

731 4TH AVENUE
BROOKLYN, NEW YORK
BLOCK 652, LOT 7

**LIMITED PHASE II
ENVIRONMENTAL SITE ASSESSMENT
(ASTM 1903-11)**

PREPARED FOR:

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PREPARED BY:



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PWGC Project Number: TOT1803

MARCH 2019



**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT
731 4TH AVENUE, BROOKLYN, NY**

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ACRONYM	DEFINITION
ASP	Analytical Services Protocol
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
DER	Department of Environmental Remediation
ELAP	Environmental Laboratory Approval Program
EM	Electromagnetic
ESA	Environmental Site Assessment
GQS	Groundwater Quality Standard
GV	Guidance Value
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCB	Polychlorinated Biphenyl
PID	Photo-ionization Detector
PWGC	P.W. Grosser Consulting, Inc.
QA/QC	Quality Assurance / Quality Control
REC	Recognized Environmental Condition
SCO	Soil Cleanup Objective
SVOC	Semi-volatile Organic Compound
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound



1.0 INTRODUCTION

Totem Group, LLC (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Limited Phase II Environmental Site Assessment (ESA) for the property located at 731 4th Avenue in Brooklyn NY. The purpose of the Limited Phase II ESA was to further evaluate recognized environmental conditions (RECs) identified in a Phase I ESA to obtain sound, scientifically valid data concerning actual property conditions.

Work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1903-11 (Standard Practices for Environmental Site Assessment: Phase II Environmental Site Assessment Process) and in substantial conformance with the New York State Department of Environmental Conservation's (NYSDEC's) Division of Environmental Remediation's (DER's) Technical Guidance for Site Investigation and Remediation, May 2010 (DER-10).



2.0 BACKGROUND

2.1 Site Description and Features

The subject property consists of one parcel located at 731 4th Avenue in the Greenwood Heights neighborhood of Brooklyn, NY. The property is identified in the Brooklyn Tax Map as Block 652, Lot 7. The subject property measures approximately 5,017 square feet and is improved with a commercial retail shop with three units and an auto body shop with two bays. There are no landscaped areas. A Site Location Map is included as **Figure 1** and a Site Plan is included as **Figure 2**.

2.2 Physical Setting

The topography of the site and surrounding area was reviewed from the USGS 7.5-minute series topographic map for the Brooklyn quadrangle. The property elevation is approximately 36 feet above the National Geodetic Vertical Datum (NGVD). Regional physiographic conditions are summarized below.

2.3 Site History and Land Use

Historical usage of the subject property indicates that it was first developed prior to 1888 as a residential property and was converted to industrial uses by 1906 which included the following uses indicative of potential recognized environmental concerns (RECs): a junk yard, metal manufacturer, and an auto repair shop.

2.4 Adjacent Property Land Use

Review of historical information reviewed for the properties surrounding the subject property indicate that the area has been sparsely developed since at least 1888 and nearly fully developed since at least 1924. Surrounding properties have been used primarily as retail or industrial uses. The industrial usage of the properties in the surrounding area are indicative of potential RECs.

2.5 Summary of Previous Assessments

PWGC was provided with a Phase I ESA completed by Middleton Environmental Inc. on April 3, 2013. There were no RECs identified as part of this Phase I ESA.

PWGC conducted a Phase I ESA in January 2019 which identified two RECs: the current and historic industrial usage of the subject property (metals manufacturer, junk yard, auto repair shop) and the historic industrial usage of the neighboring properties.



3.0 WORK PERFORMED AND RATIONALE

3.1 Scope of Assessment

As access to the property was not granted, the Limited Phase II ESA included the following tasks:

- Soil Vapor Quality Evaluation

3.2 Soil Vapor Quality Evaluation

To evaluate if historic usage of the property has resulted in impact to the soil vapor immediately adjacent to the property, a soil vapor investigation was performed. As access to the property was not granted, five soil vapor probes were installed on the neighboring property to the southwest (currently a Dunkin Donuts) and on the adjacent sidewalk along 24th Street, as shown on **Figure 3**. An ambient air control sample had also been setup up-wind during the soil vapor sampling; however, the manager of the Dunkin Donuts moved the summa canister inside the Dunkin Donuts during the collection process, so this sample was discarded. The objective of this soil vapor quality evaluation is an attempt to provide an indication if impact exists beneath the subject property given the restricted access to the site. The soil vapor probes were installed on February 24, 2019. Weather during this sampling event was overcast with periods of light rain, wind, and a temperature of approximately 50° Fahrenheit.

3.2.1 Sampling Protocol

Soil vapor samples were collected into 2.7-liter Summa[®] vacuum canisters fitted with 2-hour flow controllers. The samplers were batch certified clean by the laboratory. Proper quality assurance (QA) / quality control (QC) protocol was followed during the collection of soil gas samples to ensure that cross-contamination in the field did not occur. The samples were submitted under proper chain of custody procedures to Alpha Analytical Laboratories of Westboro, MA for analysis of VOCs by USEPA Method TO-15.

Temporary soil vapor probes were installed approximately 2 inches below the asphalt drive-thru and concrete sidewalk. Vapor sampling points consisted of dedicated polyethylene tubing to grade; the annulus around the tubing was filled with clean sand, and the sampling point was sealed with bentonite grout. Prior to sampling the integrity of the sampling port seals was tested using tracer gas analysis. The environment surrounding the seal was enriched with the tracer gas, helium, as readings were collected through the sampling probe with a portable helium detector. Tracer gas readings collected from each soil vapor probe were acceptable indicating the seals were intact and the sampling probes were acceptable for sample collection.



After the initial tracer gas test was performed, one to three volumes of the sample tubing was purged prior to collecting samples. Flow rates for both purging and collecting did not exceed 0.2 liters per minute to minimize potential indoor air infiltration during sampling.

3.2.2 Analytical Results

As New York State has not developed standards or guidance levels for soil vapor concentrations, soil vapor sample analytical data were compared to the USEPA Vapor Intrusion Screening Levels (VISLs) specified at <https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator>.

Two compounds in different soil vapor samples exceeded their respective VISLs. Sample VP001 contained an exceedance of 1,3-Butadiene ($5.66 \mu\text{g}/\text{m}^3$) exceeding its VISL of $3.12 \mu\text{g}/\text{m}^3$. The compound 1,3-Butadiene is utilized in industry as a monomer in the production of synthetic rubber which is not known to have occurred at this site. It is also commonly found in ambient air in urban and suburban areas as a consequence of emissions from vehicles. Sample VP005 contained an exceedance of Chloroform ($21.7 \text{ } 5.66 \mu\text{g}/\text{m}^3$) exceeding its VISL of $4.07 \mu\text{g}/\text{m}^3$. Chloroform may be released to the air as a result of its formation in the chlorination of drinking water and wastewater or from use/disposal at pulp and paper mills, hazardous waste sites, or sanitary landfills. These activities are also not known to have occurred at the subject property.

Analytical results for the sub-slab vapor samples are shown on **Table 1**. The laboratory data report is included as **Appendix A**.



4.0 CONCLUSIONS

Based upon the recommendations of a January 2019 Phase I ESA prepared by PWGC, a Limited Phase II was conducted. The Phase II ESA included an evaluation of soil vapor quality. The field work was conducted February 24, 2019 and included the installation of five soil vapor probes were installed immediately beneath the asphalt parking lot southwest of the subject building and the sidewalk northeast of the subject building. Analytical results indicated that VOCs, including chlorinated solvents and petroleum related compounds, were detected; however, based on a comparison of the detectable concentrations to the USEPA Vapor Intrusion Screening Levels and our analysis described above, these detections do not appear to be related to the subject property or require action. Although PWGC cannot rule out impact beneath the subject property; shallow soil gas immediately adjacent to the site does not reflect that a significant source of VOCs exists in the immediate area.



5.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.

Jennifer Lewis, PG
Senior Project Manager

James P. Rhodes, PG
COO

Report Completion Date: March 1, 2019



6.0 REFERENCES

6 NYCRR Part 375 Environmental Remediation Programs Subparts 375-1 to 375-4 & 375-6.

6 NYCRR Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.

CP-51 / Soil Cleanup Guidance.

DER-10 / Technical Guidance for Site Investigation and Remediation.

Standard practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process, ASTM Standard E 1903-11.

PWGC, Phase I ESA, January 2019.



7.0 LIMITATIONS

The conclusions presented in this report are professional opinions based on the data described in this report. These opinions have been arrived at in accordance with currently accepted engineering and hydrogeologic standards and practices applicable to this location, and are subject to the following inherent limitations:

1. The data presented in this report are from visual inspections and examination of records prepared by others. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration of the site, analysis of data, and re-evaluation of the findings, observations, and conclusions presented in this report.
2. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. The scope of work was defined by the request of the client.
3. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported, findings, observations, or conclusions. These are based solely upon site conditions in existence at the time of the investigation, and other information obtained and reviewed by PWGC.
4. The conclusions presented in this report are professional opinions based on data described in this report. They are intended only for the purpose, site location, and project indicated. This report is not a definitive study of contamination at the site and should not be interpreted as such.
5. This report is based, in part, on information supplied to PWGC by third-party sources. While efforts have been made to substantiate this third-party information, PWGC cannot attest to the completeness or accuracy of information provided by others.



FIGURES

CLIENT DRIVEN SOLUTIONS

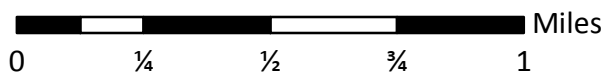
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SITE LOCATION

731 4th Avenue
Brooklyn, NY



Project:	TOT1803
Date:	12/26/2018
Designed by:	JL
Drawn by:	PH
Approved by:	JL
Figure No:	1



PWGC
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DRAWING INFORMATION:

Project:	TOT1803	Designed by:	JL
Date:	12/26/2018	Drawn by:	PH
Scale:	AS SHOWN	Approved by:	JL

SITE PLAN

731 4th Ave
Brooklyn, NY

FIGURE NO:

2

 Site Boundary

 Tax Lots

A horizontal number line is shown with major tick marks at 0, 30, 60, 90, and 120. The word "Feet" is written at the right end of the line. A white rectangular bar is drawn above the number line, starting at the 60 mark and ending at the 90 mark.



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REVISION	DATE	INITIAL	COMMENTS
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DRAWING INFORMATION:

Project:	TOT1803	Designed by:	JL
Date:	2/28/2019	Drawn by:	PH
Scale:	AS SHOWN	Approved by:	JL

SOIL VAPOR SAMPLE LOCATIONS

731 4th Ave
Brooklyn, NY

FIGURE NO:

3

● Soil Vapor Sample

 Site Boundary

☐ Tax Lots



TABLES

Table 1
731 4th Avenue, Brooklyn, NY

Soil Vapor Sampling Analytical Results

Location	USEPA VISL ⁽¹⁾	VP001 02/24/19 L1907363-01	VP002 02/24/19 L1907363-02	VP003 02/24/19 L1907363-03	VP004 02/24/19 L1907363-04	VP005 02/24/19 L1907363-05
Sampling Date						
Lab Sample ID						
VOC Analysis by USEPA Method TO-15 in µg/m³						
1,1,1-Trichloroethane	174,000	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1,2,2-Tetrachloroethane	1.61	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
1,1,2-Trichloroethane	5.85	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	174,000	1.53 U	1.53 U	1.53 U	1.53 U	1.53 U
1,1-Dichloroethane	58.5	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U
1,1-Dichloroethene	6,950	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U
1,2,4-Trichlorobenzene	69.5	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U
1,2,4-Trimethylbenzene	2,090	2.79	1.54	1.37	9.59	1.78
1,2-Dibromoethane	0.156	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U
1,2-Dichlorobenzene	6,950	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,2-Dichloroethane	3.6	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U
1,2-Dichloropropane	25.3	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	NS	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U
1,3,5-Trimethylbenzene	2,090	0.983 U	0.983 U	0.983 U	7.67	0.983 U
1,3-Butadiene	3.12	5.66	0.442 U	0.442 U	0.442 U	0.442 U
1,3-Dichlorobenzene	NS	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dichlorobenzene	8.51	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
1,4-Dioxane	18.7	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U
2,2,4-Trimethylpentane	NS	18.1	0.934 U	0.934 U	86.9	0.934 U
3-Chloropropene	15.6	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U
4-Ethyltoluene	NS	0.983 U	0.983 U	0.983 U	2.66	0.983 U
4-Methyl-2-pentanone	104,000	2.05 U	2.05 U	2.05 U	2.05 U	2.05 U
Acetone	1,070,000	2.38 U	24	116	50.6	38
Benzene	12	2.48	0.958	0.639 U	2.48	2.43
Benzyl chloride	1.91	1.04 U	1.04 U	1.04 U	1.04 U	1.04 U
Bromodichloromethane	2.53	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U
Bromoform	85.1	2.07 U	2.07 U	2.07 U	2.07 U	2.07 U
Bromomethane	174	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U
Carbon disulfide	24,300	0.623 U	0.623 U	0.623 U	2.07	1.51
Carbon tetrachloride	15.6	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U
Chlorobenzene	1,740	0.921 U	0.921 U	0.921 U	0.921 U	0.921 U
Chloroethane	348,000	0.528 U	0.528 U	0.528 U	0.528 U	0.528 U
Chloroform	4.07	0.977 U	0.977 U	0.977 U	1.23	21.7
Chloromethane	3,130	0.935	0.413 U	0.458	0.859	0.605
cis-1,2-Dichloroethene	NS	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U
cis-1,3-Dichloropropene	23.4	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Cyclohexane	209,000	6.85	0.688 U	0.688 U	3.58	0.688 U
Dibromochloromethane	NS	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
Dichlorodifluoromethane	3,480	1.54	1.59	1.86	1.45	1.79
Ethyl Acetate	2,430	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Ethyl Alcohol	NS	92.5	9.42 U	11.5	24.7	14.8
Ethylbenzene	37	1.83	0.869 U	0.869 U	7.6	4.02
Heptane	13,900	9.14	0.82 U	0.82 U	13	1.08
Hexachlorobutadiene	4.25	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U
iso-Propyl Alcohol	6,950	1.23 U	1.23 U	1.79	1.23 U	1.23 U
m,p-Xylene	3,480	6.73	2.89	2.42	27.4	6.78
Methyl ethyl ketone (2-Butanone)	1,000	114	158	67.2	175	75.5
Methyl Butyl Ketone (2-Hexanone)	174,000	28.5	34.9	19.3	29.7	15.7
Methyl tert butyl ether	360	0.721 U	0.721 U	0.721 U	0.721 U	0.721 U
Methylene chloride	3,380	1.74 U	1.74 U	1.74 U	9.83	1.74 U
n-Hexane	24,300	24.9	0.705 U	0.705 U	4.37	1.44
o-Xylene	3,480	2.43	1.09	0.869 U	16.8	4.39
Styrene	34,800	1.24	0.864	0.852 U	2.03	5.79
tert-Butyl Alcohol	NS	3.76	3.24	1.56	5	4.52
Tetrachloroethene	360	1.36 U	1.36 U	1.36 U	1.36 U	11.7
Tetrahydrofuran	69,500	1.47 U	1.47 U	1.47 U	1.47 U	1.47 U
Toluene	174,000	9.8	2.54	1.65	16.1	10.7
trans-1,2-Dichloroethene	NS	0.793 U	0.793 U	0.793 U	0.793 U	0.793 U
trans-1,3-Dichloropropene	23	0.908 U	0.908 U	0.908 U	0.908 U	0.908 U
Trichloroethene	15.9	1.07 U	1.07 U	1.07 U	1.07 U	1.07 U
Trichlorofluoromethane	NS	1.39	1.26	1.29	1.25	1.46
Vinyl bromide	2.92	0.874 U	0.874 U	0.874 U	0.874 U	0.874 U
Vinyl chloride	5.59	0.511 U	0.511 U	0.511 U	0.511 U	0.511 U

Notes:

1 - USEPA Vapor Intrusion Screening Levels, Target Sub-Slab and Near-Source Soil Gas Concentration,
<https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator>

Highlighted compounds exceed the USEPA VISL



APPENDIX A

LABORATORY ANALYTICAL REPORTS

CLIENT DRIVEN SOLUTIONS

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ANALYTICAL REPORT

Lab Number:	L1907363
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Phone:	(631) 589-6353
Project Name:	TOT1803
Project Number:	TOT1803
Report Date:	02/27/19

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), 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 #P330-17-00150), USFWS (Permit #206964).

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508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: TOT1803**Project Number:** TOT1803**Lab Number:** L1907363**Report Date:** 02/27/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1907363-01	VP001	SOIL_VAPOR	731 4TH AVE.	02/24/19 15:31	02/25/19
L1907363-02	VP002	SOIL_VAPOR	731 4TH AVE.	02/24/19 15:56	02/25/19
L1907363-03	VP003	SOIL_VAPOR	731 4TH AVE.	02/24/19 16:02	02/25/19
L1907363-04	VP004	SOIL_VAPOR	731 4TH AVE.	02/24/19 16:44	02/25/19
L1907363-05	VP005	SOIL_VAPOR	731 4TH AVE.	02/24/19 16:51	02/25/19
L1907363-06	UNUSED CAN #383	SOIL_VAPOR	731 4TH AVE.	02/24/19 00:00	02/25/19

Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19

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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data 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.

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 Alpha Project Manager 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 Project Management at 800-624-9220 with any questions.

Project Name: TOT1803

Lab Number: L1907363

Project Number: TOT1803

Report Date: 02/27/19

Case Narrative (continued)

Volatile Organics in Air

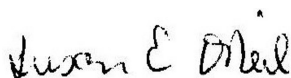
Canisters were released from the laboratory on February 22, 2019. The canister certification results are provided as an addendum.

Volatile Organics in Air

L1907363-01 The presence of Acetone could not be determined in this sample due to a non-target compound interfering with the identification and quantification of this compound.

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:



Susan O'Neil

Title: Technical Director/Representative

Date: 02/27/19

AIR

Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-01
 Client ID: VP001
 Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 15:31
 Date Received: 02/25/19
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 02/26/19 22:41
 Analyst: EW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloromethane	0.453	0.200	--	0.935	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	2.56	0.200	--	5.66	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethyl Alcohol	49.1	5.00	--	92.5	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	0.248	0.200	--	1.39	1.12	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	1.24	0.500	--	3.76	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	0.200	--	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	38.8	0.500	--	114	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: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

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Client ID: VP001

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 15:31

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

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	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	7.07	0.200	--	24.9	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.775	0.200	--	2.48	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	1.99	0.200	--	6.85	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
Xylene (Total)	2.11	0.200	--	9.16	0.869	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	3.88	0.200	--	18.1	0.934	--		1
Heptane	2.23	0.200	--	9.14	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	2.60	0.200	--	9.80	0.754	--		1
2-Hexanone	6.96	0.200	--	28.5	0.820	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-01

Client ID: VP001

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 15:31

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.422	0.200	--	1.83	0.869	--		1
p/m-Xylene	1.55	0.400	--	6.73	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.291	0.200	--	1.24	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.559	0.200	--	2.43	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	0.568	0.200	--	2.79	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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	80		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	78		60-140



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-01
 Client ID: VP001
 Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 15:31
 Date Received: 02/25/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil_Vapor
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 02/26/19 22:41
 Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	0.312	0.200	--	1.54	0.989	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	82		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	79		60-140



Project Name: TOT1803**Project Number:** TOT1803**Lab Number:** L1907363**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-02
 Client ID: VP002
 Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 15:56
 Date Received: 02/25/19
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 02/26/19 23:13
 Analyst: EW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	10.1	1.00	--	24.0	2.38	--		1
Trichlorofluoromethane	0.225	0.200	--	1.26	1.12	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	1.07	0.500	--	3.24	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	0.200	--	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	53.6	0.500	--	158	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: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-02

Client ID: VP002

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 15:56

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

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	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	0.300	0.200	--	0.958	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
Xylene (Total)	0.917	0.200	--	3.98	0.869	--		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	0.673	0.200	--	2.54	0.754	--		1
2-Hexanone	8.52	0.200	--	34.9	0.820	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-02

Client ID: VP002

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 15:56

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.666	0.400	--	2.89	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.203	0.200	--	0.864	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.251	0.200	--	1.09	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	0.314	0.200	--	1.54	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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	84		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	82		60-140



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-02
 Client ID: VP002
 Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 15:56
 Date Received: 02/25/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil_Vapor
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 02/26/19 23:13
 Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	0.321	0.200	--	1.59	0.989	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	85		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	83		60-140



Project Name: TOT1803**Project Number:** TOT1803**Lab Number:** L1907363**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-03

Client ID: VP003

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:02

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil_Vapor

Analytical Method: 48,TO-15

Analytical Date: 02/26/19 23:45

Analyst: EW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloromethane	0.222	0.200	--	0.458	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	6.12	5.00	--	11.5	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	48.9	1.00	--	116	2.38	--		1
Trichlorofluoromethane	0.229	0.200	--	1.29	1.12	--		1
iso-Propyl Alcohol	0.730	0.500	--	1.79	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	0.513	0.500	--	1.56	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	0.200	--	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	22.8	0.500	--	67.2	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: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-03

Client ID: VP003

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:02

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

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	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
Xylene (Total)	0.556	0.200	--	2.42	0.869	--		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	0.438	0.200	--	1.65	0.754	--		1
2-Hexanone	4.71	0.200	--	19.3	0.820	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-03

Client ID: VP003

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:02

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	0.556	0.400	--	2.42	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	0.279	0.200	--	1.37	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

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



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-03

Client ID: VP003

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:02

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil_Vapor

Analytical Method: 48,TO-15-SIM

Analytical Date: 02/26/19 23:45

Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	0.376	0.200	--	1.86	0.989	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	84		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	82		60-140

Project Name: TOT1803**Project Number:** TOT1803**Lab Number:** L1907363**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-04
 Client ID: VP004
 Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:44
 Date Received: 02/25/19
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 02/27/19 00:18
 Analyst: EW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloromethane	0.416	0.200	--	0.859	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	13.1	5.00	--	24.7	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	21.3	1.00	--	50.6	2.38	--		1
Trichlorofluoromethane	0.222	0.200	--	1.25	1.12	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	1.65	0.500	--	5.00	1.52	--		1
Methylene chloride	2.83	0.500	--	9.83	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	0.665	0.200	--	2.07	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	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	59.3	0.500	--	175	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: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-04

Client ID: VP004

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:44

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloroform	0.251	0.200	--	1.23	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	1.24	0.200	--	4.37	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.776	0.200	--	2.48	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	1.04	0.200	--	3.58	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
Xylene (Total)	10.2	0.200	--	44.3	0.869	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	18.6	0.200	--	86.9	0.934	--		1
Heptane	3.18	0.200	--	13.0	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	4.27	0.200	--	16.1	0.754	--		1
2-Hexanone	7.24	0.200	--	29.7	0.820	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-04

Client ID: VP004

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:44

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	1.75	0.200	--	7.60	0.869	--		1
p/m-Xylene	6.30	0.400	--	27.4	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	0.477	0.200	--	2.03	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	3.86	0.200	--	16.8	0.869	--		1
4-Ethyltoluene	0.541	0.200	--	2.66	0.983	--		1
1,3,5-Trimethylbenzene	1.56	0.200	--	7.67	0.983	--		1
1,2,4-Trimethylbenzene	1.95	0.200	--	9.59	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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	84		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	95		60-140



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-04
 Client ID: VP004
 Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:44
 Date Received: 02/25/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil_Vapor
 Analytical Method: 48,TO-15-SIM
 Analytical Date: 02/27/19 00:18
 Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	0.293	0.200	--	1.45	0.989	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	87		60-140
bromochloromethane	91		60-140
chlorobenzene-d5	96		60-140



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-05
 Client ID: VP005
 Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:51
 Date Received: 02/25/19
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 02/27/19 00:50
 Analyst: EW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloromethane	0.293	0.200	--	0.605	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	7.84	5.00	--	14.8	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	16.0	1.00	--	38.0	2.38	--		1
Trichlorofluoromethane	0.259	0.200	--	1.46	1.12	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	1.49	0.500	--	4.52	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	0.485	0.200	--	1.51	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	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	25.6	0.500	--	75.5	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: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-05

Client ID: VP005

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:51

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloroform	4.44	0.200	--	21.7	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.410	0.200	--	1.44	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.762	0.200	--	2.43	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
Xylene (Total)	2.57	0.200	--	11.2	0.869	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.263	0.200	--	1.08	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	2.83	0.200	--	10.7	0.754	--		1
2-Hexanone	3.84	0.200	--	15.7	0.820	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	1.73	0.200	--	11.7	1.36	--		1



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-05

Client ID: VP005

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:51

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.925	0.200	--	4.02	0.869	--		1
p/m-Xylene	1.56	0.400	--	6.78	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	1.36	0.200	--	5.79	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	1.01	0.200	--	4.39	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	0.362	0.200	--	1.78	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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	92		60-140



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**SAMPLE RESULTS**

Lab ID: L1907363-05

Client ID: VP005

Sample Location: 731 4TH AVE.

Date Collected: 02/24/19 16:51

Date Received: 02/25/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil_Vapor

Analytical Method: 48,TO-15-SIM

Analytical Date: 02/27/19 00:50

Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	0.362	0.200	--	1.79	0.989	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	88		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	93		60-140

Project Name: TOT1803

Lab Number: L1907363

Project Number: TOT1803

Report Date: 02/27/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 02/26/19 14:57

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-05 Batch: WG1210510-4								
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
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	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
iso-Propyl Alcohol	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
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1



Project Name: TOT1803

Lab Number: L1907363

Project Number: TOT1803

Report Date: 02/27/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 02/26/19 14:57

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-05 Batch: WG1210510-4								
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	0.200	--	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
Xylene (Total)	ND	0.200	--	ND	0.869	--		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
Isopropyl Ether	ND	0.200	--	ND	0.836	--		1
Ethyl-Tert-Butyl-Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,3-Dichloropropene, Total	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1



Project Name: TOT1803

Lab Number: L1907363

Project Number: TOT1803

Report Date: 02/27/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 02/26/19 14:57

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-05 Batch: WG1210510-4								
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Tertiary-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
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



Project Name: TOT1803

Lab Number: L1907363

Project Number: TOT1803

Report Date: 02/27/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 02/26/19 14:57

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-05 Batch: WG1210510-4								
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 (C9)	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
o-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
p-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 (C10)	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



Project Name: TOT1803

Lab Number: L1907363

Project Number: TOT1803

Report Date: 02/27/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 02/26/19 14:57

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-05 Batch: WG1210510-4								
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane (C12)	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

Project Name: TOT1803

Lab Number: L1907363

Project Number: TOT1803

Report Date: 02/27/19

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15-SIM

Analytical Date: 02/26/19 15:29

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-05 Batch: WG1210511-4								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
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	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,2-Dichloroethene (total)	ND	0.020	--	ND	0.079	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210510-3								
Chlorodifluoromethane	86		-		70-130	-		
Propylene	99		-		70-130	-		
Propane	78		-		70-130	-		
Dichlorodifluoromethane	65	Q	-		70-130	-		
Chloromethane	98		-		70-130	-		
1,2-Dichloro-1,1,2,2-tetrafluoroethane	100		-		70-130	-		
Methanol	88		-		70-130	-		
Vinyl chloride	101		-		70-130	-		
1,3-Butadiene	96		-		70-130	-		
Butane	45	Q	-		70-130	-		
Bromomethane	96		-		70-130	-		
Chloroethane	95		-		70-130	-		
Ethyl Alcohol	95		-		40-160	-		
Dichlorofluoromethane	97		-		70-130	-		
Vinyl bromide	101		-		70-130	-		
Acrolein	92		-		70-130	-		
Acetone	76		-		40-160	-		
Acetonitrile	98		-		70-130	-		
Trichlorofluoromethane	104		-		70-130	-		
iso-Propyl Alcohol	76		-		40-160	-		
Acrylonitrile	98		-		70-130	-		
Pentane	90		-		70-130	-		
Ethyl ether	81		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210510-3								
1,1-Dichloroethene	99		-		70-130	-		
tert-Butyl Alcohol	97		-		70-130	-		
Methylene chloride	101		-		70-130	-		
3-Chloropropene	98		-		70-130	-		
Carbon disulfide	96		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	103		-		70-130	-		
trans-1,2-Dichloroethene	98		-		70-130	-		
1,1-Dichloroethane	92		-		70-130	-		
Methyl tert butyl ether	87		-		70-130	-		
Vinyl acetate	102		-		70-130	-		
2-Butanone	107		-		70-130	-		
cis-1,2-Dichloroethene	94		-		70-130	-		
Ethyl Acetate	99		-		70-130	-		
Chloroform	96		-		70-130	-		
Tetrahydrofuran	95		-		70-130	-		
2,2-Dichloropropane	84		-		70-130	-		
1,2-Dichloroethane	92		-		70-130	-		
n-Hexane	97		-		70-130	-		
Isopropyl Ether	93		-		70-130	-		
Ethyl-Tert-Butyl-Ether	89		-		70-130	-		
1,2-Dichloroethene (total)	96		-			-		
1,2-Dichloroethene (total)	96		-			-		
1,1,1-Trichloroethane	94		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210510-3								
1,1-Dichloropropene	99		-		70-130	-		
Benzene	94		-		70-130	-		
Carbon tetrachloride	98		-		70-130	-		
Cyclohexane	93		-		70-130	-		
Tertiary-Amyl Methyl Ether	87		-		70-130	-		
Dibromomethane	100		-		70-130	-		
1,2-Dichloropropane	100		-		70-130	-		
Bromodichloromethane	103		-		70-130	-		
1,4-Dioxane	105		-		70-130	-		
Trichloroethene	98		-		70-130	-		
2,2,4-Trimethylpentane	101		-		70-130	-		
Methyl Methacrylate	71		-		40-160	-		
Heptane	94		-		70-130	-		
cis-1,3-Dichloropropene	105		-		70-130	-		
4-Methyl-2-pentanone	107		-		70-130	-		
trans-1,3-Dichloropropene	88		-		70-130	-		
1,1,2-Trichloroethane	102		-		70-130	-		
Toluene	93		-		70-130	-		
1,3-Dichloropropane	90		-		70-130	-		
2-Hexanone	109		-		70-130	-		
Dibromochloromethane	103		-		70-130	-		
1,2-Dibromoethane	99		-		70-130	-		
Butyl Acetate	84		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210510-3								
Octane	84		-		70-130	-		
Tetrachloroethene	96		-		70-130	-		
1,1,1,2-Tetrachloroethane	89		-		70-130	-		
Chlorobenzene	93		-		70-130	-		
Ethylbenzene	93		-		70-130	-		
p/m-Xylene	94		-		70-130	-		
Bromoform	103		-		70-130	-		
Styrene	96		-		70-130	-		
1,1,2,2-Tetrachloroethane	105		-		70-130	-		
o-Xylene	99		-		70-130	-		
1,2,3-Trichloropropane	91		-		70-130	-		
Nonane (C9)	88		-		70-130	-		
Isopropylbenzene	93		-		70-130	-		
Bromobenzene	90		-		70-130	-		
o-Chlorotoluene	91		-		70-130	-		
n-Propylbenzene	91		-		70-130	-		
p-Chlorotoluene	90		-		70-130	-		
4-Ethyltoluene	94		-		70-130	-		
1,3,5-Trimethylbenzene	96		-		70-130	-		
tert-Butylbenzene	96		-		70-130	-		
1,2,4-Trimethylbenzene	104		-		70-130	-		
Decane (C10)	98		-		70-130	-		
Benzyl chloride	99		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210510-3								
1,3-Dichlorobenzene	102		-		70-130	-		
1,4-Dichlorobenzene	101		-		70-130	-		
sec-Butylbenzene	96		-		70-130	-		
p-Isopropyltoluene	85		-		70-130	-		
1,2-Dichlorobenzene	100		-		70-130	-		
n-Butylbenzene	99		-		70-130	-		
1,2-Dibromo-3-chloropropane	94		-		70-130	-		
Undecane	106		-		70-130	-		
Dodecane (C12)	137	Q	-		70-130	-		
1,2,4-Trichlorobenzene	120		-		70-130	-		
Naphthalene	104		-		70-130	-		
1,2,3-Trichlorobenzene	116		-		70-130	-		
Hexachlorobutadiene	117		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210511-3								
Propylene	98		-		70-130	-		25
Dichlorodifluoromethane	87		-		70-130	-		25
Chloromethane	97		-		70-130	-		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	103		-		70-130	-		25
Vinyl chloride	98		-		70-130	-		25
1,3-Butadiene	99		-		70-130	-		25
Bromomethane	101		-		70-130	-		25
Chloroethane	93		-		70-130	-		25
Ethyl Alcohol	91		-		40-160	-		25
Vinyl bromide	99		-		70-130	-		25
Acetone	74		-		40-160	-		25
Trichlorofluoromethane	103		-		70-130	-		25
iso-Propyl Alcohol	75		-		40-160	-		25
Acrylonitrile	100		-		70-130	-		25
1,1-Dichloroethene	95		-		70-130	-		25
tert-Butyl Alcohol ¹	96		-		70-130	-		25
Methylene chloride	100		-		70-130	-		25
3-Chloropropene	98		-		70-130	-		25
Carbon disulfide	83		-		70-130	-		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	93		-		70-130	-		25
trans-1,2-Dichloroethene	86		-		70-130	-		25
1,1-Dichloroethane	89		-		70-130	-		25
Methyl tert butyl ether	87		-		70-130	-		25

Lab Control Sample Analysis Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210511-3								
Vinyl acetate	104		-		70-130	-		25
2-Butanone	106		-		70-130	-		25
cis-1,2-Dichloroethene	91		-		70-130	-		25
Ethyl Acetate	94		-		70-130	-		25
Chloroform	95		-		70-130	-		25
Tetrahydrofuran	98		-		70-130	-		25
1,2-Dichloroethane	94		-		70-130	-		25
n-Hexane	91		-		70-130	-		25
1,1,1-Trichloroethane	93		-		70-130	-		25
Benzene	90		-		70-130	-		25
Carbon tetrachloride	95		-		70-130	-		25
Cyclohexane	92		-		70-130	-		25
Dibromomethane ¹	86		-		70-130	-		25
1,2-Dichloropropane	94		-		70-130	-		25
Bromodichloromethane	98		-		70-130	-		25
1,4-Dioxane	98		-		70-130	-		25
Trichloroethene	94		-		70-130	-		25
2,2,4-Trimethylpentane	92		-		70-130	-		25
cis-1,3-Dichloropropene	103		-		70-130	-		25
4-Methyl-2-pentanone	100		-		70-130	-		25
trans-1,3-Dichloropropene	91		-		70-130	-		25
1,1,2-Trichloroethane	100		-		70-130	-		25
Toluene	88		-		70-130	-		25

Lab Control Sample Analysis Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210511-3								
2-Hexanone	105		-		70-130	-		25
Dibromochloromethane	100		-		70-130	-		25
1,2-Dibromoethane	97		-		70-130	-		25
Tetrachloroethene	92		-		70-130	-		25
1,1,1,2-Tetrachloroethane	87		-		70-130	-		25
Chlorobenzene	92		-		70-130	-		25
Ethylbenzene	90		-		70-130	-		25
p/m-Xylene	91		-		70-130	-		25
Bromoform	98		-		70-130	-		25
Styrene	94		-		70-130	-		25
1,1,2,2-Tetrachloroethane	101		-		70-130	-		25
o-Xylene	94		-		70-130	-		25
1,2,3-Trichloropropane ¹	91		-		70-130	-		25
Isopropylbenzene	89		-		70-130	-		25
Bromobenzene ¹	88		-		70-130	-		25
4-Ethyltoluene	92		-		70-130	-		25
1,3,5-Trimethylbenzene	92		-		70-130	-		25
1,2,4-Trimethylbenzene	97		-		70-130	-		25
Benzyl chloride	89		-		70-130	-		25
1,3-Dichlorobenzene	102		-		70-130	-		25
1,4-Dichlorobenzene	100		-		70-130	-		25
sec-Butylbenzene	87		-		70-130	-		25
p-Isopropyltoluene	81		-		70-130	-		25

Lab Control Sample Analysis Batch Quality Control

Project Name: TOT1803

Project Number: TOT1803

Lab Number: L1907363

Report Date: 02/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-05 Batch: WG1210511-3								
1,2-Dichlorobenzene	101		-		70-130	-		25
n-Butylbenzene	93		-		70-130	-		25
1,2,4-Trichlorobenzene	127		-		70-130	-		25
Naphthalene	108		-		70-130	-		25
1,2,3-Trichlorobenzene	120		-		70-130	-		25
Hexachlorobutadiene	116		-		70-130	-		25

Project Name: TOT1803

Project Number: TOT1803

Serial_No:02271914:02
Lab Number: L1907363

Report Date: 02/27/19

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
L1907363-01	VP001	01262	FLOW 3	02/22/19	285577		-	-	-	Pass	17.1	14.8	14
L1907363-01	VP001	1722	2.7L Can	02/22/19	285577	L1906364-03	Pass	-29.4	-8.4	-	-	-	-
L1907363-02	VP002	01143	SV20	02/22/19	285577		-	-	-	Pass	18.4	15.7	16
L1907363-02	VP002	207	2.7L Can	02/22/19	285577	L1906364-03	Pass	-29.1	-7.0	-	-	-	-
L1907363-03	VP003	01245	SV200	02/22/19	285577		-	-	-	Pass	18.4	16.6	10
L1907363-03	VP003	257	2.7L Can	02/22/19	285577	L1906364-03	Pass	-28.6	-5.5	-	-	-	-
L1907363-04	VP004	01265	FLOW 3	02/22/19	285577		-	-	-	Pass	18.7	16.9	10
L1907363-04	VP004	2336	2.7L Can	02/22/19	285577	L1906603-01	Pass	-29.0	-5.4	-	-	-	-
L1907363-05	VP005	0856	Flow 4	02/22/19	285577		-	-	-	Pass	18.5	16.1	14
L1907363-05	VP005	395	2.7L Can	02/22/19	285577	L1906364-03	Pass	-29.5	-6.1	-	-	-	-
L1907363-06	UNUSED CAN #383	0803	Flow 4	02/22/19	285577		-	-	-	Pass	18.0	18.0	0
L1907363-06	UNUSED CAN #383	383	2.7L Can	02/22/19	285577	L1906364-03	Pass	-29.3	-29.3	-	-	-	-

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

Lab Number: L1906364
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906364-03
Client ID: CAN 351 SHELF 4
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15
Analytical Date: 02/19/19 09:37
Analyst: TS

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

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

Lab Number: L1906364
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906364-03
Client ID: CAN 351 SHELF 4
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
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
Xylenes, total	ND	0.600	--	ND	0.869	--		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
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		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



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

Lab Number: L1906364
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906364-03
Client ID: CAN 351 SHELF 4
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

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



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

Lab Number: L1906364
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906364-03
Client ID: CAN 351 SHELF 4
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

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



Project Name: BATCH CANISTER CERTIFICATION**Lab Number:** L1906364**Project Number:** CANISTER QC BAT**Report Date:** 02/27/19**Air Canister Certification Results**

Lab ID: L1906364-03

Date Collected: 02/18/19 09:00

Client ID: CAN 351 SHELF 4

Date Received: 02/18/19

Sample Location:

Field Prep: Not Specified

Sample Depth:

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

Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds				

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	85		60-140

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

Lab Number: L1906364
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906364-03
Client ID: CAN 351 SHELF 4
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15-SIM
Analytical Date: 02/19/19 09:37
Analyst: TS

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	0.100	--	ND	0.264	--		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
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: L1906364
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906364-03
Client ID: CAN 351 SHELF 4
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

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-Trimethybenzene	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



Project Name: BATCH CANISTER CERTIFICATION**Lab Number:** L1906364**Project Number:** CANISTER QC BAT**Report Date:** 02/27/19**Air Canister Certification Results**

Lab ID: L1906364-03

Date Collected: 02/18/19 09:00

Client ID: CAN 351 SHELF 4

Date Received: 02/18/19

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
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
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	92		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	87		60-140

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

Lab Number: L1906603
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906603-01
Client ID: CAN 353 SHELF 5
Sample Location:

Date Collected: 02/19/19 16:00
Date Received: 02/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15
Analytical Date: 02/20/19 20:41
Analyst: RY

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
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: L1906603
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906603-01
Client ID: CAN 353 SHELF 5
Sample Location:

Date Collected: 02/19/19 16:00
Date Received: 02/20/19
Field Prep: Not Specified

Sample Depth:

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
Xylenes, total	ND	0.600	--	ND	0.869	--		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
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		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



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

Lab Number: L1906603
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906603-01
Client ID: CAN 353 SHELF 5
Sample Location:

Date Collected: 02/19/19 16:00
Date Received: 02/20/19
Field Prep: Not Specified

Sample Depth:

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



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

Lab Number: L1906603
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906603-01
Client ID: CAN 353 SHELF 5
Sample Location:

Date Collected: 02/19/19 16:00
Date Received: 02/20/19
Field Prep: Not Specified

Sample Depth:

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



Project Name: BATCH CANISTER CERTIFICATION**Lab Number:** L1906603**Project Number:** CANISTER QC BAT**Report Date:** 02/27/19**Air Canister Certification Results**

Lab ID: L1906603-01

Date Collected: 02/19/19 16:00

Client ID: CAN 353 SHELF 5

Date Received: 02/20/19

Sample Location:

Field Prep: Not Specified

Sample Depth:

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

Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds				

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	86		60-140

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

Lab Number: L1906603
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906603-01
Client ID: CAN 353 SHELF 5
Sample Location:

Date Collected: 02/19/19 16:00
Date Received: 02/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15-SIM
Analytical Date: 02/20/19 20:41
Analyst: RY

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	0.100	--	ND	0.264	--		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
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: L1906603
Report Date: 02/27/19

Air Canister Certification Results

Lab ID: L1906603-01
Client ID: CAN 353 SHELF 5
Sample Location:

Date Collected: 02/19/19 16:00
Date Received: 02/20/19
Field Prep: Not Specified

Sample Depth:

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-Trimethybenzene	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



Project Name: BATCH CANISTER CERTIFICATION**Lab Number:** L1906603**Project Number:** CANISTER QC BAT**Report Date:** 02/27/19**Air Canister Certification Results**

Lab ID: L1906603-01

Date Collected: 02/19/19 16:00

Client ID: CAN 353 SHELF 5

Date Received: 02/20/19

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
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
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	91		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	91		60-140

Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19**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(*)
L1907363-01A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1907363-02A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1907363-03A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1907363-04A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1907363-05A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30),TO15-SIM(30)
L1907363-06A	Canister - 2.7 Liter	N/A	NA			Y	Absent		CLEAN-FEE()

Project Name: TOT1803

Lab Number: L1907363

Project Number: TOT1803

Report Date: 02/27/19

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total'

Report Format: Data Usability Report



Project Name: TOT1803**Lab Number:** L1907363**Project Number:** TOT1803**Report Date:** 02/27/19

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 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.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- 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.

Project Name: TOT1803
Project Number: TOT1803

Lab Number: L1907363
Report Date: 02/27/19

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.



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 12

Department: **Quality Assurance**

Published Date: 10/9/2018 4:58:19 PM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

Certification Information

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

Westborough Facility**EPA 624/624.1:** 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 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**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:** Chloride, 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:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **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 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** 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 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****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, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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



CHAIN OF CUSTODY

AIR ANALYSIS

PAGE 1 OF 1

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

Client Information

Client: FLUX
Address: 630 Johnson Ave, Balacon, NY

Phone: 631-589-6353

Fax:

Email: jean.lewis@progress.com

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

Project Information

Project Name: TOT1803
Project Location: 731 4th Ave.
Project #: TOT1803
Project Manager: Jean Lewis
ALPHA Quote #:

Turn-Around Time

☐ Standard ☒ RUSH (only confirmed if pre-approved)

Date Due: 2/27/19 Time:

Date Rec'd in Lab: 2-26-19

Report Information - Data Deliverables

☐ FAX

☒ ADEX

Criteria Checker:

(Default based on Regulatory Criteria Indicated)

Other Formats:

☒ EMAIL (standard pdf report)

☐ Additional Deliverables:

Report to: (if different than Project Manager)

ALPHA Job #: L1907363

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed Program Res / Comm

ANALYSIS

☐ TO-15
TO-15 SIM
APH
Fixed Gases
Sulfides & Mercaptans by TO-15

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	All Columns Below Must Be Filled Out										TO-15	TO-15 SIM	APH	Fixed Gas	Sulfides & Mercaptans	Sample Comments (i.e. PID)
		COLLECTION						Sample Matrix*	Sampler's Initials	Can Size	I D Can						
		End Date	Start Time	End Time	Initial Vacuum	Final Vacuum											
07363-01	VP001	2/21/19	13:32	15:31	-29.20	-8.86	SV	SPL	2.7	1722	01262	X					
02	VP002		13:58	15:56	-29.41	-7.57	SV	SPL		207	01143						
03	VP003		14:07	16:02	-29.21	-6.14	SV	SPL		257	01243						
04	VP004		14:43	16:44	-28.72	-5.83	SV	SPL		2336	01263						
05	VP005		14:52	16:51	-29.79	-6.56	SV	SPL		395	0856						

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By:

Date/Time

Received By:

Date/Time:

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