



Engineering & Construction

217-42 54th Avenue  
Bayside Hills, NY 11364  
Office: 718-352-3241  
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March 11, 2019

Dr. James Cervino  
Restoration & Conservation  
9-22 119th Street  
College Point, NY 11356

**Re: Vapor Intrusion (Soil Gas) Survey Report**  
**Site: 11-02 Broadway, Astoria, NY 11106**

Dear Dr. Cervino:

This letter covers the Vapor Intrusion (Soil Gas) sampling and survey at the above referenced site.

**Background**

The site located at 11-02 Broadway, Astoria, NY 11106 which is bounded by Broadway to the north, 33rd Avenue to the south, 11th Street to the west and 12th Street to the east. The lot area is approximately 26,615 square feet in size and is currently vacant. The property is zone R5

**Purpose**

This assessment was done based on the information that historically the site was contained industrial processes.

**Field Work Scope – February 17, 2019**

On February 17, 2019 Mr. Ted Yen was onsite to perform the outdoor air assessment, the outdoor weather condition was sunny and the temperature was in the 40's. During our site assessment, access to all proposed sampling areas was gained. No suspected chemicals was observed in the vacant lot and no chemical containers stored or utilized onsite.

*Sample Collection*

A total of six (6) samples were collected (see Figure 1). The implant top was set at a depth of approximately 2 feet below the ground surface. The implant was installed by drilling a 1/2-inch hole through the soil and inserting a 1/4-inch polyethylene tubing which was extended approximately 36-inches beyond the surface needed to reach above the surface. The tubing was capped with a 1/4-inch plastic end to prevent infiltration of foreign particles into the tube. As part of the vapor intrusion evaluation, tracer gas was used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device and to verify the integrity of the soil vapor probe seal. A container (plastic pail) was placed to keep the tracer gas in contact with the probe and seal during testing. A portable monitoring device (multi-gas meter) was used to analyze a sample of soil vapor for the tracer gas prior to sampling. The tracer sample results showed no significant presence of the tracer. The outdoor sample canisters were place approximately 3-feet above each surface within range of the breathing zone. The six (6) air samples collected February 17, 2019 was done in a contemporaneous manner





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utilizing six (6) 6-Liter Summa canisters which were all equipped with 8-hour flow controllers. The six (6) samples collected were documented on a Chain of Custody form and were picked up by York Analytical Laboratory (YAL) for analysis using EPA Test Methods TO-15 for Volatile Organic Compounds.

Samples A-1 and A-2 were taken on the eastern portion of the lot where there was suspected historic tanks and solvents used. Samples A-3 and A-4 were taken in the center of the site directly above the remnants of the existing foundation that was not demolished or removed. Samples A-5 and A-6 were taken on the western portion of the site.

### **Findings**

#### *Laboratory Analytical Results*

Based on the areas sampled during the assessments and review of the laboratory analytical results of the six (6) samples, the following contaminants were identified: 1,2,4-Trichlorobenzene at **0.93 ppbv**; 1,2,4-Trimethylbenzene ranging from **0.30 ppbv** to **0.58 ppbv**; 1,3,5-Trimethylbenzene at 0.30 ppbv; Acetone at **41 ppbv**; Benzene ranging from 0.20 ppbv to **2.3 ppbv**; Carbon Disulfide ranging from 0.16 ppbv to 0.87 ppbv; Carbon tetrachloride ranging from 0.071 ppbv to 0.093 ppbv; Chloromethane ranging from 0.19 ppbv to **2.4 ppbv**; Cyclohexane ranging from 0.19 ppbv to **0.73 ppbv**; Dichlorodifluoromethane ranging from 0.44 ppbv to 0.52 ppbv; Ethyl Benzene ranging from **0.29 ppbv** to **0.46 ppbv**; Methylene Chloride ranging from 0.29 ppbv to **0.63 ppbv**; n-Heptane ranging from 0.19 ppbv to 0.73 ppbv; o-Xylene ranging from **0.46 ppbv** to **0.62 ppbv**; p&m-Xylenes ranging from 1.0 ppbv to 1.4 ppbv; Styrene ranging from **0.41 ppbv** to **0.56 ppbv**; Tetrachloroethylene ranging from 0.079 ppbv to **0.92 ppbv**; Toluene ranging from 0.20 ppbv to **1.9 ppbv**; and Trichlorofluoromethane (Freon 11) ranging from 0.25 ppbv to **0.29 ppbv**. Bold text denotes exceeding levels as compared with NYSDOH Background Standards – Indoor Air (25<sup>th</sup> – 75<sup>th</sup> Percentile), NYSDOH Air Guidance Values (Specific to Indoor Air) and NYSDOH Immediate Action Level (Specific to Indoor Air). Laboratory analytical results are presented in Table 2 and the laboratory analytical report is attached as Appendix A.





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### **Evaluation of Air Analytical Results**

The detectable concentrations of Carbon Tetrachloride in the six (6) samples were compared to the applicable NYSDOH Soil Vapor/Indoor Air Matrices (Matrix A), updated May 2017. The matrices were developed by the NYSDOH to allow for decision-making relative to actions required to be undertaken with respect to vapor intrusion from sub-slab soil vapors into the interior of buildings.

Based on the detected concentrations of Carbon Tetrachloride in the six (6) samples, review of the NYSDOH Soil Vapor/Indoor Air Matrix A indicates that the NYSDOH recommends "No Further Action" required.

Petroleum-related VOCs are not included in the aforementioned NYSDOH Matrices; however, elevated concentrations of petroleum-related VOCs (1,2,4-Trimethylbenzene, Ethylbenzene and Xylenes) were detected in the soil.

### **Conclusions & Recommendations**

#### *Conclusions*

On February 17, 2019, a limited soil vapor intrusion study was completed at the site to evaluate the potential impact of the historic onsite use. Based upon the results of the limited soil vapor intrusion study, the following:

- Several VOCs were detected in the Soil at concentrations exceeding laboratory limit of quantitation (LOQ). One (1) of the detected concentrations of VOCs (Carbon tetrachloride) was detected at concentrations exceeding LOQ; however, "no further action" was required; and
- The petroleum-related VOCs (1,2,4-Trimethylbenzene, Ethylbenzene and Xylenes) which were detected in the subslab (SS#1) and indoor air samples (IA #1 and IA#2) may have contributed from the historic usage as an auto repair shop.

#### *Recommendations*

Based on the above information, we recommend the following:

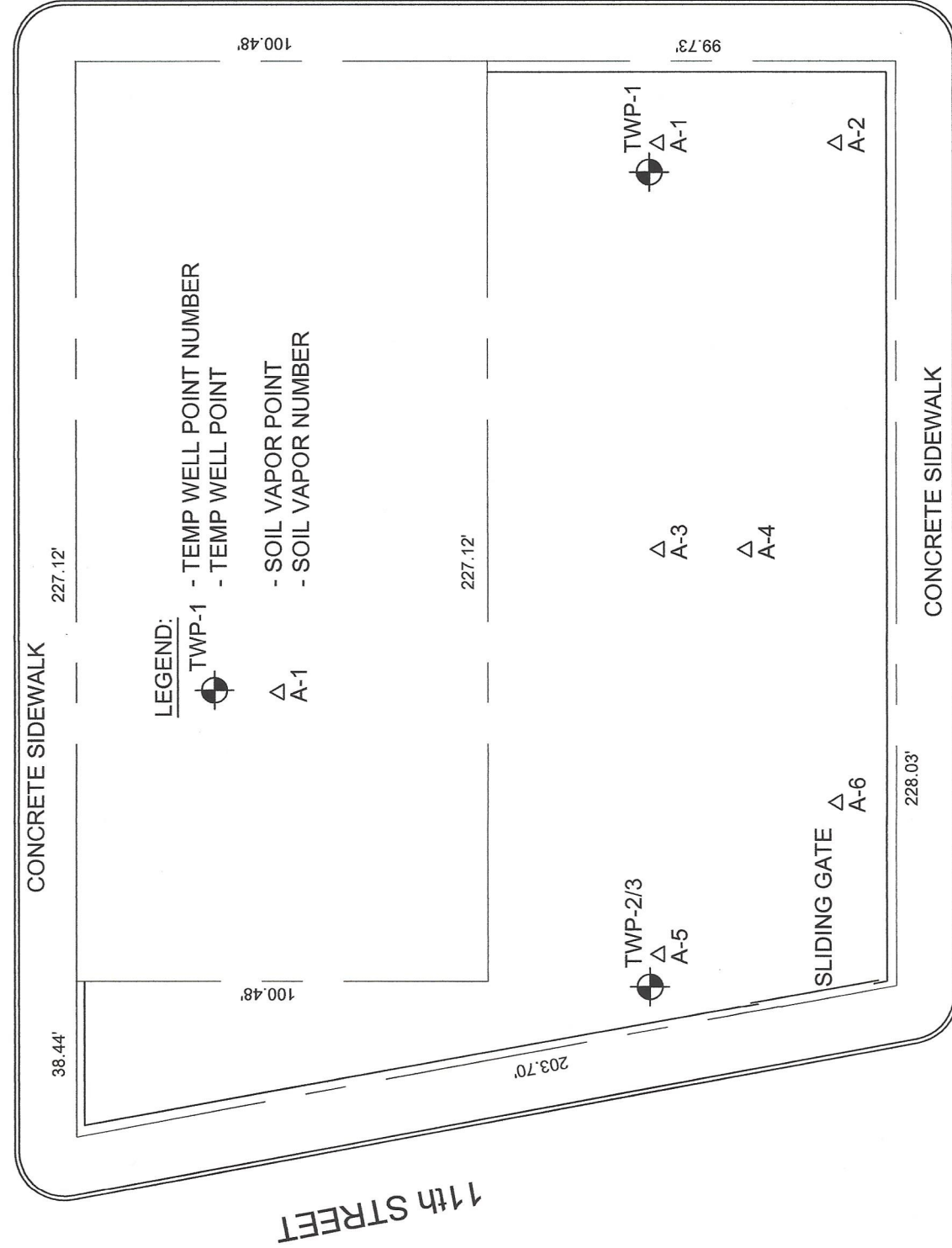
- During construction, the remainder of the foundation be removed to prevent accumulation of soil gas;
- An air monitoring program should be developed for the site during construction; and
- A vapor/moisture barrier built into the foundation(s) of the new development.

Ted Yen, P.E.  
Sole Proprietor

A handwritten signature in blue ink, appearing to be 'Ted Yen', enclosed in a blue circular stamp.

BROADWAY

NORTH



# SITE PLAN

SCALE: 1" = 40'-0"

11-02 BROADWAY  
03/11/2019  
FIGURE 1



**TABLE 1**

**11-02 Broadway, Astoria, NY**

**Inventory List**

<b>Location</b>	<b>Product Description</b>	<b>Size (units)</b>	<b>Condition*</b>	<b>Chemical Ingredients</b>	<b>Field Instruments Reading (units)</b>
Vacant Lot (East Side)	None	N/A	N/A		0.1 ppm
Vacant Lot (West Side)	None	N/A	N/A		0.2 ppm

**TABLE 2**

11-02 Broadway, Astoria, NY

**Air Sampling Analytical Results  
TO-15 (Volatile Organic Compounds)**

COMPOUND	NYSDOH Standards		NYSDOH Air Guidance Values (Specific to Indoor Air)	NYSDOH Immediate Action Level (Specific to Indoor Air)	(A-1) ppbv	(A-2) ppbv	(A-3) ppbv	(A-4) ppbv	(A-5) ppbv	(A-6) ppbv
	Indoor Air (25 <sup>th</sup> - 75 <sup>th</sup> Pctf)	Outdoor Air (25 <sup>th</sup> - 75 <sup>th</sup> Pctf)								
1,1,1-Trichloroethane	<0.25 - 1.1	<0.25 - 0.3	NA	NA	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.25 - 1.1	<0.25 - 1.1	NA	NA	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,1-Dichloroethylene	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.7 - 4.3	<0.25 - 0.8	NA	NA	<b>0.58</b>	<b>0.36</b>	<b>0.30</b>	<b>0.33</b>	ND	<b>0.93</b>
1,2-Dibromoethane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,2-Dichlorotetrafluoroethane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	0.3 - 1.7	<0.25 - 0.3	NA	NA	<b>0.30</b>	ND	ND	ND	ND	ND
1,3-Butadiene	NS	NS	NA	NA	ND	ND	1.9	<b>0.87</b>	ND	ND
1,3-Dichlorobenzene	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,3-Dichloropropene	<0.25	NS	NA	NA	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	<0.25 - 0.5	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND
1,4-Dioxane	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND
2-Butanone	NS	NS	NA	NA	<b>0.87</b>	.45	1.7	4.6	22	0.45
2-Hexanone	NS	NS	NA	NA	ND	ND	ND	ND	<b>1.6</b>	ND
3-Chloropropene	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	NS	NS	NA	NA	<b>0.93</b>	ND	0.13	0.29	ND	ND
Acetone	10 - 52	3.4 - 14	NA	NA	<b>9.3</b>	<b>5.0</b>	<b>13</b>	<b>41</b>	<b>4.6</b>	<b>4.7</b>
Acrylonitrile	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND
Benzene	1.1 - 5.9	0.6 - 2.2	NA	NA	0.24	.21	<b>1.1</b>	<b>2.3</b>	0.20	0.25
Benzyl chloride	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND
Bromodichloromethane	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND
Bromoform	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND



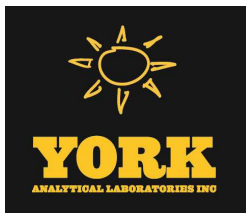
Bromomethane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	NS	NS	NA	NA	0.33	0.16	0.87	0.31	0.17	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	<0.25 - 0.59	<0.25 - 0.6	NA	NA	0.079	0.080	0.079	0.086	0.071	0.093	ND	ND	ND	ND	ND	ND
Chlorobenzene	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	<0.25 - 0.54	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	<0.25 - 1.8	<0.25 - 1.8	NA	NA	<b>0.67</b>	<b>0.72</b>	<b>1.3</b>	<b>0.72</b>	<b>0.58</b>	<b>0.69</b>	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethylene	NS	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	<0.25 - 4.1	<0.25 - 0.4	NA	NA	<b>0.41</b>	<b>0.73</b>	<b>2.4</b>	<b>0.52</b>	ND	0.19	ND	ND	ND	ND	ND	ND
Dibromochloromethane	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	<0.25 - 4.1	<0.25 - 4.2	NA	NA	<b>0.48</b>	<b>0.48</b>	<b>0.44</b>	<b>0.47</b>	<b>0.45</b>	<b>0.52</b>	ND	ND	ND	ND	ND	ND
Ethyl acetate	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	0.4 - 2.8	<0.25 - 0.5	NA	NA	<b>0.38</b>	<b>0.28</b>	<b>0.36</b>	<b>0.46</b>	1.1	<b>0.29</b>	ND	ND	ND	ND	ND	ND
Isopropanol	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Methacrylate	NS	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	<0.25	NS	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	60 <sup>(1)</sup>	<0.25 - 0.7	60	NA	<b>0.44</b>	<b>0.53</b>	<b>0.29</b>	<b>0.49</b>	ND	<b>0.63</b>	ND	ND	ND	ND	ND	ND
n-Heptane	1 - 7.6	<0.25 - 1.9	NA	NA	<b>0.41</b>	ND	<b>0.41</b>	<b>0.73</b>	ND	<b>0.19</b>	ND	ND	ND	ND	ND	ND
n-Hexane	0.63 - 6	<0.25 - 1	NA	NA	0.16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	0.39 - 3.1	<0.25 - 0.7	NA	NA	<b>0.46</b>	<b>0.49</b>	<b>0.54</b>	<b>0.62</b>	ND	<b>0.49</b>	ND	ND	ND	ND	ND	ND
p- & m- Xylenes	0.5 - 4.6	NS	NA	NA	1.1	1.0	1.1	1.4	ND	1.1	ND	ND	ND	ND	ND	ND
p-Ethyltoluene	NS	NS	NA	NA	0.45	0.32	0.28	0.34	ND	ND	ND	ND	ND	ND	ND	ND
Propylene	NS	NS	NA	NA	2.2	0.98	18	10	3.9	0.52	ND	ND	ND	ND	ND	ND
Styrene	<0.25 - 0.6	<0.25 - <0.25	NA	NA	<b>0.41</b>	<b>0.49</b>	<b>0.52</b>	<b>0.56</b>	ND	<b>0.49</b>	ND	ND	ND	ND	ND	ND
Tetrachloroethylene (PCE)	30 <sup>(2)</sup>	<0.25 - 0.3	30	300	<b>0.37</b>	<b>0.92</b>	ND	<b>0.64</b>	ND	<b>0.079</b>	ND	ND	ND	ND	ND	ND
Tetrahydrofuran	<0.25 - 0.3	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	3.5 - 24.8	<0.25 - 2.4	NA	NA	<b>0.75</b>	<b>0.85</b>	<b>1.1</b>	<b>1.9</b>	0.20	<b>1.1</b>	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethylene	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropylene	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethylene (TCE)	5 <sup>(1)</sup>	<0.25 - <0.25	2	20	ND	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane (Freon 11)	1.1 - 5.4	<0.25 - 2.2	NA	NA	<b>0.28</b>	<b>0.28</b>	0.24	<b>0.27</b>	0.24	<b>0.29</b>	ND	ND	ND	ND	ND	ND
Vinyl acetate	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl bromide	NS	NS	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	<0.25	<0.25 - <0.25	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

- All units are in ppbv
- Air guidelines provided in PERC in Indoor and Outdoor Air Fact Sheet issued by NYSDOH, September 2013
- Bold text indicates exceedances
- Shaded cell indicates significant exceedances
- NA - No Guidance Value Available
- ND - Not Detected
- NS (Blank) - No Standard

**Appendix A**  
**(Laboratory Analytical Results)**





# Technical Report

prepared for:

**Ted Yen, PE.**  
217-42 54th Ave  
Oakland Gardens NY, 11364  
**Attention: Ted Yen**

Report Date: 02/21/2019  
**Client Project ID: JC-01-19 11-02 Broadway**  
York Project (SDG) No.: 19B0649

CT Cert. No. PH-0723

New Jersey Cert. No. CT005 and NY037



New York Cert. Nos. 10854 and 12058

PA Cert. No. 68-04440

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RICHMOND HILL, NY 11418  
[ClientServices@yorklab.com](mailto:ClientServices@yorklab.com)



Report Date: 02/21/2019  
Client Project ID: JC-01-19 11-02 Broadway  
York Project (SDG) No.: 19B0649

**Ted Yen, PE.**  
217-42 54th Ave  
Oakland Gardens NY, 11364  
Attention: Ted Yen

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## Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on February 19, 2019 and listed below. The project was identified as your project: **JC-01-19 11-02 Broadway**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

<u>York Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Date Collected</u>	<u>Date Received</u>
19B0649-01	A-1 (F23A)	Soil Vapor	02/17/2019	02/19/2019
19B0649-02	A-2 (F15)	Soil Vapor	02/17/2019	02/19/2019
19B0649-03	A-3 (F25)	Soil Vapor	02/17/2019	02/19/2019
19B0649-04	A-4 (F9)	Soil Vapor	02/17/2019	02/19/2019
19B0649-05	A-5 (F28)	Soil Vapor	02/17/2019	02/19/2019
19B0649-06	A-6 (F13)	Soil Vapor	02/17/2019	02/19/2019



## **General Notes for York Project (SDG) No.: 19B0649**

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

**Approved By:**



Benjamin Gulizia  
Laboratory Director

**Date:** 02/21/2019







### Sample Information

**Client Sample ID:** A-1 (F23A)

**York Sample ID:** 19B0649-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19B0649	JC-01-19 11-02 Broadway	Soil Vapor	February 17, 2019 9:22 am	02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 16:29	PP
71-55-6	1,1,1-Trichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
79-34-5	1,1,2,2-Tetrachloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
79-00-5	1,1,2-Trichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-34-3	1,1-Dichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-35-4	1,1-Dichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
120-82-1	1,2,4-Trichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
95-63-6	<b>1,2,4-Trimethylbenzene</b>	<b>0.58</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
106-93-4	1,2-Dibromoethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
95-50-1	1,2-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
107-06-2	1,2-Dichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
78-87-5	1,2-Dichloropropane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
108-67-8	<b>1,3,5-Trimethylbenzene</b>	<b>0.30</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
106-99-0	1,3-Butadiene	ND		ppbv	0.40	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
541-73-1	1,3-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
142-28-9	* 1,3-Dichloropropane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 16:29	PP
106-46-7	1,4-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
123-91-1	1,4-Dioxane	ND		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
78-93-3	<b>2-Butanone</b>	<b>0.87</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
591-78-6	* 2-Hexanone	ND		ppbv	0.26	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 16:29	PP



### Sample Information

**Client Sample ID:** A-1 (F23A)

**York Sample ID:** 19B0649-01

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:22 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
107-05-1	3-Chloropropene	ND		ppbv	0.66	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
108-10-1	4-Methyl-2-pentanone	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
67-64-1	<b>Acetone</b>	<b>9.3</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
107-13-1	Acrylonitrile	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
71-43-2	<b>Benzene</b>	<b>0.24</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
100-44-7	Benzyl chloride	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-27-4	Bromodichloromethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-25-2	Bromoform	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
74-83-9	Bromomethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-15-0	<b>Carbon disulfide</b>	<b>0.33</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
56-23-5	<b>Carbon tetrachloride</b>	<b>0.079</b>		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
108-90-7	Chlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-00-3	Chloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
67-66-3	Chloroform	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
74-87-3	<b>Chloromethane</b>	<b>0.67</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
156-59-2	cis-1,2-Dichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
10061-01-5	cis-1,3-Dichloropropylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
110-82-7	<b>Cyclohexane</b>	<b>0.41</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
124-48-1	Dibromochloromethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-71-8	<b>Dichlorodifluoromethane</b>	<b>0.48</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
141-78-6	* Ethyl acetate	ND		ppbv	0.26	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 16:29	PP
100-41-4	<b>Ethyl Benzene</b>	<b>0.38</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
87-68-3	Hexachlorobutadiene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP





### Sample Information

**Client Sample ID:** A-1 (F23A)

**York Sample ID:** 19B0649-01

<u>York Project (SDG) No.</u> 19B0649	<u>Client Project ID</u> JC-01-19 11-02 Broadway	<u>Matrix</u> Soil Vapor	<u>Collection Date/Time</u> February 17, 2019 9:22 am	<u>Date Received</u> 02/19/2019
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**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-63-0	Isopropanol	ND		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
80-62-6	Methyl Methacrylate	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-09-2	<b>Methylene chloride</b>	<b>0.44</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
142-82-5	<b>n-Heptane</b>	<b>0.41</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
110-54-3	<b>n-Hexane</b>	<b>0.16</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
95-47-6	<b>o-Xylene</b>	<b>0.46</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
179601-23-1	<b>p- &amp; m- Xylenes</b>	<b>1.1</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
622-96-8	<b>* p-Ethyltoluene</b>	<b>0.45</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
115-07-1	<b>* Propylene</b>	<b>2.2</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
100-42-5	<b>Styrene</b>	<b>0.41</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
127-18-4	<b>Tetrachloroethylene</b>	<b>0.37</b>		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
109-99-9	<b>* Tetrahydrofuran</b>	ND		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
108-88-3	<b>Toluene</b>	<b>0.75</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
156-60-5	trans-1,2-Dichloroethylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
10061-02-6	trans-1,3-Dichloropropylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
79-01-6	Trichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-69-4	<b>Trichlorofluoromethane (Freon 11)</b>	<b>0.28</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
108-05-4	Vinyl acetate	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
593-60-2	Vinyl bromide	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
75-01-4	Vinyl Chloride	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 16:29	PP
	<b>Surrogate Recoveries</b>	<b>Result</b>		<b>Acceptance Range</b>						
460-00-4	Surrogate: SURR: p-Bromofluorobenzene	108 %		70-130						



### Sample Information

**Client Sample ID:** A-2 (F15)

**York Sample ID:** 19B0649-02

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:23 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 17:21	PP
71-55-6	1,1,1-Trichloroethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
79-34-5	1,1,2,2-Tetrachloroethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
79-00-5	1,1,2-Trichloroethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-34-3	1,1-Dichloroethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-35-4	1,1-Dichloroethylene	ND		ppbv	0.033	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
120-82-1	1,2,4-Trichlorobenzene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
95-63-6	<b>1,2,4-Trimethylbenzene</b>	<b>0.36</b>		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
106-93-4	1,2-Dibromoethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
95-50-1	1,2-Dichlorobenzene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
107-06-2	1,2-Dichloroethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
78-87-5	1,2-Dichloropropane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
108-67-8	1,3,5-Trimethylbenzene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
106-99-0	1,3-Butadiene	ND		ppbv	0.40	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
541-73-1	1,3-Dichlorobenzene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
142-28-9	* 1,3-Dichloropropane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 17:21	PP
106-46-7	1,4-Dichlorobenzene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
123-91-1	1,4-Dioxane	ND		ppbv	0.27	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
78-93-3	<b>2-Butanone</b>	<b>0.45</b>		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
591-78-6	* 2-Hexanone	ND		ppbv	0.27	1.327	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 17:21	PP
107-05-1	3-Chloropropene	ND		ppbv	0.66	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP





### Sample Information

**Client Sample ID:** A-2 (F15)

**York Sample ID:** 19B0649-02

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:23 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
67-64-1	Acetone	5.0		ppbv	0.27	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
107-13-1	Acrylonitrile	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
71-43-2	Benzene	0.21		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
100-44-7	Benzyl chloride	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-27-4	Bromodichloromethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-25-2	Bromoform	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
74-83-9	Bromomethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-15-0	Carbon disulfide	0.16		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
56-23-5	Carbon tetrachloride	0.080		ppbv	0.033	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
108-90-7	Chlorobenzene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-00-3	Chloroethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
67-66-3	Chloroform	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
74-87-3	Chloromethane	0.72		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
156-59-2	cis-1,2-Dichloroethylene	ND		ppbv	0.033	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
10061-01-5	cis-1,3-Dichloropropylene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
110-82-7	Cyclohexane	0.73		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
124-48-1	Dibromochloromethane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-71-8	Dichlorodifluoromethane	0.48		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
141-78-6	* Ethyl acetate	ND		ppbv	0.27	1.327	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 17:21	PP
100-41-4	Ethyl Benzene	0.28		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
87-68-3	Hexachlorobutadiene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
67-63-0	Isopropanol	0.40		ppbv	0.27	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP



### Sample Information

**Client Sample ID:** A-2 (F15)

**York Sample ID:** 19B0649-02

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:23 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
80-62-6	Methyl Methacrylate	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-09-2	<b>Methylene chloride</b>	<b>0.53</b>		ppbv	0.27	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
142-82-5	n-Heptane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
110-54-3	n-Hexane	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
95-47-6	<b>o-Xylene</b>	<b>0.49</b>		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
179601-23-1	<b>p- &amp; m- Xylenes</b>	<b>1.0</b>		ppbv	0.27	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
622-96-8	<b>* p-Ethyltoluene</b>	<b>0.32</b>		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
115-07-1	<b>* Propylene</b>	<b>0.98</b>		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
100-42-5	<b>Styrene</b>	<b>0.49</b>		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
127-18-4	<b>Tetrachloroethylene</b>	<b>0.92</b>		ppbv	0.033	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
109-99-9	* Tetrahydrofuran	ND		ppbv	0.27	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
108-88-3	<b>Toluene</b>	<b>0.85</b>		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
156-60-5	trans-1,2-Dichloroethylene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
10061-02-6	trans-1,3-Dichloropropylene	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
79-01-6	<b>Trichloroethylene</b>	<b>0.040</b>		ppbv	0.033	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-69-4	<b>Trichlorofluoromethane (Freon 11)</b>	<b>0.28</b>		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
108-05-4	Vinyl acetate	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
593-60-2	Vinyl bromide	ND		ppbv	0.13	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
75-01-4	Vinyl Chloride	ND		ppbv	0.033	1.327	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 17:21	PP
	<b>Surrogate Recoveries</b>	<b>Result</b>		<b>Acceptance Range</b>						
460-00-4	Surrogate: SURR: p-Bromofluorobenzene	122 %		70-130						





### Sample Information

**Client Sample ID:** A-3 (F25)

**York Sample ID:** 19B0649-03

<u>York Project (SDG) No.</u> 19B0649	<u>Client Project ID</u> JC-01-19 11-02 Broadway	<u>Matrix</u> Soil Vapor	<u>Collection Date/Time</u> February 17, 2019 10:28 am	<u>Date Received</u> 02/19/2019
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**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 18:13	PP
71-55-6	1,1,1-Trichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
79-34-5	1,1,2,2-Tetrachloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
79-00-5	1,1,2-Trichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-34-3	1,1-Dichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-35-4	1,1-Dichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
120-82-1	1,2,4-Trichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
95-63-6	<b>1,2,4-Trimethylbenzene</b>	<b>0.30</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
106-93-4	1,2-Dibromoethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
95-50-1	1,2-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
107-06-2	1,2-Dichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
78-87-5	1,2-Dichloropropane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
108-67-8	1,3,5-Trimethylbenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
106-99-0	<b>1,3-Butadiene</b>	<b>1.9</b>		ppbv	0.40	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
541-73-1	1,3-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
142-28-9	* 1,3-Dichloropropane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 18:13	PP
106-46-7	1,4-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
123-91-1	1,4-Dioxane	ND		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
78-93-3	<b>2-Butanone</b>	<b>1.7</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
591-78-6	* 2-Hexanone	ND		ppbv	0.26	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 18:13	PP
107-05-1	3-Chloropropene	ND		ppbv	0.66	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP



## Sample Information

**Client Sample ID:** A-3 (F25)

**York Sample ID:** 19B0649-03

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 10:28 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	<b>4-Methyl-2-pentanone</b>	<b>0.13</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
67-64-1	<b>Acetone</b>	<b>13</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
107-13-1	Acrylonitrile	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
71-43-2	<b>Benzene</b>	<b>1.1</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
100-44-7	Benzyl chloride	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-27-4	Bromodichloromethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-25-2	Bromoform	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
74-83-9	Bromomethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-15-0	<b>Carbon disulfide</b>	<b>0.87</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
56-23-5	<b>Carbon tetrachloride</b>	<b>0.079</b>		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
108-90-7	Chlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-00-3	Chloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
67-66-3	Chloroform	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
74-87-3	<b>Chloromethane</b>	<b>1.3</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
156-59-2	cis-1,2-Dichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
10061-01-5	cis-1,3-Dichloropropylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
110-82-7	<b>Cyclohexane</b>	<b>0.24</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
124-48-1	Dibromochloromethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-71-8	<b>Dichlorodifluoromethane</b>	<b>0.44</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
141-78-6	* Ethyl acetate	ND		ppbv	0.26	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 18:13	PP
100-41-4	<b>Ethyl Benzene</b>	<b>0.36</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
87-68-3	Hexachlorobutadiene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
67-63-0	<b>Isopropanol</b>	<b>2.3</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP



### Sample Information

**Client Sample ID:** A-3 (F25)

**York Sample ID:** 19B0649-03

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 10:28 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
80-62-6	Methyl Methacrylate	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-09-2	<b>Methylene chloride</b>	<b>0.29</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
142-82-5	<b>n-Heptane</b>	<b>0.41</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
110-54-3	n-Hexane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
95-47-6	<b>o-Xylene</b>	<b>0.54</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
179601-23-1	<b>p- &amp; m- Xylenes</b>	<b>1.1</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
622-96-8	<b>* p-Ethyltoluene</b>	<b>0.28</b>		ppbv	0.13	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 18:13	PP
115-07-1	<b>* Propylene</b>	<b>18</b>		ppbv	0.13	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 18:13	PP
100-42-5	<b>Styrene</b>	<b>0.52</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
127-18-4	Tetrachloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
109-99-9	* Tetrahydrofuran	ND		ppbv	0.26	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 18:13	PP
108-88-3	<b>Toluene</b>	<b>1.1</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
156-60-5	trans-1,2-Dichloroethylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
10061-02-6	trans-1,3-Dichloropropylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
79-01-6	Trichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-69-4	<b>Trichlorofluoromethane (Freon 11)</b>	<b>0.24</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
108-05-4	Vinyl acetate	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
593-60-2	Vinyl bromide	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
75-01-4	Vinyl Chloride	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 18:13	PP
	<b>Surrogate Recoveries</b>	<b>Result</b>		<b>Acceptance Range</b>						
460-00-4	Surrogate: SURR: p-Bromofluorobenzene	104 %		70-130						





### Sample Information

**Client Sample ID:** A-4 (F9)

**York Sample ID:** 19B0649-04

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 10:30 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:05	PP
71-55-6	1,1,1-Trichloroethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
79-34-5	1,1,2,2-Tetrachloroethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
79-00-5	1,1,2-Trichloroethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-34-3	1,1-Dichloroethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-35-4	1,1-Dichloroethylene	ND		ppbv	0.036	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
120-82-1	1,2,4-Trichlorobenzene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
95-63-6	<b>1,2,4-Trimethylbenzene</b>	<b>0.33</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
106-93-4	1,2-Dibromoethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
95-50-1	1,2-Dichlorobenzene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
107-06-2	1,2-Dichloroethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
78-87-5	1,2-Dichloropropane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
108-67-8	1,3,5-Trimethylbenzene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
106-99-0	<b>1,3-Butadiene</b>	<b>0.87</b>		ppbv	0.43	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
541-73-1	1,3-Dichlorobenzene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
142-28-9	* 1,3-Dichloropropane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:05	PP
106-46-7	1,4-Dichlorobenzene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
123-91-1	1,4-Dioxane	ND		ppbv	0.29	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
78-93-3	<b>2-Butanone</b>	<b>4.6</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
591-78-6	* 2-Hexanone	ND		ppbv	0.29	1.431	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:05	PP
107-05-1	3-Chloropropene	ND		ppbv	0.72	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP



## Sample Information

**Client Sample ID:** A-4 (F9)

**York Sample ID:** 19B0649-04

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 10:30 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	<b>4-Methyl-2-pentanone</b>	<b>0.29</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
67-64-1	<b>Acetone</b>	<b>41</b>		ppbv	0.29	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
107-13-1	Acrylonitrile	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
71-43-2	<b>Benzene</b>	<b>2.3</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
100-44-7	Benzyl chloride	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-27-4	Bromodichloromethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-25-2	Bromoform	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
74-83-9	Bromomethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-15-0	<b>Carbon disulfide</b>	<b>0.31</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
56-23-5	<b>Carbon tetrachloride</b>	<b>0.086</b>		ppbv	0.036	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
108-90-7	Chlorobenzene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-00-3	Chloroethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
67-66-3	Chloroform	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
74-87-3	<b>Chloromethane</b>	<b>0.72</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
156-59-2	cis-1,2-Dichloroethylene	ND		ppbv	0.036	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
10061-01-5	cis-1,3-Dichloropropylene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
110-82-7	<b>Cyclohexane</b>	<b>0.52</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
124-48-1	Dibromochloromethane	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-71-8	<b>Dichlorodifluoromethane</b>	<b>0.47</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
141-78-6	* Ethyl acetate	ND		ppbv	0.29	1.431	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:05	PP
100-41-4	<b>Ethyl Benzene</b>	<b>0.46</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
87-68-3	Hexachlorobutadiene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
67-63-0	<b>Isopropanol</b>	<b>1.1</b>		ppbv	0.29	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP



### Sample Information

**Client Sample ID:** A-4 (F9)

**York Sample ID:** 19B0649-04

**York Project (SDG) No.**

**Client Project ID**

**Matrix**

**Collection Date/Time**

**Date Received**

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 10:30 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
80-62-6	Methyl Methacrylate	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-09-2	<b>Methylene chloride</b>	<b>0.49</b>		ppbv	0.29	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
142-82-5	<b>n-Heptane</b>	<b>0.73</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
110-54-3	<b>n-Hexane</b>	<b>0.62</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
95-47-6	<b>o-Xylene</b>	<b>0.62</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
179601-23-1	<b>p- &amp; m- Xylenes</b>	<b>1.4</b>		ppbv	0.29	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
622-96-8	<b>* p-Ethyltoluene</b>	<b>0.34</b>		ppbv	0.14	1.431	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:05	PP
115-07-1	<b>* Propylene</b>	<b>10</b>		ppbv	0.14	1.431	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:05	PP
100-42-5	<b>Styrene</b>	<b>0.56</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
127-18-4	<b>Tetrachloroethylene</b>	<b>0.64</b>		ppbv	0.036	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
109-99-9	<b>* Tetrahydrofuran</b>	ND		ppbv	0.29	1.431	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:05	PP
108-88-3	<b>Toluene</b>	<b>1.9</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
156-60-5	trans-1,2-Dichloroethylene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
10061-02-6	trans-1,3-Dichloropropylene	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
79-01-6	Trichloroethylene	ND		ppbv	0.036	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-69-4	<b>Trichlorofluoromethane (Freon 11)</b>	<b>0.27</b>		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
108-05-4	Vinyl acetate	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
593-60-2	Vinyl bromide	ND		ppbv	0.14	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP
75-01-4	Vinyl Chloride	ND		ppbv	0.036	1.431	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:05	PP

Surrogate Recoveries	Result	Acceptance Range
460-00-4 <i>Surrogate: SURR: p-Bromofluorobenzene</i>	103 %	70-130





### Sample Information

**Client Sample ID:** A-5 (F28)

**York Sample ID:** 19B0649-05

<u>York Project (SDG) No.</u> 19B0649	<u>Client Project ID</u> JC-01-19 11-02 Broadway	<u>Matrix</u> Soil Vapor	<u>Collection Date/Time</u> February 17, 2019 9:33 am	<u>Date Received</u> 02/19/2019
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**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:57	PP
71-55-6	1,1,1-Trichloroethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
79-34-5	1,1,2,2-Tetrachloroethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
79-00-5	1,1,2-Trichloroethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-34-3	1,1-Dichloroethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-35-4	1,1-Dichloroethylene	ND		ppbv	0.035	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
120-82-1	1,2,4-Trichlorobenzene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
95-63-6	1,2,4-Trimethylbenzene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
106-93-4	1,2-Dibromoethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
95-50-1	1,2-Dichlorobenzene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
107-06-2	1,2-Dichloroethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
78-87-5	1,2-Dichloropropane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
108-67-8	1,3,5-Trimethylbenzene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
106-99-0	1,3-Butadiene	ND		ppbv	0.42	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
541-73-1	1,3-Dichlorobenzene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
142-28-9	* 1,3-Dichloropropane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:57	PP
106-46-7	<b>1,4-Dichlorobenzene</b>	<b>0.23</b>		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
123-91-1	1,4-Dioxane	ND		ppbv	0.28	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
78-93-3	<b>2-Butanone</b>	<b>22</b>		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
591-78-6	* <b>2-Hexanone</b>	<b>1.6</b>		ppbv	0.28	1.415	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:57	PP
107-05-1	3-Chloropropene	ND		ppbv	0.71	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP



## Sample Information

**Client Sample ID:** A-5 (F28)

**York Sample ID:** 19B0649-05

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:33 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
67-64-1	<b>Acetone</b>	<b>4.6</b>		ppbv	0.28	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
107-13-1	Acrylonitrile	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
71-43-2	<b>Benzene</b>	<b>0.20</b>		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
100-44-7	Benzyl chloride	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-27-4	Bromodichloromethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-25-2	Bromoform	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
74-83-9	Bromomethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-15-0	<b>Carbon disulfide</b>	<b>0.17</b>		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
56-23-5	<b>Carbon tetrachloride</b>	<b>0.071</b>		ppbv	0.035	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
108-90-7	Chlorobenzene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-00-3	Chloroethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
67-66-3	Chloroform	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
74-87-3	<b>Chloromethane</b>	<b>0.58</b>		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
156-59-2	cis-1,2-Dichloroethylene	ND		ppbv	0.035	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
10061-01-5	cis-1,3-Dichloropropylene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
110-82-7	Cyclohexane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
124-48-1	Dibromochloromethane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-71-8	<b>Dichlorodifluoromethane</b>	<b>0.45</b>		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
141-78-6	* Ethyl acetate	ND		ppbv	0.28	1.415	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:57	PP
100-41-4	Ethyl Benzene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
87-68-3	Hexachlorobutadiene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
67-63-0	Isopropanol	ND		ppbv	0.28	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP



### Sample Information

**Client Sample ID:** A-5 (F28)

**York Sample ID:** 19B0649-05

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:33 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
80-62-6	Methyl Methacrylate	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-09-2	Methylene chloride	ND		ppbv	0.28	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
142-82-5	n-Heptane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
110-54-3	n-Hexane	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
95-47-6	o-Xylene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
179601-23-1	p- & m- Xylenes	ND		ppbv	0.28	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
622-96-8	* p-Ethyltoluene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:57	PP
115-07-1	* Propylene	3.9		ppbv	0.14	1.415	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:57	PP
100-42-5	Styrene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
127-18-4	Tetrachloroethylene	ND		ppbv	0.035	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
109-99-9	* Tetrahydrofuran	ND		ppbv	0.28	1.415	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 19:57	PP
108-88-3	<b>Toluene</b>	<b>0.20</b>		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
156-60-5	trans-1,2-Dichloroethylene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
10061-02-6	trans-1,3-Dichloropropylene	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
79-01-6	Trichloroethylene	ND		ppbv	0.035	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-69-4	<b>Trichlorofluoromethane (Freon 11)</b>	<b>0.24</b>		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
108-05-4	Vinyl acetate	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
593-60-2	Vinyl bromide	ND		ppbv	0.14	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
75-01-4	Vinyl Chloride	ND		ppbv	0.035	1.415	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 19:57	PP
	<b>Surrogate Recoveries</b>	<b>Result</b>					<b>Acceptance Range</b>			
460-00-4	Surrogate: SURR: p-Bromofluorobenzene	100 %					70-130			





### Sample Information

**Client Sample ID:** A-6 (F13)

**York Sample ID:** 19B0649-06

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:32 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	* 1,1,1,2-Tetrachloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 22:33	PP
71-55-6	1,1,1-Trichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
79-34-5	1,1,2,2-Tetrachloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
79-00-5	1,1,2-Trichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-34-3	1,1-Dichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-35-4	1,1-Dichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
120-82-1	<b>1,2,4-Trichlorobenzene</b>	<b>0.93</b>	<b>B</b>	ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
95-63-6	<b>1,2,4-Trimethylbenzene</b>	<b>0.33</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
106-93-4	1,2-Dibromoethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
95-50-1	1,2-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
107-06-2	1,2-Dichloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
78-87-5	1,2-Dichloropropane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
108-67-8	1,3,5-Trimethylbenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
106-99-0	1,3-Butadiene	ND		ppbv	0.40	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
541-73-1	1,3-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
142-28-9	* 1,3-Dichloropropane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 22:33	PP
106-46-7	1,4-Dichlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
123-91-1	1,4-Dioxane	ND		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
78-93-3	<b>2-Butanone</b>	<b>0.45</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
591-78-6	* 2-Hexanone	ND		ppbv	0.26	1.322	EPA TO-15 Certifications:	02/20/2019 07:30	02/20/2019 22:33	PP
107-05-1	3-Chloropropene	ND		ppbv	0.66	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP



## Sample Information

**Client Sample ID:** A-6 (F13)

**York Sample ID:** 19B0649-06

York Project (SDG) No.

Client Project ID

Matrix

Collection Date/Time

Date Received

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:32 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-10-1	4-Methyl-2-pentanone	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
67-64-1	<b>Acetone</b>	<b>4.7</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
107-13-1	Acrylonitrile	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
71-43-2	<b>Benzene</b>	<b>0.25</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
100-44-7	Benzyl chloride	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-27-4	Bromodichloromethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-25-2	Bromoform	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
74-83-9	Bromomethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-15-0	Carbon disulfide	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
56-23-5	<b>Carbon tetrachloride</b>	<b>0.093</b>		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
108-90-7	Chlorobenzene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-00-3	Chloroethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
67-66-3	Chloroform	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
74-87-3	<b>Chloromethane</b>	<b>0.69</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
156-59-2	cis-1,2-Dichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
10061-01-5	cis-1,3-Dichloropropylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
110-82-7	<b>Cyclohexane</b>	<b>0.19</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
124-48-1	Dibromochloromethane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-71-8	<b>Dichlorodifluoromethane</b>	<b>0.52</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
141-78-6	* Ethyl acetate	ND		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
100-41-4	<b>Ethyl Benzene</b>	<b>0.29</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
87-68-3	Hexachlorobutadiene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
67-63-0	<b>Isopropanol</b>	<b>0.54</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP



### Sample Information

**Client Sample ID:** A-6 (F13)

**York Sample ID:** 19B0649-06

**York Project (SDG) No.**

**Client Project ID**

**Matrix**

**Collection Date/Time**

**Date Received**

19B0649

JC-01-19 11-02 Broadway

Soil Vapor

February 17, 2019 9:32 am

02/19/2019

**Volatile Organics, EPA TO15 Full List**

**Log-in Notes:**

**Sample Notes:**

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
80-62-6	Methyl Methacrylate	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-09-2	<b>Methylene chloride</b>	<b>0.63</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
142-82-5	<b>n-Heptane</b>	<b>0.19</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
110-54-3	n-Hexane	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
95-47-6	<b>o-Xylene</b>	<b>0.49</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
179601-23-1	<b>p- &amp; m- Xylenes</b>	<b>1.1</b>		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
622-96-8	* p-Ethyltoluene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
115-07-1	<b>* Propylene</b>	<b>0.52</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
100-42-5	<b>Styrene</b>	<b>0.49</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
127-18-4	<b>Tetrachloroethylene</b>	<b>0.079</b>		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
109-99-9	* Tetrahydrofuran	ND		ppbv	0.26	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
108-88-3	<b>Toluene</b>	<b>1.1</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
156-60-5	trans-1,2-Dichloroethylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
10061-02-6	trans-1,3-Dichloropropylene	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
79-01-6	Trichloroethylene	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-69-4	<b>Trichlorofluoromethane (Freon 11)</b>	<b>0.29</b>		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
108-05-4	Vinyl acetate	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
593-60-2	Vinyl bromide	ND		ppbv	0.13	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
75-01-4	Vinyl Chloride	ND		ppbv	0.033	1.322	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/20/2019 07:30	02/20/2019 22:33	PP
	<b>Surrogate Recoveries</b>	<b>Result</b>		<b>Acceptance Range</b>						
460-00-4	Surrogate: SURR: p-Bromofluorobenzene	103 %		70-130						



## Analytical Batch Summary

**Batch ID:** BB91164

**Preparation Method:** EPA TO15 PREP

**Prepared By:** RQB

YORK Sample ID	Client Sample ID	Preparation Date
19B0649-01	A-1 (F23A)	02/20/19
19B0649-02	A-2 (F15)	02/20/19
19B0649-03	A-3 (F25)	02/20/19
19B0649-04	A-4 (F9)	02/20/19
19B0649-05	A-5 (F28)	02/20/19
19B0649-06	A-6 (F13)	02/20/19
BB91164-BLK1	Blank	02/20/19
BB91164-BS1	LCS	02/20/19
BB91164-DUP1	Duplicate	02/20/19





Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
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Batch BB91164 - EPA TO15 PREP

Blank (BB91164-BLK1)

Prepared & Analyzed: 02/20/2019

1,1,1,2-Tetrachloroethane	ND	0.10	ppbv								
1,1,1-Trichloroethane	ND	0.10	"								
1,1,2,2-Tetrachloroethane	ND	0.10	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.10	"								
1,1,2-Trichloroethane	ND	0.10	"								
1,1-Dichloroethane	ND	0.10	"								
1,1-Dichloroethylene	ND	0.025	"								
1,2,4-Trichlorobenzene	0.95	0.10	"								
1,2,4-Trimethylbenzene	ND	0.10	"								
1,2-Dibromoethane	ND	0.10	"								
1,2-Dichlorobenzene	ND	0.10	"								
1,2-Dichloroethane	ND	0.10	"								
1,2-Dichloropropane	ND	0.10	"								
1,2-Dichlorotetrafluoroethane	ND	0.10	"								
1,3,5-Trimethylbenzene	ND	0.10	"								
1,3-Butadiene	ND	0.30	"								
1,3-Dichlorobenzene	ND	0.10	"								
1,3-Dichloropropane	ND	0.10	"								
1,4-Dichlorobenzene	ND	0.10	"								
1,4-Dioxane	ND	0.20	"								
2-Butanone	ND	0.10	"								
2-Hexanone	ND	0.20	"								
3-Chloropropene	ND	0.50	"								
4-Methyl-2-pentanone	ND	0.10	"								
Acetone	ND	0.20	"								
Acrylonitrile	ND	0.10	"								
Benzene	ND	0.10	"								
Benzyl chloride	ND	0.10	"								
Bromodichloromethane	ND	0.10	"								
Bromoform	ND	0.10	"								
Bromomethane	ND	0.10	"								
Carbon disulfide	ND	0.10	"								
Carbon tetrachloride	ND	0.025	"								
Chlorobenzene	ND	0.10	"								
Chloroethane	ND	0.10	"								
Chloroform	ND	0.10	"								
Chloromethane	ND	0.10	"								
cis-1,2-Dichloroethylene	ND	0.025	"								
cis-1,3-Dichloropropylene	ND	0.10	"								
Cyclohexane	ND	0.10	"								
Dibromochloromethane	ND	0.10	"								
Dichlorodifluoromethane	ND	0.10	"								
Ethyl acetate	ND	0.20	"								
Ethyl Benzene	ND	0.10	"								
Hexachlorobutadiene	ND	0.10	"								
Isopropanol	ND	0.20	"								
Methyl Methacrylate	ND	0.10	"								
Methyl tert-butyl ether (MTBE)	ND	0.10	"								
Methylene chloride	ND	0.20	"								
n-Heptane	ND	0.10	"								



Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
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**Batch BB91164 - EPA TO15 PREP**

**Blank (BB91164-BLK1)**

Prepared & Analyzed: 02/20/2019

n-Hexane	ND	0.10	ppbv								
o-Xylene	ND	0.10	"								
p- & m- Xylenes	ND	0.20	"								
p-Ethyltoluene	ND	0.10	"								
Propylene	ND	0.10	"								
Styrene	ND	0.10	"								
Tetrachloroethylene	ND	0.025	"								
Tetrahydrofuran	ND	0.20	"								
Toluene	ND	0.10	"								
trans-1,2-Dichloroethylene	ND	0.10	"								
trans-1,3-Dichloropropylene	ND	0.10	"								
Trichloroethylene	ND	0.025	"								
Trichlorofluoromethane (Freon 11)	ND	0.10	"								
Vinyl acetate	ND	0.10	"								
Vinyl bromide	ND	0.10	"								
Vinyl Chloride	ND	0.025	"								

Surrogate: *SURR: p-Bromofluorobenzene* 9.67 " 10.0 96.7 70-130

**LCS (BB91164-BS1)**

Prepared & Analyzed: 02/20/2019

1,1,1,2-Tetrachloroethane	10.1		ppbv	10.0		101	70-130				
1,1,1-Trichloroethane	10.4		"	10.0		104	70-130				
1,1,2,2-Tetrachloroethane	9.92		"	10.0		99.2	70-130				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.5		"	10.0		105	70-130				
1,1,2-Trichloroethane	10.0		"	10.0		100	70-130				
1,1-Dichloroethane	9.85		"	10.0		98.5	70-130				
1,1-Dichloroethylene	10.4		"	10.0		104	70-130				
1,2,4-Trichlorobenzene	11.6		"	10.0		116	70-130				
1,2,4-Trimethylbenzene	11.0		"	10.0		110	70-130				
1,2-Dibromoethane	10.5		"	10.0		105	70-130				
1,2-Dichlorobenzene	12.2		"	10.0		122	70-130				
1,2-Dichloroethane	10.2		"	10.0		102	70-130				
1,2-Dichloropropane	9.86		"	10.0		98.6	70-130				
1,2-Dichlorotetrafluoroethane	13.8		"	10.0		138	70-130	High Bias			
1,3,5-Trimethylbenzene	10.4		"	10.0		104	70-130				
1,3-Butadiene	11.2		"	10.0		112	70-130				
1,3-Dichlorobenzene	12.1		"	10.0		121	70-130				
1,3-Dichloropropane	10.2		"	10.0		102	70-130				
1,4-Dichlorobenzene	12.3		"	10.0		123	70-130				
1,4-Dioxane	9.06		"	10.0		90.6	70-130				
2-Butanone	9.37		"	10.0		93.7	70-130				
2-Hexanone	8.92		"	10.0		89.2	70-130				
3-Chloropropene	8.37		"	10.0		83.7	70-130				
4-Methyl-2-pentanone	9.01		"	10.0		90.1	70-130				
Acetone	9.80		"	10.0		98.0	70-130				
Acrylonitrile	9.35		"	10.0		93.5	70-130				
Benzene	9.04		"	10.0		90.4	70-130				
Benzyl chloride	8.97		"	10.0		89.7	70-130				
Bromodichloromethane	10.6		"	10.0		106	70-130				
Bromoform	10.8		"	10.0		108	70-130				
Bromomethane	10.6		"	10.0		106	70-130				
Carbon disulfide	9.82		"	10.0		98.2	70-130				



Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting		Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD	
		Limit	Units							Limit	Flag

Batch BB91164 - EPA TO15 PREP

LCS (BB91164-BS1)

Prepared & Analyzed: 02/20/2019

Carbon tetrachloride	9.40		ppbv	10.0		94.0	70-130				
Chlorobenzene	10.1		"	10.0		101	70-130				
Chloroethane	10.0		"	10.0		100	70-130				
Chloroform	10.2		"	10.0		102	70-130				
Chloromethane	11.4		"	10.0		114	70-130				
cis-1,2-Dichloroethylene	9.77		"	10.0		97.7	70-130				
cis-1,3-Dichloropropylene	9.83		"	10.0		98.3	70-130				
Cyclohexane	9.22		"	10.0		92.2	70-130				
Dibromochloromethane	10.8		"	10.0		108	70-130				
Dichlorodifluoromethane	10.3		"	10.0		103	70-130				
Ethyl acetate	8.23		"	10.0		82.3	70-130				
Ethyl Benzene	9.95		"	10.0		99.5	70-130				
Hexachlorobutadiene	12.2		"	10.0		122	70-130				
Isopropanol	9.38		"	10.0		93.8	70-130				
Methyl Methacrylate	8.36		"	10.0		83.6	70-130				
Methyl tert-butyl ether (MTBE)	9.93		"	10.0		99.3	70-130				
Methylene chloride	9.85		"	10.0		98.5	70-130				
n-Heptane	9.15		"	10.0		91.5	70-130				
n-Hexane	9.30		"	10.0		93.0	70-130				
o-Xylene	10.2		"	10.0		102	70-130				
p- & m- Xylenes	21.1		"	20.0		106	70-130				
p-Ethyltoluene	10.7		"	10.0		107	70-130				
Propylene	10.5		"	10.0		105	70-130				
Styrene	9.90		"	10.0		99.0	70-130				
Tetrachloroethylene	10.5		"	10.0		105	70-130				
Tetrahydrofuran	9.27		"	10.0		92.7	70-130				
Toluene	10.0		"	10.0		100	70-130				
trans-1,2-Dichloroethylene	9.92		"	10.0		99.2	70-130				
trans-1,3-Dichloropropylene	9.50		"	10.0		95.0	70-130				
Trichloroethylene	9.98		"	10.0		99.8	70-130				
Trichlorofluoromethane (Freon 11)	11.1		"	10.0		111	70-130				
Vinyl acetate	5.97		"	10.0		59.7	70-130			Low Bias	
Vinyl bromide	10.2		"	10.0		102	70-130				
Vinyl Chloride	12.6		"	10.0		126	70-130				
Surrogate: SURR: p-Bromofluorobenzene	10.6		"	10.0		106	70-130				



Volatile Organic Compounds in Air by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
<b>Batch BB91164 - EPA TO15 PREP</b>											
<b>Duplicate (BB91164-DUP1)</b>	*Source sample: 19B0649-01 (A-1 (F23A))						Prepared & Analyzed: 02/20/2019				
1,1,1,2-Tetrachloroethane	ND	0.13	ppbv		ND					25	
1,1,1-Trichloroethane	ND	0.13	"		ND					25	
1,1,2,2-Tetrachloroethane	ND	0.13	"		ND					25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.13	"		ND					25	
1,1,2-Trichloroethane	ND	0.13	"		ND					25	
1,1-Dichloroethane	ND	0.13	"		ND					25	
1,1-Dichloroethylene	ND	0.033	"		ND					25	
1,2,4-Trichlorobenzene	ND	0.13	"		ND					25	
1,2,4-Trimethylbenzene	0.58	0.13	"		0.58				0.00	25	
1,2-Dibromoethane	ND	0.13	"		ND					25	
1,2-Dichlorobenzene	ND	0.13	"		ND					25	
1,2-Dichloroethane	ND	0.13	"		ND					25	
1,2-Dichloropropane	ND	0.13	"		ND					25	
1,2-Dichlorotetrafluoroethane	ND	0.13	"		ND					25	
1,3,5-Trimethylbenzene	0.28	0.13	"		0.30				9.09	25	
1,3-Butadiene	ND	0.40	"		ND					25	
1,3-Dichlorobenzene	ND	0.13	"		ND					25	
1,3-Dichloropropane	ND	0.13	"		ND					25	
1,4-Dichlorobenzene	ND	0.13	"		ND					25	
1,4-Dioxane	ND	0.26	"		ND					25	
2-Butanone	0.94	0.13	"		0.87				7.30	25	
2-Hexanone	ND	0.26	"		ND					25	
3-Chloropropene	ND	0.66	"		ND					25	
4-Methyl-2-pentanone	ND	0.13	"		ND					25	
Acetone	9.3	0.26	"		9.3				0.428	25	
Acrylonitrile	ND	0.13	"		ND					25	
Benzene	0.24	0.13	"		0.24				0.00	25	
Benzyl chloride	ND	0.13	"		ND					25	
Bromodichloromethane	ND	0.13	"		ND					25	
Bromoform	ND	0.13	"		ND					25	
Bromomethane	ND	0.13	"		ND					25	
Carbon disulfide	0.34	0.13	"		0.33				3.92	25	
Carbon tetrachloride	0.079	0.033	"		0.079				0.00	25	
Chlorobenzene	ND	0.13	"		ND					25	
Chloroethane	ND	0.13	"		ND					25	
Chloroform	ND	0.13	"		ND					25	
Chloromethane	0.67	0.13	"		0.67				0.00	25	
cis-1,2-Dichloroethylene	ND	0.033	"		ND					25	
cis-1,3-Dichloropropylene	ND	0.13	"		ND					25	
Cyclohexane	0.44	0.13	"		0.41				6.25	25	
Dibromochloromethane	ND	0.13	"		ND					25	
Dichlorodifluoromethane	0.49	0.13	"		0.48				2.74	25	
Ethyl acetate	ND	0.26	"		ND					25	
Ethyl Benzene	0.38	0.13	"		0.38				0.00	25	
Hexachlorobutadiene	ND	0.13	"		ND					25	
Isopropanol	ND	0.26	"		ND					25	
Methyl Methacrylate	ND	0.13	"		ND					25	
Methyl tert-butyl ether (MTBE)	ND	0.13	"		ND					25	
Methylene chloride	0.44	0.26	"		0.44				0.00	25	
n-Heptane	0.41	0.13	"		0.41				0.00	25	
n-Hexane	0.17	0.13	"		0.16				8.00	25	





**Volatile Organic Compounds in Air by GC/MS - Quality Control Data**

**York Analytical Laboratories, Inc.**

Analyte	Result	Reporting	Units	Spike	Source*	%REC	%REC	Flag	RPD	RPD	Flag
		Limit		Level	Result	Limits	Limit				

**Batch BB91164 - EPA TO15 PREP**

<b>Duplicate (BB91164-DUP1)</b>	<b>*Source sample: 19B0649-01 (A-1 (F23A))</b>				<b>Prepared &amp; Analyzed: 02/20/2019</b>					
o-Xylene	0.46	0.13	ppbv		0.46				0.00	25
p- & m- Xylenes	1.1	0.26	"		1.1				0.00	25
p-Ethyltoluene	0.50	0.13	"		0.45				11.1	25
Propylene	2.2	0.13	"		2.2				1.18	25
Styrene	0.41	0.13	"		0.41				0.00	25
Tetrachloroethylene	0.36	0.033	"		0.37				3.64	25
Tetrahydrofuran	ND	0.26	"		ND					25
Toluene	0.74	0.13	"		0.75				1.77	25
trans-1,2-Dichloroethylene	ND	0.13	"		ND					25
trans-1,3-Dichloropropylene	ND	0.13	"		ND					25
Trichloroethylene	ND	0.033	"		ND					25
Trichlorofluoromethane (Freon 11)	0.28	0.13	"		0.28				0.00	25
Vinyl acetate	ND	0.13	"		ND					25
Vinyl bromide	ND	0.13	"		ND					25
Vinyl Chloride	ND	0.033	"		ND					25
<i>Surrogate: SURR: p-Bromofluorobenzene</i>	<i>11.0</i>		<i>"</i>	<i>10.0</i>		<i>110</i>	<i>70-130</i>			





## Sample and Data Qualifiers Relating to This Work Order

B Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.

### Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias ) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.



YORK Analytical Laboratories, Inc.  
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Stratford, CT 06615  
clientservices@yorklab.com  
www.yorklab.com

# Field Chain-of-Custody Record - AIR

YORK Project No.  
**19B0649**

NOTE: YORK's Standard Terms & Conditions are listed on the back side of this document. This document serves as your written authorization for YORK to proceed with the analyses requested below. Your signature binds you to YORK's Standard Terms & Conditions.

Page **1** of **1**

YOUR INFORMATION		Report To:		Invoice To:		YOUR Project Number		Turn-Around Time	
Company:	Ted Yea PE	Company:		Company:		JC-01-19		RUSH - Next Day	
Address:	217-42 54th Ave	Address:		Address:		YOUR Project Name		RUSH - Two Day	
Phone:	Bayside Hills, NY 11364	Phone:		Phone:		11-02 BROADWAY		RUSH - Three Day	
Contact:	(917) 584-6299	Contact:		Contact:				RUSH - Four Day	
E-mail:	Ted Yea	E-mail:		E-mail:				Standard (5-7 Day)	<input checked="" type="checkbox"/>
Please print clearly and legibly. All information must be complete. Samples will not be logged and the turn-around-time clock will not begin until any questions by YORK are resolved.		Samples Collected by: (print your name above and sign below) Ted Yea		Report / EDD Type (circle selections) Summary Report <input checked="" type="checkbox"/> Standard Excel EDD QA Report <input checked="" type="checkbox"/> EQULS (Standard) NY ASP A Package NYSDEC EQULS NY ASP B Package NJDEP SRP HazSite Other: NJDKQP		YORK Reg. Comp. Compared to the following Regulation(s): (please fill in)			
Certified Canisters: Batch _____ Individual _____									
Sample Identification	Date/Time Sampled	Air Matrix	Canister Vacuum Before Sampling (in Hg)	Canister Vacuum After Sampling (in Hg)	Canister ID	Flow Cont. ID	Reporting Units: ug/m <sup>3</sup> ppbv _____ ppmv _____		
A-1 (F23A)	2/18/19 9:22	AS	-28	-2	F23A	24115	Analysis Requested TO-15		
A-2 (F15)	9:23	AS	-30	-2	F15	478			
A-3 (F25)	10:28	AS	-30	-4	F25	23802			
A-4 (F24)	10:30	AS	-30	-8	F9	466			
A-5 (F26)	9:33	AS	-29	-1	F28	28388			
A-6 (F13)	9:32	AS	-29	-4	F13	28853			
<b>Comments:</b> Canister ID and Flow Cont. ID reversed.									
Samples Relinquished by / Company		Date/Time		Samples Relinquished by / Company		Date/Time		Detection Limits Required	
KBS York		2/18/19 8:00am		KBS York		2/18/19 10:55AM		≤ 1 ug/m <sup>3</sup> NYSDEC V1 Limits <input checked="" type="checkbox"/> Routine Survey _____ Other _____	
A. B. B. / YORK		2-18-19/16:28		A. B. B. / YORK		2-18-19/18:22		Samples Relinquished by / Company Samples Received by / Company	
Burlford York		2/19/19		Burlford York		2/19/19 18:22		Samples Relinquished by / Company Samples Received by / Company	