

# **VOLATILE VAPOR INTRUSION (VVI) REPORT**

**KRAMER ELEMENTARY SCHOOL  
1 KRAMER LANE  
PLAINVIEW, NEW YORK 11803**

**PREPARED FOR:  
BETHPAGE UNION FREE SCHOOL DISTRICT  
10 CHERRY AVENUE  
BETHPAGE, NEW YORK 11714**

**JCB PROJECT #: 18-39197  
MARCH 2018**

**J.C. BRODERICK & ASSOCIATES, INC.  
Environmental Consulting & Testing**

**1775 Expressway Drive North  
Hauppauge, New York 11788  
631-584-5492 Fax: 631-584-3395**



## Table of Contents

|   |          |
|---|----------|
| <b>Section No. 1.0: Introduction .....</b>  | <b>2</b> |
| <b>Section No. 2.0: Site Description and Location .....</b>                           | <b>2</b> |
| <b>Section No. 3.0: Volatile Vapor Intrusion (VVI) Evaluation .....</b>               | <b>2</b> |
| <b>Section No. 3.1: Pre-Work Field Preparations .....</b>                             | <b>2</b> |
| <b>Section No. 3.2: Subsurface Vapor Sample Collection.....</b>                       | <b>3</b> |
| <b>Section No. 3.3: Indoor Air Sample Collection.....</b>                             | <b>3</b> |
| <b>Section No. 3.3.1: Crawlspace Air Sample Collection .....</b>                      | <b>4</b> |
| <b>Section No. 3.3.2: 1<sup>st</sup> Floor Air Sample Collection.....</b>             | <b>4</b> |
| <b>Section No. 3.4: Outdoor (Ambient) Air Sample Collection.....</b>                  | <b>4</b> |
| <b>Section No. 4.0: Laboratory Analytical Summary.....</b>                            | <b>4</b> |
| <b>Section No. 5.0: Decision Matrices .....</b>                                       | <b>6</b> |
| <b>Section No. 6.0: Quality Assurance and Quality Control (QA/QC) Procedures.....</b> | <b>7</b> |
| <b>Section No. 7.0: Findings .....</b>  | <b>7</b> |
| <b>Section No. 8.0: Recommendations .....</b>   | <b>7</b> |
| <b>Section No. 9.0: Certification .....</b>   | <b>8</b> |

### List of Tables

Table No. 1 - Air Sample Analytical Results of Detected Compounds via EPA Method TO-15

Table No. 2 - Volatile Chemicals Utilized in NYSDOH Decision Matrices

### List of Figures

Figure 1 – Site Location Map

Figure 2 – Subsurface, Crawlspace, 1<sup>st</sup> Floor, and Ambient Sampling Locations

### Appendices

Appendix A - Figures

Appendix B - Field Photograph Logs

Appendix C - Laboratory Analytical Report

## **Section No. 1.0: Introduction**

J.C. Broderick and Associates, Inc. (JCB) was retained by the Bethpage Union Free School District (Bethpage) to investigate the potential for volatile vapor intrusion (VVI) at the Kramer Lane Elementary School campus. The sampling protocol was performed essentially in accordance with the requirements of the New York State Department of Health (NYSDOH) "Guidance for Evaluating Soil Vapor Intrusion in the State of New York", Final Version, October 2006 and all available updates.

## **Section No. 2.0: Site Description and Location**

The Subject Site is located at 1 Kramer Lane, New York 11803. The Subject Site is located on the west side of Keswick Lane and the west end of Kramer Lane. According to the United States Geological Survey (USGS) *Huntington, New York, 1979 7.5 Minute Series Topographical Map*, the Subject Site is situated at an approximate elevation of 140 feet (ft) above mean sea level. The location of the Subject Site is shown on the Site Location Map, Appendix-A Figure-1.

## **Section No. 3.0: Volatile Vapor Intrusion (VVI) Evaluation**

The design scope outlined in the Volatile Vapor Intrusion (VVI) Investigation Work Plan (IWP) dated July 2012 prepared for the Bethpage High School was followed during the volatile vapor intrusion evaluations. The following sections describe the procedures taken.

### **Section No. 3.1: Pre-Work Field Preparations**

On February 22, 2018, a pre-sampling inspection was performed to evaluate the physical layout and conditions of the school building, to specifically determine the location of each sample, identify conditions that may affect or interfere with the proposed sampling and to prepare the building for sampling.

- To document conditions during indoor air sampling and ultimately to aid in the interpretation of the sampling results, the following actions were taken:
  - The storage of volatile chemicals was identified.
  - The use of heating or air conditioning systems during sampling was noted.
  - Floor plan sketches were drawn which include: the floor layout with sampling locations, chemical storage areas, garages, doorways, stairways, locations of basement sumps or subsurface drains and utility perforations through building foundations, HVAC system supply and return registers, compass orientation (north) and footings that create separate foundation sections. Photographs were taken to accompany the floor plan sketches.
  - Any pertinent observations, including readings from a photo-Ionization Detector (PID) and other field instrumentation, were recorded.

### **Section No. 3.2: Subsurface Vapor Sample Collection**

The following summarizes the manner in which subsurface vapor samples were collected. Please refer to Figure No. 2 – Subsurface, Crawlspace, 1<sup>st</sup> Floor, and Ambient Sampling Locations for additional details

- For the collection of the subsurface vapor samples, a probe was fabricated from ½-inch diameter, threaded brass pipe with a barbed tubing connection. The two (2) layers of 6-mil polyethylene sheeting were penetrated and a one (1) inch diameter hole was drilled, utilizing a hammer drill, into the sand floor of the crawlspace extending approximately two (2) inches below the top of the sand. The pipe was lowered into the hole, but not flush to the bottom and set into place utilizing hydrated bentonite powder, which contains no Volatile Organic Compounds (VOCs). A five (5) gallon plastic container was placed on top of the plastic sheeting and above the vapor point. The container was sealed to the plastic sheeting utilizing modeling clay and duct tape. A Teflon-lined, ¼-inch I.D. disposable polyethylene tubing was then utilized to connect the barbed connection of the vapor point to a clean-certified, 6-liter SUMMA® canister, provided by York Analytical Labs, Inc. (York) through a flow controller pre-set for an eight (8) hour long sample duration. The tubing included a tee connection and valve to a purging vacuum pump calibrated for a flow rate of less than 0.2 liters per minute. The tubing, probe and subsurface soil was purged of at least one (1) liter of vapor prior to sample collection. Upon completion of the sampling, the polyethylene sheeting was replaced on the floor and secured in place with duct tape.
- Helium (He) was introduced into the atmosphere under the pail, as a tracer gas, to assure the viability of the vapor point seals with the atmosphere. The tracer gas was monitored in the purge air before sampling and outside of all seals before, during and after sampling, utilizing a Myron Helium Detector. In addition, Helium (He) was analyzed for in the SUMMA® canister and if detected at more than ten (10) percent, the sample would be considered invalid and retaken.
- On February 23, 2018, a total of two (2) subsurface vapor samples were collected.
  - One (1) subsurface sample was collected from beneath Classroom 102 located at the north end of the school building.
  - One (1) subsurface sample was collected from beneath Classroom 112 located at the south end of the school building.

### **Section No. 3.3: Indoor Air Sample Collection**

The following summarizes the manner in which indoor air samples were collected:

- Sample flow rates conformed to the specifications in the sample collection method (less than 0.2 liters per minute) and were consistent with the hours of operation of the school building. Samples were taken from areas where personnel and occupants would not interfere with the sampling. The samples were collected, utilizing conventional sampling methods, in laboratory clean-certified, 6-liter SUMMA® canisters, provided by York through a flow controller pre-set for an eight (8) hour long sample duration. As per the guidance requirements, the samples were collected at a height approximately three (3) feet above the floor to represent a height at which occupants are normally seated.

### **Section No. 3.3.1: Crawlspace Air Sample Collection**

Please refer to Figure No. 2 - Subsurface, Crawlspace and Basement Sample Locations for additional details

- A total of two (2) crawlspace air samples were collected.
  - One (1) air sample was collected from beneath Classroom 102 located at the north end of the school building.
  - One (1) air sample was collected from beneath Classroom 112 located at the south end of the school building.

### **Section No. 3.3.2: 1<sup>st</sup> Floor Air Sample Collection**

Please refer to Figure No. 2 – Subsurface, Crawlspace, 1st Floor, and Ambient Sampling Locations for additional details.

- On February 23, 2018, a total of two (2) first floor air samples were collected.
  - One (1) air sample was collected from within Classroom 102 located at the north end of the school building.
  - One (1) air sample was collected from within Classroom 112 located at the south end of the school building.

### **Section No. 3.4: Outdoor (Ambient) Air Sample Collection**

An outdoor (ambient) air sample was collected simultaneously with subsurface and indoor samples to evaluate the potential influence, if any, of outdoor air on indoor air quality. To obtain a representative sample which meets the data quality objectives, the outdoor air sample was collected in a manner consistent with that for indoor air samples. The sample was collected, utilizing conventional sampling methods, in a laboratory clean-certified, 6-liter SUMMA® canister, provided by York equipped with a flow controller pre-set for an eight (8) hour sample duration. As per the guidance requirements, the sample was collected at a height approximately three (3) feet above the floor. Please refer to Figure No. 2 – Subsurface Crawlspace 1<sup>st</sup> Floor and Ambient Sampling Locations for additional details.

- On February 23, 2018, one (1) outdoor (ambient) air sample was collected.
  - One (1) air sample was collected from outside the west side of the school building adjacent to the west exit doors.

### **Section No. 4.0: Laboratory Analytical Summary**

The air samples were collected into laboratory supplied, clean-certified, 6-liter SUMMA® canisters, and assigned individual identification numbers. Chain of custody documents were prepared, and the samples were then delivered to an independent New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory for analysis.

York Analytical Laboratories, Inc. provided laboratory analytical services. Copies of York's NYSDOH certifications are available upon request.

Air samples submitted for laboratory analysis were analyzed for Volatile Organic Compounds (VOCs) utilizing the Environmental Protection Agency Toxic Organics 15 (EPA TO-15) list.

The laboratory analysis results for the air samples collected were reviewed and compared to the 90<sup>th</sup> percentile as listed in Table C1 NYSDOH 2003 Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes of the NYSDOH's "Final NYSDOH CEH BEEI Soil Vapor Intrusion Guidance" dated October 2006 and all available updates

The following table summarizes the Air Sample Analytical Results of Detected Compounds:

| Table No. 1:<br>Volatile Vapor Intrusion Analytical Results of Detected Compounds via EPA Method TO-15 |                         |                         |                         |                         |                         |                         |                         |                         |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Client Sample ID   | Background Values       | Ambient                 | North Subsurface        | North Crawlspace        | South Subsurface        | South Crawlspace        | Classroom 102           | Classroom 112           |
| <b>TO-15 List</b>  | <b>µg/m<sup>3</sup></b> |
| 1,1,1-Trichloroethane  | 3.1                     | ND                      |
| 1,2,4-Trimethylbenzene   | 9.5                     | ND                      | 3.2                     | ND                      | 1.3                     | ND                      | ND                      | ND                      |
| 1,3,5-Trimethylbenzene   | 3.6                     | ND                      | 1.2                     | ND                      | ND                      | ND                      | ND                      | ND                      |
| 1,1-Dichloroethene   | < 0.25                  | ND                      |
| 4-Methyl-2-pentanone   | NA                      | ND                      | 2.9                     | ND                      | 3.9                     | ND                      | ND                      | ND                      |
| Acetone  | 110                     | 1.8                     | 71                      | 3.3                     | 160                     | 1.7                     | 2.7                     | 2.1                     |
| Benzene  | 15                      | 0.22                    | 2.0                     | 0.27                    | 4.6                     | ND                      | 0.27                    | 0.26                    |
| 2-Butanone   | 16                      | 0.22                    | 14                      | 0.46                    | 26                      | 0.20                    | 0.33                    | 0.24                    |
| 2-Hexanone   | NA                      | ND                      | 19                      | ND                      | ND                      | 2.9                     | ND                      | 9.2                     |
| Carbon Tetrachloride   | 0.81                    | 0.23                    | ND                      | 0.23                    | 0.35                    | 0.10                    | 0.27                    | 0.27                    |
| Carbon disulfide   | NA                      | ND                      | 1.1                     | ND                      | ND                      | ND                      | ND                      | ND                      |
| Chloromethane  | 3.3                     | 0.52                    | ND                      | 0.62                    | 0.38                    | 0.34                    | 0.50                    | 0.55                    |
| cis 1,2-Dichloroethene   | < 0.25                  | ND                      |
| Chloroform   | 1.4                     | ND                      | ND                      | ND                      | 3.4                     | ND                      | ND                      | ND                      |
| Cyclohexane  | 8.1                     | ND                      | ND                      | ND                      | 1.3                     | ND                      | ND                      | ND                      |
| Dichlorodifluoromethane  | 15                      | 1.3                     | 2.5                     | 1.2                     | 2.5                     | 0.58                    | 1.3                     | 1.4                     |
| Ethyl acetate  | NA                      | ND                      | ND                      | ND                      | 1.5                     | ND                      | ND                      | ND                      |
| Ethylbenzene   | 7.3                     | ND                      | 25                      | ND                      | 1.5                     | ND                      | ND                      | ND                      |
| Isopropanol  | NA                      | ND                      | 3.6                     | 0.75                    | 4.8                     | 0.42                    | 0.96                    | 1.2                     |
| Methylene Chloride   | 22                      | ND                      |
| n-Heptane  | 19                      | ND                      | ND                      | ND                      | 1.8                     | ND                      | ND                      | ND                      |
| n-Hexane   | 18                      | ND                      | 1.8                     | ND                      | 5.0                     | ND                      | ND                      | ND                      |
| o-Xylene   | 7.6                     | ND                      | 9.5                     | ND                      | 1.0                     | ND                      | ND                      | ND                      |
| p&m-Xylenes  | 12                      | ND                      | 30                      | ND                      | 2.8                     | ND                      | 0.56                    | ND                      |
| p-Ethyltoluene   | NA                      | ND                      | 3.3                     | ND                      | 0.99                    | ND                      | ND                      | ND                      |
| Propylene  | NA                      | 0.31                    | 1.3                     | 0.36                    | 1.6                     | 0.18                    | 0.37                    | 0.34                    |
| Styrene  | 1.3                     | ND                      | 1.6                     | ND                      | ND                      | ND                      | ND                      | ND                      |
| Tetrachloroethene (PCE)  | 2.9                     | ND                      | 1.8                     | ND                      | 0.87                    | ND                      | ND                      | ND                      |
| Tetrahydrofuran  | 3.3                     | ND                      | 22                      | ND                      | 53                      | ND                      | ND                      | ND                      |
| Toluene  | 58                      | 0.26                    | 920                     | 0.80                    | 240                     | 0.50                    | 0.80                    | 0.60                    |

| Table No. 1:<br>Volatile Vapor Intrusion Analytical Results of Detected Compounds via EPA Method TO-15 |                   |         |                  |                  |                  |                  |               |               |
|--|-------------------|---------|------------------|------------------|------------------|------------------|---------------|---------------|
| Client Sample ID   | Background Values | Ambient | North Subsurface | North Crawlspace | South Subsurface | South Crawlspace | Classroom 102 | Classroom 112 |
| TO-15 List   | µg/m³             | µg/m³   | µg/m³            | µg/m³            | µg/m³            | µg/m³            | µg/m³         | µg/m³         |
| Trichloroethene (TCE)  | 0.45              | ND      | ND               | ND               | 0.39             | ND               | 0.086         | ND            |
| Trichlorofluoromethane   | 17                | 0.84    | 1.5              | 0.84             | 1.8              | 0.39             | 0.84          | 0.93          |
| Vinyl Chloride   | < 0.25            | ND      | ND               | ND               | ND               | ND               | ND            | ND            |
| Helium   | NA                | NT      | ND               | NT               | ND               | NT               | NT            | NT            |

**Notes:**  
 µg/m³ = parts per billion  
 NA = Background Value Not Established  
 ND=Not Detected above the laboratory minimum detection limit  
 Background Values = NYSDOH 2003 Study of Volatile Organic Compounds in Air or Fuel Oil Heated Homes 90<sup>th</sup> Percentile, revised 2005  
<sup>1</sup> The State of New York does not have any standards, criteria, or guidance values for concentrations of volatile chemicals in subsurface vapors  
 Compounds in gray are used in Decision Matrices A, B, & C. - See Section 5.0 and Table No. 2 for additional information.  
 Helium was used as a tracer gas, a detection of over 10% would indicate a breakthrough in the subsurface probe seal.

### Section No. 5.0: Decision Matrices

Decision matrices are risk management tools developed by the NYSDOH to provide guidance on a case-by-case basis about actions that should be taken to address current and potential exposures related to soil vapor intrusion. The matrices are intended to be used when evaluating the results from buildings with full slab foundations. Due to the presence of polyethylene sheeting covering the crawlspace sand, the structure was deemed to contain a full slab for the purpose of this investigation.

The NYSDOH has currently developed eight (8) matrices to use as tools in making decisions when soil vapor may be entering buildings. JCB implemented the matrices and the following table summarizes the results.

| Table No. 2:<br>Volatile Chemicals Utilized in NYSDOH Decision Matrices |                                       |                   |
|---|---------------------------------------|-------------------|
| Compound  | Soil Vapor/Indoor Air Decision Matrix | Result            |
| 1,1,1-Trichloroethane (TCA)   | Matrix B                              | No Further Action |
| Carbon Tetrachloride  | Matrix A                              | No Further Action |
| cis 1,2-Dichloroethene  | Matrix A                              | No Further Action |
| 1,1-Dichloroethene  | Matrix A                              | No Further Action |
| Methylene Chloride  | Matrix B                              | No Further Action |
| Tetrachloroethene (PCE)   | Matrix B                              | No Further Action |
| Trichloroethene (TCE)   | Matrix A                              | No Further Action |
| Vinyl Chloride  | Matrix C                              | No Further Action |

**Notes:**  
 A total of eight (8) chemicals have been assigned to decision matrices by the NYSDOH, May 2017.

The results of the matrices indicate that “No Further Action” is required for all 8 volatile organic chemicals utilized in the NYSDOH Decision Matrices.

The concentrations detected in the indoor air samples are likely due to the daily operations within the building or outdoor sources rather than soil vapor intrusion given the concentrations detected in the subsurface vapor sample.

### **Section No. 6.0: Quality Assurance and Quality Control (QA/QC) Procedures**

In order to prevent cross-contamination between sampling locations, all re-usable sampling equipment which came into contact with sample materials was decontaminated prior to each use. Equipment used for sample collection was wiped clean, washed in a solution of Alconox and thoroughly rinsed with potable water. New and dedicated polyethylene tubing was used for collection of each subsurface sample. All sampling personnel wore disposable latex, nylon, or nitrile gloves during sampling events. At a minimum, gloves were changed between locations and before each laboratory sample were collected.

- The field sampling team maintained sampling log sheets summarizing the following:
  - Sample identification;
  - Canister ID Number;
  - Regulator ID Number;
  - Date and time of sample collection;
  - Sampling height;
  - Sampling methods and devices;
  - The volume of air sampled;
  - The vacuum of canisters before and after sample collection;
  - Chain of custody protocols and records used to track samples from sampling point to analysis.
- Subsequent to sample collection, the Summa® canister was labeled with the sampling location, time, and samplers initials.

### **Section No. 7.0: Findings**

Based upon the review of the VVI laboratory analysis results all detectable concentrations observed were reported well below published occupational health guidelines. All detectable concentrations observed in the occupied spaces of the school building were below their background values as reported in the NYSDOH 2003 Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes 90<sup>th</sup> Percentile.

Based upon these findings, no hazardous condition or immediate health concern was identified associated with VVI.

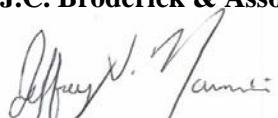
### **Section No. 8.0: Recommendations**

It is recommended that periodic VVI sampling be performed to monitor site conditions.

**Section No. 9.0: Certification**

I certify that this Report was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the New York State Department of Health (NYSDOH) "Guidance for Evaluating Soil Vapor Intrusion in the State of New York", Final Version, October 2006 and that all activities were performed in full accordance with the work plan.

Sincerely,  
**J.C. Broderick & Associates, Inc.**



Jeffrey V. Nannini  
Environmental Scientist



Steven Muller, P.G. (LA)  
Project Manager

# **Appendix A**

## **Figures**



J.C. BRODERICK

& Associates

Environmental Consulting and

Testing

1775 Express Drive North

Hauppauge, NY 11788

Phone: (631) 584.5492

Fax: (631) 584.3395

Notes:

Kramer Lane  
Elementary School  
1 Kramer Lane  
Plainview, New York 11803

Drawing Title

Figure No. 1

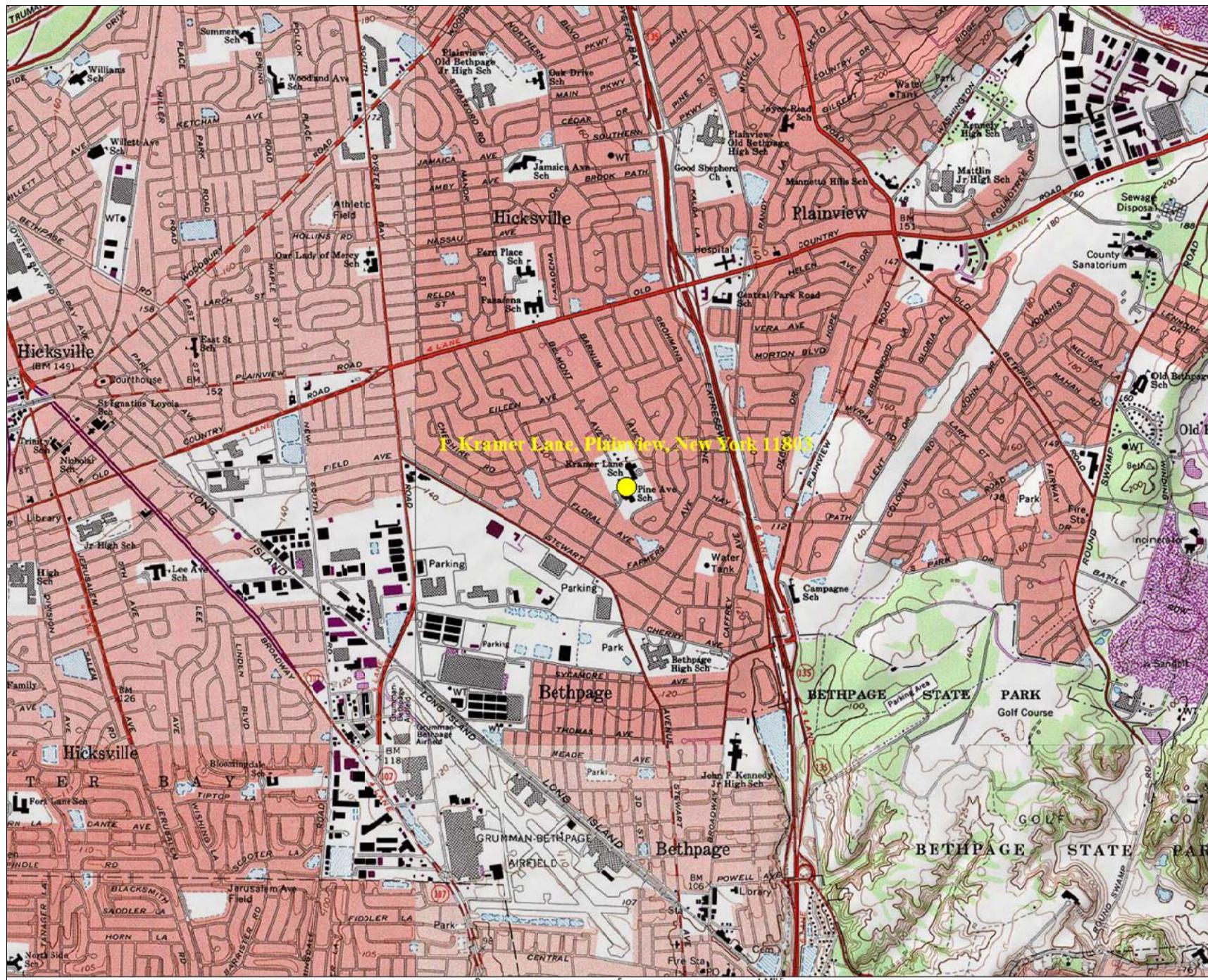
Site Location Map

Scale Project No. Date  
As Noted 18-39197 03-08-18

Drawn By Checked By Page No.  
M.C. S.W.M. 1 of 2

Drawing No.

1



JCB LEGEND

■ SUBJECT SITE

Map created with TOPO!® ©2002 National Geographic ([www.nationalgeographic.com/topo](http://www.nationalgeographic.com/topo))



J.C. BRODERICK

& Associates

Environmental

Consulting and Testing

1775 Expressway Drive North

Hauppauge, NY 11788

Phone: (631) 584.5492

Fax: (631) 584.3395

Notes:

Kramer Lane  
Elementary School  
1 Kramer Lane  
Plainview, New York 11803

Drawing Title

Figure No. 2

Subsurface  
Crawlspace,  
1st Floor  
Sampling  
Locations

Scale Project No. Date  
N.T.S. 18-39197 02-23-18

Drawn By Checked By Page No.  
M.C. S.W.M. 2 of 2

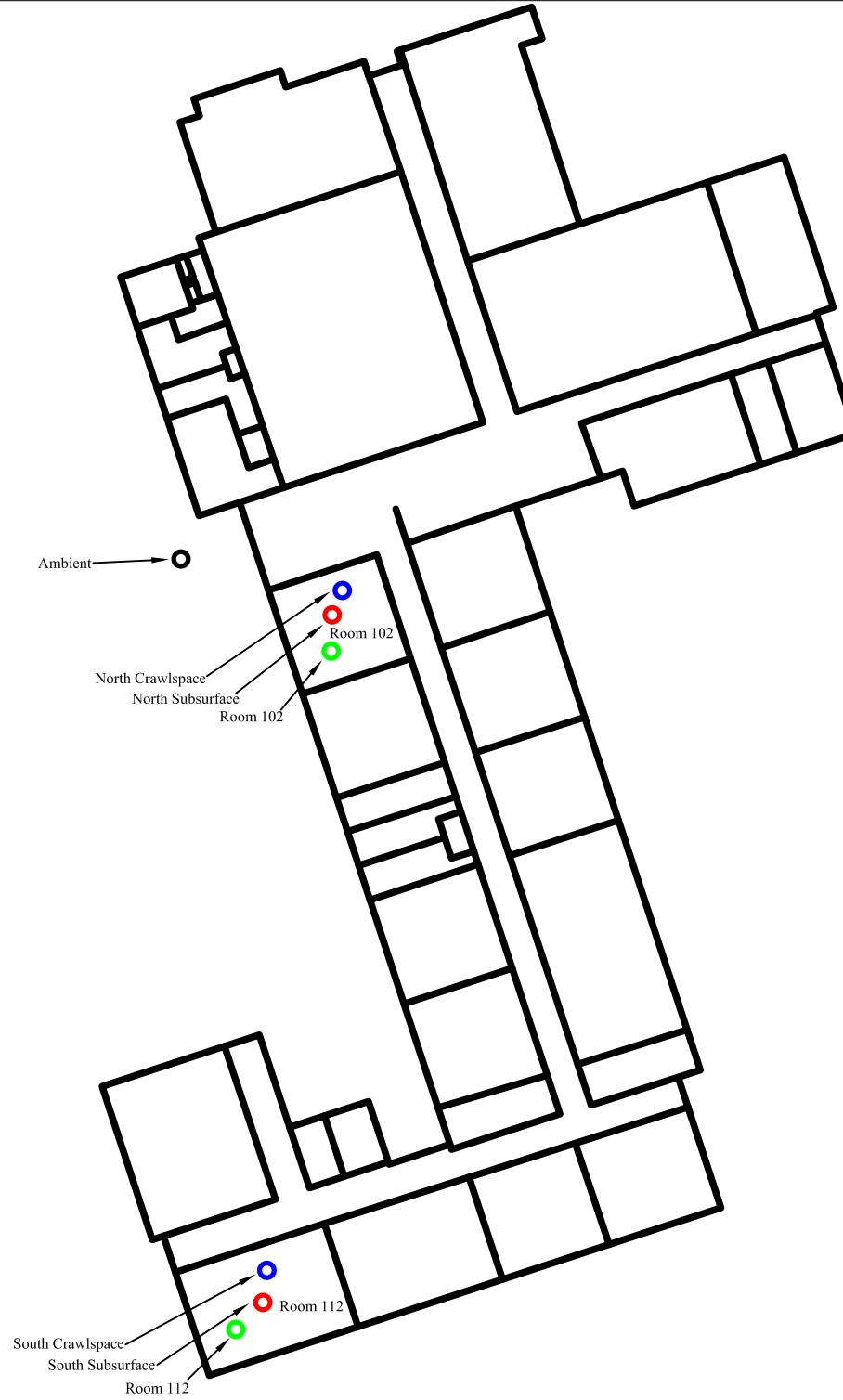
Drawing No.

2



JCB LEGEND

- AMBIENT SAMPLING LOCATION
- CRAWLSPACE SAMPLING LOCATION
- FIRST FLOOR SAMPLING LOCATION
- SUBSURFACE SAMPLING LOCATION



## **Appendix B**

# **Field Photograph Logs**

**Sampling Locations**  
**North Subsurface (Left) & North Crawlspace (Right)**



**Field Photograph Log**

**Volatile Vapor Intrusion Report**

**Kramer Lane Elementary School  
1 Kramer Lane  
Plainview, New York 11803**



**Photo No. 01**

**JCB#: 18-39197**

**Sampling Locations**  
**South Crawlspace (Left) & South Subsurface (Right)**



**Field Photograph Log**

**Volatile Vapor Intrusion Report**

**Kramer Lane Elementary School  
1 Kramer Lane  
Plainview, New York 11803**



**Photo No. 02**

**JCB#: 18-39197**

**Room 102  
Sampling Location**



**Field Photograph Log**

**Volatile Vapor Intrusion Report**

**Kramer Lane Elementary School  
1 Kramer Lane  
Plainview, New York 11803**



**Photo No. 03**

**JCB#: 18-39197**

**Room 112  
Sampling Location**



**Field Photograph Log**

**Volatile Vapor Intrusion Report**

**Kramer Lane Elementary School  
1 Kramer Lane  
Plainview, New York 11803**



**Photo No. 04**

**JCB#: 18-39197**

**Ambient  
Sampling Location**



**Field Photograph Log**

**Volatile Vapor Intrusion Report**

**Kramer Lane Elementary School  
1 Kramer Lane  
Plainview, New York 11803**



**Photo No. 05**

**JCB#: 18-39197**

# **Appendix C**

# **Laboratory Analysis Report**



# Technical Report

prepared for:

**J.C. Broderick**  
1775 North Express Drive  
Hauppauge NY, 11788  
**Attention: Steven Muller**

Report Date: 03/05/2018  
**Client Project ID: 18-39197**  
York Project (SDG) No.: 18B0991

CT Cert. No. PH-0723

New Jersey Cert. No. CT005 and NY037



New York Cert. Nos. 10854 and 12058

PA Cert. No. 68-04440

---

120 RESEARCH DRIVE  
[www.YORKLAB.com](http://www.YORKLAB.com)

STRATFORD, CT 06615  
(203) 325-1371



132-02 89th AVENUE  
FAX (203) 357-0166

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

Report Date: 03/05/2018  
Client Project ID: 18-39197  
York Project (SDG) No.: 18B0991

**J.C. Broderick**  
1775 North Express Drive  
Hauppauge NY, 11788  
Attention: Steven Muller

---

## 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 26, 2018 and listed below. The project was identified as your project: **18-39197**.

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.

| <b>York Sample ID</b> | <b>Client Sample ID</b> | <b>Matrix</b>      | <b>Date Collected</b> | <b>Date Received</b> |
|-----------------------|-------------------------|--------------------|-----------------------|----------------------|
| 18B0991-01            | North Subsurface        | Soil Vapor         | 02/23/2018            | 02/26/2018           |
| 18B0991-02            | North Crawlspace        | Indoor Ambient Air | 02/23/2018            | 02/26/2018           |
| 18B0991-03            | South Subsurface        | Soil Vapor         | 02/23/2018            | 02/26/2018           |
| 18B0991-04            | South Crawlspace        | Indoor Ambient Air | 02/23/2018            | 02/26/2018           |
| 18B0991-05            | Room 102                | Indoor Ambient Air | 02/23/2018            | 02/26/2018           |
| 18B0991-06            | Room 112                | Indoor Ambient Air | 02/23/2018            | 02/26/2018           |
| 18B0991-07            | Ambient                 | Outdoor Ambient Ai | 02/23/2018            | 02/26/2018           |

## **General Notes for York Project (SDG) No.: 18B0991**

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:**



**Date:** 03/05/2018

Benjamin Gulizia  
Laboratory Director





## Sample Information

**Client Sample ID:** North Subsurface

**York Sample ID:** 18B0991-01

York Project (SDG) No.  
18B0991

Client Project ID  
18-39197

Matrix  
Soil Vapor

Collection Date/Time  
February 23, 2018 3:00 pm

Date Received  
02/26/2018

### Volatile Organics, EPA TO15 Full List

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         |      | ug/m³ | 1.5             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 71-55-6  | 1,1,1-Trichloroethane                             | ND         |      | ug/m³ | 1.2             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 79-34-5  | 1,1,2,2-Tetrachloroethane                         | ND         |      | ug/m³ | 1.5             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 76-13-1  | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND         |      | ug/m³ | 1.7             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 79-00-5  | 1,1,2-Trichloroethane                             | ND         |      | ug/m³ | 1.2             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-34-3  | 1,1-Dichloroethane                                | ND         |      | ug/m³ | 0.87            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-35-4  | 1,1-Dichloroethylene                              | ND         |      | ug/m³ | 0.21            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 120-82-1 | 1,2,4-Trichlorobenzene                            | ND         |      | ug/m³ | 1.6             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 95-63-6  | <b>1,2,4-Trimethylbenzene</b>                     | <b>3.2</b> |      | ug/m³ | 1.1             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 106-93-4 | 1,2-Dibromoethane                                 | ND         |      | ug/m³ | 1.7             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 95-50-1  | 1,2-Dichlorobenzene                               | ND         |      | ug/m³ | 1.3             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 107-06-2 | 1,2-Dichloroethane                                | ND         |      | ug/m³ | 0.87            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 78-87-5  | 1,2-Dichloropropane                               | ND         |      | ug/m³ | 1.0             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 76-14-2  | 1,2-Dichlorotetrafluoroethane                     | ND         |      | ug/m³ | 1.5             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 108-67-8 | <b>1,3,5-Trimethylbenzene</b>                     | <b>1.2</b> |      | ug/m³ | 1.1             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 106-99-0 | 1,3-Butadiene                                     | ND         |      | ug/m³ | 1.4             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 541-73-1 | 1,3-Dichlorobenzene                               | ND         |      | ug/m³ | 1.3             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 142-28-9 | * 1,3-Dichloropropane                             | ND         |      | ug/m³ | 1.0             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 106-46-7 | 1,4-Dichlorobenzene                               | ND         |      | ug/m³ | 1.3             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 123-91-1 | 1,4-Dioxane                                       | ND         |      | ug/m³ | 1.6             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 78-93-3  | <b>2-Butanone</b>                                 | <b>14</b>  |      | ug/m³ | 0.64            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |



## Sample Information

Client Sample ID: North Subsurface

York Sample ID: 18B0991-01

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Soil Vapor

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|------------|---------------------------|--------|------|-------|-----------------|----------|---------------------------|--------------------|--------------------|---------|
| 591-78-6   | * 2-Hexanone              | 19     |      | ug/m³ | 1.8             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 107-05-1   | 3-Chloropropene           | ND     |      | ug/m³ | 3.4             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 108-10-1   | 4-Methyl-2-pentanone      | 2.9    |      | ug/m³ | 0.89            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 67-64-1    | Acetone                   | 71     |      | ug/m³ | 1.0             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 107-13-1   | Acrylonitrile             | ND     |      | ug/m³ | 0.47            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 71-43-2    | Benzene                   | 2.0    |      | ug/m³ | 0.69            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 100-44-7   | Benzyl chloride           | ND     |      | ug/m³ | 1.1             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-27-4    | Bromodichloromethane      | ND     |      | ug/m³ | 1.4             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-25-2    | Bromoform                 | ND     |      | ug/m³ | 2.2             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 74-83-9    | Bromomethane              | ND     |      | ug/m³ | 0.84            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-15-0    | Carbon disulfide          | 1.1    |      | ug/m³ | 0.67            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 56-23-5    | Carbon tetrachloride      | ND     |      | ug/m³ | 0.34            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 108-90-7   | Chlorobenzene             | ND     |      | ug/m³ | 0.99            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-00-3    | Chloroethane              | ND     |      | ug/m³ | 0.57            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 67-66-3    | Chloroform                | ND     |      | ug/m³ | 1.1             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 74-87-3    | Chloromethane             | ND     |      | ug/m³ | 0.45            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 156-59-2   | cis-1,2-Dichloroethylene  | ND     |      | ug/m³ | 0.21            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 10061-01-5 | cis-1,3-Dichloropropylene | ND     |      | ug/m³ | 0.98            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 110-82-7   | Cyclohexane               | ND     |      | ug/m³ | 0.74            | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 124-48-1   | Dibromochloromethane      | ND     |      | ug/m³ | 1.8             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-71-8    | Dichlorodifluoromethane   | 2.5    |      | ug/m³ | 1.1             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 141-78-6   | * Ethyl acetate           | ND     |      | ug/m³ | 1.6             | 2.161    | EPA TO-15 Certifications: | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |



## Sample Information

Client Sample ID: North Subsurface

York Sample ID: 18B0991-01

York Project (SDG) No.  
18B0991

Client Project ID  
18-39197

Matrix  
Soil Vapor

Collection Date/Time  
February 23, 2018 3:00 pm

Date Received  
02/26/2018

### 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 |
|-------------|-----------------------------------|--------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 100-41-4    | Ethyl Benzene                     | 25     |      | ug/m³ | 0.94            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 87-68-3     | Hexachlorobutadiene               | ND     |      | ug/m³ | 2.3             | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 67-63-0     | Isopropanol                       | 3.6    |      | ug/m³ | 1.1             | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 80-62-6     | Methyl Methacrylate               | ND     |      | ug/m³ | 0.88            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 1634-04-4   | Methyl tert-butyl ether (MTBE)    | ND     |      | ug/m³ | 0.78            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-09-2     | Methylene chloride                | ND     |      | ug/m³ | 1.5             | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 142-82-5    | n-Heptane                         | ND     |      | ug/m³ | 0.89            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 110-54-3    | n-Hexane                          | 1.8    |      | ug/m³ | 0.76            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 95-47-6     | o-Xylene                          | 9.5    |      | ug/m³ | 0.94            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 179601-23-1 | p- & m- Xylenes                   | 30     |      | ug/m³ | 1.9             | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 622-96-8    | * p-Ethyltoluene                  | 3.3    |      | ug/m³ | 1.1             | 2.161    | EPA TO-15<br>Certifications:                            | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 115-07-1    | * Propylene                       | 1.3    |      | ug/m³ | 0.37            | 2.161    | EPA TO-15<br>Certifications:                            | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 100-42-5    | Styrene                           | 1.6    |      | ug/m³ | 0.92            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 127-18-4    | Tetrachloroethylene               | 1.8    |      | ug/m³ | 0.37            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 109-99-9    | * Tetrahydrofuran                 | 22     |      | ug/m³ | 1.3             | 2.161    | EPA TO-15<br>Certifications:                            | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 108-88-3    | Toluene                           | 920    |      | ug/m³ | 8.1             | 21.61    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 09:55   | 03/01/2018 09:55   | LDS     |
| 156-60-5    | trans-1,2-Dichloroethylene        | ND     |      | ug/m³ | 0.86            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 10061-02-6  | trans-1,3-Dichloropropylene       | ND     |      | ug/m³ | 0.98            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 79-01-6     | Trichloroethylene                 | ND     |      | ug/m³ | 0.29            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 75-69-4     | Trichlorofluoromethane (Freon 11) | 1.5    |      | ug/m³ | 1.2             | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 108-05-4    | Vinyl acetate                     | ND     |      | ug/m³ | 0.76            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| 593-60-2    | Vinyl bromide                     | ND     |      | ug/m³ | 0.95            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |



## Sample Information

Client Sample ID: North Subsurface

York Sample ID: 18B0991-01

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Soil Vapor

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|---|----------------|--------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 75-01-4                                 | Vinyl Chloride | ND     |      | ug/m³ | 0.14            | 2.161    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 18:42   | 02/28/2018 18:42   | LDS     |
| <b>Surrogate Recoveries</b>             |                |        |      |       |                 |          |   |                    |                    |         |
| Surrogate: <i>p</i> -Bromofluorobenzene |                |        |      |       |                 |          |   |                    |                    |         |
| 97.2 %                                  |                |        |      |       |                 |          |   |                    |                    |         |
| <b>Acceptance Range</b>                 |                |        |      |       |                 |          |   |                    |                    |         |
| 70-130                                  |                |        |      |       |                 |          |   |                    |                    |         |

### Helium

#### Log-in Notes:

#### Sample Notes:

Sample Prepared by Method: PREP for GASES by GC

| CAS No.   | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method          | Date/Time Prepared | Date/Time Analyzed | Analyst |
|-----------|-----------|--------|------|-------|-----------------|----------|---------------------------|--------------------|--------------------|---------|
| 7440-59-7 | * Helium  | ND     |      | %     | 1.1             | 2.161    | GC/TCD<br>Certifications: | 02/28/2018 17:31   | 02/28/2018 18:10   | LDS     |

## Sample Information

Client Sample ID: North Crawlspace

York Sample ID: 18B0991-02

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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     |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 71-55-6  | 1,1,1-Trichloroethane                             | ND     |      | ug/m³ | 0.29            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 79-34-5  | 1,1,2,2-Tetrachloroethane                         | ND     |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 76-13-1  | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND     |      | ug/m³ | 0.41            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 79-00-5  | 1,1,2-Trichloroethane                             | ND     |      | ug/m³ | 0.29            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 75-34-3  | 1,1-Dichloroethane                                | ND     |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 75-35-4  | 1,1-Dichloroethylene                              | ND     |      | ug/m³ | 0.053           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 120-82-1 | 1,2,4-Trichlorobenzene                            | ND     |      | ug/m³ | 0.40            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |



## Sample Information

Client Sample ID: North Crawlspace

York Sample ID: 18B0991-02

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|----------|-------------------------------|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 95-63-6  | 1,2,4-Trimethylbenzene        | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 106-93-4 | 1,2-Dibromoethane             | ND          |      | ug/m³ | 0.41            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 95-50-1  | 1,2-Dichlorobenzene           | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 107-06-2 | 1,2-Dichloroethane            | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 78-87-5  | 1,2-Dichloropropane           | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 76-14-2  | 1,2-Dichlorotetrafluoroethane | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 108-67-8 | 1,3,5-Trimethylbenzene        | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 106-99-0 | 1,3-Butadiene                 | ND          |      | ug/m³ | 0.35            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 541-73-1 | 1,3-Dichlorobenzene           | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 142-28-9 | * 1,3-Dichloropropane         | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 106-46-7 | 1,4-Dichlorobenzene           | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 123-91-1 | 1,4-Dioxane                   | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 78-93-3  | <b>2-Butanone</b>             | <b>0.46</b> |      | ug/m³ | 0.16            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 591-78-6 | * 2-Hexanone                  | ND          |      | ug/m³ | 0.44            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 107-05-1 | 3-Chloropropene               | ND          |      | ug/m³ | 0.83            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 108-10-1 | 4-Methyl-2-pentanone          | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 67-64-1  | <b>Acetone</b>                | <b>3.3</b>  |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 107-13-1 | Acrylonitrile                 | ND          |      | ug/m³ | 0.12            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 71-43-2  | <b>Benzene</b>                | <b>0.27</b> |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 100-44-7 | Benzyl chloride               | ND          |      | ug/m³ | 0.28            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 75-27-4  | Bromodichloromethane          | ND          |      | ug/m³ | 0.36            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 75-25-2  | Bromoform                     | ND          |      | ug/m³ | 0.55            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |



## Sample Information

Client Sample ID: North Crawlspace

York Sample ID: 18B0991-02

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### Volatile Organics, EPA TO15 Full List

Sample Prepared by Method: EPA TO15 PREP

#### Log-in Notes:

#### Sample Notes:

| CAS No.    | Parameter                      | Result      | Flag | Units | Reported to LOQ | Dilution | Reference Method  | Date/Time Prepared | Date/Time Analyzed | Analyst |
|------------|--------------------------------|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 74-83-9    | Bromomethane                   | ND          |      | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 75-15-0    | Carbon disulfide               | ND          |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 56-23-5    | <b>Carbon tetrachloride</b>    | <b>0.23</b> |      | ug/m³ | 0.084           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 108-90-7   | Chlorobenzene                  | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 75-00-3    | Chloroethane                   | ND          |      | ug/m³ | 0.14            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 67-66-3    | Chloroform                     | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 74-87-3    | <b>Chloromethane</b>           | <b>0.62</b> |      | ug/m³ | 0.11            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 156-59-2   | cis-1,2-Dichloroethylene       | ND          |      | ug/m³ | 0.053           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 10061-01-5 | cis-1,3-Dichloropropylene      | ND          |      | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 110-82-7   | Cyclohexane                    | ND          |      | ug/m³ | 0.18            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 124-48-1   | Dibromochloromethane           | ND          |      | ug/m³ | 0.45            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 75-71-8    | <b>Dichlorodifluoromethane</b> | <b>1.2</b>  |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 141-78-6   | * Ethyl acetate                | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 100-41-4   | Ethyl Benzene                  | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 87-68-3    | Hexachlorobutadiene            | ND          |      | ug/m³ | 0.57            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 67-63-0    | <b>Isopropanol</b>             | <b>0.75</b> |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 80-62-6    | Methyl Methacrylate            | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 1634-04-4  | Methyl tert-butyl ether (MTBE) | ND          |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 75-09-2    | Methylene chloride             | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 142-82-5   | n-Heptane                      | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 110-54-3   | n-Hexane                       | ND          |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |
| 95-47-6    | o-Xylene                       | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |



## Sample Information

Client Sample ID: North Crawlspace

York Sample ID: 18B0991-02

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### Volatile Organics, EPA TO15 Full List

Sample Prepared by Method: EPA TO15 PREP

#### Log-in Notes:

#### Sample Notes:

| CAS No.                     | Parameter                         | Result        | Flag                    | Units | Reported to LOQ | Dilution | Reference Method  | Date/Time Prepared | Date/Time Analyzed | Analyst |  |  |
|-----------------------------|-----------------------------------|---------------|-------------------------|-------|-----------------|----------|---|--------------------|--------------------|---------|--|--|
| 179601-23-1                 | p- & m- Xylenes                   | ND            |                         | ug/m³ | 0.46            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 622-96-8                    | * p-Ethyltoluene                  | ND            |                         | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 115-07-1                    | * Propylene                       | <b>0.36</b>   |                         | ug/m³ | 0.092           | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 100-42-5                    | Styrene                           | ND            |                         | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 127-18-4                    | Tetrachloroethylene               | ND            |                         | ug/m³ | 0.090           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 109-99-9                    | * Tetrahydrofuran                 | ND            |                         | ug/m³ | 0.31            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 108-88-3                    | Toluene                           | <b>0.80</b>   |                         | ug/m³ | 0.20            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 156-60-5                    | trans-1,2-Dichloroethylene        | ND            |                         | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 10061-02-6                  | trans-1,3-Dichloropropylene       | ND            |                         | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 79-01-6                     | Trichloroethylene                 | ND            |                         | ug/m³ | 0.072           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 75-69-4                     | Trichlorofluoromethane (Freon 11) | <b>0.84</b>   |                         | ug/m³ | 0.30            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 108-05-4                    | Vinyl acetate                     | ND            |                         | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 593-60-2                    | Vinyl bromide                     | ND            |                         | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| 75-01-4                     | Vinyl Chloride                    | ND            |                         | ug/m³ | 0.034           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 19:42   | 02/28/2018 19:42   | LDS     |  |  |
| <b>Surrogate Recoveries</b> |                                   | <b>Result</b> | <b>Acceptance Range</b> |       |                 |          |   |                    |                    |         |  |  |
| 460-00-4                    | Surrogate: p-Bromofluorobenzene   | 96.3 %        |                         |       | 70-130          |          |   |                    |                    |         |  |  |

## Sample Information

Client Sample ID: South Subsurface

York Sample ID: 18B0991-03

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Soil Vapor

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### Volatile Organics, EPA TO15 Full List

Sample Prepared by Method: EPA TO15 PREP

#### Log-in Notes:

#### Sample Notes:

| CAS No.            | Parameter           | Result | Flag | Units | Reported to LOQ    | Dilution | Reference Method | Date/Time Prepared         | Date/Time Analyzed | Analyst |
|--------------------|---------------------|--------|------|-------|--------------------|----------|------------------|----------------------------|--------------------|---------|
| 120 RESEARCH DRIVE | STRATFORD, CT 06615 |        | ■    |       | 132-02 89th AVENUE |          |                  | RICHMOND HILL, NY 11418    |                    |         |
| www.YORKLAB.com    | (203) 325-1371      |        |      |       | FAX (203) 357-0166 |          |                  | ClientServices@yorklab.com |                    |         |



## Sample Information

|   |                                   |
|---|-----------------------------------|
| <b>Client Sample ID:</b> South Subsurface | <b>York Sample ID:</b> 18B0991-03 |
| York Project (SDG) No.<br>18B0991         | Client Project ID<br>18-39197     |

Matrix  
Soil Vapor

Collection Date/Time  
February 23, 2018 3:00 pm

Date Received  
02/26/2018

### 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         |      | ug/m³ | 1.3             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 71-55-6  | 1,1,1-Trichloroethane                             | ND         |      | ug/m³ | 1.0             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 79-34-5  | 1,1,2,2-Tetrachloroethane                         | ND         |      | ug/m³ | 1.3             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 76-13-1  | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND         |      | ug/m³ | 1.4             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 79-00-5  | 1,1,2-Trichloroethane                             | ND         |      | ug/m³ | 1.0             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 75-34-3  | 1,1-Dichloroethane                                | ND         |      | ug/m³ | 0.74            | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 75-35-4  | 1,1-Dichloroethylene                              | ND         |      | ug/m³ | 0.18            | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 120-82-1 | 1,2,4-Trichlorobenzene                            | ND         |      | ug/m³ | 1.4             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 95-63-6  | <b>1,2,4-Trimethylbenzene</b>                     | <b>1.3</b> |      | ug/m³ | 0.90            | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 106-93-4 | 1,2-Dibromoethane                                 | ND         |      | ug/m³ | 1.4             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 95-50-1  | 1,2-Dichlorobenzene                               | ND         |      | ug/m³ | 1.1             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 107-06-2 | 1,2-Dichloroethane                                | ND         |      | ug/m³ | 0.74            | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 78-87-5  | 1,2-Dichloropropane                               | ND         |      | ug/m³ | 0.85            | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 76-14-2  | 1,2-Dichlorotetrafluoroethane                     | ND         |      | ug/m³ | 1.3             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 108-67-8 | 1,3,5-Trimethylbenzene                            | ND         |      | ug/m³ | 0.90            | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 106-99-0 | 1,3-Butadiene                                     | ND         |      | ug/m³ | 1.2             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 541-73-1 | 1,3-Dichlorobenzene                               | ND         |      | ug/m³ | 1.1             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 142-28-9 | * 1,3-Dichloropropane                             | ND         |      | ug/m³ | 0.85            | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 106-46-7 | 1,4-Dichlorobenzene                               | ND         |      | ug/m³ | 1.1             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 123-91-1 | 1,4-Dioxane                                       | ND         |      | ug/m³ | 1.3             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 78-93-3  | <b>2-Butanone</b>                                 | <b>26</b>  |      | ug/m³ | 0.54            | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 591-78-6 | * 2-Hexanone                                      | ND         |      | ug/m³ | 1.5             | 1.836    | EPA TO-15 Certifications: | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |



## Sample Information

|   |                                   |
|---|-----------------------------------|
| <b>Client Sample ID:</b> South Subsurface | <b>York Sample ID:</b> 18B0991-03 |
| York Project (SDG) No.<br>18B0991         | Client Project ID<br>18-39197     |

### Volatile Organics, EPA TO15 Full List

Sample Prepared by Method: EPA TO15 PREP

#### Log-in Notes:

#### Sample Notes:

| 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          |      | ug/m³ | 2.9             | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 108-10-1   | <b>4-Methyl-2-pentanone</b>    | <b>3.9</b>  |      | ug/m³ | 0.75            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 67-64-1    | <b>Acetone</b>                 | <b>160</b>  |      | ug/m³ | 0.87            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 107-13-1   | Acrylonitrile                  | ND          |      | ug/m³ | 0.40            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 71-43-2    | <b>Benzene</b>                 | <b>4.6</b>  |      | ug/m³ | 0.59            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 100-44-7   | Benzyl chloride                | ND          |      | ug/m³ | 0.95            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 75-27-4    | Bromodichloromethane           | ND          |      | ug/m³ | 1.2             | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 75-25-2    | Bromoform                      | ND          |      | ug/m³ | 1.9             | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 74-83-9    | Bromomethane                   | ND          |      | ug/m³ | 0.71            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 75-15-0    | Carbon disulfide               | ND          |      | ug/m³ | 0.57            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 56-23-5    | <b>Carbon tetrachloride</b>    | <b>0.35</b> |      | ug/m³ | 0.29            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 108-90-7   | Chlorobenzene                  | ND          |      | ug/m³ | 0.85            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 75-00-3    | Chloroethane                   | ND          |      | ug/m³ | 0.48            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 67-66-3    | <b>Chloroform</b>              | <b>3.4</b>  |      | ug/m³ | 0.90            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 74-87-3    | <b>Chloromethane</b>           | <b>0.38</b> |      | ug/m³ | 0.38            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 156-59-2   | cis-1,2-Dichloroethylene       | ND          |      | ug/m³ | 0.18            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 10061-01-5 | cis-1,3-Dichloropropylene      | ND          |      | ug/m³ | 0.83            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 110-82-7   | <b>Cyclohexane</b>             | <b>1.3</b>  |      | ug/m³ | 0.63            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 124-48-1   | Dibromochloromethane           | ND          |      | ug/m³ | 1.6             | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 75-71-8    | <b>Dichlorodifluoromethane</b> | <b>2.5</b>  |      | ug/m³ | 0.91            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |
| 141-78-6   | * <b>Ethyl acetate</b>         | <b>1.5</b>  |      | ug/m³ | 1.3             | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  |                            |                    |         |
| 100-41-4   | <b>Ethyl Benzene</b>           | <b>1.5</b>  |      | ug/m³ | 0.80            | 1.836    | EPA TO-15        | 02/28/2018 21:38           | 02/28/2018 21:38   | LDS     |
|            |                                |             |      |       |                 |          | Certifications:  | NELAC-NY12058,NJDEP-Queens |                    |         |



## Sample Information

Client Sample ID: South Subsurface

York Sample ID: 18B0991-03

York Project (SDG) No.  
18B0991

Client Project ID  
18-39197

Matrix  
Soil Vapor

Collection Date/Time  
February 23, 2018 3:00 pm

Date Received  
02/26/2018

### 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 |
|-------------|--|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 87-68-3     | Hexachlorobutadiene                      | ND          |      | ug/m³ | 2.0             | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 67-63-0     | <b>Isopropanol</b>                       | <b>4.8</b>  |      | ug/m³ | 0.90            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 80-62-6     | Methyl Methacrylate                      | ND          |      | ug/m³ | 0.75            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 1634-04-4   | Methyl tert-butyl ether (MTBE)           | ND          |      | ug/m³ | 0.66            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 75-09-2     | Methylene chloride                       | ND          |      | ug/m³ | 1.3             | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 142-82-5    | <b>n-Heptane</b>                         | <b>1.8</b>  |      | ug/m³ | 0.75            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 110-54-3    | <b>n-Hexane</b>                          | <b>5.0</b>  |      | ug/m³ | 0.65            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 95-47-6     | <b>o-Xylene</b>                          | <b>1.0</b>  |      | ug/m³ | 0.80            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 179601-23-1 | <b>p- &amp; m- Xylenes</b>               | <b>2.8</b>  |      | ug/m³ | 1.6             | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 622-96-8    | * <b>p-Ethyltoluene</b>                  | <b>0.99</b> |      | ug/m³ | 0.90            | 1.836    | EPA TO-15<br>Certifications:                            | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 115-07-1    | * <b>Propylene</b>                       | <b>1.6</b>  |      | ug/m³ | 0.32            | 1.836    | EPA TO-15<br>Certifications:                            | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 100-42-5    | Styrene                                  | ND          |      | ug/m³ | 0.78            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 127-18-4    | <b>Tetrachloroethylene</b>               | <b>0.87</b> |      | ug/m³ | 0.31            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 109-99-9    | * <b>Tetrahydrofuran</b>                 | <b>53</b>   |      | ug/m³ | 1.1             | 1.836    | EPA TO-15<br>Certifications:                            | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 108-88-3    | <b>Toluene</b>                           | <b>240</b>  |      | ug/m³ | 0.69            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 156-60-5    | trans-1,2-Dichloroethylene               | ND          |      | ug/m³ | 0.73            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 10061-02-6  | trans-1,3-Dichloropropylene              | ND          |      | ug/m³ | 0.83            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 79-01-6     | <b>Trichloroethylene</b>                 | <b>0.39</b> |      | ug/m³ | 0.25            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 75-69-4     | <b>Trichlorofluoromethane (Freon 11)</b> | <b>1.8</b>  |      | ug/m³ | 1.0             | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 108-05-4    | Vinyl acetate                            | ND          |      | ug/m³ | 0.65            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 593-60-2    | Vinyl bromide                            | ND          |      | ug/m³ | 0.80            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |
| 75-01-4     | Vinyl Chloride                           | ND          |      | ug/m³ | 0.12            | 1.836    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 21:38   | 02/28/2018 21:38   | LDS     |



## Sample Information

Client Sample ID: South Subsurface

York Sample ID: 18B0991-03

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Soil Vapor

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### Helium

Sample Prepared by Method: PREP for GASES by GC

#### Log-in Notes:

#### Sample Notes:

| CAS No.   | Parameter | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method       | Date/Time Prepared | Date/Time Analyzed | Analyst |
|-----------|-----------|--------|------|-------|-----------------|----------|------------------------|--------------------|--------------------|---------|
| 7440-59-7 | * Helium  | ND     |      | %     | 0.92            | 1.836    | GC/TCD Certifications: | 02/28/2018 17:31   | 02/28/2018 18:14   | LDS     |

## Sample Information

Client Sample ID: South Crawlspace

York Sample ID: 18B0991-04

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### Volatile Organics, EPA TO15 Full List

#### Log-in Notes:

#### Sample Notes:

| 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     |      | ug/m³ | 0.37            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 71-55-6  | 1,1,1-Trichloroethane                             | ND     |      | ug/m³ | 0.29            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 79-34-5  | 1,1,2,2-Tetrachloroethane                         | ND     |      | ug/m³ | 0.37            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 76-13-1  | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND     |      | ug/m³ | 0.41            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 79-00-5  | 1,1,2-Trichloroethane                             | ND     |      | ug/m³ | 0.29            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-34-3  | 1,1-Dichloroethane                                | ND     |      | ug/m³ | 0.22            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-35-4  | 1,1-Dichloroethylene                              | ND     |      | ug/m³ | 0.053           | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 120-82-1 | 1,2,4-Trichlorobenzene                            | ND     |      | ug/m³ | 0.40            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 95-63-6  | 1,2,4-Trimethylbenzene                            | ND     |      | ug/m³ | 0.26            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 106-93-4 | 1,2-Dibromoethane                                 | ND     |      | ug/m³ | 0.41            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 95-50-1  | 1,2-Dichlorobenzene                               | ND     |      | ug/m³ | 0.32            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 107-06-2 | 1,2-Dichloroethane                                | ND     |      | ug/m³ | 0.22            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 78-87-5  | 1,2-Dichloropropane                               | ND     |      | ug/m³ | 0.25            | 0.533    | EPA TO-15 Certifications: | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |



## Sample Information

|   |   |
|---|---|
| <b>Client Sample ID:</b> South Crawlspace | <b>York Sample ID:</b> 18B0991-04   |
| <u>York Project (SDG) No.</u><br>18B0991  | <u>Client Project ID</u><br>18-39197  |
|   | <u>Matrix</u><br>Indoor Ambient Air <u>Collection Date/Time</u><br>February 23, 2018 3:00 pm <u>Date Received</u><br>02/26/2018 |

### 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 |
|----------|-------------------------------|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 76-14-2  | 1,2-Dichlorotetrafluoroethane | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 108-67-8 | 1,3,5-Trimethylbenzene        | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 106-99-0 | 1,3-Butadiene                 | ND          |      | ug/m³ | 0.35            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 541-73-1 | 1,3-Dichlorobenzene           | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 142-28-9 | * 1,3-Dichloropropane         | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 106-46-7 | 1,4-Dichlorobenzene           | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 123-91-1 | 1,4-Dioxane                   | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 78-93-3  | <b>2-Butanone</b>             | <b>0.20</b> |      | ug/m³ | 0.16            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 591-78-6 | * <b>2-Hexanone</b>           | <b>2.9</b>  |      | ug/m³ | 0.44            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 107-05-1 | 3-Chloropropene               | ND          |      | ug/m³ | 0.83            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 108-10-1 | 4-Methyl-2-pentanone          | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 67-64-1  | <b>Acetone</b>                | <b>1.7</b>  |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 107-13-1 | Acrylonitrile                 | ND          |      | ug/m³ | 0.12            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 71-43-2  | Benzene                       | ND          |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 100-44-7 | Benzyl chloride               | ND          |      | ug/m³ | 0.28            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-27-4  | Bromodichloromethane          | ND          |      | ug/m³ | 0.36            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-25-2  | Bromoform                     | ND          |      | ug/m³ | 0.55            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 74-83-9  | Bromomethane                  | ND          |      | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-15-0  | Carbon disulfide              | ND          |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 56-23-5  | <b>Carbon tetrachloride</b>   | <b>0.10</b> |      | ug/m³ | 0.084           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 108-90-7 | Chlorobenzene                 | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-00-3  | Chloroethane                  | ND          |      | ug/m³ | 0.14            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |



## Sample Information

|   |                                      |
|---|--------------------------------------|
| <u>Client Sample ID:</u> South Crawlspace | <u>York Sample ID:</u> 18B0991-04    |
| <u>York Project (SDG) No.</u><br>18B0991  | <u>Client Project ID</u><br>18-39197 |

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|-------------|--------------------------------|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 67-66-3     | Chloroform                     | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 74-87-3     | <b>Chloromethane</b>           | <b>0.34</b> |      | ug/m³ | 0.11            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 156-59-2    | cis-1,2-Dichloroethylene       | ND          |      | ug/m³ | 0.053           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 10061-01-5  | cis-1,3-Dichloropropylene      | ND          |      | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 110-82-7    | Cyclohexane                    | ND          |      | ug/m³ | 0.18            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 124-48-1    | Dibromochloromethane           | ND          |      | ug/m³ | 0.45            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-71-8     | <b>Dichlorodifluoromethane</b> | <b>0.58</b> |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 141-78-6    | * Ethyl acetate                | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 100-41-4    | Ethyl Benzene                  | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 87-68-3     | Hexachlorobutadiene            | ND          |      | ug/m³ | 0.57            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 67-63-0     | <b>Isopropanol</b>             | <b>0.42</b> |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 80-62-6     | Methyl Methacrylate            | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 1634-04-4   | Methyl tert-butyl ether (MTBE) | ND          |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-09-2     | Methylene chloride             | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 142-82-5    | n-Heptane                      | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 110-54-3    | n-Hexane                       | ND          |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 95-47-6     | o-Xylene                       | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 179601-23-1 | p- & m- Xylenes                | ND          |      | ug/m³ | 0.46            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 622-96-8    | * p-Ethyltoluene               | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 115-07-1    | <b>* Propylene</b>             | <b>0.18</b> |      | ug/m³ | 0.092           | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 100-42-5    | Styrene                        | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 127-18-4    | Tetrachloroethylene            | ND          |      | ug/m³ | 0.090           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |



## Sample Information

Client Sample ID: South Crawlspace

York Sample ID: 18B0991-04

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### Volatile Organics, EPA TO15 Full List

Sample Prepared by Method: EPA TO15 PREP

#### Log-in Notes:

#### Sample Notes:

| CAS No.                     | Parameter                         | Result        | Flag                    | Units | Reported to LOQ | Dilution | Reference Method                                     | Date/Time Prepared | Date/Time Analyzed | Analyst |
|-----------------------------|-----------------------------------|---------------|-------------------------|-------|-----------------|----------|--|--------------------|--------------------|---------|
| 109-99-9                    | * Tetrahydrofuran                 | ND            |                         | ug/m³ | 0.31            | 0.533    | EPA TO-15 Certifications:                            | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 108-88-3                    | Toluene                           | <b>0.50</b>   |                         | ug/m³ | 0.20            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 156-60-5                    | trans-1,2-Dichloroethylene        | ND            |                         | ug/m³ | 0.21            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 10061-02-6                  | trans-1,3-Dichloropropylene       | ND            |                         | ug/m³ | 0.24            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 79-01-6                     | Trichloroethylene                 | ND            |                         | ug/m³ | 0.072           | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-69-4                     | Trichlorofluoromethane (Freon 11) | <b>0.39</b>   |                         | ug/m³ | 0.30            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 108-05-4                    | Vinyl acetate                     | ND            |                         | ug/m³ | 0.19            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 593-60-2                    | Vinyl bromide                     | ND            |                         | ug/m³ | 0.23            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| 75-01-4                     | Vinyl Chloride                    | ND            |                         | ug/m³ | 0.034           | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 22:39   | 02/28/2018 22:39   | LDS     |
| <b>Surrogate Recoveries</b> |                                   | <b>Result</b> | <b>Acceptance Range</b> |       |                 |          |  |                    |                    |         |
| 460-00-4                    | Surrogate: p-Bromofluorobenzene   | 96.9 %        | 70-130                  |       |                 |          |  |                    |                    |         |

## Sample Information

Client Sample ID: Room 102

York Sample ID: 18B0991-05

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### Volatile Organics, EPA TO15 Full List

Sample Prepared by Method: EPA TO15 PREP

#### Log-in Notes:

#### Sample Notes:

| 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     |      | ug/m³ | 0.37            | 0.533    | EPA TO-15 Certifications:                            | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 71-55-6  | 1,1,1-Trichloroethane                             | ND     |      | ug/m³ | 0.29            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 79-34-5  | 1,1,2,2-Tetrachloroethane                         | ND     |      | ug/m³ | 0.37            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 76-13-1  | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND     |      | ug/m³ | 0.41            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 79-00-5  | 1,1,2-Trichloroethane                             | ND     |      | ug/m³ | 0.29            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |



## Sample Information

Client Sample ID: Room 102

York Sample ID: 18B0991-05

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|----------|------------------------------|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 75-34-3  | 1,1-Dichloroethane           | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-35-4  | 1,1-Dichloroethylene         | ND          |      | ug/m³ | 0.053           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 120-82-1 | 1,2,4-Trichlorobenzene       | ND          |      | ug/m³ | 0.40            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 95-63-6  | 1,2,4-Trimethylbenzene       | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 106-93-4 | 1,2-Dibromoethane            | ND          |      | ug/m³ | 0.41            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 95-50-1  | 1,2-Dichlorobenzene          | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 107-06-2 | 1,2-Dichloroethane           | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 78-87-5  | 1,2-Dichloropropane          | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 76-14-2  | 1,2-Dichlortetrafluoroethane | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 108-67-8 | 1,3,5-Trimethylbenzene       | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 106-99-0 | 1,3-Butadiene                | ND          |      | ug/m³ | 0.35            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 541-73-1 | 1,3-Dichlorobenzene          | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 142-28-9 | * 1,3-Dichloropropane        | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 106-46-7 | 1,4-Dichlorobenzene          | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 123-91-1 | 1,4-Dioxane                  | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 78-93-3  | <b>2-Butanone</b>            | <b>0.33</b> |      | ug/m³ | 0.16            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 591-78-6 | * 2-Hexanone                 | ND          |      | ug/m³ | 0.44            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 107-05-1 | 3-Chloropropene              | ND          |      | ug/m³ | 0.83            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 108-10-1 | 4-Methyl-2-pentanone         | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 67-64-1  | <b>Acetone</b>               | <b>2.7</b>  |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 107-13-1 | Acrylonitrile                | ND          |      | ug/m³ | 0.12            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 71-43-2  | <b>Benzene</b>               | <b>0.27</b> |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |



## Sample Information

Client Sample ID: Room 102

York Sample ID: 18B0991-05

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|------------|--------------------------------|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 100-44-7   | Benzyl chloride                | ND          |      | ug/m³ | 0.28            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-27-4    | Bromodichloromethane           | ND          |      | ug/m³ | 0.36            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-25-2    | Bromoform                      | ND          |      | ug/m³ | 0.55            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 74-83-9    | Bromomethane                   | ND          |      | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-15-0    | Carbon disulfide               | ND          |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 56-23-5    | <b>Carbon tetrachloride</b>    | <b>0.27</b> |      | ug/m³ | 0.084           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 108-90-7   | Chlorobenzene                  | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-00-3    | Chloroethane                   | ND          |      | ug/m³ | 0.14            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 67-66-3    | Chloroform                     | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 74-87-3    | <b>Chloromethane</b>           | <b>0.50</b> |      | ug/m³ | 0.11            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 156-59-2   | cis-1,2-Dichloroethylene       | ND          |      | ug/m³ | 0.053           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 10061-01-5 | cis-1,3-Dichloropropylene      | ND          |      | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 110-82-7   | Cyclohexane                    | ND          |      | ug/m³ | 0.18            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 124-48-1   | Dibromochloromethane           | ND          |      | ug/m³ | 0.45            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-71-8    | <b>Dichlorodifluoromethane</b> | <b>1.3</b>  |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 141-78-6   | * Ethyl acetate                | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 100-41-4   | Ethyl Benzene                  | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 87-68-3    | Hexachlorobutadiene            | ND          |      | ug/m³ | 0.57            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 67-63-0    | <b>Isopropanol</b>             | <b>0.96</b> |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 80-62-6    | Methyl Methacrylate            | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 1634-04-4  | Methyl tert-butyl ether (MTBE) | ND          |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-09-2    | Methylene chloride             | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |



## Sample Information

Client Sample ID: Room 102

York Sample ID: 18B0991-05

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|-----------------------------|--|---------------|-------------------------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 142-82-5                    | n-Heptane                                | ND            |                         | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 110-54-3                    | n-Hexane                                 | ND            |                         | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 95-47-6                     | o-Xylene                                 | ND            |                         | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 179601-23-1                 | <b>p- &amp; m- Xylenes</b>               | <b>0.56</b>   |                         | ug/m³ | 0.46            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 622-96-8                    | * p-Ethyltoluene                         | ND            |                         | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 115-07-1                    | <b>* Propylene</b>                       | <b>0.37</b>   |                         | ug/m³ | 0.092           | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 100-42-5                    | Styrene                                  | ND            |                         | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 127-18-4                    | Tetrachloroethylene                      | ND            |                         | ug/m³ | 0.090           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 109-99-9                    | * Tetrahydrofuran                        | ND            |                         | ug/m³ | 0.31            | 0.533    | EPA TO-15<br>Certifications:                            | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 108-88-3                    | <b>Toluene</b>                           | <b>0.80</b>   |                         | ug/m³ | 0.20            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 156-60-5                    | trans-1,2-Dichloroethylene               | ND            |                         | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 10061-02-6                  | trans-1,3-Dichloropropylene              | ND            |                         | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 79-01-6                     | <b>Trichloroethylene</b>                 | <b>0.086</b>  |                         | ug/m³ | 0.072           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-69-4                     | <b>Trichlorofluoromethane (Freon 11)</b> | <b>0.84</b>   |                         | ug/m³ | 0.30            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 108-05-4                    | Vinyl acetate                            | ND            |                         | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 593-60-2                    | Vinyl bromide                            | ND            |                         | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| 75-01-4                     | Vinyl Chloride                           | ND            |                         | ug/m³ | 0.034           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 02/28/2018 23:39   | 02/28/2018 23:39   | LDS     |
| <b>Surrogate Recoveries</b> |  | <b>Result</b> | <b>Acceptance Range</b> |       |                 |          |   |                    |                    |         |
| 460-00-4                    | Surrogate: p-Bromofluorobenzene          | 94.8 %        | 70-130                  |       |                 |          |   |                    |                    |         |



## Sample Information

Client Sample ID: Room 112

York Sample ID: 18B0991-06

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15 Certifications:                            | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 71-55-6  | 1,1,1-Trichloroethane                             | ND          |      | ug/m³ | 0.29            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 79-34-5  | 1,1,2,2-Tetrachloroethane                         | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 76-13-1  | 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) | ND          |      | ug/m³ | 0.41            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 79-00-5  | 1,1,2-Trichloroethane                             | ND          |      | ug/m³ | 0.29            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-34-3  | 1,1-Dichloroethane                                | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-35-4  | 1,1-Dichloroethylene                              | ND          |      | ug/m³ | 0.053           | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 120-82-1 | 1,2,4-Trichlorobenzene                            | ND          |      | ug/m³ | 0.40            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 95-63-6  | 1,2,4-Trimethylbenzene                            | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 106-93-4 | 1,2-Dibromoethane                                 | ND          |      | ug/m³ | 0.41            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 95-50-1  | 1,2-Dichlorobenzene                               | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 107-06-2 | 1,2-Dichloroethane                                | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 78-87-5  | 1,2-Dichloropropane                               | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 76-14-2  | 1,2-Dichlortetrafluoroethane                      | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 108-67-8 | 1,3,5-Trimethylbenzene                            | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 106-99-0 | 1,3-Butadiene                                     | ND          |      | ug/m³ | 0.35            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 541-73-1 | 1,3-Dichlorobenzene                               | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 142-28-9 | * 1,3-Dichloropropane                             | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15 Certifications:                            | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 106-46-7 | 1,4-Dichlorobenzene                               | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 123-91-1 | 1,4-Dioxane                                       | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 78-93-3  | <b>2-Butanone</b>                                 | <b>0.24</b> |      | ug/m³ | 0.16            | 0.533    | EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 591-78-6 | * 2-Hexanone                                      | 9.2         |      | ug/m³ | 0.44            | 0.533    | EPA TO-15 Certifications:                            | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |



## Sample Information

Client Sample ID: Room 112

York Sample ID: 18B0991-06

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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          |      | ug/m³ | 0.83            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 108-10-1   | 4-Methyl-2-pentanone           | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 67-64-1    | <b>Acetone</b>                 | <b>2.1</b>  |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 107-13-1   | Acrylonitrile                  | ND          |      | ug/m³ | 0.12            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 71-43-2    | <b>Benzene</b>                 | <b>0.26</b> |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 100-44-7   | Benzyl chloride                | ND          |      | ug/m³ | 0.28            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-27-4    | Bromodichloromethane           | ND          |      | ug/m³ | 0.36            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-25-2    | Bromoform                      | ND          |      | ug/m³ | 0.55            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 74-83-9    | Bromomethane                   | ND          |      | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-15-0    | Carbon disulfide               | ND          |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 56-23-5    | <b>Carbon tetrachloride</b>    | <b>0.27</b> |      | ug/m³ | 0.084           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 108-90-7   | Chlorobenzene                  | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-00-3    | Chloroethane                   | ND          |      | ug/m³ | 0.14            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 67-66-3    | Chloroform                     | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 74-87-3    | <b>Chloromethane</b>           | <b>0.55</b> |      | ug/m³ | 0.11            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 156-59-2   | cis-1,2-Dichloroethylene       | ND          |      | ug/m³ | 0.053           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 10061-01-5 | cis-1,3-Dichloropropylene      | ND          |      | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 110-82-7   | Cyclohexane                    | ND          |      | ug/m³ | 0.18            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 124-48-1   | Dibromochloromethane           | ND          |      | ug/m³ | 0.45            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-71-8    | <b>Dichlorodifluoromethane</b> | <b>1.4</b>  |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 141-78-6   | * Ethyl acetate                | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 100-41-4   | Ethyl Benzene                  | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |



## Sample Information

Client Sample ID: Room 112

York Sample ID: 18B0991-06

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|-------------|--|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 87-68-3     | Hexachlorobutadiene                      | ND          |      | ug/m³ | 0.57            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 67-63-0     | <b>Isopropanol</b>                       | <b>1.2</b>  |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 80-62-6     | Methyl Methacrylate                      | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 1634-04-4   | Methyl tert-butyl ether (MTBE)           | ND          |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-09-2     | Methylene chloride                       | ND          |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 142-82-5    | n-Heptane                                | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 110-54-3    | n-Hexane                                 | ND          |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 95-47-6     | o-Xylene                                 | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 179601-23-1 | p- & m- Xylenes                          | ND          |      | ug/m³ | 0.46            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 622-96-8    | * p-Ethyltoluene                         | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 115-07-1    | <b>* Propylene</b>                       | <b>0.34</b> |      | ug/m³ | 0.092           | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 100-42-5    | Styrene                                  | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 127-18-4    | Tetrachloroethylene                      | ND          |      | ug/m³ | 0.090           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 109-99-9    | * Tetrahydrofuran                        | ND          |      | ug/m³ | 0.31            | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 108-88-3    | <b>Toluene</b>                           | <b>0.60</b> |      | ug/m³ | 0.20            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 156-60-5    | trans-1,2-Dichloroethylene               | ND          |      | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 10061-02-6  | trans-1,3-Dichloropropylene              | ND          |      | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 79-01-6     | Trichloroethylene                        | ND          |      | ug/m³ | 0.072           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-69-4     | <b>Trichlorofluoromethane (Freon 11)</b> | <b>0.93</b> |      | ug/m³ | 0.30            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 108-05-4    | Vinyl acetate                            | ND          |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 593-60-2    | Vinyl bromide                            | ND          |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |
| 75-01-4     | Vinyl Chloride                           | ND          |      | ug/m³ | 0.034           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 00:40   | 03/01/2018 00:40   | LDS     |



## Sample Information

Client Sample ID: Room 112

York Sample ID: 18B0991-06

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Indoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|---|-----------|--------|------|-------|------------------|----------|------------------|--------------------|--------------------|---------|
| <b>Surrogate Recoveries</b>                             |           |        |      |       |                  |          |                  |                    |                    |         |
| 460-00-4 Surrogate: <i>p</i> -Bromofluorobenzene 94.3 % |           |        |      |       |                  |          |                  |                    |                    |         |
|   |           |        |      |       | Acceptance Range |          |                  |                    |                    |         |
|   |           |        |      |       | 70-130           |          |                  |                    |                    |         |

## Sample Information

Client Sample ID: Ambient

York Sample ID: 18B0991-07

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Outdoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 ug/m³ 0.37 0.533 EPA TO-15 Certifications:   |           |        |      |       |                 |          |                  |                    |                    |         |
| 71-55-6 1,1,1-Trichloroethane ND ug/m³ 0.29 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                             |           |        |      |       |                 |          |                  |                    |                    |         |
| 79-34-5 1,1,2,2-Tetrachloroethane ND ug/m³ 0.37 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                         |           |        |      |       |                 |          |                  |                    |                    |         |
| 76-13-1 1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113) ND ug/m³ 0.41 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens |           |        |      |       |                 |          |                  |                    |                    |         |
| 79-00-5 1,1,2-Trichloroethane ND ug/m³ 0.29 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                             |           |        |      |       |                 |          |                  |                    |                    |         |
| 75-34-3 1,1-Dichloroethane ND ug/m³ 0.22 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                                |           |        |      |       |                 |          |                  |                    |                    |         |
| 75-35-4 1,1-Dichloroethylene ND ug/m³ 0.053 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                             |           |        |      |       |                 |          |                  |                    |                    |         |
| 120-82-1 1,2,4-Trichlorobenzene ND ug/m³ 0.40 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                           |           |        |      |       |                 |          |                  |                    |                    |         |
| 95-63-6 1,2,4-Trimethylbenzene ND ug/m³ 0.26 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                            |           |        |      |       |                 |          |                  |                    |                    |         |
| 106-93-4 1,2-Dibromoethane ND ug/m³ 0.41 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                                |           |        |      |       |                 |          |                  |                    |                    |         |
| 95-50-1 1,2-Dichlorobenzene ND ug/m³ 0.32 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                               |           |        |      |       |                 |          |                  |                    |                    |         |
| 107-06-2 1,2-Dichloroethane ND ug/m³ 0.22 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                               |           |        |      |       |                 |          |                  |                    |                    |         |
| 78-87-5 1,2-Dichloropropane ND ug/m³ 0.25 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                               |           |        |      |       |                 |          |                  |                    |                    |         |
| 76-14-2 1,2-Dichlorotetrafluoroethane ND ug/m³ 0.37 0.533 EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens                     |           |        |      |       |                 |          |                  |                    |                    |         |



## Sample Information

Client Sample ID: Ambient

York Sample ID: 18B0991-07

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Outdoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### 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 |
|----------|-----------------------------|-------------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 108-67-8 | 1,3,5-Trimethylbenzene      | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 106-99-0 | 1,3-Butadiene               | ND          |      | ug/m³ | 0.35            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 541-73-1 | 1,3-Dichlorobenzene         | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 142-28-9 | * 1,3-Dichloropropane       | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 106-46-7 | 1,4-Dichlorobenzene         | ND          |      | ug/m³ | 0.32            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 123-91-1 | 1,4-Dioxane                 | ND          |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 78-93-3  | <b>2-Butanone</b>           | <b>0.22</b> |      | ug/m³ | 0.16            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 591-78-6 | * 2-Hexanone                | ND          |      | ug/m³ | 0.44            | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 107-05-1 | 3-Chloropropene             | ND          |      | ug/m³ | 0.83            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 108-10-1 | 4-Methyl-2-pentanone        | ND          |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 67-64-1  | <b>Acetone</b>              | <b>1.8</b>  |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 107-13-1 | Acrylonitrile               | ND          |      | ug/m³ | 0.12            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 71-43-2  | <b>Benzene</b>              | <b>0.22</b> |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 100-44-7 | Benzyl chloride             | ND          |      | ug/m³ | 0.28            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 75-27-4  | Bromodichloromethane        | ND          |      | ug/m³ | 0.36            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 75-25-2  | Bromoform                   | ND          |      | ug/m³ | 0.55            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 74-83-9  | Bromomethane                | ND          |      | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 75-15-0  | Carbon disulfide            | ND          |      | ug/m³ | 0.17            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 56-23-5  | <b>Carbon tetrachloride</b> | <b>0.23</b> |      | ug/m³ | 0.084           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 108-90-7 | Chlorobenzene               | ND          |      | ug/m³ | 0.25            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 75-00-3  | Chloroethane                | ND          |      | ug/m³ | 0.14            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 67-66-3  | Chloroform                  | ND          |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |



## Sample Information

Client Sample ID: Ambient

York Sample ID: 18B0991-07

York Project (SDG) No.

18B0991

Client Project ID

18-39197

Matrix

Outdoor Ambient Air

Collection Date/Time

February 23, 2018 3:00 pm

Date Received

02/26/2018

### Volatile Organics, EPA TO15 Full List

Sample Prepared by Method: EPA TO15 PREP

#### Log-in Notes:

#### Sample Notes:

| CAS No.     | Parameter                      | Result | Flag | Units | Reported to LOQ | Dilution | Reference Method  | Date/Time Prepared | Date/Time Analyzed | Analyst |
|-------------|--------------------------------|--------|------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 74-87-3     | Chloromethane                  | 0.52   |      | ug/m³ | 0.11            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 156-59-2    | cis-1,2-Dichloroethylene       | ND     |      | ug/m³ | 0.053           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 10061-01-5  | cis-1,3-Dichloropropylene      | ND     |      | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 110-82-7    | Cyclohexane                    | ND     |      | ug/m³ | 0.18            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 124-48-1    | Dibromochloromethane           | ND     |      | ug/m³ | 0.45            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 75-71-8     | Dichlorodifluoromethane        | 1.3    |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 141-78-6    | * Ethyl acetate                | ND     |      | ug/m³ | 0.38            | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 100-41-4    | Ethyl Benzene                  | ND     |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 87-68-3     | Hexachlorobutadiene            | ND     |      | ug/m³ | 0.57            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 67-63-0     | Isopropanol                    | ND     |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 80-62-6     | Methyl Methacrylate            | ND     |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 1634-04-4   | Methyl tert-butyl ether (MTBE) | ND     |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 75-09-2     | Methylene chloride             | ND     |      | ug/m³ | 0.37            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 142-82-5    | n-Heptane                      | ND     |      | ug/m³ | 0.22            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 110-54-3    | n-Hexane                       | ND     |      | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 95-47-6     | o-Xylene                       | ND     |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 179601-23-1 | p- & m- Xylenes                | ND     |      | ug/m³ | 0.46            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 622-96-8    | * p-Ethyltoluene               | ND     |      | ug/m³ | 0.26            | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 115-07-1    | * Propylene                    | 0.31   |      | ug/m³ | 0.092           | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 100-42-5    | Styrene                        | ND     |      | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 127-18-4    | Tetrachloroethylene            | ND     |      | ug/m³ | 0.090           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 109-99-9    | * Tetrahydrofuran              | ND     |      | ug/m³ | 0.31            | 0.533    | EPA TO-15<br>Certifications:                            | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |



## Sample Information

|  |                                      |  |
|--|--------------------------------------|--|
| <u>Client Sample ID:</u> Ambient         |                                      | <u>York Sample ID:</u> <b>18B0991-07</b>   |
| <u>York Project (SDG) No.</u><br>18B0991 | <u>Client Project ID</u><br>18-39197 | <u>Matrix</u><br>Outdoor Ambient Air <u>Collection Date/Time</u> February 23, 2018 3:00 pm <u>Date Received</u> 02/26/2018 |

### 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 |
|----------------------|-----------------------------------|-------------|------------------|-------|-----------------|----------|---|--------------------|--------------------|---------|
| 108-88-3             | Toluene                           | <b>0.26</b> |                  | ug/m³ | 0.20            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 156-60-5             | trans-1,2-Dichloroethylene        | ND          |                  | ug/m³ | 0.21            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 10061-02-6           | trans-1,3-Dichloropropylene       | ND          |                  | ug/m³ | 0.24            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 79-01-6              | Trichloroethylene                 | ND          |                  | ug/m³ | 0.072           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 75-69-4              | Trichlorofluoromethane (Freon 11) | <b>0.84</b> |                  | ug/m³ | 0.30            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 108-05-4             | Vinyl acetate                     | ND          |                  | ug/m³ | 0.19            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 593-60-2             | Vinyl bromide                     | ND          |                  | ug/m³ | 0.23            | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| 75-01-4              | Vinyl Chloride                    | ND          |                  | ug/m³ | 0.034           | 0.533    | EPA TO-15<br>Certifications: NELAC-NY12058,NJDEP-Queens | 03/01/2018 01:41   | 03/01/2018 01:41   | LDS     |
| Surrogate Recoveries |                                   | Result      | Acceptance Range |       |                 |          |   |                    |                    |         |
| 460-00-4             | Surrogate: p-Bromofluorobenzene   | 95.8 %      | 70-130           |       |                 |          |   |                    |                    |         |





## Sample and Data Qualifiers Relating to This Work Order

QL-03 This LCS analyte recovered outside of acceptance limits. The LCS contains approximately 70 compounds, a limited number of which may be outside acceptance windows.

CCV-A The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>30% Difference for average Rf). This applies to dectected analytes only.

### 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.

# Field Chain-of-Custody Record - AIR

Page \_\_\_\_ of \_\_\_\_

York Project No. 18B0991

NOTE: York's Std. Terms & Conditions are listed on the back side of this document.

This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions unless superseded by written contract.

| YOUR Information                              |                       | Report To:            | Invoice To:  | YOUR Project ID  | Turn-Around Time                          | Report Type/Deliverables                                  |
|---|-----------------------|-----------------------|--|--|---|---|
| Company: <u>JCB BRODICK ASSOC</u>             | Company: <u>JCS</u>   | Company: <u>JCB</u>   |  | <u>18-39197</u>  | RUSH - Same Day <input type="checkbox"/>  | Summary Report <input checked="" type="checkbox"/>        |
| Address: <u>1775 EXPRESS DR. N</u>            | Address: _____        | Address: _____        |  |  | RUSH - Next Day <input type="checkbox"/>  | Summary w/ QA Summary <input checked="" type="checkbox"/> |
| <u>HARLEM, NY 11788</u>                       |                       |                       |  |  | RUSH - Two Day <input type="checkbox"/>   | CT RCP Package <input type="checkbox"/>                   |
| Phone No. <u>631-584-5492</u>                 | Phone No. _____       | Phone No. _____       |  |  | RUSH - Three Day <input type="checkbox"/> | NY ASP A Package <input type="checkbox"/>                 |
| Contact Person: <u>S. MULLEN</u>              | Attention: _____      | Attention: _____      |  |  | RUSH - Four Day <input type="checkbox"/>  | NY ASP B/CLP Pkg <input type="checkbox"/>                 |
| E-Mail Address: <u>SIMULINE.JCBRODICK.COM</u> | E-Mail Address: _____ | E-Mail Address: _____ | Samples from: CT <input type="checkbox"/> NY <input checked="" type="checkbox"/> NJ <input type="checkbox"/> | Standard(5-7 Days) <input checked="" type="checkbox"/> |   | NJDEP Reduced <input type="checkbox"/>                    |

**Print Clearly and Legibly. All Information must be complete.**  
**Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.**

Samples Collected/Authorized By (Signature)  
STEVEN MULLEN  
 Name (printed)

### Air Matrix Codes

- AI - INDOOR Ambient Air
- AO - OUTDOOR Amb. Air
- AE - Vapor Extraction Well/ Process Gas/Effluent
- AS - SOIL Vapor/Sub-Slab

Additional Notes:

### Please enter the following Field Data

#### Detection Limits Required

≤ 1 ug/m<sup>3</sup>

NYSDEC VI Limits

(VI =vapor intrusion)

NJDEP low level

Routine Survey

Other \_\_\_\_\_

#### Special Instructions

| Sample Identification | Date Sampled | AIR Matrix | Canister Vacuum Before Sampling (in. Hg) | Canister Vacuum After Sampling (in. Hg) | Canister ID | Flow Cont.ID | ANALYSES REQUESTED | Sampling Media  |
|-----------------------|--------------|------------|--|---|-------------|--------------|--------------------|---|
| North Subsurface      | 2/23/18      | AS         | 30                                       | 13                                      | 28844       | 444          | TO-15 + He         | 6 Liter canister Tedlar Bag <input checked="" type="checkbox"/> |
| North Crawlspace      | 2/23/18      | AI         | 30                                       | 10                                      | 28849       | 5607         | TO-15              | 6 Liter canister Tedlar Bag <input checked="" type="checkbox"/> |
| South Subsurface      | 2/23/18      | AS         | 30                                       | 10                                      | 28848       | 7420         | TO-15 + He         | 6 Liter canister Tedlar Bag <input checked="" type="checkbox"/> |
| South Crawlspace      | 2/23/18      | AI         | 30                                       | 21                                      | 28857       | 5628         | TO-15              | 6 Liter canister Tedlar Bag <input checked="" type="checkbox"/> |
| Room 102              | 2/23/18      | AI         | 30                                       | 8                                       | 28845       | 5610         | TO-15              | 6 Liter canister Tedlar Bag <input checked="" type="checkbox"/> |
| Room 112              | 2/23/18      | AI         | 30                                       | 6                                       | 28837       | 5122         | TO-15              | 6 Liter canister Tedlar Bag <input checked="" type="checkbox"/> |
| Ambient               | 2/23/18      | AO         | 30                                       | 9                                       | 28838       | 6861         | TO-15              | 6 Liter canister Tedlar Bag <input checked="" type="checkbox"/> |
|                       |              |            |  |   |             |              |                    | 6 Liter canister Tedlar Bag <input type="checkbox"/>            |
|                       |              |            |  |   |             |              |                    | 6 Liter canister Tedlar Bag <input type="checkbox"/>            |
|                       |              |            |  |   |             |              |                    | 6 Liter canister Tedlar Bag <input type="checkbox"/>            |
|                       |              |            |  |   |             |              |                    | 6 Liter canister Tedlar Bag <input type="checkbox"/>            |
|                       |              |            |  |   |             |              |                    | 6 Liter canister Tedlar Bag <input type="checkbox"/>            |

#### Comments

KRAMER ES  
 1 KRAMER LANE  
 PLAINVIEW, NY

|  |   |  |  |
|--|---|--|--|
| <br>Samples Relinquished By <u>John Hahn</u><br>Samples Relinquished By <u>John Hahn</u> | 2/26/18 2:10 pm<br>Date/Time <u>4:05 pm</u> | <br>Samples Received By <u>John Hahn</u><br>Samples Received By <u>John Hahn</u> | 2/26/18 2:10 pm<br>Date/Time <u>1630</u> |
|  | Date/Time                                   |  | Date/Time                                |