.13	400	0.68	0.38	390	0.68	0.38
79-00-5	1,1,2-Trichloroethane	U	0.096	0.079	U	0.27	0.22	U	0.27	0.22
75-01-4	Vinyl Chloride	U	0.090	0.057	U	0.26	0.16	U	0.26	0.16
79-01-6	Trichloroethylene	U	0.094	0.076	3.4	0.27	0.22	0.86	0.27	0.22

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-06			19D0834-08			19D0834-11		
Sample Number		098-0367			098-0369			098-0372		
Sample Location		194-ATL-3-SS			194-ATL-4-SS			197-ATL-1-SS		
Date Analyzed		4/23/2019			4/23/2019			4/23/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	1.2	0.24	0.18	1.2	0.24	0.18	3.6	0.24	0.18
156-59-2	cis-1,2-Dichloroethylene	U	0.20	0.16	U	0.20	0.16	0.25	0.20	0.16
156-60-5	trans-1,2-Dichloroethylene	U	0.20	0.16	U	0.20	0.16	1.3	0.20	0.16
91-20-3	Naphthalene	U	0.52	0.40	0.71	0.52	0.40	U	0.52	0.40
79-34-5	1,1,2,2-Tetrachloroethane	U	0.34	0.30	U	0.34	0.30	U	0.34	0.30
127-18-4	Tetrachloroethylene				530	0.68	0.38			
79-00-5	1,1,2-Trichloroethane	U	0.27	0.22	U	0.27	0.22	U	0.27	0.22
75-01-4	Vinyl Chloride	U	0.26	0.16	U	0.26	0.16	U	0.26	0.16
79-01-6	Trichloroethylene	15	0.27	0.22	140	0.27	0.22	27	0.27	0.22

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-06			19D0834-11		
Sample Number		098-0367			098-0372		
Sample Location		194-ATL-3-SS			197-ATL-1-SS		
Date Analyzed		4/23/2019			4/23/2019		
Matrix		Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1		
Total or Dissolved		N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
127-18-4	Tetrachloroethylene	2200	6.8	3.8	2900	6.8	3.8

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-13			19D0834-15			19D0834-17		
Sample Number		098-0374			098-0376			098-0378		
Sample Location		195-ATL-1-SS			195-ATL-2-SS			195-ATL-3-SS		
Date Analyzed		4/24/2019			4/23/2019			4/23/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	4.9	3.6	6.7	0.49	0.36	1.1	0.49	0.36
156-59-2	cis-1,2-Dichloroethylene	5.6	4.0	3.2	U	0.40	0.32	U	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	U	4.0	3.2	U	0.40	0.32	U	0.40	0.32
91-20-3	Naphthalene	U	10	8.0	U	1.0	0.80	U	1.0	0.80
79-34-5	1,1,2,2-Tetrachloroethane	U	6.9	6.1	U	0.69	0.61	U	0.69	0.61
79-00-5	1,1,2-Trichloroethane	U	5.5	4.5	U	0.55	0.45	U	0.55	0.45
75-01-4	Vinyl Chloride	U	5.1	3.2	U	0.51	0.32	U	0.51	0.32
79-01-6	Trichloroethylene	750	5.4	4.3	46	0.54	0.43	7.3	0.54	0.43

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-13			19D0834-15			19D0834-17		
Sample Number		098-0374			098-0376			098-0378		
Sample Location		195-ATL-1-SS			195-ATL-2-SS			195-ATL-3-SS		
Date Analyzed		4/24/2019			4/23/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
127-18-4	Tetrachloroethylene	50000	100	57	9400	14	7.5	9000	14	7.5

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-19			19D0834-21			19D0834-23		
Sample Number		098-0380			098-0382			098-0384		
Sample Location		195-ATL-4-SS			195-ATL-5-SS			195-ATL-6-SS		
Date Analyzed		4/24/2019			4/24/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	1.9	1.2	0.91	27	1.2	0.91	4.0	0.49	0.36
156-59-2	cis-1,2-Dichloroethylene	U	0.99	0.81	U	0.99	0.81	U	0.40	0.32
156-60-5	trans-1,2-Dichloroethylene	U	0.99	0.80	U	0.99	0.80	U	0.40	0.32
91-20-3	Naphthalene	U	2.6	2.0	U	2.6	2.0	U	1.0	0.80
79-34-5	1,1,2,2-Tetrachloroethane	U	1.7	1.5	U	1.7	1.5	U	0.69	0.61
127-18-4	Tetrachloroethylene									
79-00-5	1,1,2-Trichloroethane	U	1.4	1.1	U	1.4	1.1	U	0.55	0.45
75-01-4	Vinyl Chloride	U	1.3	0.81	U	1.3	0.81	U	0.51	0.32
79-01-6	Trichloroethylene	4.1	1.3	1.1	110	1.3	1.1	49	0.54	0.43

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-25			19D0834-27			19D0834-30		
Sample Number		098-0386			098-0388			098-0391		
Sample Location		195-ATL-7-SS			195-ATL-8-SS			150-FUL-SVE		
Date Analyzed		4/23/2019			4/24/2019			4/23/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	1.4	0.24	0.18	11	1.2	0.91	2.5	0.24	0.18
156-59-2	cis-1,2-Dichloroethylene	U	0.20	0.16	U	0.99	0.81	U	0.20	0.16
156-60-5	trans-1,2-Dichloroethylene	U	0.20	0.16	U	0.99	0.80	U	0.20	0.16
91-20-3	Naphthalene	U	0.52	0.40	U	2.6	2.0	U	0.52	0.40
79-34-5	1,1,2,2-Tetrachloroethane	U	0.34	0.30	U	1.7	1.5	U	0.34	0.30
127-18-4	Tetrachloroethylene							460	0.68	0.38
79-00-5	1,1,2-Trichloroethane	U	0.27	0.22	U	1.4	1.1	U	0.27	0.22
75-01-4	Vinyl Chloride	U	0.26	0.16	U	1.3	0.81	U	0.26	0.16
79-01-6	Trichloroethylene	12	0.27	0.22	86	1.3	1.1	3.8	0.27	0.22

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-19			19D0834-21			19D0834-23		
Sample Number		098-0380			098-0382			098-0384		
Sample Location		195-ATL-4-SS			195-ATL-5-SS			195-ATL-6-SS		
Date Analyzed		4/24/2019			4/24/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
127-18-4	Tetrachloroethylene	20000	100	57	27000	100	57	5600	14	7.5

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-25			19D0834-27		
Sample Number		098-0386			098-0388		
Sample Location		195-ATL-7-SS			195-ATL-8-SS		
Date Analyzed		4/23/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1		
Total or Dissolved		N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
127-18-4	Tetrachloroethylene	3100	3.4	1.9	23000	100	57

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		B229095-BLK1 4/24/2019			19D0834-31			19D0834-33		
Sample Number		Method Blank 4/24/2019			098-0392			098-0394		
Sample Location					150-FUL-1-SS			150-FUL-2-SS		
Date Analyzed		4/24/2019			4/24/2019			4/24/2019		
Matrix		Air			Soil Gas			Soil Gas		
Test Type					Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	U	0.086	0.064	17	0.49	0.36	U	0.24	0.18
156-59-2	cis-1,2-Dichloroethylene	U	0.070	0.057	U	0.40	0.32	U	0.20	0.16
156-60-5	trans-1,2-Dichloroethylene	U	0.070	0.056	U	0.40	0.32	U	0.20	0.16
91-20-3	Naphthalene	U	0.18	0.14	1.6	1.0	0.80	U	0.52	0.40
79-34-5	1,1,2,2-Tetrachloroethane	U	0.12	0.11	U	0.69	0.61	U	0.34	0.30
127-18-4	Tetrachloroethylene	U	0.24	0.13						
79-00-5	1,1,2-Trichloroethane	U	0.096	0.079	U	0.55	0.45	U	0.27	0.22
75-01-4	Vinyl Chloride	U	0.090	0.057	U	0.51	0.32	U	0.26	0.16
79-01-6	Trichloroethylene	U	0.094	0.076	8.4	0.54	0.43	7.9	0.27	0.22

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number	19D0834-35	19D0834-37	19D0834-39
Sample Number	098-0396	098-0398	098-0400
Sample Location	150-FUL-3-SS	150-FUL-4-SS	150-FUL-5-SS
Date Analyzed	4/25/2019	4/25/2019	4/25/2019
Matrix	Soil Gas	Soil Gas	Soil Gas
Test Type	Initial	Initial	Initial
Total or Dissolved	N	N	N

CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	3.3	1.2	0.91	11	4.9	3.6	44	4.9	3.6
156-59-2	cis-1,2-Dichloroethylene	U	0.99	0.81	U	4.0	3.2	U	4.0	3.2
156-60-5	trans-1,2-Dichloroethylene	U	0.99	0.80	U	4.0	3.2	U	4.0	3.2
91-20-3	Naphthalene	U	2.6	2.0	U	10	8.0	U	10	8.0
79-34-5	1,1,2,2-Tetrachloroethane	U	1.7	1.5	U	6.9	6.1	U	6.9	6.1
127-18-4	Tetrachloroethylene									
79-00-5	1,1,2-Trichloroethane	U	1.4	1.1	U	5.5	4.5	U	5.5	4.5
75-01-4	Vinyl Chloride	U	1.3	0.81	U	5.1	3.2	U	5.1	3.2
79-01-6	Trichloroethylene	78	1.3	1.1	130	5.4	4.3	75	5.4	4.3

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number	19D0834-41	19D0834-43	19D0834-45
Sample Number	098-0402	098-0404	098-0406
Sample Location	150-FUL-6-SS	150-FUL-7-SS	200-FUL-4-SS
Date Analyzed	4/25/2019	4/25/2019	4/24/2019
Matrix	Soil Gas	Soil Gas	Soil Gas
Test Type	Initial	Initial	Initial
Total or Dissolved	N	N	N

CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	12	4.9	3.6	21	4.9	3.6	5.8	0.24	0.18
156-59-2	cis-1,2-Dichloroethylene	U	4.0	3.2	9.0	4.0	3.2	U	0.20	0.16
156-60-5	trans-1,2-Dichloroethylene	U	4.0	3.2	U	4.0	3.2	U	0.20	0.16
91-20-3	Naphthalene	U	10	8.0	U	10	8.0	U	0.52	0.40
79-34-5	1,1,2,2-Tetrachloroethane	U	6.9	6.1	U	6.9	6.1	U	0.34	0.30
127-18-4	Tetrachloroethylene									
79-00-5	1,1,2-Trichloroethane	U	5.5	4.5	U	5.5	4.5	U	0.27	0.22
75-01-4	Vinyl Chloride	U	5.1	3.2	U	5.1	3.2	U	0.26	0.16
79-01-6	Trichloroethylene	66	5.4	4.3	310	5.4	4.3	9.8	0.27	0.22

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-48			19D0834-49		
Sample Number		098-0409			098-0410		
Sample Location		200-FUL-3-SS			200-FUL-2-SS		
Date Analyzed		4/24/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas		
Test Type		Initial			Initial		
Total or Dissolved		N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	17	0.24	0.18	3.7	0.24	0.18
156-59-2	cis-1,2-Dichloroethylene	1.0	0.20	0.16	U	0.20	0.16
156-60-5	trans-1,2-Dichloroethylene	U	0.20	0.16	U	0.20	0.16
91-20-3	Naphthalene	U	0.52	0.40	U	0.52	0.40
79-34-5	1,1,2,2-Tetrachloroethane	U	0.34	0.30	U	0.34	0.30
127-18-4	Tetrachloroethylene						
79-00-5	1,1,2-Trichloroethane	U	0.27	0.22	U	0.27	0.22
75-01-4	Vinyl Chloride	U	0.26	0.16	U	0.26	0.16
79-01-6	Trichloroethylene	8.3	0.27	0.22	1.8	0.27	0.22

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-31			19D0834-33			19D0834-35		
Sample Number		098-0392			098-0394			098-0396		
Sample Location		150-FUL-1-SS			150-FUL-2-SS			150-FUL-3-SS		
Date Analyzed		4/25/2019			4/24/2019			4/25/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
127-18-4	Tetrachloroethylene	6500	14	7.5	1400	3.4	1.9	25000	270	150

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-37			19D0834-39			19D0834-41		
Sample Number		098-0398			098-0400			098-0402		
Sample Location		150-FUL-4-SS			150-FUL-5-SS			150-FUL-6-SS		
Date Analyzed		4/25/2019			4/25/2019			4/25/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
127-18-4	Tetrachloroethylene	60000	200	110	120000	200	110	62000	200	110

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Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-43			19D0834-45			19D0834-48		
Sample Number		098-0404			098-0406			098-0409		
Sample Location		150-FUL-7-SS			200-FUL-4-SS			200-FUL-3-SS		
Date Analyzed		4/25/2019			4/24/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Dilution 1			Dilution 1			Dilution 1		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
127-18-4	Tetrachloroethylene	91000	270	150	1800	6.8	3.8	1500	6.8	3.8

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-49			
Sample Number		098-0410			
Sample Location		200-FUL-2-SS			
Date Analyzed		4/24/2019			
Matrix		Soil Gas			
Test Type		Dilution 1			
Total or Dissolved		N			
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	
127-18-4	Tetrachloroethylene	1400	6.8	3.8	

Table 1.1b (cont) Results of the Analysis for VOC (µg/m³) in Air
WA# SERAS-098 Fulton Street Site

Method: EPA TO-15
Lab Name: Con-Test Analytical Laboratory

Lab Sample Number		19D0834-51			19D0834-53			19D0834-56		
Sample Number		098-0412			098-0414			098-0417		
Sample Location		200-FUL-5-SS			200-FUL-6-SS			200-FUL-9-SS		
Date Analyzed		4/24/2019			4/25/2019			4/24/2019		
Matrix		Soil Gas			Soil Gas			Soil Gas		
Test Type		Initial			Initial			Initial		
Total or Dissolved		N			N			N		
CAS No	Analyte	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³	Result µg/m³	RL µg/m³	MDL µg/m³
67-66-3	Chloroform	8.1	0.24	0.18	41	0.24	0.18	0.66	0.24	0.18
156-59-2	cis-1,2-Dichloroethylene	U	0.20	0.16	U	0.20	0.16	U	0.20	0.16
156-60-5	trans-1,2-Dichloroethylene	U	0.20	0.16	U	0.20	0.16	U	0.20	0.16
91-20-3	Naphthalene	0.58	0.52	0.40	U	0.52	0.40	U	0.52	0.40
79-34-5	1,1,2,2-Tetrachloroethane	U	0.34	0.30	U	0.34	0.30	U	0.34	0.30
127-18-4	Tetrachloroethylene	570	0.68	0.38	640	0.68	0.38	6.4	0.68	0.38
79-00-5	1,1,2-Trichloroethane	U	0.27	0.22	U	0.27	0.22	U	0.27	0.22
75-01-4	Vinyl Chloride	U	0.26	0.16	U	0.26	0.16	U	0.26	0.16
79-01-6	Trichloroethylene	8.3	0.27	0.22	26	0.27	0.22	0.77	0.27	0.22

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Table 2.1 Results of the LCS Analysis for VOC in Air
WA# SERAS-098 Fulton Street Site

Sample ID: LCS B228801-BS1 04/19/19

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Naphthalene	5.00	4.76	95	70 - 130
Vinyl Chloride	5.00	4.98	100	70 - 130
trans-1,2-Dichloroethylene	5.00	4.71	94	70 - 130
cis-1,2-Dichloroethylene	5.00	4.25	85	70 - 130
Chloroform	5.00	5.24	105	70 - 130
Trichloroethylene	5.00	3.94	79	70 - 130
1,1,2-Trichloroethane	5.00	3.93	79	70 - 130
Tetrachloroethylene	5.00	4.01	80	70 - 130
1,1,2,2-Tetrachloroethane	5.00	3.85	77	70 - 130

Sample ID: LCS B228814-BS1 04/20/19

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Naphthalene	5.00	4.28	86	70 - 130
Vinyl Chloride	5.00	5.41	108	70 - 130
trans-1,2-Dichloroethylene	5.00	4.69	94	70 - 130
cis-1,2-Dichloroethylene	5.00	4.14	83	70 - 130
Chloroform	5.00	5.04	101	70 - 130
Trichloroethylene	5.00	3.67	73	70 - 130
1,1,2-Trichloroethane	5.00	3.82	76	70 - 130
Tetrachloroethylene	5.00	3.75	75	70 - 130
1,1,2,2-Tetrachloroethane	5.00	3.76	75	70 - 130

Sample ID: LCS B228892-BS1 04/22/2019

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Naphthalene	5.00	4.58	92	70 - 130
Vinyl Chloride	5.00	5.36	107	70 - 130
trans-1,2-Dichloroethylene	5.00	4.89	98	70 - 130
cis-1,2-Dichloroethylene	5.00	4.24	85	70 - 130
Chloroform	5.00	4.98	100	70 - 130
Trichloroethylene	5.00	3.85	77	70 - 130
1,1,2-Trichloroethane	5.00	4.01	80	70 - 130
Tetrachloroethylene	5.00	3.87	77	70 - 130
1,1,2,2-Tetrachloroethane	5.00	3.95	79	70 - 130

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Table 2.1 (Cont) Results of the LCS Analysis for VOC in Air
WA# SERAS-098 Fulton Street Site

Sample ID: LCS B229004 04/23/2019

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Naphthalene	5.00	4.79	96	70 - 130
Vinyl Chloride	5.00	5.63	113	70 - 130
trans-1,2-Dichloroethylene	5.00	5.01	100	70 - 130
cis-1,2-Dichloroethylene	5.00	4.37	87	70 - 130
Chloroform	5.00	5.22	104	70 - 130
Trichloroethylene	5.00	3.87	77	70 - 130
1,1,2-Trichloroethane	5.00	4.05	81	70 - 130
Tetrachloroethylene	5.00	3.93	79	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.02	80	70 - 130

Sample ID: LCS B229095 04/24/2019

Analyte	LCS Spike Amount ppbv	LCS Recovered ppbv	% Recovery	QC Limits % Recovery
Naphthalene	5.00	5.03	101	70 - 130
Vinyl Chloride	5.00	5.53	111	70 - 130
trans-1,2-Dichloroethylene	5.00	4.84	97	70 - 130
cis-1,2-Dichloroethylene	5.00	4.16	83	70 - 130
Chloroform	5.00	5.38	108	70 - 130
Trichloroethylene	5.00	3.94	79	70 - 130
1,1,2-Trichloroethane	5.00	4.26	85	70 - 130
Tetrachloroethylene	5.00	4.08	82	70 - 130
1,1,2,2-Tetrachloroethane	5.00	4.16	83	70 - 130

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Table 2.2 Results of the Duplicate Analysis for VOC in Air
WA# SERAS-098 Fulton Street Site

Sample ID: 098-0418

Analyte	Initial Analysis ppbv	Duplicate Analysis ppbv	RPD	QC Limit RPD
Naphthalene	0.14	0.14	2	≤25
Vinyl Chloride	U	U	NC	≤25
trans-1,2-Dichloroethylene	U	U	NC	≤25
cis-1,2-Dichloroethylene	U	U	NC	≤25
Chloroform	0.022	0.023	7	≤25
Trichloroethylene	0.026	0.026	0	≤25
1,1,2-Trichloroethane	U	U	NC	≤25
Tetrachloroethylene	0.068	0.074	8	≤25
1,1,2,2-Tetrachloroethane	U	U	NC	≤25

Table 2.2 (cont) Results of the Duplicate Analysis for VOC in Air
WA# SERAS-098 Fulton Street Site

Sample ID: 098-0386

Analyte	Initial Analysis ppbv	Duplicate Analysis ppbv	RPD	QC Limit RPD
Naphthalene	U	U	NC	≤25
Vinyl Chloride	U	U	NC	≤25
trans-1,2-Dichloroethylene	U	U	NC	≤25
cis-1,2-Dichloroethylene	U	U	NC	≤25
Chloroform	0.28	0.27	5	≤25
Trichloroethylene	2.2	2.2	1	≤25
1,1,2-Trichloroethane	U	U	NC	≤25
Tetrachloroethylene	230	230	1	≤25
1,1,2,2-Tetrachloroethane	U	U	NC	≤25

Sample ID: 098-0406

Analyte	Initial Analysis ppbv	Duplicate Analysis ppbv	RPD	QC Limit RPD
Naphthalene	U	U	NC	≤25
Vinyl Chloride	U	U	NC	≤25
trans-1,2-Dichloroethylene	U	U	NC	≤25
cis-1,2-Dichloroethylene	U	U	NC	≤25
Chloroform	1.2	1.1	4	≤25
Trichloroethylene	1.8	1.7	6	≤25
1,1,2-Trichloroethane	U	U	NC	≤25
Tetrachloroethylene	220	210	2	≤25
1,1,2,2-Tetrachloroethane	U	U	NC	≤25

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Leidos Innovations
Environmental Services SERAS
2890 Woodbridge Avenue, Building 209 Annex
Edison, NJ 08837-3679
Telephone: 732-321-4200, Facsimile: 732-494-4021

April 11, 2019

As per Leidos/ SERAS PO# P010225067 for Project 0-098, please analyze:

Analysis/Method	Matrix	#	
Analysis for by EPA modified TO-15. See attached compound list.	Summa	61	
Data Package must have full level four documentation with .csv file. See checklist for requirements.			

The samples are expected to arrive at your laboratory on or about April 15th, 2019. Preliminary sample and QC result tables plus a signed copy of our Chain of Custody must be sent to SERAS 10 business days after each batch of samples. The complete data package is due 15 business days after receipt of the samples. The complete data package must include all items on the deliverables checklist. The laboratory must provide documentation for individual summa canister and flow controller certification.

All sample and QC results must be summarized in a .csv file. Units must be in ppbv and ug./m3 in the electronic deliverable.

The individually certified summa canisters and orifices preset to 24-hour collection must arrive at Leidos/SERAS c/o Misty Barkley by April 8th, 2019. The flow controllers should have 1/4 inch fittings.

Please submit all reports and invoices concerning this project to Misty Barkley at misty.barkley@leidos.com.

Sincerely,

Jay Patel
Analytical Support Chemist
Leidos / SERAS Project

cc. J. Patel
D. Killeen
R. Singhvi
P. Carter
J. Catanzarita
C. Grell

1900834

90

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirBillNo:

CHAIN OF CUSTODY RECORD
Site #: 0-098
Contact Name: Misty Barkley
Contact Phone: 732-321-4205

No.: 2-041219-113509-0015
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	OrificeID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time
01	098-0362	194-ATL-1-SS	TO-15	Soil Gas	SUMMA	1260	3484	-30	-11.5	4/11/2019	7:23:00 AM	4/12/2019	7:23:00 AM
02	098-0363	194-ATL-1-IA	TO-15	Air	SUMMA	2074	3690	-30	-9	4/11/2019	7:25:00 AM	4/12/2019	7:25:00 AM
03	098-0364	194-ATL-2-SS	TO-15	Soil Gas	SUMMA	1966	3474	-30	-8.5	4/11/2019	7:28:00 AM	4/12/2019	7:28:00 AM
04	098-0365	194-ATL-2-IA	TO-15	Air	SUMMA	1663	3356	-30	-8	4/11/2019	7:28:00 AM	4/12/2019	7:28:00 AM

-11.5
-8.5
-8
-9

4/15/19

Special Instructions:	SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Analysis	Colleen Gill/SERAS	4/15/19 1400	FedEx		
			[illegible]	4/16/19 914	

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1910083 4

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Site #: 0098
Contact Name: Misty Barkley
Contact Phone: 732-321-4205

No: 2-041519-1111244-0016
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	CanID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time
05	098-0366	194-ATL-2-IA-Dup	TO-15	Air	SUMMA	2167	3473	-30	-9	4/11/2019	7:29:00 AM	4/12/2019	7:29:00 AM
06	098-0367	194-ATL-3-SS	TO-15	Soil Gas	SUMMA	2071	3691	-30	-9	4/11/2019	7:36:00 AM	4/12/2019	7:36:00 AM
07	098-0368	194-ATL-3-IA	TO-15	Air	SUMMA	1239	3483	-30	-10.5	4/11/2019	7:39:00 AM	4/12/2019	7:39:00 AM
08	098-0369	194-ATL-4-SS	TO-15	Soil Gas	SUMMA	1344	3261	-30	-8.5	4/11/2019	7:42:00 AM	4/12/2019	7:42:00 AM

7:28
7:38
7:39
7:42

(G)

4/15/19

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Allen Gall / SERAS	4/15/19 1400	Fedex		
				4/16/19 914	

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19D0834

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Site#: 0098
Contact Name: Misty Barkley
Contact Phone: 7322-3211-42005

No: 2-041519-111742-0017
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump#	CanisterID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Dat e	Stop_Time
01	098-0370	194-ATL-AA	TO-15	Air	SUMMA	2440	3807	-30	-8	4/11/2019	7:59:00 AM	4/12/2019	7:59:00 AM
02	098-0371	194-ATL-AA-Dup	TO-15	Air	SUMMA	1784	3057	-28.5	-7	4/11/2019	7:59:00 AM	4/12/2019	7:59:00 AM
11	098-0372	197-ATL-1-SS	TO-15	Soil Gas	SUMMA	2170	3694	-30	-8	4/11/2019	8:13:00 AM	4/12/2019	8:08:00 AM
12	098-0373	197-ATL-1-IA	TO-15	Air	SUMMA	1968	3409	-30	-8	4/11/2019	8:16:00 AM	4/12/2019	8:08:00 AM

-6.2
-5.7
-7.6
-7.9

CG
4/15/19

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Colleen Call / SERAS	4/15/19 1400	Fedex		
			[illegible]	4/16/19 914	

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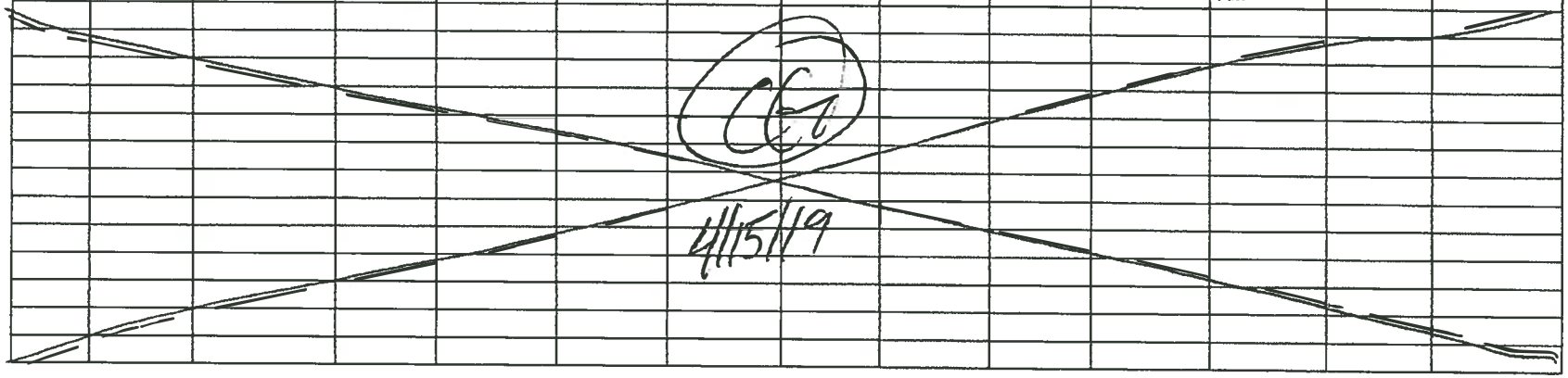
19D0834

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Site #: 0-098
Contact Name: Misty Bartley
Contact Phone: 732-321-4205

No: 2-041519-111947-0018
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	OrificeID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time	
13	098-0374	195-ATL-1-SS	TO-15	Soil Gas	SUMMA	1160	3489	-30	-8.5	4/11/2019	9:57:00 AM	4/12/2019	9:51:00 AM	-8.8
14	098-0375	195-ATL-1-IA	TO-15	Air	SUMMA	1486	3458	-30	-9	4/11/2019	9:57:00 AM	4/12/2019	9:51:00 AM	-8.8
15	098-0376	195-ATL-2-SS	TO-15	Soil Gas	SUMMA	2197	3539	-30	-9.5	4/11/2019	10:02:00 AM	4/12/2019	9:57:00 AM	-8.7
16	098-0377	195-ATL-2-IA	TO-15	Air	SUMMA	1730	3602	-30	-8.5	4/11/2019	10:02:00 AM	4/12/2019	9:57:00 AM	-8.3



Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Allen Gull / SERAS	4/15/19 1400	Fedex		
				4/16/19 914	

19D0834

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Leidos/SERAS

DateShipped: 4/15/2019

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Site #: 0098

Contact Name: Misty Barkley

Contact Phone:

Nos: 2-041519-1112151-0019

Project Code: 098

Lab: Con-Test Laboratory

Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	CalibrationID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time	
17	098-0378	195-ATL-3-SS	TO-15	Soil Gas	SUMMA	1877	3495	-30	-9.5	4/11/2019	10:07:00 AM	4/12/2019	10:02:00 AM	-8.2
18	098-0379	195-ATL-3-IA	TO-15	Air	SUMMA	2136	3470	-30	-7.5	4/11/2019	10:07:00 AM	4/12/2019	10:02:00 AM	-6.9
19	098-0380	195-ATL-4-SS	TO-15	Soil Gas	SUMMA	2130	3476	-30	-9.5	4/11/2019	10:12:00 AM	4/12/2019	10:05:00 AM	-8.3
20	098-0381	195-ATL-4-IA	TO-15	Air	SUMMA	1846	3510	-30	-10	4/11/2019	10:12:00 AM	4/12/2019	10:05:00 AM	-8.8

4/15/19

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Analyses	Colleen Gall / SERAS	4/15/19 1400	Fedex		
				4/16/19 914	

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19D0834

Leidos/SERAS
Leidos/SERAS
DateShipped: 4/15/2019
DateShipped: 4/15/2019
CarrierName: FedEx
CarrierName: FedEx
AirbillNo:
AirbillNo:

CHAIN OF CUSTODY RECORD
Site#: 098
Contact Name: Missy Bankay
Contact Phone: 7322321442055

No: 2-044548-112311-0020
No: 2-044548-112311-0020
Project Code: 098
Project Code: 098
Lab: Con-Test Laboratory
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	Orifice ID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time	
21	098-0382	195-ATL-5-SS	TO-15	Soil Gas	SUMMA	10417	35211	-30	-8.5	4/11/2019	10:18:00 AM	4/12/2019	10:10:00 AM	-7.98
22	098-0383	195-ATL-5-IA	TO-15	Air	SUMMA	1924	3255	-30	-8	4/11/2019	10:18:00 AM	4/12/2019	10:10:00 AM	-7.7
23	098-0384	195-ATL-6-SS	TO-15	Soil Gas	SUMMA	2057	3538	-30	-8.5	4/11/2019	10:21:00 AM	4/12/2019	10:17:00 AM	-7.33
24	098-0385	195-ATL-6-IA	TO-15	Air	SUMMA	1012	3265	-30	-7.5	4/11/2019	10:21:00 AM	4/12/2019	10:17:00 AM	-7.03

4/15/19

Special Instructions:
Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Colleen Guilt/SERAS	4/15/19 1400	Fedex		
				4/16/19 0914	

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19D0834

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirBillNo:

CHAIN OF CUSTODY RECORD
Site#: 0098
Contact Name: Misty Barkley
Contact Phone: 732-321-4205

No: 2-0415-19-1124453-0021
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	CriticalID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time
25	098-0386	195-ATL-7-SS	TO-15	Soil Gas	SUMMA	1030	3471	-30	-10	4/11/2019	10:25:00 AM	4/12/2019	10:20:00 AM
26	098-0387	195-ATL-7-IA	TO-15	Air	SUMMA	1671	3679	-30	-8	4/11/2019	10:25:00 AM	4/12/2019	10:20:00 AM
27	098-0388	195-ATL-8-SS	TO-15	Soil Gas	SUMMA	1724	3399	-30	-8	4/11/2019	10:29:00 AM	4/12/2019	10:24:00 AM
28	098-0389	195-ATL-8-IA	TO-15	Air	SUMMA	2456	3346	-30	-7	4/11/2019	10:29:00 AM	4/12/2019	10:24:00 AM

-7.7
-8
-7.2
-7

4/15/19

Special Instructions:

SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Analysis	Colleen Call / SERAS	4/15/19 1400	Fedex		
				4/16/19 914	

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Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirBillNo:

CHAIN OF CUSTODY RECORD
Site #: 0-098
Contact Name: Misty Barkley
Contact Phone: 732-321-4205

No: 2-041519-1122631-0022
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	OrificeID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time	
29	098-0390	195-ATL-11-IA	TO-15	Air	SUMMA	1024	3603	-30	-9	4/11/2019	10:38:00 AM	4/12/2019	10:28:00 AM	-8.7
30	098-0391	150-FUL-SVE	TO-15	Soil Gas	SUMMA	1225	—	-30	0	4/11/2019	11:36:00 AM	4/12/2019	11:36:00 AM	-0
31	098-0392	150-FUL-1-SS	TO-15	Soil Gas	SUMMA	1750	3618	-30	-26	4/11/2019	11:47:00 AM	4/12/2019	11:58:00 AM	-25.2
32	098-0393	150-FUL-1-IA	TO-15	Air	SUMMA	1094	3619	-30	-9	4/11/2019	11:47:00 AM	4/12/2019	11:58:00 AM	-8.3

4/15/19

Special Instructions:	SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	[signature] / SERAS	4/15/19 1400	Fedex		
			[signature]	4/16/19 914	

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19D0834

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD

Site#: 00988
Contact Name: Missy Bartley
Contact Phone: 732-323-1442

No: 2-044549-112808-0023

Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump#	Certified	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time	
33	098-0394	150-FUL-2-SS	TO-15	Soil Gas	SUMMA	1949	38755	-30	-7.5	4/11/2019	11:54:00 AM	4/12/2019	12:04:00 PM	-7.5
34	098-0395	150-FUL-2-IA	TO-15	Air	SUMMA	11158	36711	-30	-9	4/11/2019	11:54:00 AM	4/12/2019	12:04:00 PM	-8.4
35	098-0396	150-FUL-3-SS	TO-15	Soil Gas	SUMMA	1637	30356	-30	-20	4/11/2019	11:56:00 AM	4/12/2019	12:10:00 PM	-23.1
36	098-0397	150-FUL-3-IA	TO-15	Air	SUMMA	2461	3254	-30	-8.5	4/11/2019	11:56:00 AM	4/12/2019	12:10:00 PM	-7.8

4/15/19

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Colleen Cull / SERAS	4/15/19 1400	Fedex		
				4/16/19 914	

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Lab/oa/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Site #: 0-098
Contact Name: Misty Barkley
Contact Phone: 732-321-4205

No: 2-041519-112928-0024
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	OrificeID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time	
37	098-0398	150-FUL-4-SS	TO-15	Soil Gas	SUMMA	1811	3570	-30	-16.5	4/11/2019	12:03:00 PM	4/12/2019	12:15:00 PM	-16.2
38	098-0399	150-FUL-4-IA	TO-15	Air	SUMMA	2462	3692	-30	-8.5	4/11/2019	12:03:00 PM	4/12/2019	12:15:00 PM	-7.1
39	098-0400	150-FUL-5-SS	TO-15	Soil Gas	SUMMA	1954	3527	-30	-8	4/11/2019	12:10:00 PM	4/12/2019	12:21:00 PM	-8
40	098-0401	150-FUL-5-IA	TO-15	Air	SUMMA	1961	3055	-29	-8	4/11/2019	12:10:00 PM	4/12/2019	12:21:00 PM	-9.4

4/15/19

CG

Special Instructions:	SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Colleen Cull / SERAS	4/15/19/1400	Fedex		
			[signature]	4/16/19 9:14	

19D0834

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Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirBillNo:

CHAIN OF CUSTODY RECORD
Site #: 0-098
Contact Name: Misty Bantley
Contact Phone: 732-321-4205

No: 2-041519-113051-0025
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	OrificeID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time	
41	098-0402	150-FUL-6-SS	TO-15	Soil Gas	SUMMA	9008	3497	-30	-8	4/11/2019	12:15:00 PM	4/12/2019	12:26:00 PM	=8.2
42	098-0403	150-FUL-6-IA	TO-15	Air	SUMMA	2467	3462	-30	-9	4/11/2019	12:15:00 PM	4/12/2019	12:26:00 PM	=7.6
43	098-0404	150-FUL-7-SS	TO-15	Soil Gas	SUMMA	1928	3472	-30	-9.5	4/11/2019	12:19:00 PM	4/12/2019	12:30:00 PM	=9.8
44	098-0405	150-FUL-7-IA	TO-15	Air	SUMMA	1327	3355	-30	-11.5	4/11/2019	12:19:00 PM	4/12/2019	12:30:00 PM	=10.1

4/15/19

Special Instructions:	SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All Analysis	Colleen Cull / SERAS	4/15/19 1400	Fedex		
			[illegible]	4/16/19 914	

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1901

19D0834

Leidos/SERAS

DateShipped: 4/15/2019

CarrierName: FedEx

AirbillNo:

CHAIN OF CUSTODY RECORD

Site#: 0098

Contact Name: Misty Barkley

Contact Phone: 732-321-42005

No: 2-041519-113218-0026

Project Code: 098

Lab: Con-Test Laboratory

Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	CanisterID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time
45	098-0406	200-FUL-4-SS	TO-15	Soil Gas	SUMMA	1259	3457	-30	-9	4/11/2019	12:37:00 PM	4/12/2019	12:52:00 PM
46	098-0407	200-FUL-4-IA	TO-15	Air	SUMMA	1912	3541	-30	-12.5	4/11/2019	12:37:00 PM	4/12/2019	12:25:00 PM
47	098-0408	200-FUL-4-IA-Dup	TO-15	Air	SUMMA	2474	3499	-30	-9	4/11/2019	12:37:00 PM	4/12/2019	12:52:00 PM
48	098-0409	200-FUL-3-SS	TO-15	Soil Gas	SUMMA	2443	3454	-30	-10.5	4/11/2019	12:40:00 PM	4/12/2019	12:36:00 PM

-8.3
-10.5
-7
-9.4

4/15/19

Special Instructions:	SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Colleen Cahill/SERAS	4/15/19 1440	Fedex		
				4/16/19 914	

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19D0834

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD

Site #: 0-098
Contact Name: Misty Barkley
Contact Phone: 732-321-4205

No: 2-041519-113340-0027
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	OrificeID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time	
49	098-0410	200-FUL-2-SS	TO-15	Soil Gas	SUMMA	1386	3490	-30	-8	4/11/2019	12:43:00 PM	4/12/2019	12:56:00 PM	=7.4
50	098-0411	200-FUL-2-IA	TO-15	Air	SUMMA	2028	3689	-30	-9	4/11/2019	12:43:00 PM	4/12/2019	12:59:00 PM	=7.1
51	098-0412	200-FUL-5-SS	TO-15	Soil Gas	SUMMA	2061	3363	-30	-9.5	4/11/2019	12:48:00 PM	4/12/2019	1:03:00 PM	=9.3
52	098-0413	200-FUL-5-IA	TO-15	Air	SUMMA	1810	3543	-30	-10	4/11/2019	12:48:00 PM	4/12/2019	1:00:00 PM	=8.4

4/15/19

Special Instructions:

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Colleen Ezell / SERAS	4/15/19 1410	Fedex		
				4/16/19 914	

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1903

1900834

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirbillNo:

CHAIN OF CUSTODY RECORD
Site #: 0098
Contact Name: Misty Barkley
Contact Phone: 732-321-4205

No: 2-041519-113505-0028
Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	Orifice ID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time
53	098-0414	200-FUL-6-SS	TO-15	Soil Gas	SUMMA	2155	33611	-30	-6.5	4/11/2019	12:50:00 PM	4/12/2019	1:08:00 PM
54	098-0415	200-FUL-7-SS	TO-15	Soil Gas	SUMMA	1020	3468	-30	-11	4/11/2019	12:53:00 PM	4/12/2019	1:09:00 PM
55	098-0416	200-FUL-7-IA	TO-15	Air	SUMMA	2216	3688	-30	-8	4/11/2019	12:53:00 PM	4/12/2019	1:09:00 PM
56	098-0417	200-FUL-9-SS	TO-15	Soil Gas	SUMMA	1838	3425	-30	-7	4/11/2019	12:57:00 PM	4/12/2019	1:25:00 PM

-18 -10.9 4/15/19
-18.8
-13.3

4/15/19

Special Instructions: DO NOT ANALYZE SAMPLE 098-0415

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Allison Ezell / SERAS	4/15/19 1400	Fedex		
			Jen Yes	4/16/19 914	

19D0834

CHAIN OF CUSTODY RECORD

No: 2-041519-113930-0029

Leidos/SERAS
DateShipped: 4/15/2019
CarrierName: FedEx
AirbillNo:

Site #: 0-098
Contact Name: Misty Barkley
Contact Phone: 732-321-4205

Project Code: 098
Lab: Con-Test Laboratory
Lab Phone: 413-525-2332

Lab #	Sample #	Location	Analyses	Matrix	Container	Pump #	OrificeID	Start Pressure	Stop Pressure	Start_Date	Start_Time	Stop_Date	Stop_Time
57	098-0418	200-FUL-10-IA	TO-15	Air	SUMMA	1242	3352	-30	-8.5	4/11/2019	12:59:00 PM	4/12/2019	1:19:00 PM
~~56~~	~~098-0419~~	~~150-FUL-AA~~	~~TO-15~~	~~Air~~	~~SUMMA~~	~~1713~~	~~3424~~	~~-30~~		~~4/11/2019~~	~~1:05:00 PM~~	~~4/12/2019~~	
59	098-0420	Trip Blank	TO-15	Blank	SUMMA	1066		-30		4/11/2019	10:36:00 AM	4/12/2019	

-7.2 -9.6 4/15/19 -29.3

4/15/19

Special Instructions: DO NOT ANALYZE SAMPLE 098-0419

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
All analysis	Colleen Hull / SERAS	4/15/19 1400	FedEx		
			[illegible]	4/16/19 914	

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APPENDIX C
Photo Log
Fulton Avenue Site
Garden City Park, NY
August 2019


CONFIRM ADDRESS

TO-Can




Canon
GPR-16 Toner
Toner GPR-16
Tóner GPR-16
GPR-17 Toner
TK-7207
TK-5142C
CYAN
TK-5152K
BLACK

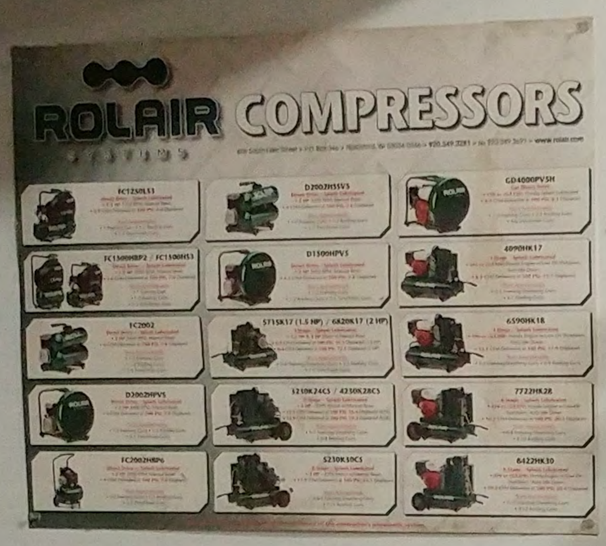

TONER
Canon
L 45B


Canon
NEW
77B
77A
HANDLE
WITH CARE
MIT VORSICHT
BEHANDELN
MANIPULER


HAMMERMILL
TIDAL MP
99.99% JAM-FREE
Express Pack
FibreShield
Drum Kit
DK-310
DK-320
SilcoCan
Catalog # 24182
Serial # 1370
DF-790(C)
DF-7110
KYOCERA
Copystar
Document Processor
Booklet F

ION PRODUCTS
AMOND TOOLS DEALER


EXIT


ROLAIR COMPRESSORS

CUTTING | GRINDING | BLENDING | FINISH
UNITED ABRASIVES, INC.
SAIT
THIN CUT-OFF
METAL
STAINLESS
CUTTING
METAL
STAINLESS
GRINDING
METAL
CONCRETE
SilcoCan
LENOX
Milwaukee
PORTER CABLE
Current Tools
Hydraulic Punch Driver Sets
Current
154 PM
1/2" to 4" K.O. SET
$1438.00
Current
141
STUD PUNCH
Current Tools
157 PM
1/2" to 2" Ratchet Knockout Set

STANDARD GOLD

DEWALT

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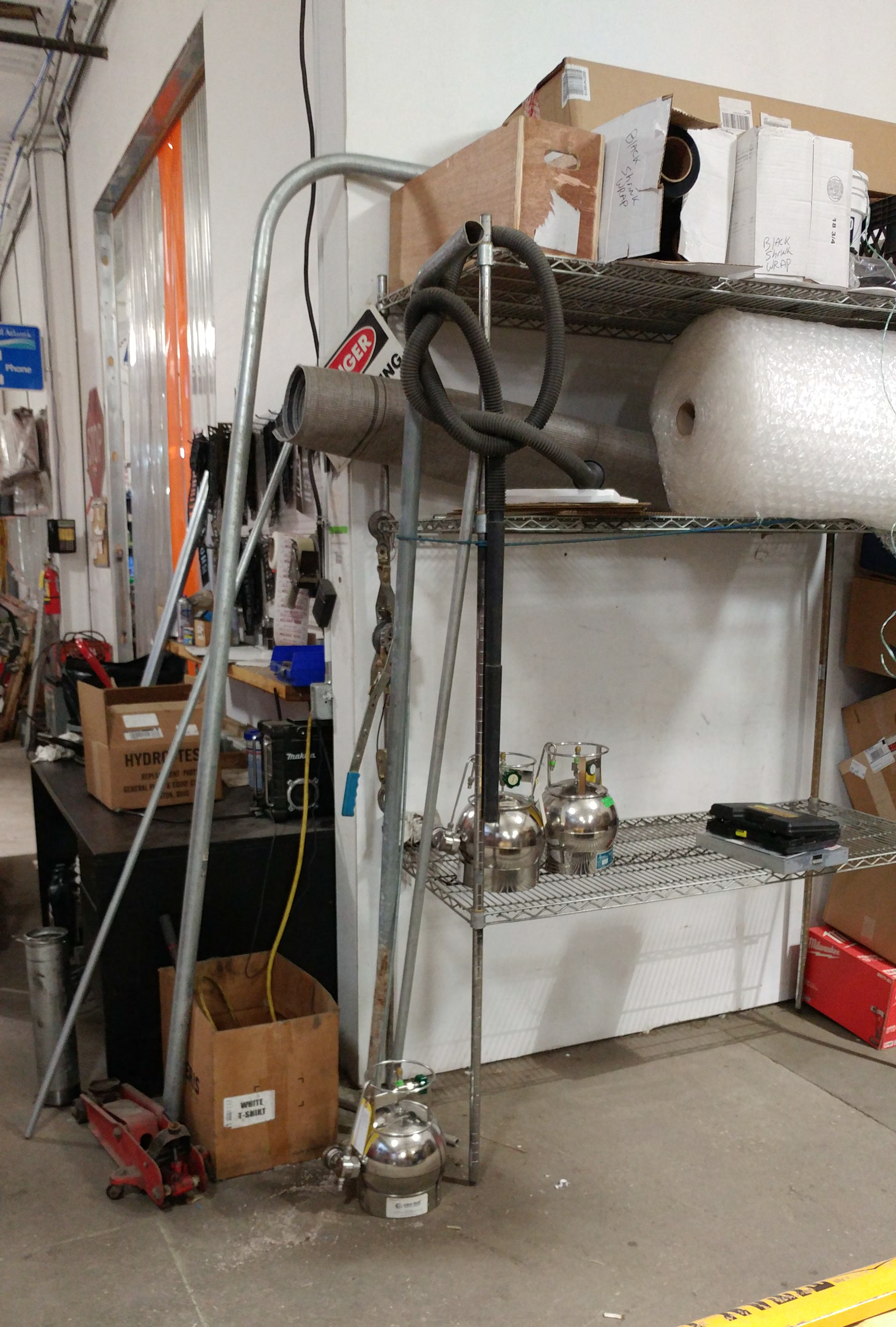
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QUALITY ASSURANCE PROJECT PLAN
Fulton Avenue Superfund Site
Garden City Park, New York

Revision 7

Prepared for:
United States Environmental Protection Agency/Environmental Response Team
Edison, New Jersey

By:
Leidos/Scientific, Engineering, Response and Analytical Services
Work Assignment Number: SERAS-098

Based on the Intergovernmental Data Quality Task Force Uniform
Federal Policy for Quality Assurance Project Plans
(Final Version 1.1, June 2006)

April 4, 2019

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QAPP Worksheet_#1
Title and Approval Page

Site Name/Project Name: Fulton Avenue Superfund Site
Site Location: 150 Fulton Avenue, Garden City Park, Nassau County, New York (NY)

Document Title: Quality Assurance Project Plan (QAPP) for Fulton Avenue Superfund Site – April 2019 Mobilization

Lead Organization: Environmental Protection Agency/Environmental Response Team (EPA/ERT)

Preparer's Name and Organizational Affiliation: Colleen Grell, Leidos/ Scientific, Engineering, Response and Analytical Services (SERAS)

Preparer's Address, Telephone Number, and E-mail Address: 2890 Woodbridge Avenue, Edison, New Jersey 08837, (732) 494-4001, Colleen.e.grell@leidos.com

Preparation Date (Month/Day/Year): April 4, 2019

Investigative Organization's Project Manager/Date: _____ Signature

Printed Name/Organization: Jeff Catanzarita/ERT Work Assignment Manager

Investigative Organization's Project QA Officer/Date: _____ Signature 4/9/19

Printed Name/Organization: Stephen Blaze/ERT Quality Coordinator

Lead Organization's Project Manager/Date: _____ Signature

Printed Name/Organization: Colleen Grell/SERAS Task Leader

Approval Signatures/Date: _____ Signature 4/4/19

Printed Name/Title: Deborah Killeen/SERAS QA/QC Officer

Approval Authority: SERAS

Other Approval Signatures/Date: _____ Signature 4/4/19

Printed Name/Title: Paul E. Carter/SERAS Program Manager

Document Numbering System : SERAS-098-DQAPPR7-040419

QAPP Worksheet #2
QAPP Identifying Information

Site Name/Project Name: Fulton Avenue Superfund Site
Site Location: 150 Fulton Avenue, Garden City Park, Nassau County, NY
Site Number/Code:
Operable Unit: OU2
Contractor Name: Leidos
Contractor Number: EP-W-09-031

Contract Title: SERAS
Work Assignment Number: SERAS-098

1. Identify regulatory program: Comprehensive Environmental Response and Compensation Liability Act (CERCLA)
2. Identify approval entity: EPA/ERT
3. The QAPP is (select one): Generic : Project Specific
4. List dates of scoping sessions that were held: April 1, 2019
5. List dates and titles of QAPP documents written for previous site work, if applicable:

Title	Approval Date
Quality Assurance Project Plan for Fulton Street, document #SERAS-098-DQAPP-081610	8/16/10
Quality Assurance Project Plan for Fulton Street, document #SERAS-098-DQAPPA1-110411	11/4/11
Quality Assurance Project Plan for Fulton Street, document #SERAS-098-DQAPPR2-031116	3/11/16
Quality Assurance Project Plan for Fulton Street, document #SERAS-098-DQAPPR3-050416	5/4/16
Quality Assurance Project Plan for Fulton Street, document #SERAS-098-DQAPPR4-011817	11/18/17
Quality Assurance Project Plan for Fulton Street, document #SERAS-098-DQAPPR5-012518	1/25/18
Quality Assurance Project Plan for Fulton Street, document #SERAS-098-DQAPPR65-030218	3/2/18

6. Organizational partners (stakeholders) and connection with lead organization: EPA Region 2
7. List data users: EPA Region 2
8. If any required QAPP elements and required information are not applicable to the project, then circle the omitted QAPP elements and required information on the attached table. Provide an explanation for their exclusions below: Worksheet #37 – Usability assessment is the responsibility of EPA Region 2

QAPP Worksheet #2
QAPP Identifying Information
(Continued)

Required QAPP Element(s) and Corresponding QAPP Section(s)	Required Information	Crosswalk to Related Documents
Project Management and Objectives		
2.1 Title and Approval Page	- Title and Approval Page	1
2.2 Document Format and Table of Contents 2.2.1 Document Control Format 2.2.2 Document Control Numbering System 2.2.3 Table of Contents 2.2.4 QAPP Identifying Information	- Table of Contents - QAPP Identifying Information	2
2.3 Distribution List and Project Personnel Sign-Off Sheet 2.3.1 Distribution List 2.3.2 Project Personnel Sign-Off Sheet	- Distribution List - Project Personnel Sign-Off Sheet	3 4
2.4 Project Organization 2.4.1 Project Organizational Chart 2.4.2 Communication Pathways 2.4.3 Personnel Responsibilities and Qualifications 2.4.4 Special Training Requirements and Certification	- Project Organizational Chart - Communication Pathways - Personnel Responsibilities and Qualifications Table - Special Personnel Training Requirements Table	5 6 7 8
2.5 Project Planning/Problem Definition 2.5.1 Project Planning (Scoping) 2.5.2 Problem Definition, Site History, and Background	- Project Planning Session Documentation (including Data Needs tables) - Project Scoping Session Participants Sheet - Problem Definition, Site History, and Background - Site Maps (historical and present)	9 10
2.6 Project Quality Objectives and Measurement Performance Criteria 2.6.1 Development of Project Quality Objectives Using the Systematic Planning Process 2.6.2 Measurement Performance Criteria	- Site-Specific PQOs - Measurement Performance Criteria Table	11 12

QAPP Worksheet #2
QAPP Identifying Information
(Continued)

Required QAPP Element(s) and Corresponding QAPP Section(s)	Required Information	Crosswalk to Related Documents
2.7 Existing Data Evaluation	- Sources of Existing Data and Information - Existing Data Criteria and Limitations Table	13
2.8 Project Overview and Schedule 2.8.1 Project Overview 2.8.2 Project Schedule	- Summary of Project Tasks - Reference Limits and Evaluation Table - Project Schedule/Timeline Table	14 15 16
Measurement/Data Acquisition		
3.1 Sampling Tasks 3.1.1 Sampling Process Design and Rationale 3.1.2 Sampling Procedures and Requirements 3.1.2.1 Sampling Collection Procedures 3.1.2.2 Sample Containers, Volume, and Preservation 3.1.2.3 Equipment/Sample Containers Cleaning and Decontamination Procedures 3.1.2.3 Field Equipment Calibration, Maintenance, Testing, and Inspection Procedures 3.1.2.4 Supply Inspection and Acceptance Procedures 3.1.2.6 Field Documentation Procedures	- Sampling Design and Rationale - Sample Location Map - Sampling Locations and Methods/SOP Requirements Table - Analytical Methods/SOP Requirements Table - Field Quality Control Sample Summary Table - Sampling SOPs - Project Sampling SOP References Table - Field Equipment Calibration, Maintenance, Testing, and Inspection Table	17 18 19 20 21 22
3.2 Analytical Tasks 3.2.1 Analytical SOPs 3.2.2 Analytical Instrument Calibration Procedures 3.2.3 Analytical Instrument and Equipment Maintenance, Testing, and Inspection Procedures 3.2.4 Analytical Supply Inspection and Acceptance Procedures	- Analytical SOPs - Analytical SOP References Table - Analytical Instrument Calibration Table - Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table	23 24 25

QAPP Worksheet #2
QAPP Identifying Information
(Continued)

Required QAPP Element(s) and Corresponding QAPP Section(s)	Required Information	Crosswalk to Required Documents
3.3 Sample Collection Documentation, Handling, Tracking, and Custody Procedures 3.3.1 Sample Collection Documentation 3.3.2 Sample Handling and Tracking System 3.3.3 Sample Custody	- Sample Collection Documentation Handling, Tracking, and Custody SOPs - Sample Container Identification - Sample Handling Flow Diagram - Example Chain-of-Custody Form and Seal	26 27
3.4 Quality Control Samples 3.4.1 Sampling Quality Control Samples 3.4.2 Analytical Quality Control Samples	- QC Samples Table - Screening/Confirmatory Analysis Decision Tree	28
3.5 Data Management Tasks 3.5.1 Project Documentation and Records 3.5.2 Data Package Deliverables 3.5.3 Data Reporting Formats 3.5.4 Data Handling and Management 3.5.5 Data Tracking and Control	- Project Documents and Records Table - Analytical Services Table - Data Management SOPs	29 30
Assessment/Oversight		
4.1 Assessments and Response Actions 4.1.1 Planned Assessments 4.1.2 Assessment Findings and Corrective Action Responses	- Assessments and Response Actions - Planned Project Assessments Table - Audit Checklists - Assessment Findings and Corrective Action Responses Table	31 32
4.2 QA Management Reports	- QA Management Reports Table	33
4.3 Final Project Report		

QAPP Worksheet #2
QAPP Identifying Information
(Continued)

Required QAPP Element(s) and Corresponding QAPP Section(s)	Required Information	Crosswalk to Related Documents
Data Review		
5.1 Overview		
5.2 Data Review Steps 5.2.1 Step I: Verification 5.2.2 Step II: Validation 5.2.2.1 Step IIa Validation Activities 5.2.2.2 Step IIb Validation Activities 5.2.3 Step III: Usability Assessment 5.2.3.1 Data Limitations and Actions from Usability Assessment 5.2.3.2 Activities	- Verification (Step I) Process Table - Validation (Steps IIa and IIb) Process Table - Validation (Steps IIa and IIb) Summary Table - Usability Assessment	34 35 36 NA
5.3 Streamlining Data Review 5.3.1 Data Review Steps To Be Streamlined 5.3.2 Criteria for Streamlining Data Review 5.3.3 Amounts and Types of Data Appropriate for Streamlining		

QAPP Worksheet #3
Distribution List

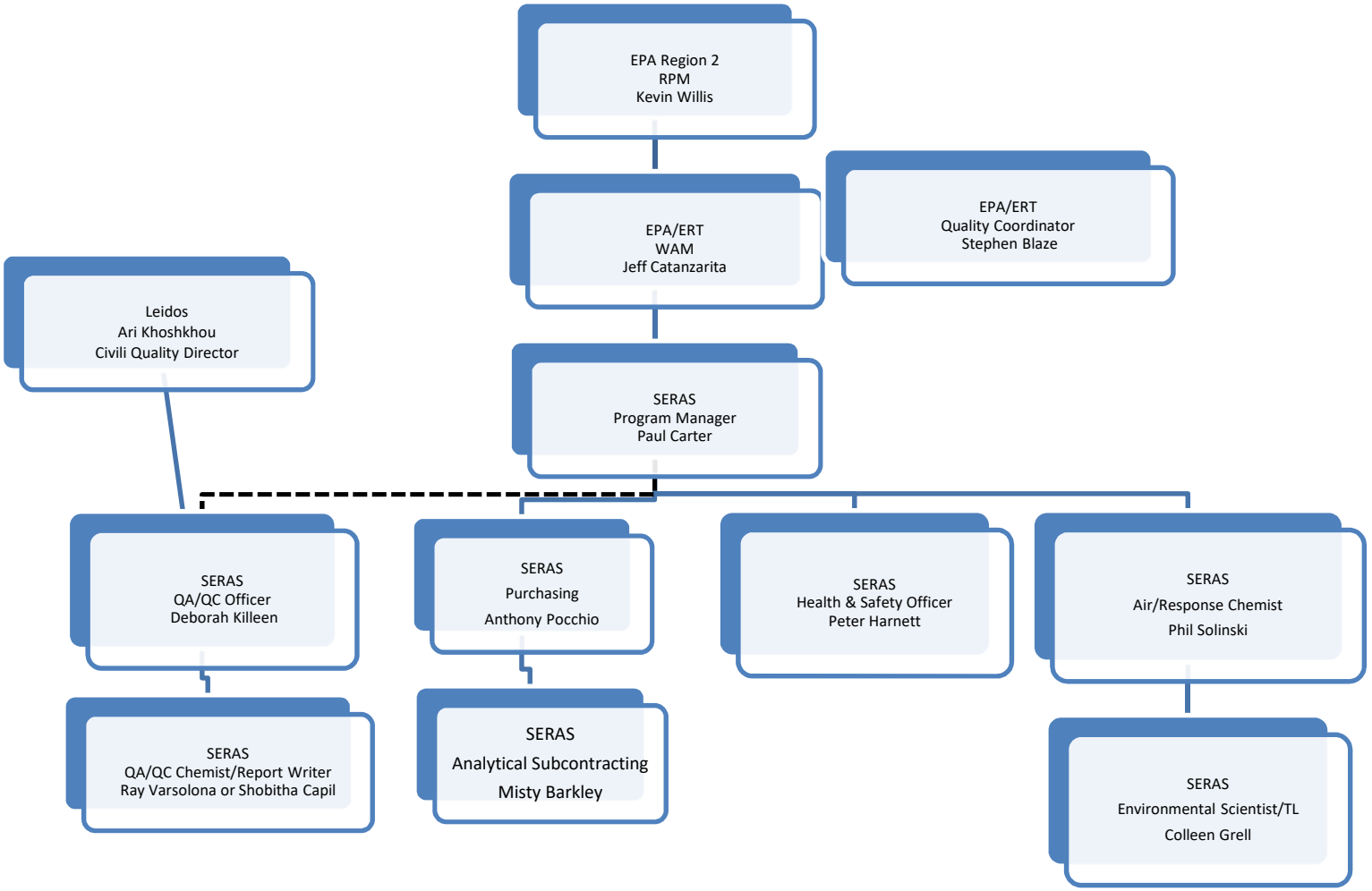
QAPP Recipients	Title	Organization	Telephone Number	Fax Number	E-mail Address	Document Number
Jeff Catanzarita	Work Assignment Manager (WAM)	ERT	732-906-6929	732-321-6724	Catanzarita.Jeff@epamail.epa.gov	SERAS-098-DQAPPR7-040419
Stephen Blaze	Quality Coordinator	ERT	732-906-6921	732-321-6724	Blaze.Stephen@epamail.epa.gov	SERAS-098-DQAPPR7-040419
Colleen Grell	Environmental Scientist/Task Leader (TL)	SERAS	732-494-4001	732-321-4258	colleen.e.grell@leidos.com	SERAS-098-DQAPPR7-040419
Deborah Killeen	Quality Assurance/Quality Control (QA/QC) Officer	SERAS	732-321-4245	732-321-4258	deborah.a.killeen@leidos.com	SERAS-098-DQAPPR7-040419
Philip Solinski	Air/Response Chemist	SERAS	732-321-4283	732-321-4258	philip.j.solinski@leidos.com	SERAS-098-DQAPPR7-040419
Paul Carter	Program Manager	SERAS	732-321-4202	732-321-4258	paul.e.carter@leidos.com	SERAS-098-DQAPPR7-040419
Peter Harnett	Health and Safety Officer (HSO)	SERAS	732-494-4011	732-321-4258	Peter.b.harnett@leidos.com	SERAS-098-DQAPPR7-040419

QAPP Worksheet #4
Project Personnel Sign-Off Sheet

Organization: SERAS/EPA/ERT

Project Personnel	Title	Telephone Number	Signature	Date QAPP Read
Colleen Grell	SERAS Environmental Scientist/TL	(732) 494-4001		4/8/19
Philip Solinski	SERAS Environmental Scientist	(732) 321-4283		4/8/19
Jeff Catanzarita	EPA ERT WAM	(732) 906-6929		4/8/19
Kevin Willis	EPA Region 2 Remedial Project Manager (RPM)	(212) 637-4252		

QAPP Worksheet #5
Project Organizational Chart



QAPP Worksheet #6
Communication Pathways

Communication Drivers	Responsible Entity	Name	Phone Number	Procedure (Timing, Pathways, etc.)
Approval of initial QAPP and any amendments	ERT WAM ERT Quality Coordinator SERAS Program Manager SERAS QA/QC Officer SERAS TL	Jeff Catanzarita Stephen Blaze Paul Carter Deborah Killeen Colleen Grell	(732) 906-6929 (732) 906-6921 (732) 321-4202 (732) 321-4245 (732) 494-4001	SERAS internal peer review, followed by ERT approval, implementation of changes effective only with approved QAPP or QAPP Change Form.
Nonconformance and Corrective Action	SERAS Environmental Scientist ERT WAM SERAS QA/QC Officer	Colleen Grell Jeff Catanzarita Deborah Killeen	(732) 494-4001 (732) 906-6929 (732) 321-4245	Use of the Work Assignment (WA) Field Change Form for field issues. Use of the laboratory nonconformance memo for laboratory deficiencies and/or deviations.
Posting of Deliverables to the ERT Information Management System (IMS) website	SERAS Environmental Scientist SERAS QA/QC Officer SERAS Air Response Chemist SERAS Administrative Support	Colleen Grell Deborah Killeen Philip Solinski Eileen Ciambotti	(732) 494-4008 (732) 321-4245 (732) 321-4283 (732) 321-4255	As per WA, posting of deliverables to ERT- IMS website constitutes delivery to the WAM
Work Assignment	SERAS Program Manager	Paul Carter	(732) 321-4202	Describes scope of work to SERAS personnel from the ERT WAM
Projected Work Assignment/Analytical Services Resource Requirements (PWA/ASRR)	SERAS Environmental Scientist/TL	Colleen Grell	(732) 494-4001	Filled out by the TL upon receipt of the WA and following the project scoping meeting, and distributed to field, analytical, and support personnel.
Health and Safety On-Site Meeting	SERAS TL and/or Site Health and Safety Officer	Colleen Grell	(732) 494-4001	Describe potential site hazards, required personal protective equipment, and access to local emergency services.

QAPP Worksheet #7
Personnel Responsibilities and Qualification Table

Name	Title	Organizational Affiliation	Responsibilities	Minimum Education and Experience Qualifications
Colleen Grell	Environmental Scientist/TL	SERAS	Project Supervision/Sampling Operations/Site Health and Safety Officer	Minimum BS degree plus 8 years related experience/Leidos Employee Files
Philip Solinski	Air Response Chemist	SERAS	Air Sampling Oversight/ Sampling Operations	Minimum B.S. degree plus 14 years related experience/Leidos Employee Files
Ray Varsolona	QA/QC Chemist/Report Writer	SERAS	Data Validation/Analytical Report & Electronic Data Deliverable (EDD) Preparation	Minimum B.S. degree plus 8 years of related experience/Leidos Employee Files
Shobitha Capil	QA/QC Chemist/Report Writer	SERAS	Data Validation/Analytical Report & EDD Preparation	Minimum B.S. degree plus 8 years of related experience/Leidos Employee Files
Deborah Killeen	QA/QC Officer	SERAS	QA Oversight/ Deliverable Review	Minimum B.S. degree plus 14 years of related experience/Leidos Employee Files
Paul Carter	Program Manager	SERAS	Program Oversight	Minimum B.S. degree plus 14 years related experience/Leidos Employee Files
Peter Harnett	HSO	SERAS	Health & Safety Plan (HASP) Review, Selection of Personal Protective Equipment (PPE)	Minimum B.S. degree plus 14 years of related experience/Leidos Employee Files
Jeff Catanzarita	WAM	EPA/ERT	Technical Direction	EPA job-specific qualifications/In EPA files
Kevin Willis	RPM	EPA Region 2	Technical Oversight	EPA job-specific qualifications/In EPA files
Stephen Blaze	Quality Coordinator	EPA/ERT	QA Oversight	EPA job-specific qualifications/In EPA files

QAPP Worksheet #8
Special Personnel Training Requirements Table

Project Function	Specialized Training – Title or Description of Course	Training Provider	Training Date	Personnel/Groups Receiving Training	Personnel Titles/ Organizational Affiliation	Location of Training Records/Certificates
Project/Sampling Oversight	OSHA 8-hour refresher	SERAS	Oct 2018	Colleen Grell	TL/ Environmental Scientist/ SERAS	Health & Safety Files
Field Sampling			Sept 2018	Philip Solinski	Air Response Chemist/SERAS	
QA Oversight	Data Review & Validation	Laboratory Data Consultants	Jan 2007	Deborah Killeen	QA/QC Officer/SERAS	SERAS Quality Files
QA Oversight	Introduction to Auditing – QA Field Activities Procedure	ANAB	Apr 2015	Deborah Killeen	QA/QC Officer, SERAS	
QA Oversight	Uniform Federal Policy for Quality Assurance Project Plans	Advanced Systems	Jan 2006	Deborah Killeen	QA/QC Officer/SERAS	
Validation Support	Data Integrity/Peak Integration	SERAS	Oct 2018	Raymond Varsolona	QA/QC Chemist/Report Writer	
Validation Support	Data Integrity/Peak Integration	SERAS	Oct 2018	Shobitha Capil	QA/QC Chemist/Report Writer	
QA Oversight	Changes to Environmental Laboratory Accreditation	Advanced Systems	May 2009	Deborah Killeen	QA/QC Officer/SERAS	

ANAB = American National Standards Institute/American Society for Control (ANSI/ASQ) National Accreditation Board

QAPP Worksheet #9
Project Scoping Session Participants Sheet

Project Name: Fulton Street **Projected Date(s) of Sampling:** April 9-11, 2019 **Project Manager:** Colleen Grell	**Site Name:** Fulton Avenue **Site Location:** Garden City Park, Nassau County, New York

Date of Session: April 1, 2019
Scoping Session Purpose: Discuss logistics of project

Name	Title	Affiliation	Phone #	E-mail Address	Project Role
Colleen Grell	Environmental Scientist/ TL	SERAS	732-494-4001	Colleen.e.grell@Leidos.com	Task Lead
Misty Barkley	Property Coordinator	SERAS	732-321-4205	misty.barkley@ Leidos.com	Analytical Subcontracting
Phil Solinski	Air Response Chemist	SERAS	732-321-4283	philip.j.solinski@Leidos.com	Project Oversight
Deborah Killeen	QA/QC Officer	SERAS	732-321-4245	deborah.a.killeen@Leidos.com	QA/Validation Oversight
Jeff Catanzarita	WAM	EPA/ERT	732-906-6929	Catanzarita.Jeff@epamail.epa.gov	Technical Direction

Comments/Decisions:
SERAS will collect 27 industrial sub-slab soil gas, 24 industrial indoor air, one soil vapor extraction (SVE) system sample, up to 4 ambient, and 3 collocated air samples during the week of April 8, 2019. One trip blank will be collected and one extra Summa canister will be requested, for a total of 61 Summa canisters.
All data **MUST** be provided in parts per billion by volume (**ppbv)** and micrograms per cubic meter (**ug/m^3)** as an EDD. Individually certified SUMMA canisters and 24-hour flow controllers **must be delivered by the laboratory by 4/8/19.** Ten business day turn-around time is requested for preliminary data. Samples will be analyzed using the Limited Target Compound List (TCL)* EPA TO-15. *Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*. SUMMA canisters and flow controllers must be individually certified to **0.02 ppbv.**

***Samples will be analyzed using a limited TCL: Tetrachloroethene (PCE), Trichloroethene (TCE), Vinyl Chloride, cis-1,2-Dichloroethene (DCE), trans-1,2-DCE, naphthalene, chloroform, 1,1,2-Trichloroethane (TCA) and 1,1,2,2-Tetrachloroethane.**

QAPP Worksheet #10
Problem Definition

PROBLEM TO BE ADDRESSED BY THE PROJECT:
The field work for Fulton Avenue Operable Unit 2 (OU2) began in Spring 2011. This work is being done in accordance with EPA's TRIAD initiative which conducts an investigation in a phased approach. The second phase of work to identify and remediate the source(s) of the observed TCE-dominant portion of the contamination plume started in early spring 2013. Nassau County Department of Health and the Garden City Water District (GCWD) presently are managing the site contamination which is migrating into the GCWD wells. An Amendment to the OU1 Record of Decision (RODA) was signed in September 2016 which assures that the OU1 portion of the plume continues to not threaten human health and the environment. A Consent Judgement was signed in September 2016 whereby a potentially responsible party (PRP) has agreed to perform the remedial activities described in the OU1 RODA. Field work for OU2 began in Spring 2012 and is currently ongoing. The purpose of this sampling effort is to further evaluate the current nature and extent of VOCs in the uppermost aquifer at the site through the collection of soil gas samples in several commercial buildings.

ENVIRONMENTAL QUESTIONS BEING ASKED:
Does VOC contamination exist beneath the commercial building slabs, and if so, is the indoor air being impacted? Do the concentrations of target compounds exceed the project action limits listed on WS #15?

OBSERVATIONS FROM SITE RECONNAISSANCE REPORTS:
The property is approximately 0.8 acres and improved by a 20,000-square foot building. Businesses utilizing a cutting mill and dry cleaning processes have previously occupied the site building. Analytical data suggest that a plume of VOCs composed chiefly of the dry cleaning solvent PCE had impacted ground water by way of a dry well formerly located on the property. One or more solvent plumes composed primarily of the cleaning solvent TCE and believed to originate from sources other than the dry well were subsequently identified in the site area. To date, several remedial actions have been taken to evaluate and address contamination at the site. Contaminated soil was removed from the base of the dry well and an air sparging/SVE system was installed at the site between 1998 and 2001 PRPs. Additional investigations focused primarily on impact to the local ground water system revealed that multiple sources were likely present.

THE POSSIBLE CLASSES OF CONTAMINANTS AND THE AFFECTED MATRICES:
VOC contamination of soil and groundwater potentially impacting indoor air, including PCE, TCE, vinyl chloride, cis-1,2-DCE, trans-1,2-DCE, naphthalene, chloroform, 1,1,2-TCA and 1,1,2,2,-tetrachloroethane.

RATIONALE FOR INCLUSION OF CHEMICAL AND NON-CHEMICAL ANALYSES:
Chemical analyses are justified due to documented releases to both soil and groundwater matrices from nearby sources. Non-chemical analyses will not be required or performed.

INFORMATION CONCERNING VARIOUS ENVIRONMENTAL INDICATORS:
None.

PROJECT DECISION CONDITIONS:
Samples from previously sampled buildings will be analyzed to confirm the results of previous sampling.
If the concentrations of VOCs in indoor air exceed the 10^{-6} with a target hazard quotient (THQ) =1 action levels, then EPA Region 2 will determine what further actions need to be taken (i.e., monitor, investigate, remediate).

QAPP Worksheet #11
Project Quality Objectives/Systematic Planning Process Statements

Who will use the data? EPA Region 2
What will the data be used for? The sub-slab soil gas sampling data will be used by EPA Region 2 to assess the potential vapor intrusion from groundwater contamination into indoor air and if so, the potential risk to human health.
What type of data is needed? Samples will be collected from previously sampled industrial buildings and will include sub-slab soil gas, indoor air, ambient air, a sample from an existing SVE system, and a trip blank. All samples will be analyzed using a limited TO-15 Target Compound List (TCL).
How "good" do the data need to be in order to support the environmental decision? SUMMA® canister data must meet definitive data requirements. The quantitation levels are specified on Worksheet #15. All definitive laboratory analyses will be performed by Con-Test Laboratory. Worksheet #12 and #28 show the measurement performance criteria that are needed for the quality indicators. Worksheet #20 outlines the field QC sample requirements. All data analyzed by Con-Test Laboratory will be validated by QA/QC Chemists on the SERAS contract.
How much data are needed? During the week of April 8, 2019 approximately 61 samples will be collected in SUMMA® canisters from industrial buildings, including 27 sub-slab soil gas, 1 SVE, 24 indoor air and up to 4 ambient, 1 extra, 1 trip blank and 3 collocated air samples. All sampling locations will be designated by the WAM and/or the RPM.
Where, when, and how should the data be collected/generated? Industrial buildings will be sampled during the week of April 8, 2019 in accordance with approved sampling and analytical standard operating procedures (SOPs). Refer to Worksheet #21, Worksheet #22, and Worksheet #23. If access is granted to other properties or the EPA Region 2 deems it necessary to resample a location, then additional mobilizations will be scheduled and performed in accordance with this approved QAPP.
Who will collect and generate the data? Samples in SUMMA® canisters will be collected by SERAS personnel and relinquished for VOC analysis to Con-Test Laboratory.
How will the data be reported? Validated data will be reported in a final analytical report and EDD prepared in accordance with SERAS SOP #4020, *Analytical Report Preparation* and SOP #4030, Preparation of Final Validated Electronic Data Deliverables (EDDs). A final Trip Report, prepared in accordance with SERAS SOP #4017, *Preparation of Trip Reports*, will be the final deliverable to the EPA/ERT WAM. Data will be disseminated to EPA Region 2 by the ERT WAM.
How will the data be archived? Hard copies of all deliverables will be stored in SERAS Central Files and e-copies will be stored on SERAS Local Area Network (LAN). Data will be imported into a Scribe database and posted to the ERT- IMS website. All analytical data packages will be scanned in and archived by the SERAS QA/QC Group. Data will be archived by SERAS in accordance with Administrative Procedure (AP) #34, *Archiving Electronic Files*.

QAPP Worksheet 12-1
Measurement Performance Criteria Table

Matrix	Air (Indoor/Ambient)
Analytical Group	VOC
Concentration Level	Low Level Scan

Sampling Procedure [1]	Analytical Method/SOP [2]	Data Quality Indicators (DQIs)	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
SERAS SOP #1704	EPA TO-15	Precision	Relative Percent Difference (RPD) ± 25%	Laboratory Replicates	A
		Accuracy/Bias	Percent Recovery (%R) = Within control chart limits	Laboratory Control Sample (LCS)	A
		Accuracy/Bias	±40% of mean area response	Internal Standards	A
		Precision	± 35% RPD	Collocated Field Duplicates	S & A
		Accuracy/Bias Contamination	<RL	Method Blank Trip Blank	A S & A
		Sensitivity/Accuracy	Limit of Detection (LOD) – Standard deviation of 7 replicates multiplied by the students T-factor <RL Limit of Quantitation (LOQ) - %R ±30% or within control chart limits	LOD/LOQ Study	A
		Completeness	> 90% SUMMA sampling, > 90% laboratory analysis	Data Completeness Check	S & A

[1] Reference number from QAPP Worksheet #21 (see Section 3.1.2)
[2] Reference number from QAPP Worksheet #23 (see Section 3.2)

QAPP Worksheet 12-2
Measurement Performance Criteria Table

Matrix	Soil Gas
Analytical Group	VOC
Concentration Level	Low Level Scan

Sampling Procedure [1]	Analytical Method/SOP [2]	Data Quality Indicators (DQIs)	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
SERAS SOP #1704	EPA TO-15	Precision	RPD ± 25%	Laboratory Replicates	A
		Accuracy/Bias	%R = Within control chart limits	LCS	A
		Accuracy/Bias	±40% of mean area response	Internal Standards	A
		Accuracy/Bias Contamination	<RL	Method Blank Trip Blank	A S & A
		Sensitivity/Accuracy	LOD – Standard deviation of 7 replicates multiplied by the students T-factor <RL LOQ - %R ±30% or within control chart limits	LOD/LOQ Study	A
		Completeness	> 90% SUMMA sampling, > 90% laboratory analysis	Data Completeness Check	S & A

[1] Reference number from QAPP Worksheet #21 (see Section 3.1.2)
[2] Reference number from QAPP Worksheet #23 (see Section 3.2)

QAPP Worksheet #13
Existing Data Criteria and Limitations Table

Existing Data	Data Source (Originating Organization, Report Title, and Date)	Data Generator(s) (Originating Org., Data Types, Data Generation/ Collection Dates)	How Data Will Be Used	Limitations on Data Use
Site Report	Fulton Street Site, Garden City, NY SER00098- Trip Report	Lockheed Martin SERAS collection date: November 10, 2010 and December 29, 2012.	Background data	None
Site Report	Fulton Street Site, Garden City, NY SER00098- Trip Report	Lockheed Martin SERAS collection date: March and May 2016.	Background data	None
Site Report	Fulton Street Site, Garden City, NY SER00098- Trip Report	Lockheed Martin SERAS collection date: January 2017.	Background data	None
Site Report	Fulton Street Site, Garden City, NY SER00098- Trip Report	Leidos/SERAS collection date: February and March 2018.	Background data	None

QAPP Worksheet #14
Summary of Project Tasks

Sampling Tasks: Previously installed sub-slab soil gas will be utilized by SERAS personnel to collect samples from commercial locations. Probes will be tested prior to sampling to ensure integrity of the probe. A helium leak test will be performed on each sub-slab port to ensure its integrity and determine if ambient air is being drawn into the soil gas sampling during collection. A helium shroud will be placed over the probe, sealed and filled with helium gas until a minimum of 90% is achieved and measured with a hand-held multi-gas leak detector. If a leak is detected, the probe will be removed and a new probe will be installed. Where replacement probes are required, SERAS will install sub-slab soil gas probes in accordance with SERAS standard operating procedure (SOP) #2082, *Construction and Installation of Permanent Sub-Slab Soil Gas Vapor Probes.* 24-Hour time-weighted average (TWA) samples will be collected from approximately 27 sub-slab soil gas probes, 1 SVE system and 24 indoor air locations (industrial) using SUMMA® canisters in accordance with SERAS SOP #1704, SUMMA® *Canister Sampling*. Three collocated, one additional sample location and up to four ambient air samples, at a minimum of one location per day of sampling, will be collected using SUMMA® canisters. A flow controller attached to each SUMMA® canister will be fitted with a restrictive orifice set at approximately 3.4 milliliter/minute (mL/min) to collect 4 to 5-liters (L) of sample.
Analysis Tasks: VOC analysis of all samples collected in SUMMA® canisters will be performed by Contest Laboratory in accordance with EPA Toxic Organic (TO)-15*, Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially- Prepared Canisters And Analyzed By Gas Chromatography/ Mass Spectrometry (GC/MS).*
Quality Control Tasks: Collocated field duplicates for indoor/ambient air and trip blanks will be collected and analyzed. Field QC samples are described in Worksheet #20. Performance measurement criteria for field and analytical QC samples are defined in Worksheets #12 and 28.
Existing Data: Used for previous site locations and for comparison of data.
Data Management Tasks: All sampling locations will be identified by a field assigned number. Field sampling data will be recorded on field data sheets or in field books. All samples will be delivered under chain of custody (COC) to Con-Test Laboratory. A comma separated value (.csv) file will be generated containing validated data by SERAS QA/QC Chemists. These data will be imported into the Scribe database. The Scribe project will be checked against the ERT-SERAS-R2 auditor rules and an EPA R2 Superfund export file generated and submitted to EPA Region 2. The database will be posted to the site ERT-IMS website as a final deliverable.
Documentation and Records: All documentation will be recorded in accordance with SERAS SOP #4001, *Logbook Documentation* and SOP #2002, *Sample Documentation*. All Analytical Reports will be prepared in accordance with SERAS SOP #4020, *Analytical Report Preparation*. The Trip Report will provide a description of the project; field and laboratory methodologies and results, and will be prepared in accordance with SERAS SOP #4017, *Preparation of Trip Reports*. Documents and records that may be generated during this project include: WP, QAPP, HASP, Field and Laboratory Logbooks, Site Map, Sample Labels, COC Records, Custody Seals, Air Sampling Worksheets, Data Review Records, Data Assessment Forms (for definitive data), Data Validation Records (for definitive data), Analytical Reports, Scribe Database, Trip Report and Field Change Forms (if needed). All deliverables will be generated in accordance to the appropriate SERAS SOP and posted to the ERT-IMS website upon completion. Posting to the ERT-IMS site will be considered as completion of the deliverable.
Assessment/Audit Tasks: No performance audit of field operations is anticipated for this project. The tasks associated with this QAPP are assessed using peer reviews and management system reviews. Peer review enables the field chemist to identify and correct reporting errors before reports are submitted. Management system reviews establish compliance with prevailing management structure, policies and procedures, and ensures that the required data are obtained.

Data Review Tasks:
Analytical data will be validated in accordance with SERAS SOP #1021, *Data Validation Procedures for Routine Volatile Organic Compound (VOC) Analysis in Air.* All project deliverables will receive an internal peer review prior to release, per guidelines established in the SERAS AP #22, *Peer Review of SERAS Deliverables.*

QAPP Worksheet #15-1
Reference Limits and Evaluation Table

Matrix: Industrial Indoor and Ambient Air (Limited TO-15 List)
Analytical Group: VOC
Concentration Level: Low

Analyte	CAS Number	Project Screening Level [1] (µg/m³/ ppbv)	Project Action Limit[2] (µg/m³/ppbv)	Project Quantitation Limit (ppbv)	Analytical Method EPA TO-15		Con-Test Laboratory Achievable Laboratory Limits	
					MDLs (ppbv)	Method QLs (ppbv)	MDLs[3] (ppbv)	QLs (ppbv)
1,1,2,2-Tetrachloroethane	79-34-5	0.21/0.031	21/3.1	0.0500	NA	0.0200	Lab-specific	0.0500
1,1,2-Trichloroethane	79-00-5	0.77/0.14	0.88/0.16	0.0500	NS	0.0200	Lab-specific	0.0500
Chloroform	67-66-3	0.53/0.11	53/11	0.0500	NS	0.0200	Lab-specific	0.0500
Naphthalene	91-20-3	0.36/0.069	13/2.5	0.0500	NS	0.0200	Lab-specific	0.0500
Tetrachloroethene	127-18-4	47/7.0	175/26	0.0500	NS	0.0200	Lab-specific	0.0500
Trichloroethene	79-01-6	3.0/0.56	8.8/1.6	0.0500	NS	0.0200	Lab-specific	0.0500
cis-1,2-Dichloroethene	156-59-2	NA	NA	0.0500	NS	0.0200	Lab-specific	0.0500
trans-1,2-Dichloroethene	156-60-5	NA	NA	0.0500	NS	0.0200	Lab-specific	0.0500
Vinyl chloride	75-01-4	2.8/1.1	280/109	0.0500	NS	0.0200	Lab-specific	0.0500

[1] Regional Screening Level (RSL) Industrial Air Supporting Table– lower of the carcinogenic target risk (set at 1 x 10^{-6}) and the non-cancer hazard quotient (equal to 1); Updated Nov. 2018; http://www.epa.gov/vaporintrusion
[2] Regional Screening Level (RSL) Industrial Air Supporting Table– lower of the carcinogenic target risk (set at 1 x 10^{-4}) and the non-cancer hazard quotient (equal to 1); Updated Nov. 2018; http://www.epa.gov/vaporintrusion
[3] Provided by Con-Test Laboratory

µg/m³ = microgram per cubic meter
ppbv = parts per billion by volume
NS = Not specified
NA = Not Available
QL = Quantitation Limit

QAPP Worksheet #15-2
Reference Limits and Evaluation Table

Matrix: Industrial Soil Gas (Limited TO-15 List)

Analytical Group: VOC

Concentration Level: Low

Analyte	CAS Number	Project Screening Level [1] (µg/m^3/ ppbv)	Project Action Limit[2] (µg/m^3/ppbv)	Project Quantitation Limit (ppbv)	Analytical Method EPA TO-15		Con-Test Laboratory Achievable Laboratory Limits	
					MDLs (ppbv)	Method QLs (ppbv)	MDLs[3] (ppbv)	QLs (ppbv)
1,1,2,2-Tetrachloroethane	79-34-5	7.0/1.03	705/103	0.0500	NA	0.0200	Lab-specific	0.0500
1,1,2-Trichloroethane	79-00-5	26/4.7	29/5.3	0.0500	NS	0.0200	Lab-specific	0.0500
Chloroform	67-66-3	18/3.7	1780/364	0.0500	NS	0.0200	Lab-specific	0.0500
Naphthalene	91-20-3	12/2.3	438/84	0.0500	NS	0.0200	Lab-specific	0.0500
Tetrachloroethene	127-18-4	1600/236	5840/861	0.0500	NS	0.0200	Lab-specific	0.0500
Trichloroethene	79-01-6	100/19	292/54	0.0500	NS	0.0200	Lab-specific	0.0500
cis-1,2-Dichloroethene	156-59-2	NA	NA	0.0500	NS	0.0200	Lab-specific	0.0500
trans-1,2-Dichloroethene	156-60-5	NA	NA	0.0500	NS	0.0200	Lab-specific	0.0500
Vinyl chloride	75-01-4	93/36	9290/3630	0.0500	NS	0.0200	Lab-specific	0.0500

[1] Office of Solid Waste and Emergency Response (OSWER) Vapor Intrusion Assessment, Vapor Intrusion Screening Level (VISL) Calculator Version 3.5.2, updated November 2018 Regional Screening Levels (RSLs) Target Sub-Slab and Exterior Soil Gas Concentration based on an industrial use scenario and a target risk for carcinogens of 1.0 x 10^{-6}. Accessed from: https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-levels-visls

[2] Regional Screening Level (RSL) Industrial Air Supporting Table– lower of the carcinogenic target risk (set at 1 x 10^{-4}) and the non-cancer hazard quotient (equal to 1); Updated Nov. 2018; http://www.epa.gov/vaporintrusion

[3] Provided by Con-Test laboratory

Values in bold indicate benchmarks that are less than the requested RL.

NS = Not Specified

QL = Quantitation Limit

µg/m^3 = microgram per cubic meter

ppbv = parts per billion by volume

NA = Not Available

QAPP Worksheet #16
Project Schedule Timeline Table

Activities	Organization	Dates (MM/DD/YY)		Deliverable	Deliverable Due Date
		Anticipated Date(s) of Initiation	Anticipated Date of Completion		
Field Activities	SERAS	4/9/19	4/11/19	No	NA
Sample Analysis	Con-Test Laboratory	4/15/19	4/29/19	Preliminary Analytical Results	10 Business Days (BD) after receipt of samples
Sample Analysis	Con-Test Laboratory	4/29/19	5/6/19	Laboratory Data Package	15 BD after receipt of samples
Data Validation/ Preparation of Analytical Report	SERAS	5/6/19 (receipt of data package)	5/20/19	Final Analytical Report	10 BD after receipt of Laboratory Data Packages
Trip Report Preparation	SERAS	5/20/19	6/3/19	Trip Report (Draft)	10 BD after receipt of Final Analytical Report
		Immediately upon receipt of WAM's Draft Trip Report comments	5 business days after receipt of WAM's Draft Trip Report comments	Trip Report (Final)	5 BD after receipt of EPA comments

*Assuming EPA comments will be received 5 business days after submission of Draft Trip Report; initiation and completion date will adjust accordingly.

QAPP Worksheet #17
Sampling Design and Rationale

Describe and provide a rationale for choosing the sampling approach (e.g., grid system, biased statistical approach):

EPA Region 2 personnel will determine what properties are sampled based on historical Site data and individual access agreements. Sample locations are judgmental and are selected based on owner preference, in areas without contact with utilities or in areas that are not prone to standing water or potential flooding.

Describe the sampling design and rationale in terms of what matrices will be sampled, what analytical groups will be analyzed and at what concentration levels, the sampling locations (including QC, critical, and background samples), the number of samples to be taken, and the sampling frequency (including seasonal considerations) [Refer to Worksheet #18 for details]:

Based on EPA vapor intrusion guidelines, the sub-slab soil gas, indoor air and ambient air samples will be collected using SUMMA® canisters. Sub-slab soil gas samples will be collected at a depth just below the slab. All indoor air samples will be collected at a child's breathing height from the lowest level of the structure to assess current exposures to VOCs in air. Ambient air samples collected in SUMMA® canisters will be used to evaluate whether outdoor ambient air contributes to indoor air contamination. Up to 4 ambient air samples will be collected in SUMMA® canisters to evaluate the extent to which ambient air may be contributing to the levels of VOCs detected in the indoor air and/or to determine if the outdoor conditions present any concerns that require further investigation. Collocated field samples will be collected to assess precision. One trip blank will be submitted per shipment of samples to the laboratory.

QAPP Worksheet #18
Sampling Locations and Methods/SOP Requirements Table

Sampling Location/ID Number	Matrix	Depth	Analytical Group	Concentration Level	Number of Samples (identify field duplicates	Sampling SOP Reference [1]	Rationale for Sampling Location [2]
194 ATL 195 ATL 197 ATL 150 FUL 200 FUL	Industrial Sub-Slab Soil Gas (SUMMA® Canister)	Below building slab	VOC	Low Level Scan (Limited list)	27	1704	Judgmental
194 ATL 195 ATL 197 ATL 150 FUL 200 FUL	Industrial Indoor (SUMMA® Canister)	Child's breathing height (3-4 feet above ground)	VOC	Low Level Scan (Limited list)	24 + 2 collocated	1704	Judgmental
SVE System	Industrial Sub-Slab Soil Gas (SUMMA® Canister)	NA	VOC	Low Level Scan (Limited list)	1	1704	Judgmental
Ambient Air/Indoor Air/Trip Blank	Ambient Air/Indoor Air (SUMMA® Canister)	Child's breathing height (3-4 feet above ground)	VOC	Low Level Scan (Limited list)	4 Ambient, 1 collocated, 1 extra and 1 trip blank	1704	Judgmental

[1]Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #21).
[2]Refer to Worksheet #17.

QAPP Worksheet #19
Analytical SOP Requirements Table

Matrix	Analytical Group	Concentration Level	Analytical and Preparation Method/SOP Reference [1]	Sample Volume	Containers (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/ analysis)
Soil Gas in SUMMA® Canister	VOC	Low Level Scan	EPA TO-15	4 to 5-L	6-L SUMMA® canister	None	30 days
Indoor/Ambient Air in SUMMA® Canister	VOC	Low Level Scan	EPA TO-15	4 to 5-L	6-L SUMMA® canister	None	30 days

[1] Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23).

QAPP Worksheet #20
Field Quality Control Sample Summary Table

Matrix	Analytical Group	Concentration Level	Analytical and Preparation SOP Reference [1]	No. of Sampling Locations	No. of Field Collocated Pairs	Inorganic No. of MS	No. of Trip Blanks	No. of Equip. Blanks	No. of PT Samples	Total No. of Samples to Lab
Industrial Indoor Air in SUMMA® Canister	VOC	Low Level Scan	EPA TO-15 (Limited List)	24	2	NA	Included with ambient samples	NA	NA	26
Industrial Soil Gas in SUMMA® Canister	VOC	Low Level Scan	EPA TO-15 (Limited List)	27 + 1 SVE	0	NA	Included with ambient samples	NA	NA	28
Indoor/Ambient Air in SUMMA® Canister	VOC	Low Level Scan	EPA TO-15 (Limited List)	4	1 (+ 1 extra SUMMA® Canister)	NA	1/shipment	NA	NA	7

[1] Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23)
NA = Not applicable
TBD = To be determined

QAPP Worksheet #21
Project Sampling SOP References Table

Reference Number	Title, Revision Date and/or Number	Originating Organization	Equipment Type	Modified for Project Work? (Check if yes)	Comments
1704	*SUMMA Canister Sampling*, Rev. 1.1, 4/21/17	SERAS	SUMMA® canister and flow controller		
2082	*Construction and Installation of Permanent of Sub-Slab Soil Gas Vapor Probes*, Rev. 0.2, 4/21/17	SERAS	NA		
2002	*Sample Documentation*, Rev. 1.0, 1/4/16	SERAS	NA		
2004	*Sample Packing and Shipment*, Rev. 1.1, 7/7/17	SERAS	NA		
2005	*Quality Assurance/Quality Control Samples*, Rev. 0.0, 8/11/94	SERAS	NA		
4005	*Chain of Custody Procedures*, Rev. 2.0, 1/30/16	SERAS	NA		

NA = Not applicable
SOPs can be found at https://www.epaosc.org/site/site_profile.aspx?site_id=2107

QAPP Worksheet #22
Field Equipment Calibration, Maintenance, Testing, and Inspection Table

Field Equipment	Calibration Activity	Maintenance Activity	Testing Activity	Inspection Activity	Frequency	Acceptance Criteria	Corrective Action	Responsible Person	SOP Reference [1]
Flow Controller	NA	Clean	Check flow Analyze	Check fittings	As needed	<RL	Remove from service	Lab Technician	SERAS SOP #1739
SUMMA® canisters	NA	Clean canister	Analyze	Check for leaks	As cleaned and tested	<RL	Re-clean and re-analyze	Lab Technician	SERAS SOP #1739
Electronic Flow Meter	Calibrated by manufacturer	NA	NA	Check for signs of wear	Annual	Manufacturer's Specifications	Recalibrate	Manufacturer or designated vendor	Manufacturer's Operating Guide
Pressure Gauge	Calibrated by manufacturer	NA	NA	Check Fittings	Annual	Manufacturer's Specifications	Recalibrate	Manufacturer or designated vendor	Manufacturer's Operating Guide

[1]Specify the appropriate reference letter or number from the Project Sampling SOP References table (Worksheet #21)
NA = Not applicable

QAPP Worksheet #23
Analytical SOP References Table

Reference Number	Title, Revision Date, and/or Number	Type of Data Generated	Analytical Group	Instrument	Organization Performing Analysis	Modified for Project Work?
EPA TO-15	*Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially- Prepared Canisters And Analyzed By Gas Chromatography/ Mass Spectrometry (GC/MS)*	Definitive	VOC	GC/MS	Con-Test Laboratory	No

SOPs can be found at https://www.epaosc.org/site/site_profile.aspx?site_id=2107

QAPP Worksheet #24
Analytical Instrument Calibration Table

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference [1]
GC/MS	BFB Tune	Every 24 hours before any standards, blanks or samples are analyzed	Within the tune performance criteria	Retune if ion abundances are outside criteria.	Analyst	EPA TO-15
GC/MS	Initial calibration (IC), minimum 5-points for all analytes	Initially prior to sample analysis. After changes to instrument and when instrument does not meet method criteria.	Relative standard deviation (RSD) = ≤ 30%, two compounds may exceed up to 40% RSD	Inspect system for problems; perform maintenance (i.e. ion source cleaning, column replacement, etc.), check calibration standards. Rerun IC, reanalyze affected samples.	Analyst	EPA TO-15
GC/MS	Initial Calibration Verification (ICV)	Immediately following an initial calibration	Percent recovery (%R) = ±30%	Rerun ICV. If needed, inspect system for problems, perform maintenance (i.e. ion source cleaning, column replacement, etc.), re-run IC.	Analyst	EPA TO-15
GC/MS	Daily Continuing Calibration Check (CCC)	Every 24 hours	Percent difference (%D) = ±30%	Rerun CCC. If needed, inspect system for problems, perform maintenance (i.e. ion source cleaning, column replacement, etc.), re-run IC.	Analyst	EPA TO-15
GC/MS	Low Level Continuing Calibration Verification (LLCCV)	Immediately following a continuing calibration	Percent recovery (%R) = ±50%	Rerun LLCCV. If needed, inspect system for problems, perform maintenance (i.e. ion source cleaning, column replacement, etc.), re-run IC.	Analyst	EPA TO-15

[1] Specify the appropriate reference letter or number from the Analytical SOP References table (Worksheet #23).

QAPP Worksheet #25
Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table

Instrument/ Equipment	Maintenance Activity	Testing Activity	Inspection Activity	Frequency	Acceptance Criteria	Corrective Action	Responsible Person	SOP Reference [1]
GC/MS	Check gas supply daily, bake or change trap as needed, manual tune if 4-Bromofluorobenzene (BFB) not within criteria, cut or change column, change septum as needed.	VOC	Check ion source, gas supply, septum seal, vacuum, trap	Prior to sample analysis or when instrument does not meet criteria	BFB criteria achieved, Relative standard deviation (RSD) = ≤ 30%, two compounds may exceed up to 40% RSD in the IC	Recalibrate and/or perform necessary instrument maintenance, check calibration standards, re-analyze affected samples.	Analyst	EPA TO-15

[1]Specify the appropriate reference letter or number from Analytical SOP References table (Worksheet #23)

QAPP Worksheet #26
Sample Handling System

SAMPLE COLLECTION, PACKAGING, AND SHIPMENT
Sample Collection (Personnel/Organization): Phil Solinski and Colleen Grell, SERAS Field Personnel
Sample Packaging (Personnel/Organization): Phil Solinski and Colleen Grell, SERAS Field Personnel
Coordination of Shipment (Personnel/Organization): Phil Solinski and Colleen Grell SERAS Field Personnel
Type of Shipment/Carrier: Hand Delivery
SAMPLE RECEIPT AND ANALYSIS
Sample Receipt (Personnel/Organization): Sample Receiving Personnel Con-Test Laboratory
Sample Custody and Storage (Personnel/Organization): Sample Receiving Personnel Con-Test Laboratory
Sample Preparation (Personnel/Organization): GC/MS Operator/Con-Test Laboratory
Sample Determinative Analysis (Personnel/Organization): GC/MS Operator/Con-Test Laboratory
SAMPLE ARCHIVING
Field Sample Storage (No. of days from sample collection): Samples to be delivered to laboratory within 5 days of collection.
Sample Extract/Digestate Storage (No. of days from extraction/digestion): N/A
Biological Sample Storage (No. of days from sample collection): N/A
SAMPLE DISPOSAL
Personnel/Organization: N/A
Number of Days from Analysis: N/A

QAPP Worksheet #27
Sample Custody Requirements

Field Sample Custody Procedures (sample collection, packaging, shipment, and delivery to laboratory): EPA/ERT Scribe software will be used for sample management, as well as, generation of sample documentation, such as, labels and COC records. All COC records will be peer reviewed prior to shipment of samples in accordance with SERAS SOP # 4005, *Chain of Custody Procedures.* Air and soil gas samples collected by SERAS personnel will be shipped within one to five business days of sampling completion for following day delivery under COC to Con-Test Laboratory for VOC analysis in accordance with SERAS SOP #2004, *Sample Packing and Shipment.* Procedures outlined in SOP #2002, #2003 and #2004 will be applied (refer to Worksheet #21).
Laboratory Sample Custody Procedures (receipt of samples, archiving, disposal): A sample custodian at the laboratory will accept custody of the shipped samples, check them for discrepancies, integrity, etc. and relinquish to Con-Test Laboratory Chemist for analysis. Transfer of samples will be documented using internal chain of custody.
Sample Identification Procedures: The laboratory will assign a unique laboratory identifier to each sample during sample login.
Chain-of-custody Procedures: Chain-of-custody records will be generated for all samples submitted for analysis using Scribe database software. Procedures outlined in SOP #4005 will be applied (refer to Worksheet #21).

QAPP Worksheet #28-1
QC Samples Table

Matrix	Soil Gas (SUMMA® Canister)
Analytical Group	VOC
Concentration Level	Low Level Scan
Sampling SOP	EPA TO-15
Analytical Method/ SOP Reference	SERAS SOP #1814
Sampler's Name	Philip Solinski Colleen Grell
Field Sampling Organization	SERAS
Analytical Organization	Con-Test Laboratory
No. of Sample Locations	28

QC Sample:	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria
Internal Standard	Each sample	±40%	Re-analyze sample	Analyst	Precision/Accuracy/ Bias	±40% of daily calibration IS response
Method Blank	1/24-hour clock	<RL	Clean, repair, re-analyze	Analyst	Accuracy/Bias	< RL
Trip Blank	1/shipment	< RL	Qualify data	QA/QC Chemist	Accuracy/Bias	< RL
LCS	5%	%R - Within control chart limits	Reanalyze	Analyst	Accuracy/Bias	%R - Within control chart limits
LOD/LOQ Studies	Annual	LOD = < RL LOQ = ±30% or within control chart limits	Clean, repair, re-analyze.	Analyst	Sensitivity/ Accuracy	LOD = < RL LOQ = ±30% or within control chart limits
Lab Replicates	10%	RPD ±25%	Re-analyze	Analyst	Precision	RPD ±25%

QAPP Worksheet #28-2
QC Samples Table

Matrix	Indoor/Ambient Air (SUMMA® Canister)
Analytical Group	VOC
Concentration Level	Low Level Scan
Sampling SOP	SERAS SOP #1704
Analytical Method/ SOP Reference	EPA TO-15
Sampler's Name	Philip Solinski Colleen Grell
Field Sampling Organization	SERAS
Analytical Organization	Con-Test Laboratory
No. of Sample Locations	24 Indoor Air/4 Ambient Air/3 Collocated Duplicate & Blank

QC Sample:	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria
Internal Standard	Each sample	±40%	Re-analyze sample	Analyst	Precision/Accuracy/ Bias	±40% of daily calibration IS response
LCS	5%	% R – Within control chart limits	Clean, repair, re-analyze	Analyst	Accuracy/Bias	% R – Within control chart limits
Method Blank	1/24-hour clock	< RL	Clean, repair, re-analyze	Analyst	Accuracy/Bias	< RL
Trip Blank	1/shipment	< RL	Qualify data	QA/QC Chemist	Accuracy/Bias	< RL
Collocated Field Duplicates	5%	NA	Document in final deliverable	Task Leader	Precision	RPD ±35%
LOD/LOQ Studies	Annual	LOD = < RL LOQ = ±30% or within control chart limits	Clean, repair, re-analyze.	Analyst	Sensitivity/ Accuracy	LOD = < RL LOQ = ±30% or within control chart limits

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QC Samples Table

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Analytical Group	VOC
Concentration Level	Low Level Scan
Sampling SOP	SERAS SOP #1704
Analytical Method/ SOP Reference	EPA TO-15
Sampler's Name	Philip Solinski Colleen Grell
Field Sampling Organization	SERAS
Analytical Organization	Con-Test Laboratory
No. of Sample Locations	24 Indoor Air/4 Ambient Air/3 Collocated Duplicate & Blank

QC Sample:	Frequency/Number	Method/SOP QC Acceptance Limits	Corrective Action	Person(s) Responsible for Corrective Action	Data Quality Indicator (DQI)	Measurement Performance Criteria
Lab Replicates	1:10 samples	RPD ±25%	Re-analyze	Analyst	Precision	RPD ±25%

QAPP Worksheet #29
Project Documents and Records Table

Sample Collection Documents and Records	On-Site Analysis Documents and Records	Off-Site Analysis Documents and Records	Data Assessment Documents and Records	Other
Chain of Custody records Sample Labels Custody Seals SUMMA® Sampling Worksheets Field Change Form (if necessary) Photographs	None	Instrument Run Logs Preventive Maintenance Logs Instrument Printouts Internal COC Records Standard Receipt Logs Data Review Records Analytical Results SUMMA® Canister Certification Records	Data Assessment Forms Data Validation Check Records UFP-QAPP Verification Checklist	Analytical Report EDD Trip Report WP UFP-QAPP HASP Scribe Database R2 Export File

QAPP Worksheet #30
Analytical Services Table

Matrix	Analytical Group	Concentration Level	Sample Location/ID Numbers	Analytical SOP	Data Package Turnaround Time	Laboratory/Organization (Name and Address, Contact Person and Telephone Number)	Backup Laboratory/Organization (Name and Address, Contact Person and Telephone Number
Soil Gas (SUMMA® Canister)	VOC	Low Level Scan	See Worksheet #18	EPA TO-15	15 Days	Con-Test Laboratory 39 Spruce Street East Long Meadow, MA 01028 Phone: 413.525.2332 x 37 Contact: Theresa Ferrentino	NA
Indoor/ Ambient Air (SUMMA® Canister)	VOC	Low Level Scan	See Worksheet #18	EPA TO-15	15 Days	Con-Test Laboratory 39 Spruce Street East Long Meadow, MA 01028 Phone: 413.525.2332 x 37 Contact: Theresa Ferrentino	NA

NA = Not applicable

QAPP Worksheet #31
Planned Project Assessments Table

Assessment Type	Frequency	Internal or External	Organization Performing Assessment	Person(s) Responsible for Performing Assessment (Title and Organizational Affiliation)	Person(s) Responsible for Responding to Assessment Findings (Title and Organizational Affiliation)	Person(s) Responsible for Identifying and Implementing Corrective Actions (CA) (Title and Organizational Affiliation)	Person(s) Responsible for Monitoring Effectiveness of CA (Title and Organizational Affiliation)
Laboratory Accreditation Audit	Every 2 years	External	NELAC Accreditation Agency	NELAP Regulatory Agency	QA/QC Officer, Con-Test Laboratory	Analytical Manager, Con-Test Laboratory	NELAC Accreditation Agency
Internal Laboratory Audit	Annual	Internal	Con-Test Laboratory	QA/QC Officer, Con-Test Laboratory	Analytical Manager, Con-Test Laboratory	Analytical Manager, Con-Test Laboratory	QA/QC Officer, Con-Test Laboratory
Performance Evaluation Samples	Annual (Air)	External	NELAP PT Provider	QA/QC Officer, Con-Test Laboratory	Analytical Manager, Con-Test Laboratory	Con-Test Laboratory Personnel	QA/QC Officer, Con-Test Laboratory

QAPP Worksheet #32
Assessment Findings and Corrective Action Responses

Assessment Type	Nature of Deficiencies Documentation	Individual(s) Notified of Findings (Name, Title, Organization)	Timeframe of Notification	Nature of Corrective Action Response Documentation	Individual(s) Receiving Corrective Action Response (Name, Title, Org.)	Timeframe for Response
Field Observations/Deviations from Work Plan	Logbook	Colleen Grell, TL/SERAS	Immediately	Field Change Form	Colleen Grell, SERAS TL	Within 24 hours of change
Peer Review	In the deliverable	Colleen Grell, TL/SERAS	Prior to deliverable due date	Comments directly in the deliverable	Colleen Grell/TL SERAS Philip Solinski/Air Response Chemist, SERAS	Prior to deliverable due date
External Lab Performance Audits	Audit Report	QA/QC Officer, Con-Test Laboratory	Within timeline in Con-Test QA Manual	Corrective Action Plan	Regulatory Agency	Within 30 days
Internal Lab Performance Audit	Audit report	Analytical Manager, Con-Test Laboratory	Within timeline in Con-Test QA Manual	Corrective Action Plan	QA/QC Officer, Con-Test Laboratory	Within timeline in Con-Test QA Manual
Performance Evaluation Samples	PT Report	QA/QC Officer, Con-Test Laboratory	Within 2-3 days after submittal	Corrective Action Plan	QA/QC Officer, Con-Test Laboratory	Within 30 days

QAPP Worksheet #33
QA Management Reports Table

Type of Report	Frequency (daily, weekly monthly, quarterly, annually, etc.)	Projected Delivery Date(s)	Person(s) Responsible for Report Preparation (Title and Organizational Affiliation)	Report Recipient(s) (Title and Organizational Affiliation)
Technical Report	Monthly	20th of the month following performance period	Colleen Grell, TL/SERAS	ERT Project Officer and WAM
QA Report	Quarterly	February, May, August, November	Deborah Killeen, QA/QC Officer/SERAS	ERT Project Officer and Quality Coordinator

QAPP Worksheet #34
Verification (Step I) Process Table

Verification Input	Description	Internal/ External	Responsible for Verification (Name, Organization)
Chain of Custody Record	Reviewed by Field Sampling Personnel in field and QA/QC Group prior to final analytical report preparation	Internal	SERAS TL SERAS QA/QC Chemist Con-Test Sample Con-Test GC/MS Chemist
Laboratory Data Package	Reviewed for measurement performance criteria	Internal	ConTest GC/MS Chemist ConTest Analytical Support Leader SERAS QA/QC Chemist
Analytical Report	Reviewed for accuracy	Internal	SERAS QA/QC Chemist SERAS QA/QC Officer SERAS Program Manager
Trip Report	Reviewed for accuracy	Internal	Peer Review Team
Completeness Check	Review of Planning Documents, Analytical Data package, Sampling Documents and External Reports, as applicable, using the UFP-QAPP Checklist	Internal	SERAS TL SERAS QA/QC Chemist

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QAPP Worksheet #35
Validation (Steps IIa and IIb) Process Table

Step IIa/IIb	Validation Input	Description	Responsible for Validation (Name, Organization)
IIa	SOPs	Ensure that the sampling methods/procedures outlined in the QAPP were followed and any deviations noted	SERAS TL, ERT WAM
IIa	COC Records	Examine COC records and match with requested analyses.	SERAS TL Con-Test GC/MS Chemist SERAS QA/QC Chemist
IIa	Lab Data Package	Examine packages against COC records (holding times, sample handling, methods, sample identifications, qualifiers).	Con-Test GC/MS Chemist Con-Test Analytical Support Leader SERAS QA/QC Chemist
IIb	Lab Data Package	Qualify data based on QC deficiencies (precision/accuracy, %RSD, %D, etc.)	SERAS QA/QC Chemist SERAS QA/QC Officer

QAPP Worksheet #36
Validation (Steps IIa and IIb) Summary Table

Validation Step	Matrix	Analytical Group	Concentration Level	Validation Criteria	Data Validator (title and organizational affiliation)
IIb	Soil Gas	VOC	Low	SERAS SOP #1021, *Data Validation for Routine Volatile Organic Compound analysis in Air by TO15 Analysis, Rev 0.0, 9/20/17*	SERAS QA/QC Group
IIb	Air	VOC	Low	SERAS SOP #1021, *Data Validation for Routine Volatile Organic Compound analysis in Air by TO15 Analysis, Rev 0.0, 9/20/17*	SERAS QA/QC Group

☑ Worksheet Not Applicable (State Reason) EPA Region 2 will be responsible for assessing the usability of the data.

QAPP Worksheet #37
Usability Assessment

Summarize the usability assessment process and all procedures, including interim steps and any statistics, equations, and computer algorithms that will be used:
Describe the evaluative procedures used to assess overall measurement error associated with the project:
Identify the personnel responsible for performing the usability assessment:
Describe the documentation that will be generated during usability assessment and how usability assessment results will be presented so that they identify trends, relationships (correlations), and anomalies: