



November 17, 2017

Mr. Matthew Hubicki
Division of Environmental Remediation, Bureau C
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7014

Subject: Air Sampling Summary Report
Sub-Slab Depressurization System Termination
Tops Markets #532 - 271 Main Street, New Paltz
STERLING File #2017-06

Dear Mr. Hubicki,

This letter provides a summary of collected data needed to petition for termination of the sub-slab depressurization (SSD) system operating at the Tops Markets, LLC (Tops) store (#532) located in the New Paltz Plaza, 271 Main Street, New Paltz, NY. The following work summary is in accordance with the New York State Department of Health (NYSDOH) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006, updated May 2017.

The SSD system was installed during the grocery store construction in the spring and summer of 2006. The system beneath the grocery store was designed and installed by the engineering consultant for Stop & Shop Supermarket Company LLC (Stop & Shop), and was approved by the New York State Department of Environmental Conservation (NYSDEC) and the NYSDOH. Tops recently replaced Stop & Shop as the leasee of the store and seeks to shutdown the SSD system with the approval of NYSDEC and NYSDOH.

Sterling Environmental Engineering, P.C. (STERLING) proposes to shutdown the system immediately, on behalf of Tops, upon receiving approval from NYSDEC and NYSDOH following review and approval of this report. The system was shutdown on July 11, 2017 and sampling approved by NYSDEC and NYSDOH was completed on September 12, 2017. The system was restarted on September 21, 2017 and continues to operate until a determination is made by the aforementioned agencies regarding permanent termination of the SSD system.

Background and Purpose

Stop & Shop began voluntarily operating the SSD system in December 2006 as a precautionary measure to prevent potential vapor intrusion into the building. The SSD system consists of six (6) parallel runs of 2-inch diameter perforated PVC piping installed beneath the building slab and a vapor barrier. Sub-slab monitoring ports for each of the six (6) perforated PVC laterals are located on landscaping islands to the south of the building. The length of the subsurface piping ranges from approximately 230 to 245 feet from the north end of the store to the sampling ports.

“Serving our clients and the environment since 1993”

The perforated PVC piping connects to a 2-inch diameter solid PVC manifold located on the northern wall of the building. The manifold is vented to the atmosphere through a 6-inch diameter riser pipe which extends up the northern wall of the building to a roof-mounted vacuum blower. An as-built drawing of the SSD system is provided as Attachment 1, including the location of samples collected during this investigation.

The purpose of this letter report is to provide the sample analytical data to demonstrate sub-slab vapors are not affecting indoor air quality when the SSD system is turned off, based upon indoor air, outdoor air and sub-slab vapor sampling results.

Building Inventory

Prior to the sampling, STERLING performed an inventory of the building (Attachment 2). The inventory included screening of volatile gases in the vicinity of proposed indoor air sampling locations using a RAE Systems MiniRAE 3000 photoionization detector (PID) with an 11.7 eV lamp. The purpose of the inventory was to identify potential sources of volatile gases in the building other than intrusion of sub-slab vapors.

Supermarkets contain a large number of commercially available products for sale that potentially contain a range of volatile organic compounds (VOCs) that could be detected in indoor air samples. Generally, such products available on store shelving for retail sale, or in storage at the store, are unopened and/or sealed and are not of concern with respect to indoor air sampling. Unopened and undamaged commercial products for retail sale were not included in the building inventory.

Sample Collection

STERLING collected indoor/outdoor air and sub-slab vapor samples using laboratory supplied and certified 6-Liter capacity Summa® canisters fitted with a laboratory-calibrated critical orifice flow regulation device sized to allow the collection of the air samples over a 12 hour period.

Sub-Slab Vapor Sampling

A vacuum pump was connected to the sampling ports on collection laterals #2, #4, and #6 and a volume of air equal to or greater than the volume of the subsurface pipe was evacuated before sampling. Three (3) sub-slab vapor samples (SV-1, SV-1, and SV-3) were collected at existing sub-slab monitoring ports #2, #4, and #6. The sample collected from sub-slab monitoring port #6 was not submitted for laboratory analysis due to the failure of the orifice flow regulation device.

Prior to collecting a sub-slab vapor sample, a helium tracer test was conducted to ensure that the sampling port is properly sealed. The helium tracer test was conducted using a shroud, helium gas as a tracer, and a helium detector. The shrouds were placed over the sampling ports, and helium gas was introduced into the shroud. A helium detector was used to test the sampling port for the presence of helium to verify that helium was not leaking into the sampling port. No helium was present in the sampling port, establishing that leakage did not occur through the seal.

Indoor Air Sampling

Three (3) indoor air samples (IA-1, IA-2, and IA-3) were collected at three (3) equally spaced locations in the store area shown in Attachment 1. Sampling locations were selected based on store conditions and access in the store interior. Indoor air samples were collected at floor level, closest to where sub-slab vapors, if any, might enter through the building slab.

Outdoor Air Sampling

One (1) outdoor air sample (OA-1) was collected from an upwind location with respect to the onsite building for comparison to the sub-slab and indoor air samples.

Sample Analysis and Reporting

The Summa® canister samples were submitted to Alpha Analytical Laboratory of Mansfield Massachusetts, a NYSDOH Environmental Laboratory Approval Program (ELAP) certified analytical laboratory for analysis of VOCs by USEPA Method TO-15. The laboratory report is provided in Attachment 3. A summary table of the laboratory analytical data is presented below in Table 1.

Table 1

Sample ID	IA-1	IA-2	IA-3	SV-1	SV-2	OA-1	Soil Vapor / Indoor Air Decision Matrix Conclusion
Compound	Concentration ($\mu\text{g}/\text{m}^3$)						
Vinyl Chloride	ND	ND	ND	ND	ND	ND	No Further Action – Matrix C
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	No Further Action – Matrix A
Cis-1,2-Dichloroethene	0.025	0.022	0.027	ND	ND	ND	No Further Action – Matrix A
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	No Further Action – Matrix B
Carbon Tetrachloride	0.099	0.104	0.107	ND	ND	0.078	No Further Action – Matrix A
Trichloroethene	0.027	ND	ND	ND	ND	ND	No Further Action – Matrix A
Tetrachloroethene	0.091	0.085	0.099	ND	2.34	0.088	No Further Action – Matrix B

ND= Not Detected

Conclusions and Recommendations

Analytical results from the sub-slab, indoor, and ambient outdoor air samples were compared to the values established by the May 2017 update to the *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006. As indicated in the right hand column in Table 1, no further action is required, according to the decision matrix and the laboratory analytical results for the indoor air and sub-slab vapor samples. On this basis, STERLING requests to cease all operation, maintenance, and monitoring of the SSD system.

Please contact me with any questions regarding this report.

Very truly yours,
STERLING ENVIRONMENTAL ENGINEERING, P.C.



Thomas M. Johnson, C.P.G.
Senior Hydrogeologist

Thomas.Johnson@Sterlingenvironmental.com

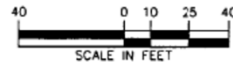
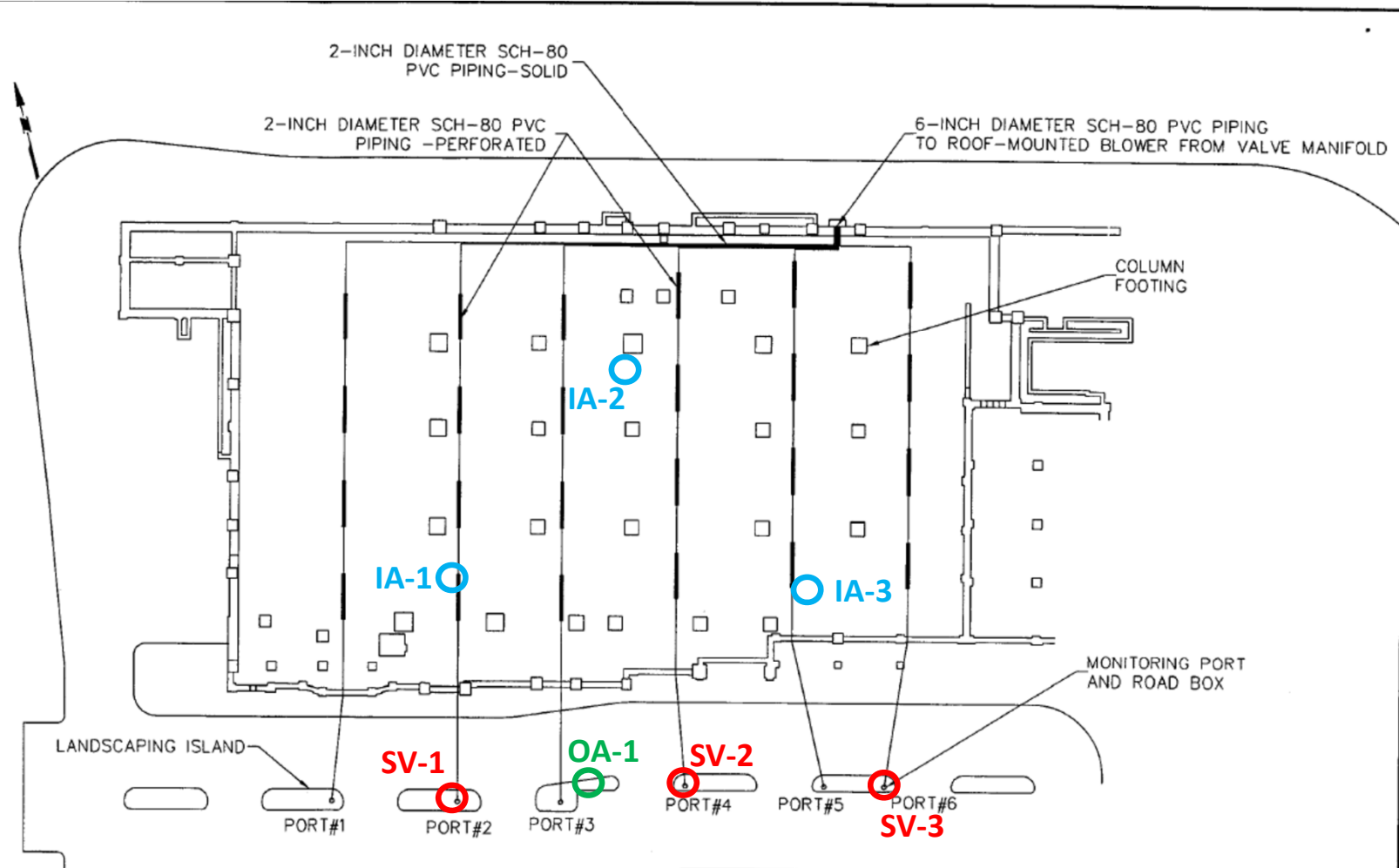
TMJ/bc
Email Only
Attachments

cc: Steven Karpinski, NYSDOH
William Thomas, Tops Markets

ATTACHMENT 1

SSD SYSTEM AS-BUILT DRAWING AND AIR SAMPLE LOCATIONS

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LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

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NEW JERSEY PENNSYLVANIA NEW YORK CONNECTICUT FLORIDA
NJ Certificate of Authorization No. 24GA27890400

Project			
STOP & SHOP SUB-SLAB VENTILATION SYSTEM AS-BUILT PLAN			
NEW PALTZ NEW YORK			
Project No.	Date	Scale	Dwg. No.
7618220	04/13/07	1"=40'	1

ATTACHMENT 2
BUILDING INVENTORY

Structure Sampling - Product Inventory

Homeowner Name & Address: TOPS Market #532-271 Main Street **Date:** 9/11/17
Samplers & Company: Amanda Post, Stefan Truex of Sterling Env. **Structure ID:** Commercial
Site Number & Name: TOPS Market #532-271 Main Street **Phone Number:** (518) 456-4900
Make & Model of PID: Mini RAE 3000 11.7 eV Lamp **Date of PID Calibration:** 9/11/17
Identify any Changes from Original Building Questionnaire: N/A

Product Name/Description	Quantity	Chemical Ingredients	PID Reading	Location
Cleaning, polishing, sanitizing, lubricating products, insect sprays, eyewash bottles	66	Ingredients on file; no Site related VOC's listed.	0.3-1.0 ppm	Back Storage Area (North end of building)
Cleaning, sanitizing, lubricating products	101	Ingredients on file; no Site related VOCs listed.	0.3-3.9 ppm	Storage room by South edge of building
Cleaning, sanitizing, degreasing, lubricating products	16	Ingredients on file; no Site related VOC's listed.	0.2 ppm	Deli Area
Cleaning, sanitizing, degreasing, lubricating products	8	Ingredients on file; no Site related VOC's listed.	0.2 ppm	Butcher Area
Cleaning, sanitizing, degreasing products	3	Ingredients on file; no Site related VOC's listed	0.2 ppm	Produce Area
Cleaning, sanitizing, degreasing, products	3	Ingredients on file; no Site related VOC's listed	0.2 ppm	Sushi Area
Cleaning, sanitizing, degreasing, lubricating prod.	5	Ingredients on file; no Site related VOC's listed	0.2 ppm	Bakery Area
Cleaning, sanitizing products	10	Ingredients on file; no Site related VOC's listed.	0.2 ppm	Public Restrooms

ATTACHMENT 3

SOIL VAPOR AND INDOOR AIR QUALITY LABORATORY ANALYTICAL REPORT



ANALYTICAL REPORT

Lab Number:	L1732228
Client:	Sterling Environmental Eng 24 Wade Road Latham, NY 12110
ATTN:	Tom Johnson
Phone:	(518) 456-4900
Project Name:	TOPS
Project Number:	2017-06
Report Date:	09/19/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-13-00067), USFWS (Permit #LE2069641).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1732228-01	TOPS-IA-1	AIR	NEW PALTZ	09/12/17 09:04	09/12/17
L1732228-02	TOPS-IA-2	AIR	NEW PALTZ	09/12/17 09:04	09/12/17
L1732228-03	TOPS-IA-3	AIR	NEW PALTZ	09/12/17 09:02	09/12/17
L1732228-04	TOPS-SV-1	SOIL_VAPOR	NEW PALTZ	09/12/17 08:48	09/12/17
L1732228-05	TOPS-SV-2	SOIL_VAPOR	NEW PALTZ	09/12/17 08:54	09/12/17
L1732228-06	TOPS-OA-1	AIR	NEW PALTZ	09/12/17 09:22	09/12/17
L1732228-07	UNUSED CAN #1	SOIL_VAPOR	NEW PALTZ		09/12/17

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on September 1, 2017. The canister certification results are provided as an addendum.

L1732228-01 through -03 results for Acetone should be considered estimated due to co-elution with a non-target peak.

L1732228-05: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

Sample Receipt

The canister ID number for the sample designated TOPS-IA-3 (L1732228-03) is listed on the CoC as 2243 but should be 489.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 09/19/17

AIR

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-01
 Client ID: TOPS-IA-1
 Sample Location: NEW PALTZ
 Matrix: Air
 Analytical Method: 48,TO-15
 Analytical Date: 09/18/17 15:17
 Analyst: MB

Date Collected: 09/12/17 09:04
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.313	0.200	--	1.55	0.989	--		1
Chloromethane	0.521	0.200	--	1.08	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	431	5.00	--	812	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.8	1.00	--	25.7	2.38	--		1
Trichlorofluoromethane	0.272	0.200	--	1.53	1.12	--		1
Isopropanol	2.98	0.500	--	7.33	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.734	0.500	--	2.16	1.47	--		1
Ethyl Acetate	2.19	0.500	--	7.89	1.80	--		1
Chloroform	0.241	0.200	--	1.18	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-01
 Client ID: TOPS-IA-1
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 09:04
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.331	0.200	--	1.06	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.772	0.200	--	2.91	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-01
 Client ID: TOPS-IA-1
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 09:04
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	84		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-01
 Client ID: TOPS-IA-1
 Sample Location: NEW PALTZ
 Matrix: Air
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 09/18/17 15:17
 Analyst: MB

Date Collected: 09/12/17 09:04
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	0.025	0.020	--	0.099	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.099	0.020	--	0.623	0.126	--		1
Trichloroethene	0.027	0.020	--	0.145	0.107	--		1
Tetrachloroethene	0.091	0.020	--	0.617	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	86		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	84		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-02
 Client ID: TOPS-IA-2
 Sample Location: NEW PALTZ
 Matrix: Air
 Analytical Method: 48,TO-15
 Analytical Date: 09/18/17 16:22
 Analyst: MB

Date Collected: 09/12/17 09:04
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.314	0.200	--	1.55	0.989	--		1
Chloromethane	0.521	0.200	--	1.08	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	204	5.00	--	384	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.7	1.00	--	25.4	2.38	--		1
Trichlorofluoromethane	0.253	0.200	--	1.42	1.12	--		1
Isopropanol	2.96	0.500	--	7.28	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	1.01	0.500	--	3.64	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-02
 Client ID: TOPS-IA-2
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 09:04
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.287	0.200	--	0.917	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.715	0.200	--	2.69	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-02
 Client ID: TOPS-IA-2
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 09:04
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	80		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-02
 Client ID: TOPS-IA-2
 Sample Location: NEW PALTZ
 Matrix: Air
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 09/18/17 16:22
 Analyst: MB

Date Collected: 09/12/17 09:04
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	0.022	0.020	--	0.087	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.104	0.020	--	0.654	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.085	0.020	--	0.576	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	85		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	80		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-03
 Client ID: TOPS-IA-3
 Sample Location: NEW PALTZ
 Matrix: Air
 Analytical Method: 48,TO-15
 Analytical Date: 09/18/17 16:55
 Analyst: MB

Date Collected: 09/12/17 09:02
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.343	0.200	--	1.70	0.989	--		1
Chloromethane	0.546	0.200	--	1.13	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	229	5.00	--	431	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	11.6	1.00	--	27.6	2.38	--		1
Trichlorofluoromethane	0.281	0.200	--	1.58	1.12	--		1
Isopropanol	3.05	0.500	--	7.50	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	0.912	0.500	--	2.69	1.47	--		1
Ethyl Acetate	1.18	0.500	--	4.25	1.80	--		1
Chloroform	0.231	0.200	--	1.13	0.977	--		1
Tetrahydrofuran	1.20	0.500	--	3.54	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-03
 Client ID: TOPS-IA-3
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 09:02
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
n-Hexane	ND	0.200	--	ND	0.705	--		1
Benzene	0.368	0.200	--	1.18	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.853	0.200	--	3.21	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-03
 Client ID: TOPS-IA-3
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 09:02
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	81		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-03
 Client ID: TOPS-IA-3
 Sample Location: NEW PALTZ
 Matrix: Air
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 09/18/17 16:55
 Analyst: MB

Date Collected: 09/12/17 09:02
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	0.027	0.020	--	0.107	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.107	0.020	--	0.673	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.099	0.020	--	0.671	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	84		60-140
bromochloromethane	88		60-140
chlorobenzene-d5	81		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-04
 Client ID: TOPS-SV-1
 Sample Location: NEW PALTZ
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 09/18/17 17:27
 Analyst: MB

Date Collected: 09/12/17 08:48
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.370	0.200	--	1.83	0.989	--		1
Chloromethane	0.523	0.200	--	1.08	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	19.3	1.00	--	45.8	2.38	--		1
Trichlorofluoromethane	0.219	0.200	--	1.23	1.12	--		1
Isopropanol	0.881	0.500	--	2.17	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	1.80	0.200	--	5.61	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	8.30	0.500	--	24.5	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-04
 Client ID: TOPS-SV-1
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 08:48
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	16.7	0.500	--	49.3	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.314	0.200	--	1.18	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-04
 Client ID: TOPS-SV-1
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 08:48
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	0.868	0.200	--	5.22	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	87		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-05 D
 Client ID: TOPS-SV-2
 Sample Location: NEW PALTZ
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 09/18/17 18:00
 Analyst: MB

Date Collected: 09/12/17 08:54
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.368	0.250	--	1.82	1.24	--		1.25
Chloromethane	0.831	0.250	--	1.72	0.516	--		1.25
Freon-114	ND	0.250	--	ND	1.75	--		1.25
Vinyl chloride	ND	0.250	--	ND	0.639	--		1.25
1,3-Butadiene	ND	0.250	--	ND	0.553	--		1.25
Bromomethane	ND	0.250	--	ND	0.971	--		1.25
Chloroethane	ND	0.250	--	ND	0.660	--		1.25
Ethanol	6.56	6.25	--	12.4	11.8	--		1.25
Vinyl bromide	ND	0.250	--	ND	1.09	--		1.25
Acetone	67.6	1.25	--	161	2.97	--		1.25
Trichlorofluoromethane	0.318	0.250	--	1.79	1.40	--		1.25
Isopropanol	0.894	0.625	--	2.20	1.54	--		1.25
1,1-Dichloroethene	ND	0.250	--	ND	0.991	--		1.25
Tertiary butyl Alcohol	1.90	0.625	--	5.76	1.89	--		1.25
Methylene chloride	ND	0.625	--	ND	2.17	--		1.25
3-Chloropropene	ND	0.250	--	ND	0.783	--		1.25
Carbon disulfide	1.60	0.250	--	4.98	0.779	--		1.25
Freon-113	ND	0.250	--	ND	1.92	--		1.25
trans-1,2-Dichloroethene	ND	0.250	--	ND	0.991	--		1.25
1,1-Dichloroethane	ND	0.250	--	ND	1.01	--		1.25
Methyl tert butyl ether	ND	0.250	--	ND	0.901	--		1.25
2-Butanone	10.1	0.625	--	29.8	1.84	--		1.25
cis-1,2-Dichloroethene	ND	0.250	--	ND	0.991	--		1.25
Ethyl Acetate	0.725	0.625	--	2.61	2.25	--		1.25



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-05 D
 Client ID: TOPS-SV-2
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 08:54
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloroform	ND	0.250	--	ND	1.22	--		1.25
Tetrahydrofuran	121	0.625	--	357	1.84	--		1.25
1,2-Dichloroethane	ND	0.250	--	ND	1.01	--		1.25
n-Hexane	ND	0.250	--	ND	0.881	--		1.25
1,1,1-Trichloroethane	ND	0.250	--	ND	1.36	--		1.25
Benzene	ND	0.250	--	ND	0.799	--		1.25
Carbon tetrachloride	ND	0.250	--	ND	1.57	--		1.25
Cyclohexane	ND	0.250	--	ND	0.861	--		1.25
1,2-Dichloropropane	ND	0.250	--	ND	1.16	--		1.25
Bromodichloromethane	ND	0.250	--	ND	1.67	--		1.25
1,4-Dioxane	ND	0.250	--	ND	0.901	--		1.25
Trichloroethene	ND	0.250	--	ND	1.34	--		1.25
2,2,4-Trimethylpentane	ND	0.250	--	ND	1.17	--		1.25
Heptane	ND	0.250	--	ND	1.02	--		1.25
cis-1,3-Dichloropropene	ND	0.250	--	ND	1.13	--		1.25
4-Methyl-2-pentanone	ND	0.625	--	ND	2.56	--		1.25
trans-1,3-Dichloropropene	ND	0.250	--	ND	1.13	--		1.25
1,1,2-Trichloroethane	ND	0.250	--	ND	1.36	--		1.25
Toluene	0.522	0.250	--	1.97	0.942	--		1.25
2-Hexanone	ND	0.250	--	ND	1.02	--		1.25
Dibromochloromethane	ND	0.250	--	ND	2.13	--		1.25
1,2-Dibromoethane	ND	0.250	--	ND	1.92	--		1.25
Tetrachloroethene	2.34	0.250	--	15.9	1.70	--		1.25
Chlorobenzene	ND	0.250	--	ND	1.15	--		1.25
Ethylbenzene	ND	0.250	--	ND	1.09	--		1.25
p/m-Xylene	0.671	0.500	--	2.91	2.17	--		1.25
Bromoform	ND	0.250	--	ND	2.58	--		1.25
Styrene	0.542	0.250	--	2.31	1.06	--		1.25



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-05 D
 Client ID: TOPS-SV-2
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 08:54
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	0.250	--	ND	1.72	--		1.25
o-Xylene	ND	0.250	--	ND	1.09	--		1.25
4-Ethyltoluene	ND	0.250	--	ND	1.23	--		1.25
1,3,5-Trimethylbenzene	ND	0.250	--	ND	1.23	--		1.25
1,2,4-Trimethylbenzene	ND	0.250	--	ND	1.23	--		1.25
Benzyl chloride	ND	0.250	--	ND	1.29	--		1.25
1,3-Dichlorobenzene	ND	0.250	--	ND	1.50	--		1.25
1,4-Dichlorobenzene	2.54	0.250	--	15.3	1.50	--		1.25
1,2-Dichlorobenzene	ND	0.250	--	ND	1.50	--		1.25
1,2,4-Trichlorobenzene	ND	0.250	--	ND	1.86	--		1.25
Hexachlorobutadiene	ND	0.250	--	ND	2.67	--		1.25

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	81		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	70		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-06
 Client ID: TOPS-OA-1
 Sample Location: NEW PALTZ
 Matrix: Air
 Analytical Method: 48,TO-15
 Analytical Date: 09/18/17 14:44
 Analyst: MB

Date Collected: 09/12/17 09:22
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.261	0.200	--	1.29	0.989	--		1
Chloromethane	0.468	0.200	--	0.966	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	0.222	0.200	--	1.25	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-06
 Client ID: TOPS-OA-1
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 09:22
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
n-Hexane	0.205	0.200	--	0.722	0.705	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.302	0.200	--	1.14	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-06
 Client ID: TOPS-OA-1
 Sample Location: NEW PALTZ

Date Collected: 09/12/17 09:22
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	83		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

SAMPLE RESULTS

Lab ID: L1732228-06
 Client ID: TOPS-OA-1
 Sample Location: NEW PALTZ
 Matrix: Air
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 09/18/17 14:44
 Analyst: MB

Date Collected: 09/12/17 09:22
 Date Received: 09/12/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.078	0.020	--	0.491	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	0.088	0.020	--	0.597	0.136	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	87		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	83		60-140



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 09/18/17 12:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1042855-4								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 09/18/17 12:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1042855-4								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 09/18/17 12:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1042855-4								
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/18/17 12:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03,06 Batch: WG1042856-4								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Ethyl Alcohol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/18/17 12:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03,06 Batch: WG1042856-4								
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/18/17 12:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03,06 Batch: WG1042856-4								
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,3-Trichloropropane	ND	0.020	--	ND	0.121	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/18/17 12:06

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03,06 Batch: WG1042856-4								
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS	Qual	LCS	Qual	%Recovery	RPD	Qual	RPD
	%Recovery		%Recovery		Limits			Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1042855-3								
Chlorodifluoromethane	86		-		70-130	-		
Propylene	106		-		70-130	-		
Propane	92		-		70-130	-		
Dichlorodifluoromethane	79		-		70-130	-		
Chloromethane	99		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	98		-		70-130	-		
Methanol	89		-		70-130	-		
Vinyl chloride	96		-		70-130	-		
1,3-Butadiene	103		-		70-130	-		
Butane	86		-		70-130	-		
Bromomethane	93		-		70-130	-		
Chloroethane	98		-		70-130	-		
Ethyl Alcohol	91		-		70-130	-		
Dichlorofluoromethane	90		-		70-130	-		
Vinyl bromide	93		-		70-130	-		
Acrolein	90		-		70-130	-		
Acetone	103		-		70-130	-		
Acetonitrile	90		-		70-130	-		
Trichlorofluoromethane	98		-		70-130	-		
iso-Propyl Alcohol	104		-		70-130	-		
Acrylonitrile	92		-		70-130	-		
Pentane	88		-		70-130	-		
Ethyl ether	89		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1042855-3								
1,1-Dichloroethene	97		-		70-130	-		
tert-Butyl Alcohol	87		-		70-130	-		
Methylene chloride	102		-		70-130	-		
3-Chloropropene	103		-		70-130	-		
Carbon disulfide	93		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	96		-		70-130	-		
trans-1,2-Dichloroethene	96		-		70-130	-		
1,1-Dichloroethane	95		-		70-130	-		
Methyl tert butyl ether	92		-		70-130	-		
Vinyl acetate	113		-		70-130	-		
2-Butanone	92		-		70-130	-		
cis-1,2-Dichloroethene	92		-		70-130	-		
Ethyl Acetate	101		-		70-130	-		
Chloroform	96		-		70-130	-		
Tetrahydrofuran	88		-		70-130	-		
2,2-Dichloropropane	86		-		70-130	-		
1,2-Dichloroethane	94		-		70-130	-		
n-Hexane	102		-		70-130	-		
Isopropyl Ether	92		-		70-130	-		
Ethyl-Tert-Butyl-Ether	94		-		70-130	-		
1,1,1-Trichloroethane	102		-		70-130	-		
1,1-Dichloropropene	95		-		70-130	-		
Benzene	99		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1042855-3								
Carbon tetrachloride	105		-		70-130	-		
Cyclohexane	103		-		70-130	-		
Tertiary-Amyl Methyl Ether	89		-		70-130	-		
Dibromomethane	99		-		70-130	-		
1,2-Dichloropropane	105		-		70-130	-		
Bromodichloromethane	109		-		70-130	-		
1,4-Dioxane	103		-		70-130	-		
Trichloroethene	102		-		70-130	-		
2,2,4-Trimethylpentane	106		-		70-130	-		
Methyl Methacrylate	126		-		70-130	-		
Heptane	108		-		70-130	-		
cis-1,3-Dichloropropene	109		-		70-130	-		
4-Methyl-2-pentanone	112		-		70-130	-		
trans-1,3-Dichloropropene	94		-		70-130	-		
1,1,2-Trichloroethane	105		-		70-130	-		
Toluene	90		-		70-130	-		
1,3-Dichloropropane	86		-		70-130	-		
2-Hexanone	102		-		70-130	-		
Dibromochloromethane	97		-		70-130	-		
1,2-Dibromoethane	94		-		70-130	-		
Butyl Acetate	88		-		70-130	-		
Octane	84		-		70-130	-		
Tetrachloroethene	85		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS	Qual	LCS	Qual	%Recovery	RPD	Qual	RPD
	%Recovery		%Recovery		Limits			Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1042855-3								
1,1,1,2-Tetrachloroethane	86		-		70-130	-		
Chlorobenzene	90		-		70-130	-		
Ethylbenzene	92		-		70-130	-		
p/m-Xylene	93		-		70-130	-		
Bromoform	95		-		70-130	-		
Styrene	92		-		70-130	-		
1,1,1,2-Tetrachloroethane	101		-		70-130	-		
o-Xylene	98		-		70-130	-		
1,2,3-Trichloropropane	88		-		70-130	-		
Nonane (C9)	92		-		70-130	-		
Isopropylbenzene	87		-		70-130	-		
Bromobenzene	88		-		70-130	-		
o-Chlorotoluene	84		-		70-130	-		
n-Propylbenzene	85		-		70-130	-		
p-Chlorotoluene	87		-		70-130	-		
4-Ethyltoluene	91		-		70-130	-		
1,3,5-Trimethylbenzene	93		-		70-130	-		
tert-Butylbenzene	88		-		70-130	-		
1,2,4-Trimethylbenzene	99		-		70-130	-		
Decane (C10)	92		-		70-130	-		
Benzyl chloride	102		-		70-130	-		
1,3-Dichlorobenzene	92		-		70-130	-		
1,4-Dichlorobenzene	91		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1042855-3								
sec-Butylbenzene	88		-		70-130	-		
p-Isopropyltoluene	81		-		70-130	-		
1,2-Dichlorobenzene	90		-		70-130	-		
n-Butylbenzene	93		-		70-130	-		
1,2-Dibromo-3-chloropropane	92		-		70-130	-		
Undecane	98		-		70-130	-		
Dodecane (C12)	119		-		70-130	-		
1,2,4-Trichlorobenzene	98		-		70-130	-		
Naphthalene	90		-		70-130	-		
1,2,3-Trichlorobenzene	86		-		70-130	-		
Hexachlorobutadiene	89		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS	Qual	LCS	Qual	%Recovery	RPD	Qual	RPD
	%Recovery		%Recovery		Limits			Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03,06 Batch: WG1042856-3								
Propylene	104		-		70-130	-		25
Dichlorodifluoromethane	91		-		70-130	-		25
Chloromethane	96		-		70-130	-		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	96		-		70-130	-		25
Vinyl chloride	98		-		70-130	-		25
1,3-Butadiene	102		-		70-130	-		25
Bromomethane	93		-		70-130	-		25
Chloroethane	95		-		70-130	-		25
Ethyl Alcohol	91		-		70-130	-		25
Vinyl bromide	88		-		70-130	-		25
Acetone	106		-		70-130	-		25
Trichlorofluoromethane	95		-		70-130	-		25
iso-Propyl Alcohol	106		-		70-130	-		25
Acrylonitrile	89		-		70-130	-		25
1,1-Dichloroethene	96		-		70-130	-		25
tert-Butyl Alcohol ¹	84		-		70-130	-		25
Methylene chloride	101		-		70-130	-		25
3-Chloropropene	105		-		70-130	-		25
Carbon disulfide	88		-		70-130	-		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	92		-		70-130	-		25
Halothane	108		-		70-130	-		25
trans-1,2-Dichloroethene	98		-		70-130	-		25
1,1-Dichloroethane	99		-		70-130	-		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03,06 Batch: WG1042856-3								
Methyl tert butyl ether	90		-		70-130	-		25
Vinyl acetate	111		-		70-130	-		25
2-Butanone	92		-		70-130	-		25
cis-1,2-Dichloroethene	92		-		70-130	-		25
Ethyl Acetate	96		-		70-130	-		25
Chloroform	94		-		70-130	-		25
Tetrahydrofuran	92		-		70-130	-		25
1,2-Dichloroethane	93		-		70-130	-		25
n-Hexane	95		-		70-130	-		25
1,1,1-Trichloroethane	101		-		70-130	-		25
Benzene	95		-		70-130	-		25
Carbon tetrachloride	101		-		70-130	-		25
Cyclohexane	98		-		70-130	-		25
Dibromomethane ¹	83		-		70-130	-		25
1,2-Dichloropropane	100		-		70-130	-		25
Bromodichloromethane	104		-		70-130	-		25
1,4-Dioxane	99		-		70-130	-		25
Trichloroethene	92		-		70-130	-		25
2,2,4-Trimethylpentane	102		-		70-130	-		25
cis-1,3-Dichloropropene	106		-		70-130	-		25
4-Methyl-2-pentanone	110		-		70-130	-		25
trans-1,3-Dichloropropene	92		-		70-130	-		25
1,1,2-Trichloroethane	100		-		70-130	-		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS		LCSD		%Recovery Limits	RPD	Qual	RPD Limits
	%Recovery	Qual	%Recovery	Qual				
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03,06 Batch: WG1042856-3								
Toluene	87		-		70-130	-		25
2-Hexanone	102		-		70-130	-		25
Dibromochloromethane	98		-		70-130	-		25
1,2-Dibromoethane	90		-		70-130	-		25
Tetrachloroethene	84		-		70-130	-		25
1,1,1,2-Tetrachloroethane	82		-		70-130	-		25
Chlorobenzene	88		-		70-130	-		25
Ethylbenzene	88		-		70-130	-		25
p/m-Xylene	89		-		70-130	-		25
Bromoform	96		-		70-130	-		25
Styrene	89		-		70-130	-		25
1,1,2,2-Tetrachloroethane	98		-		70-130	-		25
o-Xylene	93		-		70-130	-		25
1,2,3-Trichloropropane ¹	87		-		70-130	-		25
Isopropylbenzene	86		-		70-130	-		25
Bromobenzene ¹	85		-		70-130	-		25
4-Ethyltoluene	92		-		70-130	-		25
1,3,5-Trimethylbenzene	92		-		70-130	-		25
1,2,4-Trimethylbenzene	96		-		70-130	-		25
Benzyl chloride	98		-		70-130	-		25
1,3-Dichlorobenzene	93		-		70-130	-		25
1,4-Dichlorobenzene	91		-		70-130	-		25
sec-Butylbenzene	87		-		70-130	-		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03,06 Batch: WG1042856-3								
p-Isopropyltoluene	80		-		70-130	-		25
1,2-Dichlorobenzene	90		-		70-130	-		25
n-Butylbenzene	94		-		70-130	-		25
1,2,4-Trichlorobenzene	97		-		70-130	-		25
Naphthalene	93		-		70-130	-		25
1,2,3-Trichlorobenzene	89		-		70-130	-		25
Hexachlorobutadiene	90		-		70-130	-		25

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1042855-5 QC Sample: L1732228-01 Client ID: TOPS-IA-1						
Dichlorodifluoromethane	0.313	0.289	ppbV	8		25
Chloromethane	0.521	0.537	ppbV	3		25
Freon-114	ND	ND	ppbV	NC		25
1,3-Butadiene	ND	ND	ppbV	NC		25
Bromomethane	ND	ND	ppbV	NC		25
Chloroethane	ND	ND	ppbV	NC		25
Ethanol	431	464	ppbV	7		25
Vinyl bromide	ND	ND	ppbV	NC		25
Acetone	10.8	11.6	ppbV	7		25
Trichlorofluoromethane	0.272	0.273	ppbV	0		25
Isopropanol	2.98	3.16	ppbV	6		25
Tertiary butyl Alcohol	ND	ND	ppbV	NC		25
Methylene chloride	ND	ND	ppbV	NC		25
3-Chloropropene	ND	ND	ppbV	NC		25
Carbon disulfide	ND	ND	ppbV	NC		25
Freon-113	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
Methyl tert butyl ether	ND	ND	ppbV	NC		25
2-Butanone	0.734	0.735	ppbV	0		25
Ethyl Acetate	2.19	2.28	ppbV	4		25

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1042855-5 QC Sample: L1732228-01 Client ID: TOPS-IA-1						
Chloroform	0.241	0.259	ppbV	7		25
Tetrahydrofuran	ND	ND	ppbV	NC		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
n-Hexane	ND	ND	ppbV	NC		25
Benzene	0.331	0.346	ppbV	4		25
Cyclohexane	ND	ND	ppbV	NC		25
1,2-Dichloropropane	ND	ND	ppbV	NC		25
Bromodichloromethane	ND	ND	ppbV	NC		25
1,4-Dioxane	ND	ND	ppbV	NC		25
2,2,4-Trimethylpentane	ND	ND	ppbV	NC		25
Heptane	ND	ND	ppbV	NC		25
cis-1,3-Dichloropropene	ND	ND	ppbV	NC		25
4-Methyl-2-pentanone	ND	ND	ppbV	NC		25
trans-1,3-Dichloropropene	ND	ND	ppbV	NC		25
1,1,2-Trichloroethane	ND	ND	ppbV	NC		25
Toluene	0.772	0.859	ppbV	11		25
2-Hexanone	ND	ND	ppbV	NC		25
Dibromochloromethane	ND	ND	ppbV	NC		25
1,2-Dibromoethane	ND	ND	ppbV	NC		25
Chlorobenzene	ND	ND	ppbV	NC		25
Ethylbenzene	ND	ND	ppbV	NC		25

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1042855-5 QC Sample: L1732228-01 Client ID: TOPS-IA-1						
p/m-Xylene	ND	ND	ppbV	NC		25
Bromoform	ND	ND	ppbV	NC		25
Styrene	ND	0.202	ppbV	NC		25
1,1,2,2-Tetrachloroethane	ND	ND	ppbV	NC		25
o-Xylene	ND	ND	ppbV	NC		25
4-Ethyltoluene	ND	ND	ppbV	NC		25
1,3,5-Trimethylbenzene	ND	ND	ppbV	NC		25
1,2,4-Trimethylbenzene	ND	ND	ppbV	NC		25
Benzyl chloride	ND	ND	ppbV	NC		25
1,3-Dichlorobenzene	ND	ND	ppbV	NC		25
1,4-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2-Dichlorobenzene	ND	ND	ppbV	NC		25
1,2,4-Trichlorobenzene	ND	ND	ppbV	NC		25
Hexachlorobutadiene	ND	ND	ppbV	NC		25

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03,06 QC Batch ID: WG1042856-5 QC Sample: L1732228-01 Client ID: TOPS-IA-1						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	0.025	0.026	ppbV	4		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Carbon tetrachloride	0.099	0.105	ppbV	6		25
Trichloroethene	0.027	0.028	ppbV	4		25
Tetrachloroethene	0.091	0.099	ppbV	8		25

Project Name: TOPS

Project Number: 2017-06

Serial_No:09191716:04
Lab Number: L1732228

Report Date: 09/19/17

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1732228-01	TOPS-IA-1	0406	Flow 5	09/01/17	248553		-	-	-	Pass	3.0	3.1	3
L1732228-01	TOPS-IA-1	481	2.7L Can	09/01/17	248553	L1730241-01	Pass	-30.0	-7.9	-	-	-	-
L1732228-02	TOPS-IA-2	0850	Flow 5	09/01/17	248553		-	-	-	Pass	3.0	3.2	6
L1732228-02	TOPS-IA-2	2184	2.7L Can	09/01/17	248553	L1730445-01	Pass	-30.0	-7.3	-	-	-	-
L1732228-03	TOPS-IA-3	0240	Flow 5	09/01/17	248553		-	-	-	Pass	3.0	3.2	6
L1732228-03	TOPS-IA-3	489	2.7L Can	09/01/17	248553	L1730241-01	Pass	-30.0	-10.3	-	-	-	-
L1732228-04	TOPS-SV-1	0395	Flow 5	09/01/17	248553		-	-	-	Pass	3.0	2.7	11
L1732228-04	TOPS-SV-1	484	2.7L Can	09/01/17	248553	L1730241-01	Pass	-29.5	0	-	-	-	-
L1732228-05	TOPS-SV-2	0575	Flow 4	09/01/17	248553		-	-	-	Pass	3.0	3.0	0
L1732228-05	TOPS-SV-2	342	2.7L Can	09/01/17	248553	L1730241-01	Pass	-30.0	-13.5	-	-	-	-
L1732228-06	TOPS-OA-1	0207	Flow 5	09/01/17	248553		-	-	-	Pass	3.0	3.5	15
L1732228-06	TOPS-OA-1	2215	2.7L Can	09/01/17	248553	L1730445-01	Pass	-30.0	-8.3	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730241
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730241-01
 Client ID: CAN 186 SHELF 1
 Sample Location:
 Matrix: Air
 Analytical Method: 48,TO-15
 Analytical Date: 08/29/17 18:04
 Analyst: RY

Date Collected: 08/28/17 16:00
 Date Received: 08/29/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	1.73	5.00	--	2.27	6.55	--	J	1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730241
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730241-01
 Client ID: CAN 186 SHELF 1
 Sample Location:

Date Collected: 08/28/17 16:00
 Date Received: 08/29/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730241
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730241-01
 Client ID: CAN 186 SHELF 1
 Sample Location:

Date Collected: 08/28/17 16:00
 Date Received: 08/29/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730241
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730241-01
 Client ID: CAN 186 SHELF 1
 Sample Location:

Date Collected: 08/28/17 16:00
 Date Received: 08/29/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
Silanol, Trimethyl-	1.9	NJ	ppbV		1



Project Name: BATCH CANISTER CERTIFICATION**Lab Number:** L1730241**Project Number:** CANISTER QC BAT**Report Date:** 09/19/17**Air Canister Certification Results**

Lab ID: L1730241-01

Date Collected: 08/28/17 16:00

Client ID: CAN 186 SHELF 1

Date Received: 08/29/17

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	82		60-140
Bromochloromethane	85		60-140
chlorobenzene-d5	80		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730241
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730241-01
 Client ID: CAN 186 SHELF 1
 Sample Location:
 Matrix: Air
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 08/29/17 18:04
 Analyst: RY

Date Collected: 08/28/17 16:00
 Date Received: 08/29/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730241
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730241-01
 Client ID: CAN 186 SHELF 1
 Sample Location:

Date Collected: 08/28/17 16:00
 Date Received: 08/29/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730241
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730241-01
 Client ID: CAN 186 SHELF 1
 Sample Location:

Date Collected: 08/28/17 16:00
 Date Received: 08/29/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	88		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	88		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730445
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730445-01
 Client ID: CAN 178 SHELF 13
 Sample Location:
 Matrix: Air
 Analytical Method: 48,TO-15
 Analytical Date: 08/30/17 17:41
 Analyst: RY

Date Collected: 08/29/17 16:00
 Date Received: 08/30/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730445
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730445-01
 Client ID: CAN 178 SHELF 13
 Sample Location:

Date Collected: 08/29/17 16:00
 Date Received: 08/30/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730445
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730445-01
 Client ID: CAN 178 SHELF 13
 Sample Location:

Date Collected: 08/29/17 16:00
 Date Received: 08/30/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730445
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730445-01
 Client ID: CAN 178 SHELF 13
 Sample Location:

Date Collected: 08/29/17 16:00
 Date Received: 08/30/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds				

No Tentatively Identified Compounds



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730445
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730445-01 Date Collected: 08/29/17 16:00
 Client ID: CAN 178 SHELF 13 Date Received: 08/30/17
 Sample Location: Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	84		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730445
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730445-01
 Client ID: CAN 178 SHELF 13
 Sample Location:
 Matrix: Air
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 08/30/17 17:41
 Analyst: RY

Date Collected: 08/29/17 16:00
 Date Received: 08/30/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730445
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730445-01
 Client ID: CAN 178 SHELF 13
 Sample Location:

Date Collected: 08/29/17 16:00
 Date Received: 08/30/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1730445
Report Date: 09/19/17

Air Canister Certification Results

Lab ID: L1730445-01
 Client ID: CAN 178 SHELF 13
 Sample Location:

Date Collected: 08/29/17 16:00
 Date Received: 08/30/17
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	85		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	84		60-140

Project Name: TOPS
Project Number: 2017-06

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1732228-01A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1732228-02A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1732228-03A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1732228-04A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1732228-05A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1732228-06A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1732228-07A	Canister - 2.7 Liter	N/A	NA			Y	Absent		CLEAN-FEE(),FLOW-RENT()

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related

Report Format: Data Usability Report



Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

Data Qualifiers

projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: TOPS
Project Number: 2017-06

Lab Number: L1732228
Report Date: 09/19/17

REFERENCES

- 48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide

EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO₂, NO₃.

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS

EPA 3005A NPW

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B**

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1: Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.**

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.



AIR ANALYSIS

CHAIN OF CUSTODY

PAGE _____ OF _____

320 Forbes Blvd, Mansfield, MA 02048
 TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: **STERLING ENVIRONMENTAL**
 Address: **24 Wade Road**
LATHAM NY 12110
 Phone: **518-456-4900**
 Fax: **518-456-3532**
 Email: **STEFAN.TRUEX@STERLINGENVIRONMENTAL.COM**
John.T@STERLINGENVIRONMENTAL.COM
 These samples have been previously analyzed by Alpha

Project Information
 Project Name: **TOPS**
 Project Location: **New Paltz**
 Project #: **2017-06**
 Project Manager: **TOM JOHNSON**
 ALPHA Quote #:
Turn-Around Time
 Standard RUSH (only confirmed if pre-approved)
 Date Due: _____ Time: _____

Date Rec'd in Lab: **9/13/17**
Report Information - Data Deliverables
 FAX
 ADEx
 Criteria Checker: _____
 (Default based on Regulatory Criteria Indicated)
 Other Formats: _____
 EMAIL (standard pdf report)
 Additional Deliverables: **CAT-B**
 Report to: (if different than Project Manager)

ALPHA Job #: **L1732228**
Billing Information
 Same as Client info PO #:
Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments: **Detection limit is 0.2 mcg/m³ for Trichloroethene, cis-1,2, Dichloroethene, 1,1-DCE, 1,1-Dichloroethene (1,1-DCE) and Carbon Tetrachloride**
Detection limit is 3.0 mcg/m³ for Tetrachloroethene (PCE), 1,1,1-Trichloroethane, methylene chloride

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION					Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
		End Date	Start Time	End Time	Initial Vacuum	Final Vacuum											
2228-01	TOPS-IA-1	9/12/17	10:40 pm	09:04 am	-30.80	-8.45	AA	ST	2.7L	481	0406	X					
02	TOPS-IA-2		10:45 pm	09:04 am	-30.05	-7.78	AA			2184	0850						
03	TOPS-IA-3		11:46 pm	09:02 am	-29.63	-10.28	AA			2243	0422						
04	TOPS-SV-1		11:10 pm	08:48 am	-28.90	-4.00	Other			484	0395						
05	TOPS-SV-2		11:26 pm	08:54 am	-29.69	-14.31	Other			342	0575						
	TOPS-SV-3		12:22 am	08:41 am	33.64	0	Other			489	0240						Do Not Analyze
06	TOPS-OA-1		11:26 pm	09:22 am	-30.58	-9.08	AA			2215	0207						

*SAMPLE MATRIX CODES
 AA = Ambient Air (Indoor/Outdoor)
 SV = Soil Vapor/Landfill Gas/SVE
 Other = Please Specify → **SSD Lateral**

Relinquished By: **[Signature]** Date/Time: **9/12/17 17:10**
 Received By: **[Signature]** Date/Time: **9-12-17 17:40**
9-13-17 05:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.