Annual Report
Soil Vapor and Indoor Air Monitoring
February 2020

Citizen Development Company / Flower Fashion Site
47 Northern Boulevard
Great Neck, New York

NYSDEC Site # 1-30-070

April 2020

Prepared for:

Citizen Development Company
111-15 Queens Boulevard
P.O. Box 10
Forest Hills, NY 11375

Prepared by:

CA Rich Consultants, Inc.
17 Dupont Street
Plainview, NY 11803

April 1, 2020

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Region 1
50 Circle Road
Stony Brook, New York 11790

Attention: Mr. Sarken Dressler, P.G., Engineering Geologist, Remedial Bureau A,
Division of Environmental Remediation

Re: Revised Annual Periodic Review Report (PRR)
February 2020 Soil Vapor & Indoor Air Monitoring Results
The Citizens Development Company / Flower Fashion Site (the Site)
47 Northern Boulevard, Great Neck, New York

Dear Mr. Dressler:

In accordance with our Site Management Plan (SMP), attached is a copy of the Annual Soil Vapor & Indoor Air Monitoring Report and Certification (the Report) for the above-referenced Site. This document follows the Department's new "Periodic Review Report General Guidance" outline included in the NYSDEC's 45 Day Reminder Notice. It also includes a signed Institutional and Engineering Controls Certification Form.

On June 14, 2019, the NYSDEC conditionally approved the PRR, dated April 11, 2019, submitted by CA Rich Consultants, Inc. (CA RICH) for the Site. NYSDEC determined that an additional round of sampling is required for the AT&T building located at 47 Northern Blvd. Based upon NYSDEC's approval letter, no further monitoring is required or necessary for the 55 Northern Blvd building.

The findings presented in this Report indicate that the concentrations of perchloroethene (PCE) in the indoor air at the Site and in the basement of the building remained well below the revised NYSDOH guideline (May 2017 version of Matrix B) of 3 to <10 ug/m^3 for "No Further Action", with the SSD fans shutdown for over two years. Therefore, we recommended that indoor air monitoring be discontinued and the SSD systems terminated in accordance with the SMP.

During this winter's 2019-20 termination sampling round (conducted February 5, 2020); PCE was detected at 4.9 ug/m^3 inside the first floor of the AT&T store at 47 Northern Blvd. The basement indoor air sample at AT&T also contained 4.9 ug/m^3 of PCE. The levels detected in these samples continued to display concentrations even below the revised NYSDOH indoor air guideline of 3 to <10 ug/m^3 for "No Further Action".

In accordance with the approved Termination Sampling Plan and the conditionally approved PRR – June 14, 2019, another sub-slab soil vapor sample was collected from the basement of 47 Northern Blvd. The sub-slab soil vapor PCE result of sample (SVTP-01) collected was 150 ug/m³. This soil vapor detection dropped significantly from 330 ug/m³ – Jan 2019 to 150 ug/m³, which is barely above the revised NYSDOH soil vapor guideline of 100 ug/m³ for "No further action", but still well below the 1,000 ug/m³ for "continued monitoring".

As described in detail within our Report, we recommend the following for this Site:

- Indoor air monitoring at the AT&T store should be discontinued in accordance with the SMP.

- Since the results of the implemented SSD termination protocol demonstrated continued compliance with the revised NYSDOH guidelines, the indoor air monitoring program can be terminated, and the Site be considered for delisting from the NYSDEC Registry.

If there are any questions regarding this revised Report, please do not hesitate to call our Office.

Sincerely,

CA RICH CONSULTANTS, INC.

Michael Yager

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Project Manager

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Revised Periodic Review Report (PRR) – April 2020
Citizen Development Company /Flower Fashion Site
47 Northern Blvd
Great Neck, New York
NYSDEC Site # 1-30-070

1.0 Introduction

The Citizen Development Corp./Fashion Flower (CDC/FF) site (the Site) is located at 47 Northern Blvd in Great Neck, New York (see Figure 1) and is currently occupied by AT&T. Please note that in March of 2015, an automobile crashed into the AT&T store at 47 Northern Blvd and the store remained vacant/closed pending renovation. The AT&T space has been completely renovated and re-opened in 2017. Previous tenants of this Property were: a Cingular cellular telephone store; a florist; and a dry cleaner. The contaminant of concern is tetrachloroethene (a.k.a perchloroethene or "PCE"), which is a remnant of the operations of the former dry cleaner. The media that were impacted included soil, soil vapor, underlying groundwater and indoor air. Based upon the work described in this report and in the referenced reports, and the filing of the environmental easement in 2014, this site was reclassified from a NYSDEC Class 2 to a NYSDEC Class 4 site in 2014.

1.1 Nature & Extent of Contamination and Remedial History

During the 1980's and 1990's, a systematic series of investigative and remedial activities including soil borings, well installations & sampling, soil vapor surveys, soil excavation, a soil vapor extraction (SVE) system and groundwater pump & treat systems were performed at the CDC/FF Site to address a release of the dry cleaning chemical perchloroethene and its degradation products. During the 2000's, this was followed by the installation of a Sub-Slab Depressurization (SSD) system below the building, an additional soil vapor survey, a second soil removal effort, a program of in-situ chemical oxidation, the operation of a second SVE system, the installation of additional monitoring wells and the installation/conversion to a second SSD system.

As displayed in the chronologic tabulation included in Section 2 of this report, this Site has a long history of environmental investigative and remedial activities. A list of selected references pertaining to the work accomplished is included at the end of this Report. For the purposes of this periodic review, this Report will focus on the more recent investigative and remedial efforts as outlined in the Site Management Plan (SMP) (Ref 11). These are: in-situ chemical oxidation; operation of an SVE – converted to SSD system in the rear of the Property; operation of the SSD system below the building; and post remediation groundwater and indoor air monitoring.

1.2 Effectiveness of Remedial Program

The effectiveness of the corrective actions implemented at this Site has been evaluated by reviewing data collected relative to the following components of the remedial program. These are discussed in further detail in Section 3 of this Report.

In-Situ Chemical Oxidation – The last in-situ chemical oxidation application was applied during the summer of 2006. Based on the results of samples collected from the monitoring wells downgradient of the application site, this remedial effort was deemed to have been effective. In response to our 2010 Annual Monitoring Report (Ref. 16), NYSDEC agreed that groundwater monitoring at this site can be discontinued. A copy of the NYSDEC letter (Ref 17) is attached.

Operation of the SVE System in the Rear of the Property – The SVE system remained in operation from January 2005 to July 2011. A final post remediation soil boring was performed in December 2010 and the results were included in the Annual Monitoring Report for that year. Based on those results, NYSDEC concurred that the SVE system could be turned off and converted to an SSD system by replacing the

blower with an energy efficient vapor abatement fan (Ref. 17). This conversion was performed in July 2011. The layout of the SSD system is illustrated on Figure 2.

Operation of the SSD System Below the Building – 2016
On May 17, 2016, NYSDEC approved the Periodic Review Report, (PRR), dated March 30, 2016, submitted by CA Rich Consultants, Inc. (CA RICH) for the Site. In that PRR, CA RICH demonstrated that the Site met the criteria of the termination protocol in the Site Management Plan (SMP). In its May 17th letter, NYSDEC concurred with this and requested that CA RICH submit a letter proposal to implement termination sampling for the Site during the upcoming heating season. A copy of the NYSDEC letter (Ref 19) is attached.

On October 17, 2016, CA RICH submitted the Termination Sampling Plan for Site #1-30-070. The Plan was approved by NYSDEC on January 11, 2017. On January 19, 2017, the SSD fans were turned off in accordance with the Termination Sampling Plan. The indoor air samples, outdoor air sample, and the sub-slab soil vapor sample were collected on February 23, 2017, as outlined in the NYSDEC-approved Plan. A copy of the plan is included in Appendix A.

The results from the termination sampling performed demonstrated that the PCE indoor air levels were well below the New York State Department of Health (NYSDOH) revised guideline of 30 ug/m^3 with the SSD fans shutdown for more than four weeks. Therefore, we recommended that indoor air monitoring be discontinued and the SSD systems terminated in accordance with the SMP.

No operational problems were reported during 2016 and the SSD fans were turned back on after the termination sampling event.

Operation of the SSD System Below the Building – 2017
On July 18, 2017, NYSDEC approved the PRR, dated May 31, 2017, submitted by CA Rich Consultants, Inc. (CA RICH) for the Site. In that PRR, CA RICH demonstrated that the Site met the criteria of the termination protocol in the Site Management Plan (SMP) and the NYSDEC-approved Termination Sampling Plan. In its July 18th letter, NYSDEC concurred with this and requested that the mitigation systems be turned off and required one additional round of samples be collected in accordance with the Termination Sampling Plan and with the data compared to the newly revised NYSDOH Soil Vapor/Indoor Air Matrices (May 2017). A copy of the NYSDEC letter (Ref 20) is attached along with the revised NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene (a.k.a perchloroethene or "PCE") for reference.

The mitigation systems were turned off in August 2017. The indoor air samples, outdoor air sample, and the sub-slab soil vapor sample were collected on January 30, 2018. The results from the termination sampling performed demonstrated that the PCE indoor air levels were below the revised NYSDOH Soil Vapor/Indoor Air Matrix B guideline of 3 to <10 ug/m^3 for "No Further Action". The sub-slab PCE concentration was detected just slightly above the revised soil vapor guideline of 100 ug/m^3 for "No Further Action" at 110 ug/m^3. Based upon the results of this sampling round with the mitigation systems shutdown for an extended period, and as compared with the revised NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene, we recommended that indoor air monitoring be discontinued and the SSD systems terminated in accordance with the SMP.

No operational problems were reported during 2017 and the SSD fans remained shut down following this sampling event.

Operation of the SSD System Below the Building – 2018
On July 31, 2018, NYSDEC conditionally approved the PRR, dated March 23, 2018, submitted by CA Rich Consultants, Inc. (CA RICH) for the Site. In its July 31st letter, NYSDEC had several comments to be addressed including an additional sub-slab sample to be collected at the 55 Northern Blvd property during another additional round of samples to be collected in accordance with the Termination Sampling Plan and with the data compared to the revised NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene (May 2017 – see attached). A copy of the NYSDEC letter (Ref 21) is attached.

The mitigation systems have remained off since August 2017. The indoor air samples, outdoor air sample, and the sub-slab soil vapor samples were collected on January 10, 2019 with NYSDEC oversight and approval of the sampling performed. The sub-slab soil vapor points were installed on January 9, 2019. Sub-slab soil vapor point SVTP-01 was installed in the basement of 47 Northern Blvd and sub-slab soil vapor point SVTP-02 was installed in the basement of 55 Northern Blvd (see Figure 3). A helium check was performed at both sub-slab soil vapor points to ensure the integrity of the sub-slab soil vapor sampling. CA RICH introduced helium into a confined space surrounding each of the sampling points and checked for any helium leaks and/or break-through with a helium detector (Dielectric MGD 2002). Both soil vapor sampling points exhibited 0.0 ppm for helium (see attached field sampling log).

The basement at 47 Northern Blvd is unoccupied and used only for storage by the AT&T store. The basement at 55 Northern Blvd is currently occupied by Atlantic PC, Inc. (IT Services). This space was previously occupied by Cambridge Educational Center. The indoor air sample PDM-4 was historically taken in the NW Test room of the Cambridge Educational Center. The NW Test room was a small classroom utilized for educational testing. This room is currently an office for one of the Atlantic PC, Inc. employees and is where sample PDM-4 was taken. Indoor air sample PDM-5 was again collected in the reception area of this space. The remainder of the basement of 55 Northern Blvd is primarily used for storage by Starbucks and other building tenants. A New York State Department of Health (NYSDOH) Indoor Air Quality Questionnaire and Building Inventory were completed for the building at 47 Northern Blvd and 55 Northern Blvd. A copy of the questionnaires is attached as Appendix C.

The results from the termination sampling performed once again demonstrated that the PCE indoor air levels at 47 and 55 Northern Blvd remain below the revised NYSDOH guideline of 3 to <10 ug/m^3 for "No Further Action" with the SSD fans now shutdown for over a year. The soil vapor sample SVTP-02 at 55 Northern Blvd was also well below the revised NYSDOH soil vapor guideline of 100 ug/m^3 for "No Further Action". Soil vapor sample SVTP-01 at 47 Northern Blvd "rebounded" slightly to 330 ug/m^3, which is above the revised NYSDOH soil vapor guideline of 100 ug/m^3 for "No further action", and combined with the indoor air detections requires continued monitoring in accordance with the NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene. Based upon historical results and the results of this sampling round with the mitigation systems shutdown for an extended period, and, in accordance with NYSDEC's conditional approval letter dated June 14, 2019 (Ref 22), we recommend that one additional round of samples be collected at 47 Northern Blvd in accordance with the Termination Sampling Plan to determine if sub-slab and indoor air monitoring can be discontinued and the SSD systems terminated in accordance with the SMP. Additionally, CA RICH recommends that based upon the most recent sampling results, no further sampling is necessary or required at 55 Northern Blvd.

No operational problems were reported during 2018 as the SSD fans remained shut down following this sampling event.

Operation of the SSD System Below the Building – 2019

On June 14, 2019, NYSDEC generally approved the PRR, dated April 11, 2019, submitted by CA Rich Consultants, Inc. (CA RICH) for the Site. In its June 14th letter, NYSDEC had comments to be addressed and additional information be provided including helium tracer gas testing information; trend graphs of the data for each sampling location; pertinent NYSDOH Matrix Guidelines for convenience; removal of all de-listing comments for the Site; and continued monitoring for the subject Property. NYSDEC also requested a revised PRR be submitted by June 30, 2019. CA RICH provided the revised PRR to NYSDEC on July 1, 2019 addressing all comments and responding to the required additional monitoring. The revised PRR was accepted and approved by NYSDEC. A copy of the NYSDEC letter (Ref 22) is attached. As per the NYSDEC-approved PRR, another additional round of samples were collected from the Site (47 Northern Blvd) in accordance with the Termination Sampling Plan and with the data compared to the revised NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene (May 2017 – see attached). As agreed and approved by NYSDEC, no further sampling is required for the 55 Northern Blvd property.

The mitigation systems have remained off since August 2017. The indoor air samples, outdoor air sample, and the sub-slab soil vapor sample were collected on February 5, 2020. The sub-slab soil vapor point was installed on February 4, 2020. Sub-slab soil vapor point SVTP-01 was installed in the basement of 47 Northern Blvd (see Figure 3). A helium check was performed on the sub-slab soil vapor point to ensure the integrity of the sub-slab soil vapor sampling. Soil vapor sampling point SVTP-01 exhibited 0.0 ppm for helium (see attached field sampling log).

The basement at 47 Northern Blvd remains unoccupied and used only for storage by the AT&T store. A New York State Department of Health (NYSDOH) Indoor Air Quality Questionnaire and Building Inventory was completed for the building at 47 Northern Blvd. A copy of the questionnaire is attached as Appendix C.

The results from the termination sampling performed once again demonstrated that the PCE indoor air levels at 47 Northern Blvd remain below the revised NYSDOH guideline of 3 to <10 ug/m^3 for "No Further Action" with the SSD fans now shutdown for a couple of years. The soil vapor sample SVTP-01 at 47 Northern Blvd dropped considerably to 150 ug/m^3, which is barely above the revised NYSDOH soil vapor guideline of 100 ug/m^3 for "No further action", but still well below the 1,000 ug/m^3 for "continued monitoring". Based upon historical results and the results of this sampling round with the mitigation systems shutdown for over two years, we recommend that sub-slab and indoor air monitoring be discontinued and the SSD systems terminated in accordance with the SMP. We also recommend that the Site be considered for delisting.

No operational problems were reported during 2019 as the SSD fans remained shut down following this sampling event.

Post Remediation Groundwater and Indoor Air Monitoring – The results of the indoor air monitoring program are discussed in Section 2 (below) of this Report. In summary, all the PCE indoor air results collected in February 2020 were below the revised NYSDOH guideline of 3 to <10 ug/m^3 for "No Further Action". The PCE analytical results and sampling locations from 2016 to present are illustrated on Figure 3.

Groundwater monitoring is no longer required or performed at this site.

1.3 Compliance

The Site is currently in compliance with the Site Management Plan (SMP)

1.4 Recommendations

CA RICH recommends that indoor air monitoring be discontinued and the SSD systems terminated in accordance with the SMP. Based on the results from this sampling period and the results from the 2017, 2018 and 2019 sampling events, demonstrates that the PCE indoor air levels remain below the revised NYSDOH guideline of 3 to <10 ug/m^3 for "No Further Action" with the SSD systems off. These historical results combined with the soil vapor sampling results for 47 Northern Blvd dropping from 330 ug/m^3 in 2019, to a concentration of 150 ug/m^3, just barely above the NYSDOH guideline of <100 ug/m^3 for "No Further Action", we believe that the SSD systems should be terminated we also recommend that the Site be considered for delisting.

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2.0 Site Overview

2.1 Chronology of Investigative and Remedial Activities

During the 1980's and 1990's, a series of investigative and remedial activities including soil borings, well installations & sampling, soil vapor surveys, soil excavation, soil vapor extraction (SVE) system and groundwater pump & treat systems were performed at the CDC/FF Site to address a release of the dry cleaning chemical perchloroethene and its degradation by-products. During the 2000's, these activities were followed by the installation of a sub-slab depressurization (SSD) system below the building, an additional soil vapor survey, a second soil removal effort, a program of in-situ chemical oxidation, the operation of a second SVE system, and the installation of additional monitoring wells.

As displayed in the chronologic tabulation below, this Site has a long history of environmental investigative and remedial activities. A list of references related to the work performed is included at the end of this Report.

A chronology of the Site activities is presented in the following tabulation.

Action	Time Period
Initial subsurface investigations	1983 – 1984
Initial soil removal action in northwest corner of Property	1984
Operation of the initial SVE and groundwater pump and treat systems	1986 – 1990
Post remediation groundwater monitoring	1990 – 2010
Installation and operation of SSD system below the building	2002 – Present
Post remediation indoor air monitoring	2002 – Present
Performance of a second soil vapor survey	2003
Second soil removal action in northeast corner of Property	2004
Application of in-situ chemical oxidation in rear of Property	2004 – 2006
Installation of additional deep monitoring wells	2005
Operation of second SVE system	2005 – 2011
Preparation of a Site Management Plan	2006
Drilling/testing of post-remediation borings	2009
Installation of two new shallow SVE wells	2009
Drilling/testing of additional post-remediation borings	2010
Conversion of SVE system to SSD system	2011
Fresh air HVAC intake set at 55 Northern Blvd repaired	2014
Interior SSD fan replaced	2016
Interior and Exterior SSD systems turned off in August	2017

2.2 Nature and Extent of Contamination

As the source of contamination was the operation of a former dry cleaning facility, the contaminant of concern is tetrachloroethene (a.k.a perchloroethene, PCE or “Perc”) which is the trade name for dry cleaning fluid. The various media that were impacted included soil, soil vapor, underlying groundwater and indoor air. The extent of contamination in each of these media is discussed below.

Soil – Two known areas of soil contamination existed below the rear of the Property in the past. One portion of contaminated soil (located below the northwest portion of the property) was removed in 1984 under the oversight of the Nassau County Department of Health. Later (in 2004), a second soil removal action was performed in the northeast portion of the Property under the oversight of NYSDEC (Ref. 8). This was followed by in-situ treatments with permanganate, a chemical oxidant, followed by the operation of a SVE system (Ref. 9).

Soil Vapor – In the past, elevated PCE levels were measured in the rear of the Property. During 2004, concentrations as high as 2,400,000 ug/m³ of PCE were recorded in the rear yard of the Property. Since that time, soil removal efforts followed by chemical oxidation treatment and the operation of an SVE system have been employed. The concentration of PCE in the exhaust of the SVE system during our December 2010 sampling event was 4,342 ug/m³, a significant improvement since the 2004 sample collection. The historical results of the VOCs detected in the exhaust of the SVE system are included in the 2010 Annual Monitoring Report (Ref. 16). Based on the effectively decreasing concentrations in the SVE exhaust and the results of the post remediation borings, the SVE system was converted to an SSD system in July 2011.

Indoor Air Quality – Indoor air sampling was initiated in 2002. Samples were collected from the basement and ground floor level of 47 Northern Blvd; the basement of 55 Northern Blvd; the ground floor level of 45 Northern Blvd (an adjoining strip-type shopping center which has no basement); and from a designated outdoor sampling point. PCE in the indoor air was detected above the then applicable NYSDOH guidance level of 100 ug/m³ (at that time) in both 47 and 55 Northern Blvd locations during the initial 2002 sampling event. Results decreased significantly after the SSD and SVE systems were placed into operation. During the winter of 2014/2015 sampling event, the PCE levels at all locations were well below the NYSDOH revised guidance level of 30 ug/m³. During the Winter 2015/2016 sampling event, the PCE levels at all locations remained well below the NYSDOH revised indoor air guidance level of 30 ug/m³. During the Winter 2016/2017 “termination sampling event”, with the SSD fans turned off in accordance with the NYSDEC approved Termination Sampling Plan, the PCE levels of the indoor air samples continued to be well below the NYSDOH revised guidance level of 30 ug/m³. During the Winter 2017/2018 “termination sampling event” as required by NYSDEC, with the SSD fans turned off for an extended period, the PCE levels of the indoor air samples were compared to the newly revised NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene (May 2017). The indoor air detections continued to be below the new/revised NYSDOH guidance level of 3 to <10 ug/m³. During the Winter 2018/2019 “termination sampling event” as required by NYSDEC, with the SSD fans turned off for a year and five months, the PCE levels of the indoor air samples remained below the NYSDOH guidance level of 3 to <10 ug/m³. Once again in the Winter 2019/2020 “termination sampling event” as required by NYSDEC, with the SSD fans turned off for over two years, the PCE levels of the indoor air samples collected from 47 Northern Blvd. remained below the NYSDOH guidance level of 3 to <10 ug/m³. As approved by NYSDEC, no further indoor air sampling is required for 55 Northern Blvd.

Sub-Slab Vapor - On December 17, 2012, a sub-slab soil vapor sampling point was installed at 55 Northern Blvd and a soil gas sample collected. The sub-slab soil vapor PCE result of this sample was 42 ug/m³, which was below the monitoring and mitigation levels found on then applicable NYSDOH Matrix 2. In accordance with the approved Termination Sampling Plan, a sub-slab soil vapor sample was collected from the basement of 47 Northern Blvd. On February 22, 2017, a sub-slab soil vapor sampling point was installed at 47 Northern Blvd and on February 23, 2017, a soil gas sample was collected from this point. The sub-slab soil vapor PCE result of this sample was 20 ug/m³, which is well below the monitoring and mitigation levels found on then applicable NYSDOH Matrix 2.

In accordance with NYSDEC’s request, a sub-slab soil vapor sampling point was installed at 47 Northern Blvd on January 29, 2018. A soil gas sample was collected from this point on January 30, 2018. The sub-slab soil vapor PCE result of this sample was 110 ug/m³ with the mitigation systems shutdown for an extended period. This result falls just above the current monitoring level of 100 ug/m³ found on the revised (May 2017) NYSDOH Matrix B.

As requested by NYSDEC, a sub-slab soil vapor sampling point was again installed at 47 Northern Blvd on January 9, 2019. An additional sub-slab soil vapor sampling point, required by NYSDEC, was also installed at 55 Northern Blvd on January 9, 2019. Sub-slab soil gas samples were collected from these points on January 10, 2019.

The sub-slab soil vapor PCE result of the sample from 47 Northern Blvd slightly "rebounded" to 330 ug/m^3 with the mitigation systems shutdown for over a year. This result is above the revised NYSDOH soil vapor guideline of 100 ug/m^3 for "No further action", and combined with the indoor air detections requires continued monitoring in accordance with the NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene. The sub-slab soil vapor PCE result of the sample from 55 Northern Blvd was 23 ug/m^3. This result is well below the revised NYSDOH soil vapor guideline of 100 ug/m^3 for "No further action".

On February 4, 2020, as requested by NYSDEC, a sub-slab soil vapor sampling point was again installed in the basement at 47 Northern Blvd. Sub-slab soil gas sample SVTP-01 was collected from this point on February 5, 2020. As approved by NYSDEC, no further soil vapor sampling is required for 55 Northern Blvd.

The sub-slab soil vapor PCE result of the most recent sample from 47 Northern Blvd dropped greatly to 150 ug/m^3 with the mitigation systems shutdown for over two years. This result is barely above the revised NYSDOH soil vapor guideline of 100 ug/m^3 for "No further action", and combined with the historical indoor air detections should be considered to be in accordance with the "No further action" recommendation of NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene.

The historical results of PCE detected in the indoor air and soil vapor samples are included on Table 1 and the trend graphs for each sample location are in Appendix D.

Groundwater – A series of groundwater monitoring wells were installed at the Site. Wells MW-1A, 1B, 1C, and 1D are all upgradient water table monitoring wells. These wells have historically yielded a groundwater quality having low, but measurable, levels of PCE entering the Property. The locations of the wells are illustrated on Figure 4.

Wells MW-2, 3, 4 are hereby downgradient water table monitoring wells located near the northern boundary of the Site. In the past, these wells have contained PCE levels in the range of 100 to 1,000 ug/l with well MW-4 displaying the highest levels. Since the completion of the remedial chemical oxidation program, the PCE levels in these wells decreased significantly. In fact, during the December 2009 sampling round, the PCE concentrations in wells MW-2 and 3 were 2.0 ug/l and 0.85 ug/l. Well MW-4, the well that historically had the highest PCE levels at the site, contained only 7.1 ug/l in December 2010, just slightly above the groundwater standard of 5.0 ug/l.

For further vertical definition, a series of multi-depth monitoring wells were installed in the area of MW-4. These are identified as MW-4 (75) which is 75 feet deep, MW-4 (90) which is 90 feet deep, and MW-4D which is 146 feet deep. During the December 2009 monitoring event, PCE was not detected in the water samples from any of these deeper wells.

There were also a series of off-site wells installed further downgradient from this Site. These are identified as wells MW-5, 6, 7, 8 and 10. The off-site wells were last sampled in 2005. At that time, the PCE detections were all relatively low, between 1 and 13 ug/l.

Based on the results of the several rounds of groundwater sampling and the low levels of PCE detected in the 2010 sampling round, NYSDEC agreed that groundwater monitoring could be discontinued. As such, groundwater monitoring is no longer performed.

3.0 Evaluation of Remedy Performance, Effectiveness and Protectiveness

For the purposes of our periodic review, this report evaluates the most recent investigative and remedial efforts as outlined in the SMP. These are: in-situ chemical oxidation (conducted in 2004-2006); operation of an SVE – converted SSD system in the rear of the Property (SVE installed in 2005, operated to 2011, when it was converted to an SSD system); operation of the SSD system below the building; and post-remediation groundwater monitoring (discontinued after 2010) and indoor air monitoring.

In-Situ Chemical Oxidation – Permanganate is a strong oxidizer that has a long history of application for the control of odors at wastewater treatment plants. The application of permanganate directly to subsurface soils and groundwater has been proven successful for the remediation of PCE. Once in contact with PCE, the permanganate converts the contaminant to harmless by-products as shown below:

$$2NaMnO4 + C2HCl4 \rightarrow 2CO2 + 2MnO2 + 2H+ + 2Na- +4Cl –$$

(Permanganate + Perchloroethene → Carbon Dioxide Gas + Manganese Dioxide + Hydrogen ions + Sodium ions + Chlorine ions)

During the fall of 2004, CA RICH applied liquid permanganate to a series of 27 shallow injection points and two water table injection points located in the rear of the Property. Additional applications of permanganate were applied to the water table injection points during the summers of 2005 and 2006 (Ref 9).

The monitoring wells downgradient of the permanganate application site, wells MW-2, 3 and 4, were monitored periodically after the permanganate application treatment program. The PCE levels in these wells then significantly declined as a result of this treatment. During the December 2010 sampling round, the PCE concentrations in wells MW-2 and 3 were 2.0 ug/l and 0.85 ug/l. Well MW-4, the well that has historically had the highest PCE levels at the Site, contained only 7.1 ug/l, just slightly above the groundwater standard of 5.0 ug/l.

Based on these results, the chemical oxidation program was deemed to have been effective and protective.

Operation of the SVE – converted to SSD System in the Rear of the Property – After the permanganate treatment was completed; an SVE system was placed in the northeast portion of the rear yard to remove the remnant PCE vapors that were not addressed by the soil removal and in-situ chemical oxidation programs. The SVE system for this Site included three shallow horizontal SVE wells installed in the backfilled excavation area. Five of the shallow permanganate injection points were also converted into SVE wells. A description of the SVE system is included in Reference 9.

The SVE system remained in operation from January 2005 to July 2011. Over that period, it was effective in reducing the concentration of remnant PCE soil vapors below the rear portion of the Property. The initial PCE concentration in the untreated or “raw” soil vapor in January 2005 was 540,000 ug/m^3. During the December 2010 sampling round, this had been effectively reduced to 4,342 ug/m^3.

Pursuant to the SMP, once the SVE achieved its target of reducing VOC levels to constant or asymptotic concentrations, soil samples were collected and were analyzed for halogenated VOCs. These soil samples met the criteria in the SMP (see Ref. 11, 13, 14, 15 and 16).

Operation of the SSD System Below the Building – The SSD system below the building has been turned off since August 2017 in accordance with the approved Termination Sampling Plan. Based on the results of the indoor air samples collected in the AT&T store, this SSD system has been effective and protective. In accordance with the SMP and, based upon the results of the termination sampling performed in February 2017, January 2018, January 2019 and February 2020, the SSD system can remain off.

Post-Remediation Groundwater and Indoor Air Monitoring – The results of the indoor air monitoring program are discussed in Section 5 of this Report. The most recent PCE indoor air sample results are all below the NYSDOH revised indoor air guidance level of 3 to <10 ug/m³ for "No Further Action". The groundwater monitoring portion of this project has been completed and monitoring of the groundwater is no longer performed.

Based on these results, we believe the remedy and the post-remediation monitoring program have been effective and protective.

4.0 Institutional Controls/Engineering Controls (IC/EC) Plan Compliance

4.1 Requirements and Compliance

Institutional Controls – Two institutional controls have been implemented for this site: 1) filing of an Environmental Easement; and 2) groundwater beneath the Site cannot be used for potable or industrial purposes without treatment unless first obtaining permission to do so from NYSDEC. The environmental easement was signed on November 26, 2013 and recorded on January 22, 2014. The groundwater beneath the Site is not being used for potable or industrial purposes.

Engineering Controls – There are now two SSD systems operating at the site. The SSD systems are currently shutdown as described in Section 3 of this Report.

4.2 Certification

An annual inspection of the Site continues to be performed by CA RICH with the Annual Certification provided to NYSDEC as required in the SMP.

5.0 Monitoring Plan Compliance

The following monitoring programs as described in the SMP include: groundwater monitoring, soil vapor monitoring, and indoor air quality monitoring.

5.1 Groundwater Monitoring

Groundwater monitoring is no longer required at this site.

5.2 Soil Vapor

The SVE system was shut down in July 2011. Associated soil vapor monitoring is no longer required at this site.

5.3 Sub-Slab Depressurization Systems

The SSD fans were turned off in August 2017 in accordance with the NYSDEC approved PRR dated May 31, 2017. In accordance with the revised and conditionally approved PRR dated July 1, 2019, indoor air samples, outdoor air sample, and sub-slab soil vapor sample were collected on February 5, 2020, as outlined in the NYSDEC-approved Termination Sampling Plan with the exception of any samples collected from 55 Northern Blvd, which is no longer required.

Results from the sampling performed demonstrated that the PCE indoor air levels were below the NYSDOH revised indoor air guideline of 3 to <10 ug/m³ for "No further action" with the SSD fans shutdown for over two years. The sub-slab soil vapor PCE result of this sampling event demonstrates that the PCE soil vapor level below 47 Northern Blvd is barely above the "No further action" level and well below the mitigation level found on the revised (May 2017) NYSDOH Matrix B. The SSD fans remained off after this most recent termination sampling event.

Termination Criteria - The SSD systems will be terminated when monitoring of the indoor air confirms that there are no impacts to the indoor air quality within the AT&T store with the SSD fans turned off for an extended period during winter conditions.

We believe the termination criteria has been met, as demonstrated by the previous and most recent indoor air testing.

5.4 Indoor Air Quality Monitoring

Indoor air samples were collected at the following locations on an annual basis (during the winter heating season):

BUILDING	SAMPLE LOCATION & IDENTIFICATION
CDC/FF Site (AT&T/Cingular Store) 47 Northern Blvd	Ground Floor and Basement (Sample ID: PDM-1 and PDM-2)
Health Nut Store 45 Northern Blvd	No longer sampled (as per approval of the NYSDEC)
Atlantic PC, Inc. (formerly Cambridge Educational Ctr) 55 Northern Blvd	No longer sampled (as per approval of the NYSDEC – June 2019)
Outdoor Ambient Air	Behind Site Building (Sample ID: PDM-6)

As recommended by the New York State Department of Health (NYSDOH), all of the indoor air samples and the recent sub-slab soil vapor sample (SVTP-01) were collected via Summa canisters and were analyzed via Method T0-15 in accordance with the sampling protocols outlined in the NYSDOH's "Guidance for Evaluating Soil Vapor Intrusion in the State of New York", dated October 2006. The Summa canisters were brought out to the Site sampling locations for the indoor air samples and were opened and exposed for an approximate 8-hour period via laboratory-calibrated regulators. The Summa canister for the sub-slab soil vapor sample was also brought out to the Site sampling location where the soil vapor point was helium-checked. The Summa can was connected to the sub-slab soil vapor point, opened, and sampled concurrently with the indoor air samples for an approximate 8-hour period via laboratory-calibrated regulators. The samples were analyzed by ELAP-approved York Analytical Laboratories, Inc. for the analysis of PCE via Method T0-15. Monitoring of the soil vapor and indoor air quality at locations SVTP-01, PDM-1 and PDM-2 should be discontinued based on the sampling results. Analytical results are included in Appendix B.

During this most recent indoor air sampling round, a PCE level of 4.9 ug/m³ was detected in the air inside the first floor of the AT&T store at 47 Northern Blvd. The basement indoor air sample below the first floor also contained 4.9 ug/m³ of PCE. These levels are below the NYSDOH revised indoor air guideline of 3 to <10 ug/m³ for "No Further Action". The sub-slab soil vapor PCE result of the sample from 47 Northern Blvd dropped significantly to 150 ug/m³ with the mitigation systems shutdown for over two years. This result is barely above the revised NYSDOH soil vapor guideline of 100 ug/m³ for "No further action". The

soil vapor result at 47 Northern Blvd combined with the indoor air detections falls in general conformance with the NYSDOH Soil Vapor/Indoor Air Matrix B for tetrachloroethene for "No Further Action".

Based upon the results of the 2018/2019 indoor air and soil vapor sampling at 55 Northern Blvd, no further sampling is required.

The Termination monitoring results are included on Table 1 and Figure 3 (2016 to 2020).

Termination Criteria – The air quality in the AT&T store and the adjacent 55 Northern Blvd building remain below the recently revised NYSDOH guideline for PCE, as demonstrated by the current and previous sampling rounds during the winter heating season with the SSD systems turned off for an extended period (over two years). Based upon the results of this most recent sampling round, the soil vapor and indoor air monitoring program is no longer necessary/required for the Site.

6.0 Operations & Maintenance Plan Compliance

Currently there are two sub-slab depressurization systems operational at the site. The systems are currently turned off.

6.1 Sub-Slab Depressurization Systems

Currently, there is a Sub-Slab Depressurization (SSD) system in the basement of the existing #47 building. The system consists of a perforated pipe buried beneath the basement floor that is connected to a Fantech® low pressure SSD blower that exhausts extracted soil vapor at a rate of approximately 150 cfm. A second SSD system is connected to the horizontal and shallow vertical vents that were installed for the SVE system. Indoor air quality tests have indicated that these systems are effective in controlling sub-slab PCE vapors.

Operations & Maintenance procedures that apply to the Fantech® fans include an on-going physical inspection of the fans to confirm that air is being discharged and that the fans remain operational. These inspections were performed during 2015. Toward the end of 2015, it was found that the fan for the basement SSD system was not operating continuously. This fan was removed and replaced in March 2016. These inspections were performed again during 2017. No operational problems were reported during 2017. The SSD fans were turned off in August 2017 in accordance with the NYSDEC approved PRR dated May 31, 2017 (approved July 18, 2017). The fans have remained off after the 2017/2018, 2018/2019 and 2019/2020 termination sampling events.

7.0 Conclusions and Recommendations

The corrective actions implemented at this Site have been evaluated by reviewing data collected at the Site, and they are deemed to be effective and protective.

- Based upon the results of the indoor air and sub-slab soil vapor monitoring at the AT&T store (47 Northern Blvd) and in accordance with the Termination Sampling Plan, the sub-slab and indoor air monitoring should be discontinued. We recommend that the indoor air monitoring program be terminated, and the Site be considered for delisting from the NYSDEC Registry.

REFERENCES

1. Cabot Kilburn, (1979), Hydrogeology of the Town of North Hempstead, Nassau County, Long Island, New York, USGS Long Island Water Resources Bulletin 12.

2. NYSDEC, (January 24, 1994), Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels.

3. JR Kolmer + Associates, (February 1998), Citizen Development Company Final RI/FS Report.

4. JR Kolmer + Associates, (June 1999), Remedial Investigation Work Plan OU 2, Citizen Development Company.

5. JR Kolmer + Associates, (December 2001), Operable Unit 2 Remedial Investigation Feasibility Study Report Flower Fashion Site.

6. CEC, Inc., (June 2002), Supplemental Remedial Investigation Work Plan Citizen Development Company, Great Neck, New York.

7. CEC, Inc., (October 2002), Groundwater Quality Data for the Flower Fashion Site.

8. CA RICH, (January 2005), Interim Remedial Measures Report – Part A, The Citizens Development Company / Flower Fashion Site, 47 Northern Blvd, Great Neck, New York.

9. CA RICH, (April 2005), Interim Remedial Measures Report – Part B, Final Engineering Report and Operations, Maintenance & Monitoring Plan, The Citizens Development Company/Flower Fashion Site, 47 Northern Blvd, Great Neck, New York.

10. CA RICH, (January 2006), Annual Groundwater and Indoor Air Monitoring Report – December 2005, The Citizens Development Company / Flower Fashion Site, 47 Northern Blvd, Great Neck, New York.

11. CA RICH, (June 2006), Site Management Plan, The Citizens Development Company / Flower Fashion Site, 47 Northern Blvd, Great Neck, New York.

12. CA RICH, (2003 thru 2008), Annual Groundwater Monitoring Reports, Citizen Development Company, Flower Fashion Site, 47 Northern Blvd, Great Neck, New York.

13. CA RICH, (July 2009), Post-Remediation Borings Report, The Citizens Development Company / Flower Fashion Site, 47 Northern Blvd, Great Neck, New York.

14. CA RICH, (August 2009), Additional SVE Well Installation Report, The Citizens Development Company / Flower Fashion Site, 47 Northern Blvd, Great Neck, New York.

15. CA RICH (April 2010) Additional Post-Remediation Borings Report, The Citizens Development Company / Flower Fashion Site, 47 Northern Blvd, Great Neck, New York

16. CA RICH (April 2011) Annual Groundwater, Soil Vapor and Indoor Air Monitoring Report, The Citizens Development Company / Flower Fashion Site, 47 Northern Blvd, Great Neck, New York

17. NYSDEC (May 16, 2011) Citizens Development Company Site #1-30-070 Site Management/Periodic Review Report Response Letter

18. NYSDEC (July 19, 2012) Citizens Development Company Site #1-30-070 Site Management/Periodic Review Report Response Letter

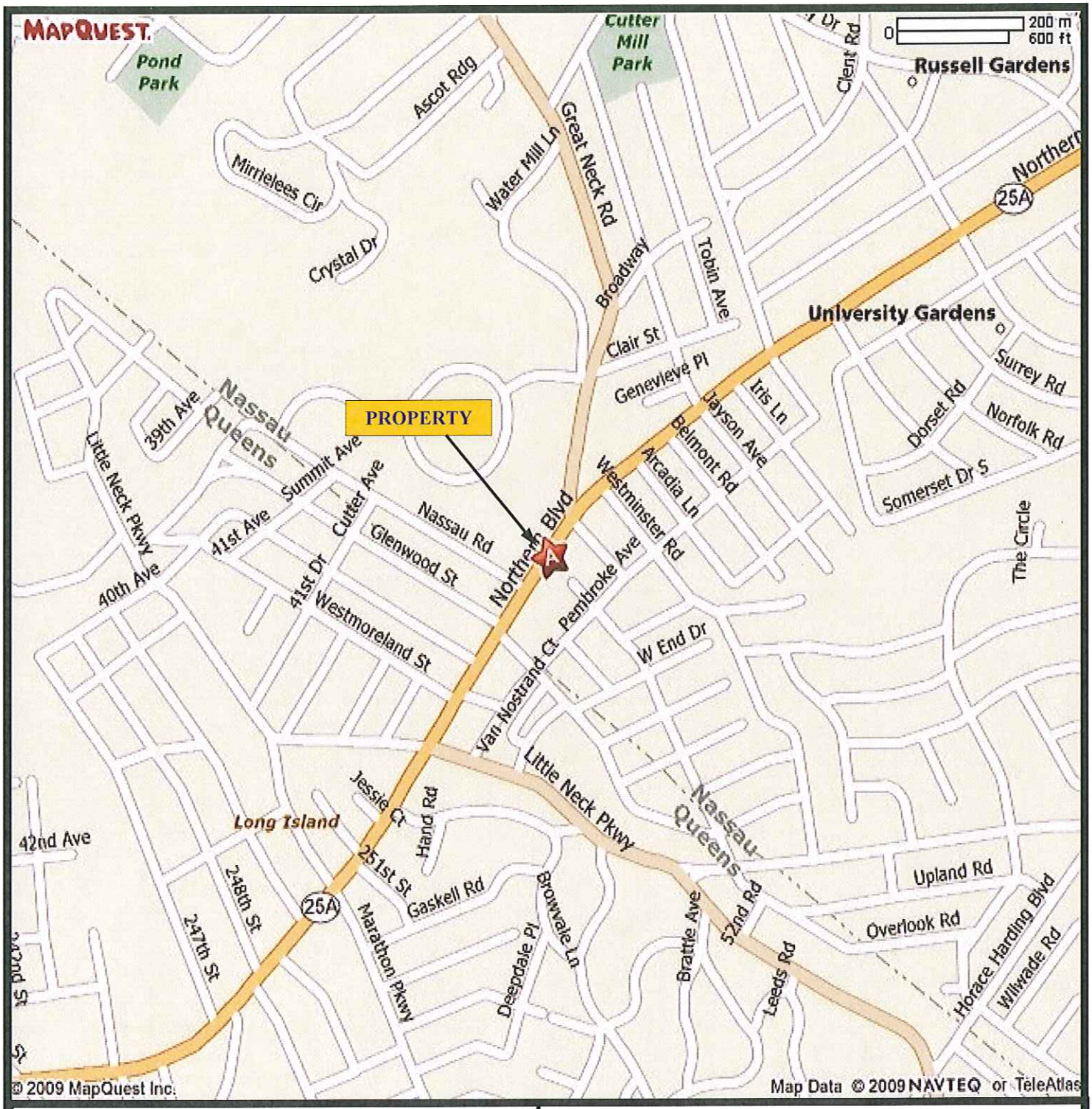
19. NYSDEC (May 17, 2016) Citizens Development Company Site #1-30-070 Site Management/Periodic Review Report Response Letter

20. NYSDEC (July 18, 2017) Citizens Development Company Site #1-30-070 Site Management/Periodic Review Report Response Letter

21. NYSDEC (July 31, 2018) Citizens Development Company Site #1-30-070 Site Management/Periodic Review Report Response Letter

22. NYSDEC (June 14, 2019) Citizens Development Company Site #1-30-070 Site Management/Periodic Review Report Response Letter

FIGURES



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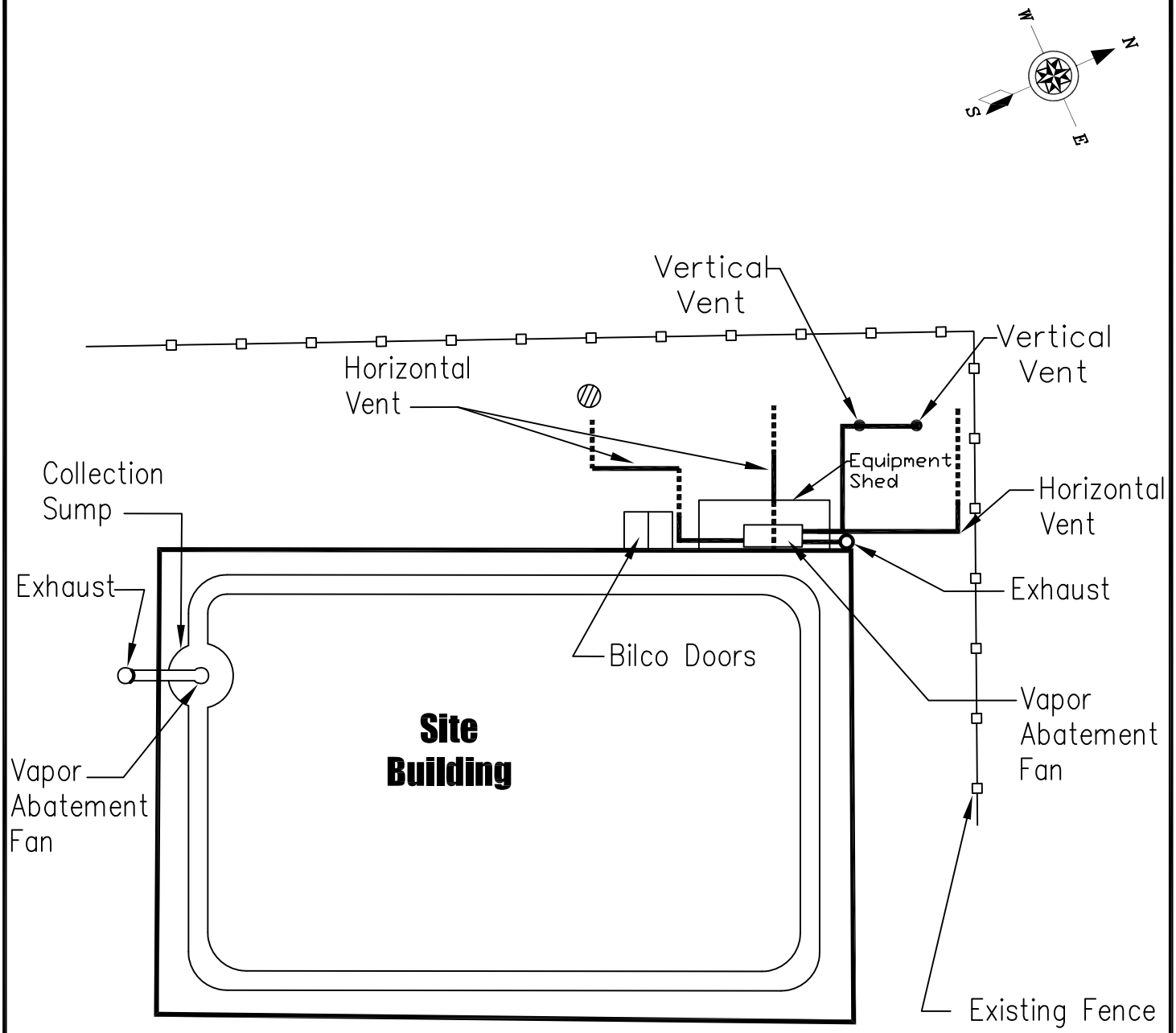
Map Adapted from Mapquest

CA RICH CONSULTANTS, INC.
17 Dupont Street,
Plainview, NY 11803

TITLE: **PROPERTY LOCATION MAP**		DATE: **3/19/09**
		SCALE: **AS SHOWN**
FIGURE: **1**	**47 Northern Boulevard Great Neck, New York**	DRAWN BY: **JTC**
DRAWING:		APPR. BY: **EAW**



LEGEND

- FORMER STORM WATER DRYWELL
- 2–INCH DIAMETER 20 SLOT PVC PIPE
- 2–INCH DIAMETER PVC PIPE
- PERFORATED DUCT
- VERTICAL VENT

0 10 20 30 40

GRAPHIC SCALE IN FEET

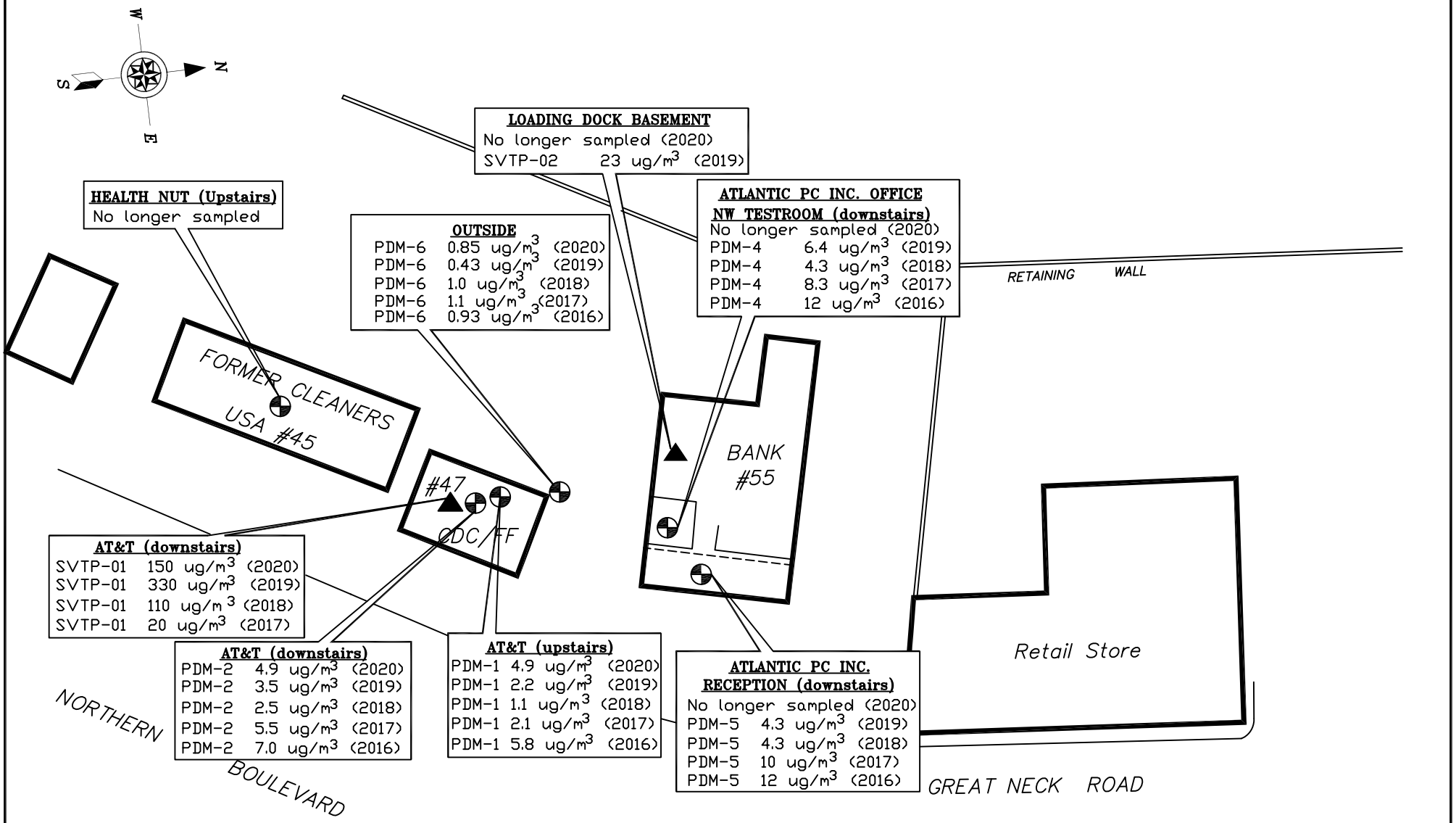
CA RICH CONSULTANTS, INC.

Environmental Specialists Since 1982
17 Dupont Street, Plainview, New York 11803

Stephen J. Osmundsen, P.E.

Consulting Engineer
514 Pantigo Road # 16, East Hampton New York 11937

TITLE: LOCATION OF SUBSURFACE PIPING LAYOUT FOR SSD SYSTEMS		DATE: 1/30/2012
		SCALE: 1" = 16'
FIGURE: 2	CDC/FLOWER FASHION 47 NORTHERN BLVD. GREAT NECK, NY 11020	DRAWN BY: J.T.C.
DRAWING NO: 2009–2		APPR. BY: S.J.O.



0 25 50 100 150

GRAPHIC SCALE IN FEET

Legend

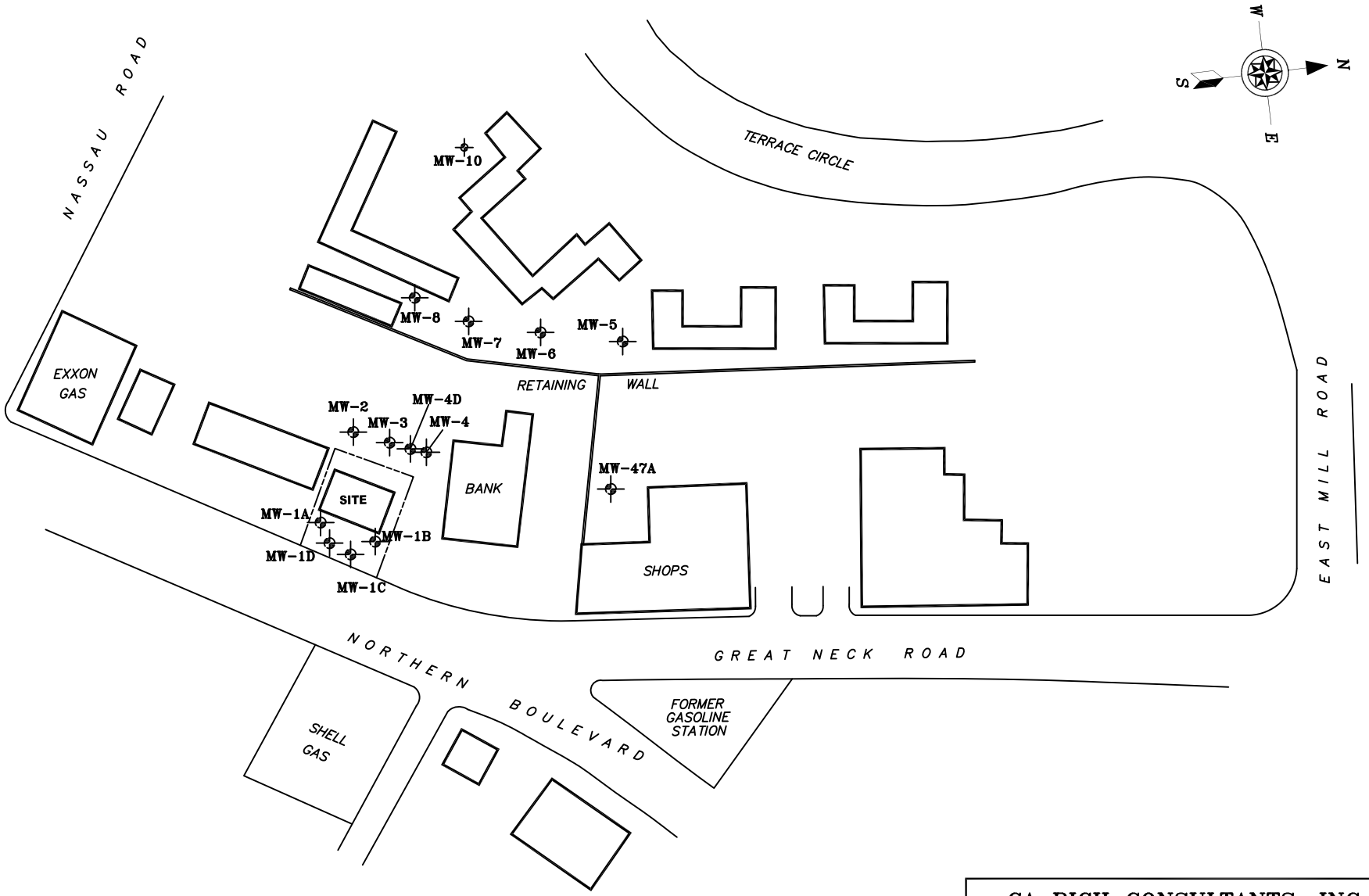
- AIR SAMPLE LOCATIONS
- SOIL VAPOR SAMPLE LOCATION

Note:
Map adapted from Civil and Environmental Engineers, Inc.
Site Area Map dated May 16, 2002.

CA RICH CONSULTANTS, INC.

Environmental Specialists Since 1982
17 Dupont Street, Plainview, New York 11803

TITLE: PERCHLOROETHENE IN AIR SAMPLES AND SOIL VAPOR JANUARY 2016–2020		DATE: 3/18/2020
		SCALE: As Shown
FIGURE: 3	CDC/FLOWER FASHION 47 NORTHERN BLVD. GREAT NECK, N Y 11020	DRAWN BY: T.R.B.
DRAWING NO: 1192–1bc.17		APPR. BY: M.T.Y.



Legend

GROUNDWATER MONITORING WELL

0 50 100 150 300

GRAPHIC SCALE IN FEET

Note:
Map adapted from Civil and Environmental Engineers, Inc.
Site Area Map dated May 16, 2002.

CA RICH CONSULTANTS, INC.

Environmental Specialists Since 1982
17 Dupont Street, Plainview, New York 11803

TITLE: Locations of Monitoring Wells	DATE: 1/30/2012
	SCALE: As Shown
FIGURE: 4	CDC/FLOWER FASHION 47 NORTHERN BLVD. GREAT NECK, N Y 11020
DRAWING NO: 2009-3a	DRAWN BY: S.T.M.
	APPR. BY: E.A.W.

TABLES

Table 1
Citizens Development Co./Flower Fashion Site
Summary of Perchloroethene Indoor Air & Sub-slab Soil Vapor Results
Units - ug/m3

Sample #:	PDM-1	PDM-2	PDM-3	PDM-4	PDM-5	PDM-6*	SS-01 (2012) SVTP-01 (2017)	SVTP-02
Location:	AT&T	AT&T	Health Nut	55 No. Blvd. NW test rm.	55 No. Blvd. Reception	Outdoors	Sub-Slab 47 No. Blvd.	Sub-Slab 55 No. Blvd.
Level:	(Ground Fl.)	(Downstairs)	(Ground Fl.)	(Downstairs)	(Downstairs)	NA	(Bsmt)	(Bsmt)
Date								
11/20/02	120	280	NA	170	150	7	NA	NA
12/02/03	27	18	4	47	47	6.4	NA	NA
06/15/04	22	27	6.6	39	39	10	NA	NA
12/17/04	47	52	5.5	70	91	2.6	NA	NA
06/23/05	4.5	8.3	1.4	8.8	10	5.7	NA	NA
12/13/05	2.5	1.6	<0.5	6.2	6.2	<0.5	NA	NA
12/04/06	2.3	1.4	<1.4	9.7	8.9	<1.4	NA	NA
12/27/07	8.5	3.4	2.0	59	48	15	NA	NA
02/06/08	5.2	3.9	2.6	22	48	6.1	NA	NA
03/27/08	NA	NA	NA	21	17	3	NA	NA
04/29/08	NA	NA	NA	29	34	7.1	NA	NA
05/29/08	NA	NA	NA	14	17	11	NA	NA
12/05/08	3.1	2.0	<1	19	11	2.9	NA	NA
12/17/09	<1	<1	NA	30	32	<1	NA	NA
12/02/10	2	3.1	NA	40	37	<1	NA	NA
12/21/11	8.1	4.6	NA	59	38	3.2	NA	NA
12/17/12	53	15	NA	37	48	2	42	42
12/23/13	130	8.9	NA	51	48	4.8	NA	NA
01/27/14	Damper on HVAC system at the AT&T store opened to allow more fresh air into building							
02/16/14	0.76	1.2	NA	NA	NA	NA	NA	NA
03/28/14	Damper to HVAC unit at 55 Northern Blvd. opened to allow more fresh air into basement							
05/01/14	NA	NA	NA	132	130	NA	NA	NA
06/12/14	Exhaust duct at 55 Northern Blvd. repaired and placed into operation							
06/26/14	NA	NA	NA	3.4	3.8	0.85	NA	NA
12/18/14	2.37	1.56	NA	6.44	<1.36	7.46	NA	NA
01/06/16	5.8	7	NA	12	12	0.93	NA	NA
03/22/16	SSD fan in basement at 47 Northern Blvd was removed and replaced with new fan							
01/19/17	SSD fans turned off for minimum of four weeks for Termination Sampling							
02/23/17	2.1	5.5	NA	8.3	10	1.1	20	NA
08/01/17	SSD fans turned off for Termination Sampling							
01/30/18	1.1	2.5	NA	4.3	4.3	1	110	NA
01/10/19	2.2	3.5	NA	6.4	4.3	0.43	330	23
02/05/20	4.9	4.9	NA	NA	NA	0.85	150	NA

Notes:
1-AT&T store also known as Cingular
2-Subslab venting system in basement of AT&T installed during the Spring of 2002
3-November 20, 2002 samples collected and analyzed by NYSDOH
4-SVE system in rear yard installed January 2005
5-December 27, 2007 - SVE system shut down for <1 month
6-January 25, 2008 - SVE repairs completed and system restarted
7-Additonal SVE wells added during August 2009
8-SVE System turned off and converted to a SSD System on 7/21/11
9-Exhaust duct at 55 Northern Blvd. repaired and placed into operation on June 12, 2014
* - Outdoor air sample NA - Not Analyzed

ENCLOSURES

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region One
Stony Brook University
50 Circle Road, Stony Brook, New York 11790-3409
Phone: (631) 444-0240 • **Fax:** (631) 444-0248
Website: www.dec.ny.gov

Joe Martens
Commissioner

May 16, 2011

Mr. Eric A. Weinstock, Vice President
CA Rich Consultants, Inc.
17 Dupont Street
Plainview, NY 11803

Re: Citizens Development Company Site #1-30-070
Site Management/Periodic Review Report Response Letter

Dear Mr. Weinstock,

The New York State Department of Environmental Conservation has received the annual periodic review report entitled "Annual Groundwater, Soil Vapor and Indoor Air Monitoring Report" for the referenced site. On April 22, 2011, the Department received a revised Institutional and Engineering Controls Certification Form. The Department hereby accepts the report and associated certification. The remedy is performing properly and the effectiveness will continue to be monitored. The frequency of periodic reviews for the site is annually and your next periodic review report (PRR) is due on April 1, 2012.

Based upon the results of the most recent soil, groundwater and indoor air sampling, the Department concurs with your recommendations to discontinue groundwater sampling at monitoring well MW-4 and to replace the fan on the exterior soil vapor extraction system with a more energy efficient low pressure blower. Your next PRR should memorialize these changes to site management. If you should have any questions, please feel free to contact me at (631) 444-0246.

Sincerely,

Jamie Ascher
Engineering Geologist 2

ec: J. Harrington, NYSDEC
G. Bobersky, NYSDEC
W. Parish, NYSDEC
S. Karpinski, NYSDOH
S. Panico, Cord Meyer Development, LLC

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 1
SUNY at Stony Brook, 50 Circle Road, Stony Brook, NY 11790
P: (631) 444-0240 I F: (631) 444-0248
www.dec.ny.gov

May 17, 2016

Citizens Development Company
Ms. Andrea Butler
PO Box 10
111-15 Queens Blvd.
Forest Hills, NY 11375

Re: Site Management (SM) Periodic Review Report (PRR) Response Letter
Citizens Development Co., Great Neck
Nassau County, Site No.: 1-30-070

Dear Ms. Butler,

The New York State Department of Environmental Conservation (DEC) has reviewed the Periodic Review Report (PRR) and IC/EC Certification for the following period: 3/5/2015 to 3/5/2016.

The Department hereby accepts the PRR and associated Certification. The frequency of periodic reviews for this site is annually and your next PRR is due on April 4, 2017. You will receive a reminder letter and updated certification form 45 days prior to the due date.

Based upon the recommendations in the report and recent discussions with CA Rich, you are requesting to undertake termination sampling during the upcoming heating season. This sampling will provide data to help evaluate the potential for soil vapor intrusion into the buildings located at 47 & 55 Northern Blvd. when the mitigation systems are turned off. Please have your consultant submit a letter proposal outlining the termination sampling for DEC and New York State Department of Health's (DOH) review and approval. Please consult the DOH October 2006 document, "*Guidance for Evaluating Soil Vapor Intrusion in the State of New York*", for additional guidance on termination sampling. If you or your consultant should have any questions regarding termination sampling protocol, please feel free to contact me at 631-444-0246 or e-mail: jamie.ascher@dec.ny.gov.

Sincerely,

Jamie Ascher
Engineering Geologist 2

ec: J. Harrington,DEC
W. Parish, DEC
J. Nealon, DOH
M. Yager, CA Rich

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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July 18, 2017

Citizens Development Company
Mr. John Garcia
111-15 Queens Blvd.
P.O. Box 10
Forest Hills, NY 11375

Re: Site Management/Periodic Review Report Response Letter
Citizens Development Company Site #1-30-070
Great Neck, Nassau County

Dear Mr. Garcia,

The New York State Department of Environmental Conservation (DEC) has reviewed the Periodic Review Report (PRR) and Institutional Controls/Engineering Controls Certification for the following period: March 2016 through March 2017.

The Department hereby accepts the PRR and associated Certification. The frequency of periodic reviews for this site is annually and your next PRR is due on April 4, 2018. You will receive a reminder letter and updated Certification form 45 days prior to the due date.

Based upon the termination sampling data collected from 47 & 55 Northern Boulevard during the previous heating season, the mitigation systems can remain turned off. To ensure that there is no rebound effect, the Department requests that you collect one additional round of samples in accordance with the Termination Sampling Plan, this upcoming heating season. This data will enable DEC and the New York State Department of Health (DOH) to determine if site closure and reclassification is appropriate along with the decommissioning of the mitigation systems and the groundwater monitoring wells. Please be advised that DOH has recently revised their Soil Vapor/Indoor Air Matrices (May 2017), so future data collected from the buildings should be compared to the new guideline values.

Project management for this site has been transferred to Mr. Jahan Reza here at the Region One office. If you should have any questions, or need additional forms, please contact Mr. Reza at 631-444-0242 or email: jahan.reza@dec.ny.gov.

Sincerely,

Jamie Ascher, P.G.
Engineering Geologist 2

ec: E. Obrecht, DEC
W. Parish, DEC
J. Reza, DEC
C. Bethoney, DOH
J. Nealon, DOH
M. Yager, CA Rich

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau D
625 Broadway, 12th Floor, Albany, NY 12233-7013
P: (518) 402-9676 I F: (518) 402-9773
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SENT VIA EMAIL ONL

Date: July 31, 2018

Andrea Butler
Citizens Development Company
PO Box 10
111-15 Queens Blvd.
Forest Hills, NY 11375
Email: abutler@cordmeyer.com

RE: Response to March 2018 Annual Period Review Report
Citizens Development Company / Flower Fashion Site
47 Northern Blvd,
Great Neck, New York
NYSDEC Site #ID: 1-30-070

Dear Ms. Butler:

The New York State Department of Environmental Conservation (DEC or "Department") and the New York State Department of Health (the "DOH") has reviewed the Annual Periodic Review Report (PRR), dated March 23, 2018 for the subject site (the Site). The Department hereby conditionally approves the March 2018 PRR. The Department has several comments that need to be addressed to determine the next step forward. Below are the Departments comments:

1. **Regarding Sub-Slab Soil Vapor Sampling at 55 Northern Boulevard (Bank):** First, please provide in the PRR a statement indicating the current use of the basement at 55 Northern Boulevard. What is "NW TestRoom (downstairs)"? Is the basement occupied? What kind of testing is on-going?

   Secondly, the PRR indicated, "the two indoor air samples from the basement of 55 Northern Blvd. contained tetrachloroethylene (PCE) at 4.3 [micrograms per cubic meter] ug/m3 for both samples." While concentrations of PCE remain below the DOH guidance value of 30 ug/m3, please provide a justification for why sub-slab soil vapor sampling would not be warranted based on the indoor air concentrations. Note that because of concentration of PCE were detected above 3 ug/m3 at both sampling points, sub-slab sample at 55 N. Blvd is deemed necessary to ensure soil vapor concentrations of PCE are below 100 ug/m3 to assess if no further action is applicable. Further, unless not technically feasible, sub-slab samples should always be collected concurrently with indoor air samples to properly assess vapor intrusion issues, as well as to rule out the potential for an indoor source of PCE that are unrelated to the Site impacts. If concentrations of PCE are confirmed to be below 100 ug/m3, then according to

the DOH Soil Vapor/Indoor Air Matrices (May 2017), no further action would be warranted. Without this sub-slab soil vapor data and/or a technical justification for no further monitoring, the Department cannot demonstrate to the public that health concerns have been adequately addressed.

2. **Regarding Increasing Sub-Slab Soil Vapor Concentrations of PCE at 47 Northern Blvd:** Based on the available data, sub-slab samples at the 47 Northern Blvd have increasing PCE concentrations (20 ug/m3 in Feb 2017 to 110 ug/m3 in Jan 2018?). Please provide a technical justification for why no further monitoring should be granted given the apparent increasing (i.e., rebounding) PCE concentrations? Without a technical justification (e.g., completion of a qualitative and/or quantitative risk-based evaluation), the Department would recommend completing a supplemental sampling event to demonstrate there is no increasing trends. If concentrations of PCE are below 1,000 ug/m3 in the sub-slab vapor and indoor air concentration remain below 3 ug/m3 during the next sampling event, the Department would agree that no further action would be warranted – assuming of course data quality is not in question.

3. **Regarding Data Quality Issues:** If completed, please provide to the Department as an attachment to the PRR any building questionnaire and product inventory for each building samples and any helium tracer testing data for any sub-slab soil vapor samples that were collected. If any of this was not completed as part of the termination sampling, please indicate this clearly in the PRR so that the Department can properly evaluate the next steps forward. Note that this supplemental information is vital to evaluate the usability / quality of the data presented. Without this information, the data quality is in question. Furthermore, performing this work is a requirement in the DOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 (see Appendix B of the SVI Guidance).

The Department is requesting a response to this letter by August 30, 2018 so that a decision can be made regarding how to proceed forward. If you have any questions, comments or concerns, please feel free to contact me, at 631-444-0246 or sarken.dressler@dec.ny.gov.

Sincerely,

Sarken E. Dressler

Sarken Dressler, P.G.
Engineering Geologist
Remedial Bureau A
Division of Environmental Remediation

Cc: Eric Obrecht (DEC)
Walter Parish (DEC)
Jacquelyn Nealon, NYSDOH
Michael Yager (ca Rich)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau D
625 Broadway, 12th Floor, Albany, NY 12233-7013
P: (518) 402-9676 I F: (518) 402-9773
www.dec.ny.gov

SENT VIA EMAIL ONLY

Date: June 14, 2019

Andrea Butler
Citizens Development Company
PO Box 10
111-15 Queens Blvd.
Forest Hills, NY 11375
Email: abutler@cordmeyer.com

RE: Response to April 2019 Annual Periodic Review Report
Citizens Development Company / Flower Fashion Site
47 Northern Blvd,
Great Neck, New York
NYSDEC Site #ID: 1-30-070

Dear Ms. Butler:

The New York State Department of Environmental Conservation (DEC or "Department") and the New York State Department of Health (the "DOH") has reviewed the Annual Periodic Review Report (PRR), dated April 11, 2019 for the subject site (the "Site"). The Department hereby generally approves the April 2019 PRR; however, it has been determined that further sampling is necessary based on the data collected at 47 N. Blvd (i.e., AT&T building).

The basis for this requirement is because concentrations over the last three (3) rounds for sub-slab soil sampling SVTP-01 has indicated an increasing trend, with the maximum concentration of tetrachloroethene (PCE) of 330 micrograms per cubic meter (ug/m3) being detected during this most recent sampling event. Because the concentration of PCE in the sub-slab is currently above 100 ug/m3 (*and increasing*) with indoor air concentrations falling between 3 to 10 ug/m3 (*and increasing as compared to 2018 results*), continued monitoring is required at the subject property.

In general, the Department cannot approve discontinuation of vapor monitoring when there are increasing trends of contaminants of concern in the sub-slab and indoor air following remediation (i.e., the operation of a sub-slab depressurization system). The Department requires stable or decreasing trends following remedial activities, with concentrations at levels that suggest no further action is required. At present time, no trend analysis has been provided by your consultant to determine if PCE concentrations following remediation activities are stable and/or decreasing.

Soil Vapor/Indoor Air Matrix B

May 2017

Analytes Assigned:
Tetrachloroethene (PCE), 1,1,1-Trichloroethane (111-TCA), Methylene Chloride

SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m³)	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m³)		
	< 3	3 to < 10	10 and above
< 100	1. No further action	2. No Further Action	3. IDENTIFY SOURCE(S) and RESAMPLE or MITIGATE
100 to < 1,000	4. No further action	5. MONITOR	6. MITIGATE
1,000 and above	7. MITIGATE	8. MITIGATE	9. MITIGATE

In addition to the need for continued monitoring at 47 N Blvd, below are general comments that need to be addressed in a revised PRR (and those moving forward):

1. **Regarding Helium Tracer Testing Information:** Please provide to the Department as an attachment to the PRR documentation detailing the helium tracer testing that was completed. Although the DEC was on-site to oversee this work, this information must be provided in the PRR.

2. **Regarding Trend Graphs:** Please provide in the PRR as an Appendix trend graphs of the data for each sample location. Please use a log scale for concentrations. Please also provide the last several rounds of sampling results on a map.

3. **Regarding DOH Matrix Guidelines:** For convenience sake, please include the appropriate DOH matrix guidelines in the PRR, where appropriate.

4. **Regarding Site Delisting Comments in PRR:** In several sections of the PRR there is a comment about site delisting. In short, the site cannot be considered for delisting if there are residual vapors issues and existing institutional controls (i.e., an environmental easement restricting groundwater use). Please remove comments about site delisting. If the site is to be considered for delisting, additional efforts would need to be taken. Such effort should include collecting additional groundwater samples that demonstrate groundwater beneath the site have concentrations of chlorinated solvents below the water quality standards. Without good justification and supplemental data collection efforts, compliance with the engineering and institutional controls as well as soil vapor / indoor air monitoring work per the SMP must continue.

The Department is requesting a revised PRR and a response to the required continued monitoring by June 30, 2019. If you have any questions, comments or concerns, please contact me at 631-444-0246 or sarken.dressler@dec.ny.gov.

Sincerely,

Sarken Dressler, P.G.
Assistant Geologist
Remedial Bureau A
Division of Environmental Remediation

Cc: Eric Obrecht (DEC)
Walter Parish (DEC)
Charlotte Bethoney (NYSDOH)
Jacquelyn Nealon (NYSDOH)
Michael Yager (CA RICH)

Soil Vapor/Indoor Air Matrix B

May 2017

Analytes Assigned:
Tetrachloroethene (PCE), 1,1,1-Trichloroethane (111-TCA), Methylene Chloride

	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m³)		
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m³)	< 3	3 to < 10	10 and above
< 100	1. No further action	2. No Further Action	3. IDENTIFY SOURCE(S) and RESAMPLE or MITIGATE
100 to < 1,000	4. No further action	5. MONITOR	6. MITIGATE
1,000 and above	7. MITIGATE	8. MITIGATE	9. MITIGATE

No further action: No additional actions are recommended to address human exposures.

Identify Source(s) and Resample or Mitigate: We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

Monitor: We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

Mitigate: We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

These general recommendations are made with consideration being given to the additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX B

This matrix summarizes actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate analyte-specific, building-specific conditions (e.g., dirt floor in basement, crawl spaces, thick slabs, current occupancy, etc.), and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, collection of additional samples may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Mitigation might be recommended when the results of multiple contaminants indicate monitoring is recommended. Proactive actions may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action might be undertaken for reasons other than public health (e.g., seeking community acceptance, reducing costs, etc.). However, actions implemented *in lieu* of sampling will typically be expected to be captured in the final engineering report and site management plan, and might not rule out the need for post-implementation sampling (e.g., to document effectiveness or to support terminating the action).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of soil vapor contamination, nor does it preclude remediating contaminated soil vapor or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 1 microgram per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples and dirt floor soil vapor samples, a minimum reporting limit of 1 microgram per cubic meter is recommended.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions might be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including but not limited to the following: the identified source of the volatile chemicals, the environmental remediation program, and analyte-specific, site-specific and building-specific factors.

Indoor Air & Soil Vapor Sampling Log
CDC - 47 & 55 Northern Boulevard Sampling

Well ID - Location	Date Installed	Installed Depth	Date Sampled	Helium Reading	Summa Can ID	Train ID	Time Start	Vac Start	Time End	Vac End
SVTP-01 AT+T Bsmt	2/4/20	7.5"-2"BS	2/5/20	0.0 ppm	16955	6881	0921	30	1726	5
PDM-1 AT+T Ground	—	—	2/5/20	—	16144	7362	0926	30	1742	7
PDM-2 AT+T Bsmt	—	—	2/5/20	—	28314	6872	0921	30	1727	6
PDM-6 Ambient	—	—	2/5/20	—	20665	6880	0856	30	1702	6

CA RICH Work Staff: M. YAGER

Weather / Temperature: Cloudy/overcast; RAIN showers/Drizzle; ≈ 40-45°F; Pressure = 30.02; Humidity 66%

Purge Rate / Time: 0.2 L/min - 1 min.

Helium Meter: Dielectric MGD-2002

* BS = Below Slab

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **130070**

Site Name Citizens Development Co.

Site Address: 47 Northern Boulevard Zip Code: 11020
City/Town: Great Neck
County: Nassau
Site Acreage: 1.000

Reporting Period: March 05, 2019 to March 05, 2020

	YES	NO
1. Is the information above correct?	X	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	X

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Industrial	X	☐
7. Are all ICs/ECs in place and functioning as designed?	X	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 130070 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
0020051202	Citizen's Development Company	Ground Water Use Restriction Landuse Restriction Site Management Plan Monitoring Plan O&M Plan IC/EC Plan

Continued operation, maintenance and monitoring of the soil vapor extraction systems has been implemented per the March 2006 OU-2 ROD under the Department approved June 2006 site management plan. An environmental easement was filed with the county clerk's office on January 22, 2014.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
0020051202	Vapor Mitigation

Two soil vapor extraction systems are operating on-site, one within the basement of the building and one outside the building.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. 130070

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I John Garcia (print name) at 111-15 Queens Blvd Forest Hills, NY 11375 (print business address)

am certifying as Citizens Development Co (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

3/30/20
Date

IC/EC CERTIFICATIONS

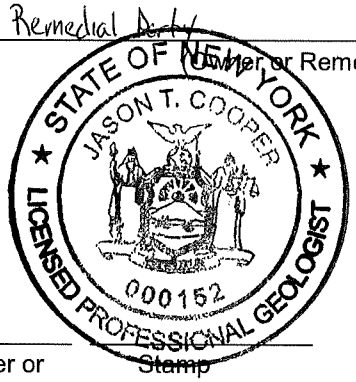
Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Jason T. Cooper (print name) at CA Rich Consultants, 17 Dupont Street, Plainview NY 11803 (print business address)

am certifying as a Professional ~~Engineer~~ Geologist for the Remedial Party (Owner or Remedial Party)



Jason T. Cooper PG #152 (NY)
Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

~~Stamp~~ (Required for PE)

3/30/2020
Date

APPENDICES

APPENDIX A

Termination Sampling Plan

October 17, 2016

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
At SUNY
50 Circle Road
Stony Brook, New York 11794

Attention: Mr. Jamie Ascher
Engineering Geologist 2

Re: Termination Sampling Plan Site #1-30-070
The Citizens Development Company / Flower Fashion Site (the Site)
47 Northern Boulevard, Great Neck, New York

Dear Mr. Ascher:

Introduction/Background

On May 17, 2016, the NYSDEC approved the Periodic Review Report, (PRP), dated March 30, 2016, submitted by CA Rich Consultants, Inc. (CA RICH) for the Site. In that PRP, CA RICH demonstrated that the Site met the criteria of the termination protocol in the Site Management Plan (SMP). In its May 17th letter, the NYSDEC concurred with this and requested that CA RICH submit a letter proposal to implement the termination sampling for the Site in the upcoming heating season. This is that letter proposal.

Scope of Work

Based upon the criteria set forth in the NYSDEC-approved SMP, CA RICH recommends this scope of work for the sampling and termination of the systems at the Citizens Development Company/Flower Fashion Site (Site # 1-30-070):

1.) **Sub-slab depressurization (SSD) Systems Shut-down -** During the heating season, shut-down the SSD systems for 2-4 weeks prior to sampling.

2.) **Indoor Air Quality Sampling -** Collect indoor air samples and an ambient air sample at the following locations 2-4 weeks after the shut-down of the SSD systems (during the heating season):

BUILDING	SAMPLE LOCATION & IDENTIFICATION[1]
CDC/FF Site (AT&T Store) 47 Northern Blvd.	Ground Floor and Basement (Sample ID: PDM-1 and PDM-2)

[1] PMD-3 is no longer used as a sample ID number and relates to 45 Northern Blvd., which sampling location was discontinued by the NYSDEC several years ago.

Cambridge Educational Center 55 Northern Blvd.	Basement (waiting room and NW Test Center) (Sample ID: PDM-4 and PDM-5)
Outdoor Ambient Air	Behind Site Building (Sample ID: PDM-6)

As recommended by the New York State Department of Health (NYSDOH), all of the indoor air samples will be collected via Summa canisters and analyzed via Method T0-15 in accordance with the sampling protocols outlined in NYSDOH's "Guidance for Evaluating Soil Vapor Intrusion in the State of New York", dated October 2006. The Summa canisters will be brought out to the Site sampling locations, opened and exposed for an approximate 8-hour period via laboratory-calibrated regulators. The samples will then be analyzed by ELAP-approved York Analytical Laboratories, Inc. for the analysis of PCE via Method T0-15.

3.) **Sub-slab Soil Vapor Sampling -** A sub-slab soil vapor sample will be collected concurrently with the indoor air samples to ensure there is no longer a potential for soil vapor intrusion resulting from the historical release at the Site.

This sub-slab sample will be collected from beneath the basement slab of the building located at 47 Northern Blvd. via Summa canister and analyzed via Method T0-15 in accordance with the sampling protocols outlined in the NYSDOH's "Guidance for Evaluating Soil Vapor Intrusion in the State of New York", dated October 2006. The installation of the soil vapor sampling point will be conducted using a Bosch Hammer Drill to drill 5/16-inch diameter hole through the concrete slab.

The soil vapor point will be constructed of ¼-inch stainless steel tubing. After the vapor point is drilled and the stainless steel tubing set just below the slab, the tubing will be connected to a sample fitting to allow for the collection of sub-slab soil gas. The annular space around the stainless steel tubing will be packed with #2 sand to create a sampling zone directly beneath the existing concrete slab and a clay seal will be placed at the surface.

The soil vapor sample shall be collected utilizing a pre-cleaned six-liter Summa canister with a regulator calibrated to collect a sample at a rate of less than 0.2 liters per minute and set to fill over an 8 hour period. The vacuumed soil vapor sample will also be chemically analyzed by ELAP-approved York Analytical Laboratories, Inc. for the analysis of PCE via Method T0-15.

Termination Criteria

Provided the laboratory results of the indoor air samples from the building at 47 Northern Blvd. (AT&T Store) and the building at 55 Northern Blvd. are at or below the established NYS background level for PCE (which is currently 30 ug/m^3); and the PCE lab results for the sub-slab soil vapor sample from the basement at 47 Northern Blvd. is below the NYSDOH Matrix 2 Mitigation level of 100 ug/m^3; then the indoor air monitoring program and the SSD systems will be terminated. The Site will then be eligible for delisting from the Registry.

Please note that in March of 2015, an automobile crashed into the AT&T store at 47 Northern Blvd. and the store remained vacant/closed pending renovation. The AT&T space has been completely renovated and recently re-opened. The recent renovations are being mentioned because there may be a source of fugitive vapors in this building from this renovation unrelated to the historic contamination.

Upon your approval, and after the heating season commences, we will implement this termination protocol. If there are any questions regarding this letter proposal, please do not hesitate to call our Office.

Sincerely,

CA RICH CONSULTANTS, INC.

Michael Yager
Project Manager

cc: Charlotte Biblow, Esq., Farrell Fritz
John Garcia, Cord Meyer Development, LLC
Jacquelyn Nealon, NYSDOH

APPENDIX B

Indoor Air & Soil Vapor Laboratory Results

Technical Report

prepared for:

CA RICH Consulting, Inc.
17 Dupont Street
Plainview NY, 11803
Attention: Mike Yager

Report Date: 02/14/2020
Client Project ID: CDC-FF IAQ/SV Sampling
York Project (SDG) No.: 20B0233

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 STRATFORD, CT 06615 ■ 132-02 89th AVENUE RICHMOND HILL, NY 11418
www.YORKLAB.com (203) 325-1371 FAX (203) 357-0166 ClientServices@yorklab.com

Report Date: 02/14/2020
Client Project ID: CDC-FF IAQ/SV Sampling
York Project (SDG) No.: 20B0233

CA RICH Consulting, Inc.
17 Dupont Street
Plainview NY, 11803
Attention: Mike Yager

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 07, 2020 and listed below. The project was identified as your project: **CDC-FF IAQ/SV Sampling**.

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.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
20B0233-01	PDM-1	Indoor Ambient Air	02/05/2020	02/07/2020
20B0233-02	PDM-2	Indoor Ambient Air	02/05/2020	02/07/2020
20B0233-03	PDM-6	Outdoor Ambient Ai	02/05/2020	02/07/2020
20B0233-04	SVTP-01	Soil Vapor	02/05/2020	02/07/2020

General Notes for York Project (SDG) No.: 20B0233

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: 02/14/2020

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: **PDM-1** **York Sample ID:** **20B0233-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Indoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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	0.61	0.883	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 20:45	AS
71-55-6	1,1,1-Trichloroethane	ND		ug/m³	0.48	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m³	0.61	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m³	0.68	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
79-00-5	1,1,2-Trichloroethane	ND		ug/m³	0.48	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
75-34-3	1,1-Dichloroethane	ND		ug/m³	0.36	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
75-35-4	1,1-Dichloroethylene	ND		ug/m³	0.088	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m³	0.66	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
95-63-6	**1,2,4-Trimethylbenzene**	**0.69**		ug/m³	0.43	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
106-93-4	1,2-Dibromoethane	ND		ug/m³	0.68	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
95-50-1	1,2-Dichlorobenzene	ND		ug/m³	0.53	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
107-06-2	1,2-Dichloroethane	ND		ug/m³	0.36	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
78-87-5	1,2-Dichloropropane	ND		ug/m³	0.41	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m³	0.62	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m³	0.43	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
106-99-0	1,3-Butadiene	ND		ug/m³	0.59	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
541-73-1	1,3-Dichlorobenzene	ND		ug/m³	0.53	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
142-28-9	* 1,3-Dichloropropane	ND		ug/m³	0.41	0.883	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 20:45	AS
106-46-7	1,4-Dichlorobenzene	ND		ug/m³	0.53	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
123-91-1	1,4-Dioxane	ND		ug/m³	0.64	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
78-93-3	**2-Butanone**	**1.1**		ug/m³	0.26	0.883	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 20:45	AS
591-78-6	* 2-Hexanone	ND		ug/m³	0.72	0.883	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 20:45	AS

Sample Information

Client Sample ID: **PDM-1** **York Sample ID:** **20B0233-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Indoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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	1.4	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
108-10-1	4-Methyl-2-pentanone	ND		ug/m³	0.36	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
67-64-1	**Acetone**	**620**		ug/m³	7.9	16.56	EPA TO-15 Certifications:	02/13/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/14/2020 03:34	AS
107-13-1	Acrylonitrile	ND		ug/m³	0.19	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
71-43-2	**Benzene**	**0.73**		ug/m³	0.28	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
100-44-7	Benzyl chloride	ND		ug/m³	0.46	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
75-27-4	Bromodichloromethane	ND		ug/m³	0.59	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
75-25-2	Bromoform	ND		ug/m³	0.91	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
74-83-9	Bromomethane	ND		ug/m³	0.34	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
75-15-0	Carbon disulfide	ND		ug/m³	0.27	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
56-23-5	**Carbon tetrachloride**	**0.50**		ug/m³	0.14	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
108-90-7	Chlorobenzene	ND		ug/m³	0.41	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
75-00-3	Chloroethane	ND		ug/m³	0.23	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
67-66-3	Chloroform	ND		ug/m³	0.43	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
74-87-3	**Chloromethane**	**1.2**		ug/m³	0.18	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/m³	0.088	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m³	0.40	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
110-82-7	**Cyclohexane**	**0.40**		ug/m³	0.30	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
124-48-1	Dibromochloromethane	ND		ug/m³	0.75	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
75-71-8	**Dichlorodifluoromethane**	**1.4**		ug/m³	0.44	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
141-78-6	*** Ethyl acetate**	**13**		ug/m³	0.64	0.883	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 20:45	AS
100-41-4	**Ethyl Benzene**	**0.46**		ug/m³	0.38	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS
87-68-3	Hexachlorobutadiene	ND		ug/m³	0.94	0.883	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 20:45	AS

Sample Information

Client Sample ID: **PDM-1** **York Sample ID:** **20B0233-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Indoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

Volatile Organics, EPA TO15 Full List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA TO15 PREP

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
67-63-0	**Isopropanol**	**36**		ug/m³	0.43	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
80-62-6	**Methyl Methacrylate**	**1.5**		ug/m³	0.36	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m³	0.32	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
75-09-2	**Methylene chloride**	**1.4**		ug/m³	0.61	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
142-82-5	**n-Heptane**	**0.36**		ug/m³	0.36	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
110-54-3	**n-Hexane**	**0.96**		ug/m³	0.31	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
95-47-6	**o-Xylene**	**0.58**		ug/m³	0.38	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
179601-23-1	**p- & m- Xylenes**	**1.6**		ug/m³	0.77	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
622-96-8	*** p-Ethyltoluene**	**0.56**		ug/m³	0.43	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications:			
115-07-1	* Propylene	ND		ug/m³	0.15	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications:			
100-42-5	**Styrene**	**2.9**		ug/m³	0.38	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
127-18-4	**Tetrachloroethylene**	**4.9**		ug/m³	0.60	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
109-99-9	* Tetrahydrofuran	ND		ug/m³	0.52	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications:			
108-88-3	**Toluene**	**3.1**		ug/m³	0.33	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m³	0.35	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m³	0.40	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
79-01-6	**Trichloroethylene**	**0.19**		ug/m³	0.12	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
75-69-4	**Trichlorofluoromethane (Freon 11)**	**1.3**		ug/m³	0.50	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
108-05-4	Vinyl acetate	ND		ug/m³	0.31	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
593-60-2	Vinyl bromide	ND		ug/m³	0.39	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
75-01-4	Vinyl Chloride	ND		ug/m³	0.056	0.883	EPA TO-15	02/11/2020 09:00	02/13/2020 20:45	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*99.0 %*	*70-130*

Sample Information

Client Sample ID: **PDM-1** **York Sample ID:** **20B0233-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Indoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

Sample Information

Client Sample ID: **PDM-2** **York Sample ID:** **20B0233-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Indoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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	0.57	0.835	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 19:47	AS
71-55-6	1,1,1-Trichloroethane	ND		ug/m³	0.46	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m³	0.57	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
76-13-1	**1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)**	**0.64**		ug/m³	0.64	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
79-00-5	1,1,2-Trichloroethane	ND		ug/m³	0.46	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
75-34-3	1,1-Dichloroethane	ND		ug/m³	0.34	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
75-35-4	1,1-Dichloroethylene	ND		ug/m³	0.083	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m³	0.62	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
95-63-6	**1,2,4-Trimethylbenzene**	**0.82**		ug/m³	0.41	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
106-93-4	1,2-Dibromoethane	ND		ug/m³	0.64	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
95-50-1	1,2-Dichlorobenzene	ND		ug/m³	0.50	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
107-06-2	1,2-Dichloroethane	ND		ug/m³	0.34	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
78-87-5	1,2-Dichloropropane	ND		ug/m³	0.39	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m³	0.58	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m³	0.41	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
106-99-0	1,3-Butadiene	ND		ug/m³	0.55	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
541-73-1	1,3-Dichlorobenzene	ND		ug/m³	0.50	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS
142-28-9	* 1,3-Dichloropropane	ND		ug/m³	0.39	0.835	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 19:47	AS
106-46-7	1,4-Dichlorobenzene	ND		ug/m³	0.50	0.835	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 19:47	AS

Sample Information

Client Sample ID: **PDM-2** **York Sample ID:** **20B0233-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Indoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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
123-91-1	1,4-Dioxane	ND		ug/m³	0.60	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
78-93-3	**2-Butanone**	**2.4**		ug/m³	0.25	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
591-78-6	* 2-Hexanone	ND		ug/m³	0.68	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:			
107-05-1	3-Chloropropene	ND		ug/m³	1.3	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
108-10-1	**4-Methyl-2-pentanone**	**0.79**		ug/m³	0.34	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
67-64-1	**Acetone**	**80**		ug/m³	0.40	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
107-13-1	Acrylonitrile	ND		ug/m³	0.18	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
71-43-2	**Benzene**	**0.91**		ug/m³	0.27	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
100-44-7	Benzyl chloride	ND		ug/m³	0.43	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-27-4	Bromodichloromethane	ND		ug/m³	0.56	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-25-2	Bromoform	ND		ug/m³	0.86	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
74-83-9	Bromomethane	ND		ug/m³	0.32	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-15-0	Carbon disulfide	ND		ug/m³	0.26	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
56-23-5	**Carbon tetrachloride**	**0.47**		ug/m³	0.13	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
108-90-7	Chlorobenzene	ND		ug/m³	0.38	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-00-3	Chloroethane	ND		ug/m³	0.22	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
67-66-3	Chloroform	ND		ug/m³	0.41	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
74-87-3	**Chloromethane**	**1.0**		ug/m³	0.17	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
156-59-2	cis-1,2-Dichloroethylene	ND		ug/m³	0.083	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m³	0.38	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
110-82-7	**Cyclohexane**	**0.57**		ug/m³	0.29	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
124-48-1	Dibromochloromethane	ND		ug/m³	0.71	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-71-8	**Dichlorodifluoromethane**	**1.3**		ug/m³	0.41	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		

Sample Information

Client Sample ID: **PDM-2** **York Sample ID:** **20B0233-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Indoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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
141-78-6	*** Ethyl acetate**	**2.0**		ug/m³	0.60	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:			
100-41-4	**Ethyl Benzene**	**3.3**		ug/m³	0.36	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
87-68-3	Hexachlorobutadiene	ND		ug/m³	0.89	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
67-63-0	**Isopropanol**	**13**		ug/m³	0.41	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
80-62-6	**Methyl Methacrylate**	**7.0**		ug/m³	0.34	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m³	0.30	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-09-2	**Methylene chloride**	**2.2**		ug/m³	0.58	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
142-82-5	**n-Heptane**	**1.1**		ug/m³	0.34	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
110-54-3	**n-Hexane**	**2.2**		ug/m³	0.29	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
95-47-6	**o-Xylene**	**3.2**		ug/m³	0.36	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
179601-23-1	**p- & m- Xylenes**	**13**		ug/m³	0.73	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
622-96-8	*** p-Ethyltoluene**	**0.78**		ug/m³	0.41	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:			
115-07-1	* Propylene	ND		ug/m³	0.14	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:			
100-42-5	**Styrene**	**2.2**		ug/m³	0.36	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
127-18-4	**Tetrachloroethylene**	**4.9**		ug/m³	0.57	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
109-99-9	* Tetrahydrofuran	ND		ug/m³	0.49	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:			
108-88-3	**Toluene**	**9.5**		ug/m³	0.31	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m³	0.33	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m³	0.38	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
79-01-6	**Trichloroethylene**	**0.22**		ug/m³	0.11	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-69-4	**Trichlorofluoromethane (Freon 11)**	**1.4**		ug/m³	0.47	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
108-05-4	Vinyl acetate	ND		ug/m³	0.29	0.835	EPA TO-15	02/11/2020 09:00	02/13/2020 19:47	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		

Sample Information

Client Sample ID: PDM-2 **York Sample ID:** 20B0233-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Indoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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
593-60-2	Vinyl bromide	ND		ug/m³	0.37	0.835	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 19:47	AS
75-01-4	Vinyl Chloride	ND		ug/m³	0.053	0.835	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 19:47	AS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*103 %*	*70-130*

Sample Information

Client Sample ID: PDM-6 **York Sample ID:** 20B0233-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Outdoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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	0.58	0.838	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 18:46	AS
71-55-6	1,1,1-Trichloroethane	ND		ug/m³	0.46	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m³	0.58	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m³	0.64	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
79-00-5	1,1,2-Trichloroethane	ND		ug/m³	0.46	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
75-34-3	1,1-Dichloroethane	ND		ug/m³	0.34	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
75-35-4	1,1-Dichloroethylene	ND		ug/m³	0.083	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m³	0.62	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/m³	0.41	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
106-93-4	1,2-Dibromoethane	ND		ug/m³	0.64	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
95-50-1	1,2-Dichlorobenzene	ND		ug/m³	0.50	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
107-06-2	1,2-Dichloroethane	ND		ug/m³	0.34	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
78-87-5	1,2-Dichloropropane	ND		ug/m³	0.39	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS

Sample Information

Client Sample ID: **PDM-6** **York Sample ID:** **20B0233-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Outdoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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	0.59	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m³	0.41	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
106-99-0	1,3-Butadiene	ND		ug/m³	0.56	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
541-73-1	1,3-Dichlorobenzene	ND		ug/m³	0.50	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
142-28-9	* 1,3-Dichloropropane	ND		ug/m³	0.39	0.838	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 18:46	AS
106-46-7	1,4-Dichlorobenzene	ND		ug/m³	0.50	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
123-91-1	1,4-Dioxane	ND		ug/m³	0.60	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
78-93-3	**2-Butanone**	**0.57**		ug/m³	0.25	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
591-78-6	* 2-Hexanone	ND		ug/m³	0.69	0.838	EPA TO-15 Certifications:	02/11/2020 09:00	02/13/2020 18:46	AS
107-05-1	3-Chloropropene	ND		ug/m³	1.3	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
108-10-1	4-Methyl-2-pentanone	ND		ug/m³	0.34	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
67-64-1	**Acetone**	**12**		ug/m³	0.40	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
107-13-1	Acrylonitrile	ND		ug/m³	0.18	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
71-43-2	**Benzene**	**0.64**		ug/m³	0.27	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
100-44-7	Benzyl chloride	ND		ug/m³	0.43	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
75-27-4	Bromodichloromethane	ND		ug/m³	0.56	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
75-25-2	Bromoform	ND		ug/m³	0.87	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
74-83-9	Bromomethane	ND		ug/m³	0.33	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
75-15-0	Carbon disulfide	ND		ug/m³	0.26	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
56-23-5	**Carbon tetrachloride**	**0.47**		ug/m³	0.13	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
108-90-7	Chlorobenzene	ND		ug/m³	0.39	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
75-00-3	Chloroethane	ND		ug/m³	0.22	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS
67-66-3	Chloroform	ND		ug/m³	0.41	0.838	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/11/2020 09:00	02/13/2020 18:46	AS

Sample Information

Client Sample ID: PDM-6 **York Sample ID:** 20B0233-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Outdoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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
74-87-3	**Chloromethane**	**1.1**		ug/m³	0.17	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
156-59-2	cis-1,2-Dichloroethylene	ND		ug/m³	0.083	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m³	0.38	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
110-82-7	Cyclohexane	ND		ug/m³	0.29	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
124-48-1	Dibromochloromethane	ND		ug/m³	0.71	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
75-71-8	**Dichlorodifluoromethane**	**1.4**		ug/m³	0.41	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
141-78-6	* Ethyl acetate	ND		ug/m³	0.60	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications:			
100-41-4	**Ethyl Benzene**	**0.36**		ug/m³	0.36	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
87-68-3	Hexachlorobutadiene	ND		ug/m³	0.89	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
67-63-0	**Isopropanol**	**1.8**		ug/m³	0.41	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
80-62-6	Methyl Methacrylate	ND		ug/m³	0.34	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m³	0.30	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
75-09-2	Methylene chloride	ND		ug/m³	0.58	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
142-82-5	**n-Heptane**	**0.48**		ug/m³	0.34	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
110-54-3	**n-Hexane**	**0.71**		ug/m³	0.30	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
95-47-6	**o-Xylene**	**0.47**		ug/m³	0.36	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
179601-23-1	**p- & m- Xylenes**	**1.3**		ug/m³	0.73	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
622-96-8	* p-Ethyltoluene	ND		ug/m³	0.41	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications:			
115-07-1	* Propylene	ND		ug/m³	0.14	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications:			
100-42-5	Styrene	ND		ug/m³	0.36	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
127-18-4	**Tetrachloroethylene**	**0.85**		ug/m³	0.57	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			
109-99-9	* Tetrahydrofuran	ND		ug/m³	0.49	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications:			
108-88-3	**Toluene**	**2.1**		ug/m³	0.32	0.838	EPA TO-15	02/11/2020 09:00	02/13/2020 18:46	AS
							Certifications: NELAC-NY12058,NJDEP-Queens			

Sample Information

Client Sample ID: **PDM-6** **York Sample ID:** **20B0233-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Outdoor Ambient Air	February 5, 2020 12:00 am	02/07/2020

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
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m³	0.33	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m³	0.38	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
79-01-6	Trichloroethylene	ND		ug/m³	0.11	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
75-69-4	**Trichlorofluoromethane (Freon 11)**	**1.3**		ug/m³	0.47	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
108-05-4	Vinyl acetate	ND		ug/m³	0.30	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
593-60-2	Vinyl bromide	ND		ug/m³	0.37	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS
75-01-4	Vinyl Chloride	ND		ug/m³	0.054	0.838	EPA TO-15 Certifications:	02/11/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/13/2020 18:46	AS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*98.7 %*	*70-130*

Sample Information

Client Sample ID: **SVTP-01** **York Sample ID:** **20B0233-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Soil Vapor	February 5, 2020 12:00 am	02/07/2020

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	1.1	1.536	EPA TO-15 Certifications:	02/13/2020 09:00	02/14/2020 02:48	AS
71-55-6	1,1,1-Trichloroethane	ND		ug/m³	0.84	1.536	EPA TO-15 Certifications:	02/13/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/14/2020 02:48	AS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/m³	1.1	1.536	EPA TO-15 Certifications:	02/13/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/14/2020 02:48	AS
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/m³	1.2	1.536	EPA TO-15 Certifications:	02/13/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/14/2020 02:48	AS
79-00-5	1,1,2-Trichloroethane	ND		ug/m³	0.84	1.536	EPA TO-15 Certifications:	02/13/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/14/2020 02:48	AS
75-34-3	1,1-Dichloroethane	ND		ug/m³	0.62	1.536	EPA TO-15 Certifications:	02/13/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/14/2020 02:48	AS
75-35-4	1,1-Dichloroethylene	ND		ug/m³	0.15	1.536	EPA TO-15 Certifications:	02/13/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/14/2020 02:48	AS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/m³	1.1	1.536	EPA TO-15 Certifications:	02/13/2020 09:00 NELAC-NY12058,NJDEP-Queens	02/14/2020 02:48	AS

Sample Information

Client Sample ID: SVTP-01 **York Sample ID:** 20B0233-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Soil Vapor	February 5, 2020 12:00 am	02/07/2020

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**	**1.7**		ug/m³	0.76	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
106-93-4	1,2-Dibromoethane	ND		ug/m³	1.2	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
95-50-1	**1,2-Dichlorobenzene**	**1.3**		ug/m³	0.92	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
107-06-2	1,2-Dichloroethane	ND		ug/m³	0.62	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
78-87-5	1,2-Dichloropropane	ND		ug/m³	0.71	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
76-14-2	1,2-Dichlorotetrafluoroethane	ND		ug/m³	1.1	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/m³	0.76	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
106-99-0	1,3-Butadiene	ND		ug/m³	1.0	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
541-73-1	1,3-Dichlorobenzene	ND		ug/m³	0.92	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
142-28-9	* 1,3-Dichloropropane	ND		ug/m³	0.71	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:			
106-46-7	**1,4-Dichlorobenzene**	**1.0**		ug/m³	0.92	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
123-91-1	1,4-Dioxane	ND		ug/m³	1.1	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
78-93-3	**2-Butanone**	**1.8**		ug/m³	0.45	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
591-78-6	* 2-Hexanone	ND		ug/m³	1.3	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:			
107-05-1	3-Chloropropene	ND		ug/m³	2.4	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
108-10-1	4-Methyl-2-pentanone	ND		ug/m³	0.63	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
67-64-1	**Acetone**	**7.3**		ug/m³	0.73	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
107-13-1	Acrylonitrile	ND		ug/m³	0.33	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
71-43-2	**Benzene**	**1.2**		ug/m³	0.49	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
100-44-7	Benzyl chloride	ND		ug/m³	0.80	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-27-4	Bromodichloromethane	ND		ug/m³	1.0	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-25-2	Bromoform	ND		ug/m³	1.6	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
74-83-9	Bromomethane	ND		ug/m³	0.60	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		

Sample Information

Client Sample ID: SVTP-01 **York Sample ID:** 20B0233-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Soil Vapor	February 5, 2020 12:00 am	02/07/2020

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
75-15-0	Carbon disulfide	ND		ug/m³	0.48	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
56-23-5	**Carbon tetrachloride**	**0.39**		ug/m³	0.24	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
108-90-7	**Chlorobenzene**	**2.5**		ug/m³	0.71	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-00-3	Chloroethane	ND		ug/m³	0.41	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
67-66-3	Chloroform	ND		ug/m³	0.75	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
74-87-3	Chloromethane	ND		ug/m³	0.32	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
156-59-2	**cis-1,2-Dichloroethylene**	**0.73**		ug/m³	0.15	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/m³	0.70	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
110-82-7	Cyclohexane	ND		ug/m³	0.53	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
124-48-1	Dibromochloromethane	ND		ug/m³	1.3	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-71-8	**Dichlorodifluoromethane**	**1.8**		ug/m³	0.76	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
141-78-6	* Ethyl acetate	ND		ug/m³	1.1	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:			
100-41-4	Ethyl Benzene	ND		ug/m³	0.67	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
87-68-3	Hexachlorobutadiene	ND		ug/m³	1.6	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
67-63-0	**Isopropanol**	**4.3**		ug/m³	0.76	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
80-62-6	**Methyl Methacrylate**	**1.2**		ug/m³	0.63	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/m³	0.55	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
75-09-2	Methylene chloride	ND		ug/m³	1.1	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
142-82-5	**n-Heptane**	**2.0**		ug/m³	0.63	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
110-54-3	n-Hexane	ND		ug/m³	0.54	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
95-47-6	**o-Xylene**	**0.87**		ug/m³	0.67	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
179601-23-1	**p- & m- Xylenes**	**2.3**		ug/m³	1.3	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:	NELAC-NY12058,NJDEP-Queens		
622-96-8	*** p-Ethyltoluene**	**1.1**		ug/m³	0.76	1.536	EPA TO-15	02/13/2020 09:00	02/14/2020 02:48	AS
							Certifications:			

Sample Information

Client Sample ID: SVTP-01 **York Sample ID:** 20B0233-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20B0233	CDC-FF IAQ/SV Sampling	Soil Vapor	February 5, 2020 12:00 am	02/07/2020

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
115-07-1	* Propylene	ND		ug/m³	0.26	1.536	EPA TO-15 Certifications:	02/13/2020 09:00	02/14/2020 02:48	AS
100-42-5	Styrene	ND		ug/m³	0.65	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
127-18-4	**Tetrachloroethylene**	**150**		ug/m³	1.0	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
109-99-9	* Tetrahydrofuran	ND		ug/m³	0.91	1.536	EPA TO-15 Certifications:	02/13/2020 09:00	02/14/2020 02:48	AS
108-88-3	**Toluene**	**2.4**		ug/m³	0.58	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/m³	0.61	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/m³	0.70	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
79-01-6	**Trichloroethylene**	**3.6**		ug/m³	0.21	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
75-69-4	**Trichlorofluoromethane (Freon 11)**	**1.3**		ug/m³	0.86	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
108-05-4	Vinyl acetate	ND		ug/m³	0.54	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
593-60-2	Vinyl bromide	ND		ug/m³	0.67	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS
75-01-4	Vinyl Chloride	ND		ug/m³	0.098	1.536	EPA TO-15 Certifications: NELAC-NY12058,NJDEP-Queens	02/13/2020 09:00	02/14/2020 02:48	AS

	Surrogate Recoveries	Result	Acceptance Range
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*98.4 %*	*70-130*

Analytical Batch Summary

Batch ID: BB00561 **Preparation Method:** EPA TO15 PREP **Prepared By:** AS

YORK Sample ID	Client Sample ID	Preparation Date
20B0233-01	PDM-1	02/11/20
20B0233-02	PDM-2	02/11/20
20B0233-03	PDM-6	02/11/20
BB00561-BLK1	Blank	02/12/20
BB00561-BS1	LCS	02/12/20

Batch ID: BB00636 **Preparation Method:** EPA TO15 PREP **Prepared By:** AS

YORK Sample ID	Client Sample ID	Preparation Date
20B0233-01RE1	PDM-1	02/13/20
20B0233-04	SVTP-01	02/13/20
BB00636-BLK1	Blank	02/13/20
BB00636-BS1	LCS	02/13/20

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

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB00561 - EPA TO15 PREP											
Blank (BB00561-BLK1)											Prepared: 02/12/2020 Analyzed: 02/13/2020
1,1,1,2-Tetrachloroethane	ND	0.69	ug/m³								
1,1,1-Trichloroethane	ND	0.55	"								
1,1,2,2-Tetrachloroethane	ND	0.69	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.77	"								
1,1,2-Trichloroethane	ND	0.55	"								
1,1-Dichloroethane	ND	0.40	"								
1,1-Dichloroethylene	ND	0.099	"								
1,2,4-Trichlorobenzene	ND	0.74	"								
1,2,4-Trimethylbenzene	ND	0.49	"								
1,2-Dibromoethane	ND	0.77	"								
1,2-Dichlorobenzene	ND	0.60	"								
1,2-Dichloroethane	ND	0.40	"								
1,2-Dichloropropane	ND	0.46	"								
1,2-Dichlorotetrafluoroethane	ND	0.70	"								
1,3,5-Trimethylbenzene	ND	0.49	"								
1,3-Butadiene	ND	0.66	"								
1,3-Dichlorobenzene	ND	0.60	"								
1,3-Dichloropropane	ND	0.46	"								
1,4-Dichlorobenzene	ND	0.60	"								
1,4-Dioxane	ND	0.72	"								
2-Butanone	ND	0.29	"								
2-Hexanone	ND	0.82	"								
3-Chloropropene	ND	1.6	"								
4-Methyl-2-pentanone	ND	0.41	"								
Acetone	ND	0.48	"								
Acrylonitrile	ND	0.22	"								
Benzene	ND	0.32	"								
Benzyl chloride	ND	0.52	"								
Bromodichloromethane	ND	0.67	"								
Bromoform	ND	1.0	"								
Bromomethane	ND	0.39	"								
Carbon disulfide	ND	0.31	"								
Carbon tetrachloride	ND	0.16	"								
Chlorobenzene	ND	0.46	"								
Chloroethane	ND	0.26	"								
Chloroform	ND	0.49	"								
Chloromethane	ND	0.21	"								
cis-1,2-Dichloroethylene	ND	0.099	"								
cis-1,3-Dichloropropylene	ND	0.45	"								
Cyclohexane	ND	0.34	"								
Dibromochloromethane	ND	0.85	"								
Dichlorodifluoromethane	ND	0.49	"								
Ethyl acetate	ND	0.72	"								
Ethyl Benzene	ND	0.43	"								
Hexachlorobutadiene	ND	1.1	"								
Isopropanol	ND	0.49	"								
Methyl Methacrylate	ND	0.41	"								
Methyl tert-butyl ether (MTBE)	ND	0.36	"								
Methylene chloride	ND	0.69	"								

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB00561 - EPA TO15 PREP											
Blank (BB00561-BLK1)											Prepared: 02/12/2020 Analyzed: 02/13/2020
n-Heptane	ND	0.41	ug/m³								
n-Hexane	ND	0.35	"								
o-Xylene	ND	0.43	"								
p- & m- Xylenes	ND	0.87	"								
p-Ethyltoluene	ND	0.49	"								
Propylene	ND	0.17	"								
Styrene	ND	0.43	"								
Tetrachloroethylene	ND	0.68	"								
Tetrahydrofuran	ND	0.59	"								
Toluene	ND	0.38	"								
trans-1,2-Dichloroethylene	ND	0.40	"								
trans-1,3-Dichloropropylene	ND	0.45	"								
Trichloroethylene	ND	0.13	"								
Trichlorofluoromethane (Freon 11)	ND	0.56	"								
Vinyl acetate	ND	0.35	"								
Vinyl bromide	ND	0.44	"								
Vinyl Chloride	ND	0.064	"								
Surrogate: SURR: p-Bromofluorobenzene	*8.51*		*ppbv*	*10.0*		*85.1*	*70-130*				
LCS (BB00561-BS1)											Prepared & Analyzed: 02/12/2020
1,1,1,2-Tetrachloroethane	9.48		ppbv	10.0		94.8	70-130				
1,1,1-Trichloroethane	9.97		"	10.0		99.7	70-130				
1,1,2,2-Tetrachloroethane	9.40		"	10.0		94.0	70-130				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.7		"	10.0		107	70-130				
1,1,2-Trichloroethane	9.55		"	10.0		95.5	70-130				
1,1-Dichloroethane	9.50		"	10.0		95.0	70-130				
1,1-Dichloroethylene	10.1		"	10.0		101	70-130				
1,2,4-Trichlorobenzene	9.63		"	10.0		96.3	70-130				
1,2,4-Trimethylbenzene	9.91		"	10.0		99.1	70-130				
1,2-Dibromoethane	9.67		"	10.0		96.7	70-130				
1,2-Dichlorobenzene	10.6		"	10.0		106	70-130				
1,2-Dichloroethane	9.54		"	10.0		95.4	70-130				
1,2-Dichloropropane	8.93		"	10.0		89.3	70-130				
1,2-Dichlorotetrafluoroethane	9.93		"	10.0		99.3	70-130				
1,3,5-Trimethylbenzene	9.60		"	10.0		96.0	70-130				
1,3-Butadiene	10.0		"	10.0		100	70-130				
1,3-Dichlorobenzene	10.8		"	10.0		108	70-130				
1,3-Dichloropropane	9.15		"	10.0		91.5	70-130				
1,4-Dichlorobenzene	10.8		"	10.0		108	70-130				
1,4-Dioxane	8.74		"	10.0		87.4	70-130				
2-Butanone	8.89		"	10.0		88.9	70-130				
2-Hexanone	8.71		"	10.0		87.1	70-130				
3-Chloropropene	9.30		"	10.0		93.0	70-130				
4-Methyl-2-pentanone	8.99		"	10.0		89.9	70-130				
Acetone	9.98		"	10.0		99.8	70-130				
Acrylonitrile	9.17		"	10.0		91.7	70-130				
Benzene	9.51		"	10.0		95.1	70-130				
Benzyl chloride	11.9		"	10.0		119	70-130				
Bromodichloromethane	9.47		"	10.0		94.7	70-130				
Bromoform	10.2		"	10.0		102	70-130				

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

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB00561 - EPA TO15 PREP											
LCS (BB00561-BS1)								Prepared & Analyzed: 02/12/2020			
Bromomethane	10.4		ppbv	10.0		104	70-130				
Carbon disulfide	10.3		"	10.0		103	70-130				
Carbon tetrachloride	10.0		"	10.0		100	70-130				
Chlorobenzene	9.29		"	10.0		92.9	70-130				
Chloroethane	11.0		"	10.0		110	70-130				
Chloroform	9.83		"	10.0		98.3	70-130				
Chloromethane	8.86		"	10.0		88.6	70-130				
cis-1,2-Dichloroethylene	9.05		"	10.0		90.5	70-130				
cis-1,3-Dichloropropylene	9.56		"	10.0		95.6	70-130				
Cyclohexane	9.35		"	10.0		93.5	70-130				
Dibromochloromethane	9.95		"	10.0		99.5	70-130				
Dichlorodifluoromethane	9.64		"	10.0		96.4	70-130				
Ethyl acetate	9.87		"	10.0		98.7	70-130				
Ethyl Benzene	9.10		"	10.0		91.0	70-130				
Hexachlorobutadiene	10.5		"	10.0		105	70-130				
Isopropanol	10.6		"	10.0		106	70-130				
Methyl Methacrylate	8.86		"	10.0		88.6	70-130				
Methyl tert-butyl ether (MTBE)	9.56		"	10.0		95.6	70-130				
Methylene chloride	10.0		"	10.0		100	70-130				
n-Heptane	9.34		"	10.0		93.4	70-130				
n-Hexane	9.30		"	10.0		93.0	70-130				
o-Xylene	9.25		"	10.0		92.5	70-130				
p- & m- Xylenes	18.7		"	20.0		93.5	70-130				
p-Ethyltoluene	9.94		"	10.0		99.4	70-130				
Propylene	8.84		"	10.0		88.4	70-130				
Styrene	9.95		"	10.0		99.5	70-130				
Tetrachloroethylene	9.06		"	10.0		90.6	70-130				
Tetrahydrofuran	9.01		"	10.0		90.1	70-130				
Toluene	9.27		"	10.0		92.7	70-130				
trans-1,2-Dichloroethylene	9.80		"	10.0		98.0	70-130				
trans-1,3-Dichloropropylene	9.33		"	10.0		93.3	70-130				
Trichloroethylene	8.81		"	10.0		88.1	70-130				
Trichlorofluoromethane (Freon 11)	9.89		"	10.0		98.9	70-130				
Vinyl acetate	8.88		"	10.0		88.8	70-130				
Vinyl bromide	11.0		"	10.0		110	70-130				
Vinyl Chloride	8.25		"	10.0		82.5	70-130				
Surrogate: SURR: p-Bromofluorobenzene	*10.0*		*"*	*10.0*		*100*	*70-130*				

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

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB00636 - EPA TO15 PREP											
Blank (BB00636-BLK1)											
1,1,1,2-Tetrachloroethane	ND	0.69	ug/m³								
1,1,1-Trichloroethane	ND	0.55	"								
1,1,2,2-Tetrachloroethane	ND	0.69	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.77	"								
1,1,2-Trichloroethane	ND	0.55	"								
1,1-Dichloroethane	ND	0.40	"								
1,1-Dichloroethylene	ND	0.099	"								
1,2,4-Trichlorobenzene	ND	0.74	"								
1,2,4-Trimethylbenzene	ND	0.49	"								
1,2-Dibromoethane	ND	0.77	"								
1,2-Dichlorobenzene	ND	0.60	"								
1,2-Dichloroethane	ND	0.40	"								
1,2-Dichloropropane	ND	0.46	"								
1,2-Dichlorotetrafluoroethane	ND	0.70	"								
1,3,5-Trimethylbenzene	ND	0.49	"								
1,3-Butadiene	ND	0.66	"								
1,3-Dichlorobenzene	ND	0.60	"								
1,3-Dichloropropane	ND	0.46	"								
1,4-Dichlorobenzene	ND	0.60	"								
1,4-Dioxane	ND	0.72	"								
2-Butanone	ND	0.29	"								
2-Hexanone	ND	0.82	"								
3-Chloropropene	ND	1.6	"								
4-Methyl-2-pentanone	ND	0.41	"								
Acetone	ND	0.48	"								
Acrylonitrile	ND	0.22	"								
Benzene	ND	0.32	"								
Benzyl chloride	ND	0.52	"								
Bromodichloromethane	ND	0.67	"								
Bromoform	ND	1.0	"								
Bromomethane	ND	0.39	"								
Carbon disulfide	ND	0.31	"								
Carbon tetrachloride	ND	0.16	"								
Chlorobenzene	ND	0.46	"								
Chloroethane	ND	0.26	"								
Chloroform	ND	0.49	"								
Chloromethane	ND	0.21	"								
cis-1,2-Dichloroethylene	ND	0.099	"								
cis-1,3-Dichloropropylene	ND	0.45	"								
Cyclohexane	ND	0.34	"								
Dibromochloromethane	ND	0.85	"								
Dichlorodifluoromethane	ND	0.49	"								
Ethyl acetate	ND	0.72	"								
Ethyl Benzene	ND	0.43	"								
Hexachlorobutadiene	ND	1.1	"								
Isopropanol	ND	0.49	"								
Methyl Methacrylate	ND	0.41	"								
Methyl tert-butyl ether (MTBE)	ND	0.36	"								
Methylene chloride	ND	0.69	"								
n-Heptane	ND	0.41	"								

Prepared: 02/13/2020 Analyzed: 02/14/2020

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

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB00636 - EPA TO15 PREP											
Blank (BB00636-BLK1)									Prepared: 02/13/2020 Analyzed: 02/14/2020		
n-Hexane	ND	0.35	ug/m³								
o-Xylene	ND	0.43	"								
p- & m- Xylenes	ND	0.87	"								
p-Ethyltoluene	ND	0.49	"								
Propylene	ND	0.17	"								
Styrene	ND	0.43	"								
Tetrachloroethylene	ND	0.68	"								
Tetrahydrofuran	ND	0.59	"								
Toluene	ND	0.38	"								
trans-1,2-Dichloroethylene	ND	0.40	"								
trans-1,3-Dichloropropylene	ND	0.45	"								
Trichloroethylene	ND	0.13	"								
Trichlorofluoromethane (Freon 11)	ND	0.56	"								
Vinyl acetate	ND	0.35	"								
Vinyl bromide	ND	0.44	"								
Vinyl Chloride	ND	0.064	"								
Surrogate: SURR: p-Bromofluorobenzene	*8.34*		*ppbv*	*10.0*		*83.4*	*70-130*				
LCS (BB00636-BS1)									Prepared: 02/13/2020 Analyzed: 02/14/2020		
1,1,1,2-Tetrachloroethane	9.60		ppbv	10.0		96.0	70-130				
1,1,1-Trichloroethane	9.93		"	10.0		99.3	70-130				
1,1,2,2-Tetrachloroethane	9.48		"	10.0		94.8	70-130				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.6		"	10.0		106	70-130				
1,1,2-Trichloroethane	9.52		"	10.0		95.2	70-130				
1,1-Dichloroethane	9.52		"	10.0		95.2	70-130				
1,1-Dichloroethylene	9.98		"	10.0		99.8	70-130				
1,2,4-Trichlorobenzene	9.79		"	10.0		97.9	70-130				
1,2,4-Trimethylbenzene	9.97		"	10.0		99.7	70-130				
1,2-Dibromoethane	9.70		"	10.0		97.0	70-130				
1,2-Dichlorobenzene	10.6		"	10.0		106	70-130				
1,2-Dichloroethane	9.48		"	10.0		94.8	70-130				
1,2-Dichloropropane	8.95		"	10.0		89.5	70-130				
1,2-Dichlorotetrafluoroethane	10.1		"	10.0		101	70-130				
1,3,5-Trimethylbenzene	9.66		"	10.0		96.6	70-130				
1,3-Butadiene	9.89		"	10.0		98.9	70-130				
1,3-Dichlorobenzene	10.8		"	10.0		108	70-130				
1,3-Dichloropropane	9.21		"	10.0		92.1	70-130				
1,4-Dichlorobenzene	10.9		"	10.0		109	70-130				
1,4-Dioxane	8.75		"	10.0		87.5	70-130				
2-Butanone	8.85		"	10.0		88.5	70-130				
2-Hexanone	8.77		"	10.0		87.7	70-130				
3-Chloropropene	9.20		"	10.0		92.0	70-130				
4-Methyl-2-pentanone	8.88		"	10.0		88.8	70-130				
Acetone	9.93		"	10.0		99.3	70-130				
Acrylonitrile	9.21		"	10.0		92.1	70-130				
Benzene	9.40		"	10.0		94.0	70-130				
Benzyl chloride	12.0		"	10.0		120	70-130				
Bromodichloromethane	9.51		"	10.0		95.1	70-130				
Bromoform	10.3		"	10.0		103	70-130				
Bromomethane	10.3		"	10.0		103	70-130				

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

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BB00636 - EPA TO15 PREP											
LCS (BB00636-BS1)									Prepared: 02/13/2020 Analyzed: 02/14/2020		
Carbon disulfide	10.2		ppbv	10.0		102	70-130				
Carbon tetrachloride	9.96		"	10.0		99.6	70-130				
Chlorobenzene	9.38		"	10.0		93.8	70-130				
Chloroethane	11.0		"	10.0		110	70-130				
Chloroform	9.79		"	10.0		97.9	70-130				
Chloromethane	8.93		"	10.0		89.3	70-130				
cis-1,2-Dichloroethylene	9.08		"	10.0		90.8	70-130				
cis-1,3-Dichloropropylene	9.68		"	10.0		96.8	70-130				
Cyclohexane	9.30		"	10.0		93.0	70-130				
Dibromochloromethane	9.98		"	10.0		99.8	70-130				
Dichlorodifluoromethane	9.74		"	10.0		97.4	70-130				
Ethyl acetate	9.93		"	10.0		99.3	70-130				
Ethyl Benzene	9.15		"	10.0		91.5	70-130				
Hexachlorobutadiene	10.7		"	10.0		107	70-130				
Isopropanol	10.5		"	10.0		105	70-130				
Methyl Methacrylate	9.00		"	10.0		90.0	70-130				
Methyl tert-butyl ether (MTBE)	9.54		"	10.0		95.4	70-130				
Methylene chloride	9.96		"	10.0		99.6	70-130				
n-Heptane	9.30		"	10.0		93.0	70-130				
n-Hexane	9.23		"	10.0		92.3	70-130				
o-Xylene	9.32		"	10.0		93.2	70-130				
p- & m- Xylenes	18.8		"	20.0		94.2	70-130				
p-Ethyltoluene	10.0		"	10.0		100	70-130				
Propylene	10.7		"	10.0		107	70-130				
Styrene	10.0		"	10.0		100	70-130				
Tetrachloroethylene	9.14		"	10.0		91.4	70-130				
Tetrahydrofuran	8.79		"	10.0		87.9	70-130				
Toluene	9.29		"	10.0		92.9	70-130				
trans-1,2-Dichloroethylene	9.73		"	10.0		97.3	70-130				
trans-1,3-Dichloropropylene	9.32		"	10.0		93.2	70-130				
Trichloroethylene	8.82		"	10.0		88.2	70-130				
Trichlorofluoromethane (Freon 11)	9.82		"	10.0		98.2	70-130				
Vinyl acetate	8.75		"	10.0		87.5	70-130				
Vinyl bromide	11.0		"	10.0		110	70-130				
Vinyl Chloride	8.20		"	10.0		82.0	70-130				
Surrogate: SURR: p-Bromofluorobenzene	*10.1*		*"*	*10.0*		*101*	*70-130*				

Sample and Data Qualifiers Relating to This Work Order

Definitions and Other Explanations

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

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

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

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

Certification for pH is no longer offered by NYDOH ELAP.

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

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

York Analytical Laboratories, Inc.
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clientservices@yorklab.com
www.yorklab.com

Field Chain-of-Custody Record - AIR

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

YORK Project No. 20B0233

Page 1 of 1

YOUR Information	Report To:	Invoice To:
Company: CA Rich Consultants, Inc.	Company: CA Rich Consultants, Inc.	Company: CA Rich Consultants, Inc.
Address: 17 Dupont Street Plainview, NY 11803	Address: 17 Dupont Street Plainview, NY 11803	Address: 17 Dupont Street Plainview, NY 11803
Phone: 516 576 8844	Phone: 516 576 8844	Phone: 516 576 8844
Contact: Michael Yager	Contact: Michael Yager	Contact: Michael Yager
E-mail: myager@carichinc.com	E-mail: myager@carichinc.com	E-mail: myager@carichinc.com

YOUR Project Number: CDC-FF IAQ/SV sampling

YOUR Project Name:

YOUR PO#:

Turn-Around Time

- RUSH - Next Day
- RUSH - Two Day
- RUSH - Three Day
- RUSH - Four Day
- Standard (5-7 Day) X

Please 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.

Michael Yager - CA Rich

Samples Collected by: (print your name above and sign below)

Michael Yager

Air Matrix Codes

- AI - Indoor Ambient Air
- AO - Outdoor Amb. Air
- AE - Vapor Extraction Well/ Process Gas/Effluent
- AS - Soil Vapor/Sub-Slab

Samples From

- New York X
- New Jersey
- Connecticut
- Pennsylvania
- Other

Report / EDD Type (circle selections)

Summary Report	CT RCP	Standard Excel EDD
QA Report	CT RCP DQA/DUE	EQuIS (Standard)
NY ASP A Package	NJDEP Reduced Deliv.	NYSDEC EQuIS
NY ASP B Package	NJDKQP	NJDEP SRP HazSite
Other:		

YORK Reg. Comp.

Compared to the following Regulation(s): (please fill in)

Certified Canisters: Batch ___ Individual ___

Please enter the following REQUIRED Field Data

Reporting Units: ug/m³ X ppbv ___ ppmv ___

Sample Identification	Date/Time Sampled	Air Matrix	Canister Vacuum Before Sampling (in Hg)	Canister Vacuum After Sampling (in Hg)	Canister ID	Flow Cont. ID	Analysis Requested
PDM-1	2/5/2020	AI	30	7	16144	7362	TO15
PDM-2	2/5/2020	AI	30	6	28314	6872	TO15
PDM-6	2/5/2020	AO	30	6	20665	6880	TO15
SVTP-01	2/5/2020	AS	30	5	16955	6881	TO15

Comments:

Detection Limits Required

≤ 1 ug/m³ ___ NYSDEC V1 Limits ___

Routine Survey ___ Other ___

Sampling Media

- 6 Liter Canister X
- Tedlar Bag

Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time
Michael Yager / CA Rich	2/5/2020/1845	Allie York	2/7/20 10:00	Allie York	2/7/20 6:00
Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time
Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Received in LAB by	Date/Time
				York	2/10/20 6:00am

APPENDIX C

NYSDOH Indoor Air Questionnaires

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Michael Yager Date/Time Prepared 2/5/20 - 0940

Preparer's Affiliation Env. Consultant Phone No. 516-576-8844

Purpose of Investigation NYSDEC Site # 1-30-070 SMP/Termination Sampling - 47 Northern Blvd., Great Neck, NY

1. OCCUPANT:

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) AT+T Store

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

Other characteristics:

Number of floors 1 + Bsmt. Building age_____

Is the building insulated? Y / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

_____

_____

_____

Airflow near source

_____

_____

_____

Outdoor air infiltration

_____

_____

_____

Infiltration into air ducts

_____

_____

_____

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: ~8-10 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

_____

_____

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: _____

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other_____
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

_____

_____

_____

_____

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally (Seldom) Almost Never

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	Storage
1st Floor	Store, Bathroom, Kitchenette, Offices
2nd Floor	
3rd Floor	
4th Floor	

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / (N)

b. Does the garage have a separate heating unit? Y / N / (NA)

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / (NA) Please specify_____

d. Has the building ever had a fire? Y / N When?_____

e. Is a kerosene or unvented gas space heater present? Y / (N) Where? _____

f. Is there a workshop or hobby/craft area? Y / (N) Where & Type? _____

g. Is there smoking in the building? Y / (N) How frequently? _____

h. Have cleaning products been used recently? Y / N When & Type? _____

i. Have cosmetic products been used recently? Y / N When & Type? _____

j. Has painting/staining been done in the last 6 months? Y / N Where & When? _____

k. Is there new carpet, drapes or other textiles? Y / N Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? _____

m. Is there a kitchen exhaust fan? Y / N If yes, where vented? _____

n. Is there a bathroom exhaust fan? (Y) / N If yes, where vented? Roof

o. Is there a clothes dryer? Y / (N) If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type? _____

Are there odors in the building? Y / (N)
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / (N)
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) (Unknown)
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply: (Public Water) Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement: See Figure 3

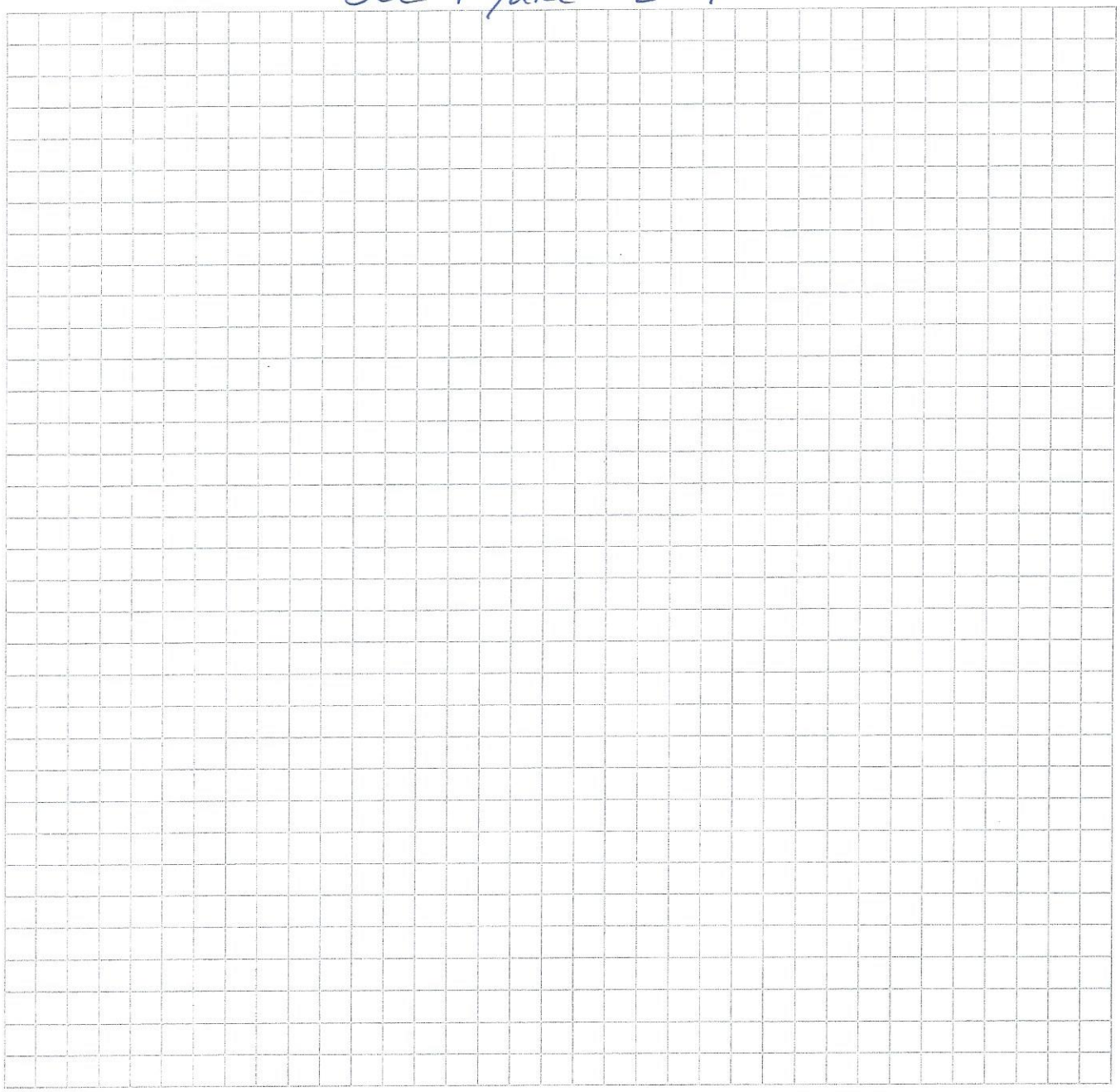
First Floor:

12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.

See Figures 3+4



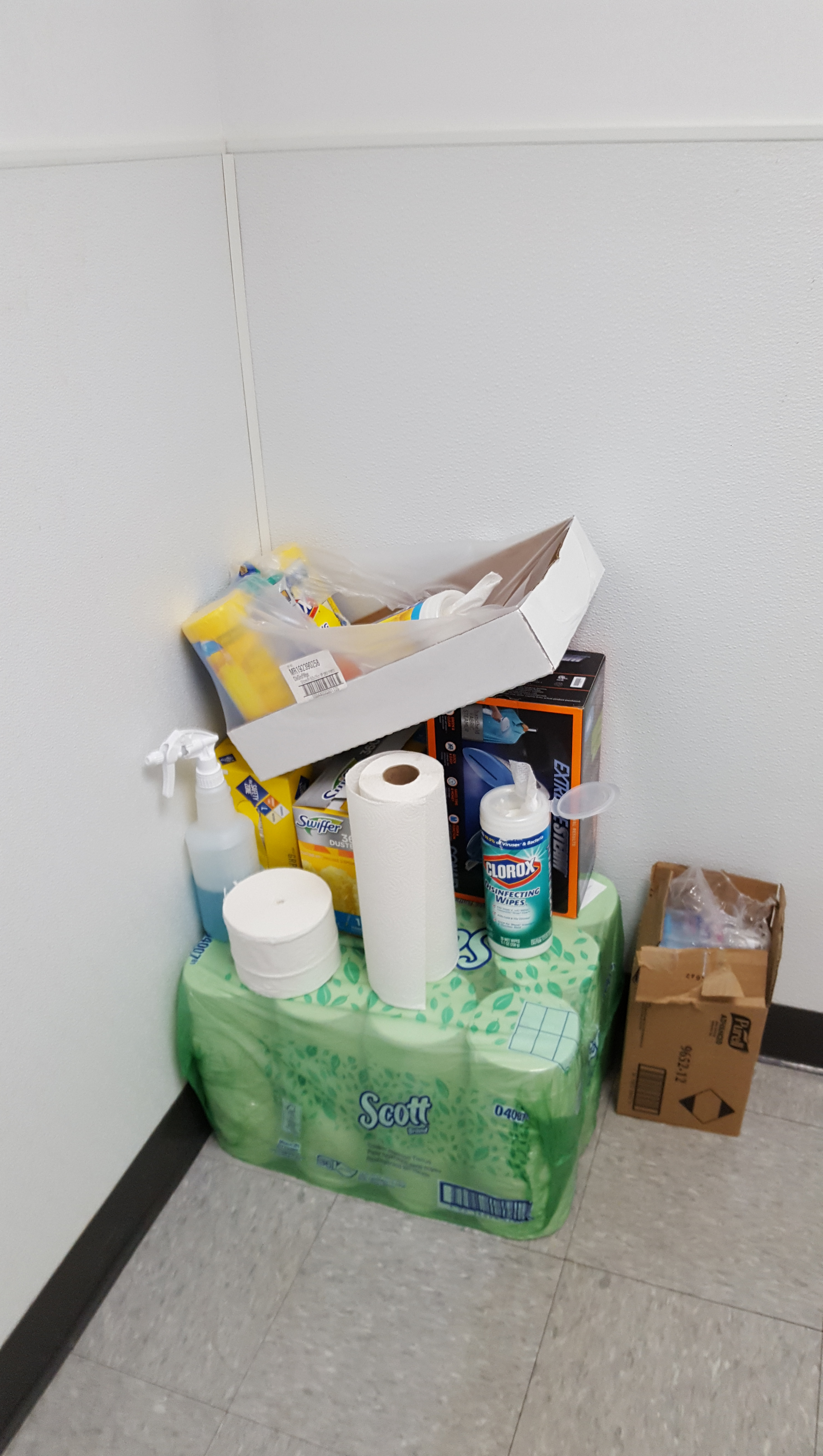
13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: Mini Rae 2000

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
1st Floor	Clorox Wipes	5/9.1oz	UO/U		0.1	Y
1st Floor	Glass Cleaner	1 Qt	U		0.2	Y
1st Floor	Shield Shine Screen cleaner	1 spray can	U		0.2	Y
1st Floor	Purell Hand Sanitizer		UO/U		0.0	Y
1st Floor	Crest Mouthwash	1 Qt			0.0	Y
1st Floor	Liquid Hand Soap	1 Qt	UO		0.0	Y

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.


Swiffer
CLOROX
DISINFECTING WIPES
Scott

CORELESS BATHROOM TISSUE
PAPIER HYGIÉNIQUE SANS NOYAU
PAPEL HIGIÉNICO SIN NÚCLEO

2-Ply • White
2 épaisseurs • Blanc
2 capas • Blanco

MIX
Paper from responsible sources
Papier fibre de sources responsables
FSC® C103572

ECOLOGO

Purell
ADVANCED
3639-12

2 capas • Blanco

MIX

FSC® C103673

Purell

ADVANCED

3639-12

Purell

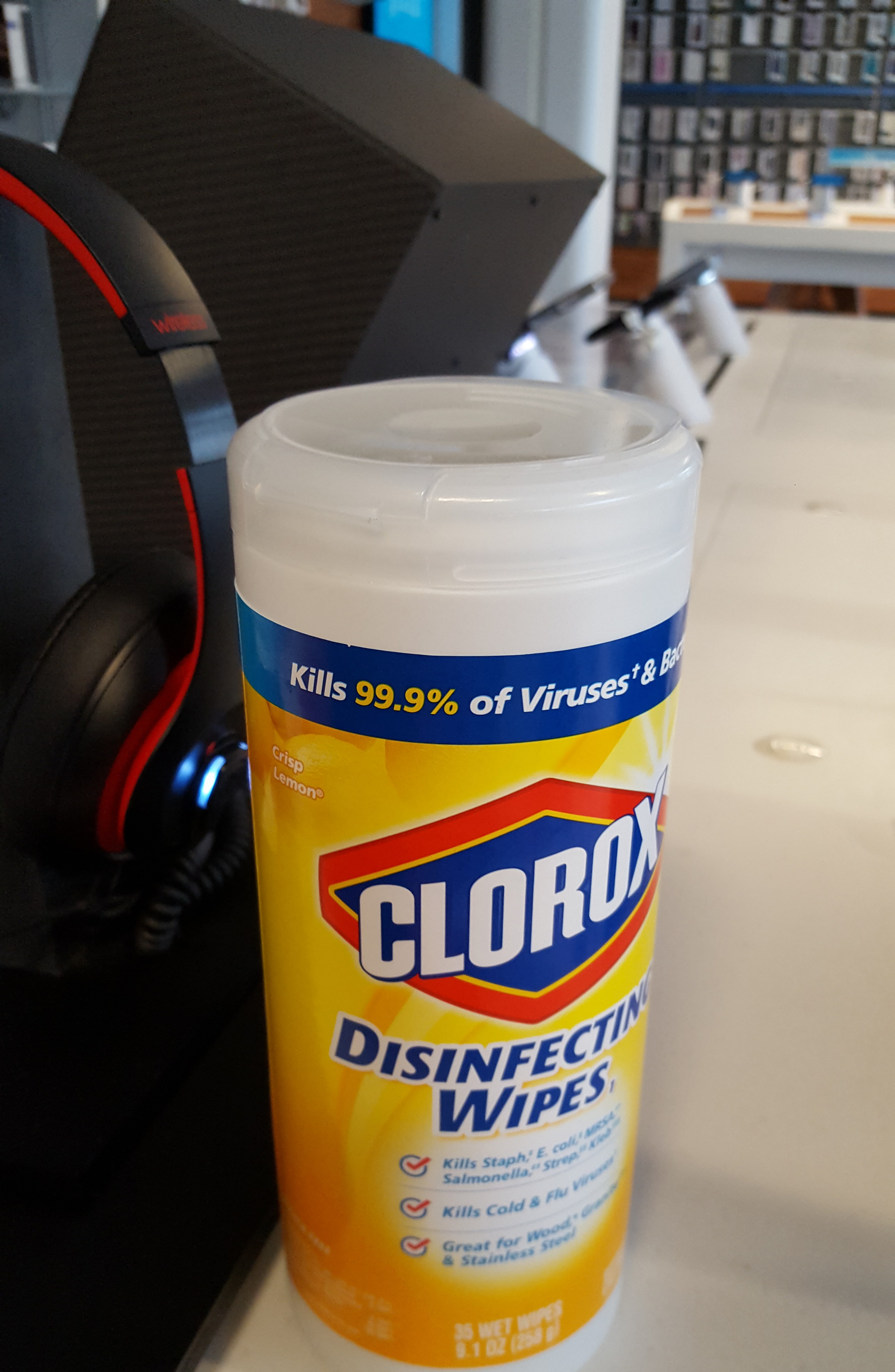
ADVANCED

Purell

ADVANCED

SHEILA SHINE


Cascades PRO
Select
Flat Box Facial Tissue
Papier-mouchoir en boîte standard
Pañuelos de papel en caja rectangular
F150A
Scott
Brand
04007 03
CORELESS BATHROOM TISSUE
PAPIER HYGIÉNIQUE SANS NOYAU
PAPEL HIGIÉNICO SIN NÚCLEO
2-Ply • White
2 épaisseurs • Blanc
2 capas • Blanco
HIGHMARK
Purell
ADVANCED
3639-12
Crest
PRO-HEALTH
ADVANCED
ALCOHOL FREE
WITH FLUORIDE
Kimberly-Clark
PROFESSIONAL


Kills 99.9% of Viruses† & Bac
Crisp
Lemon®
CLOROX
DISINFECTING
WIPES
Kills Staph,† E. coli,† MRSA,††
Salmonella,†† Strep,†† Kleb
Kills Cold & Flu Viruses
Great for Wood,* Granite
& Stainless Steel
35 WET WIPES

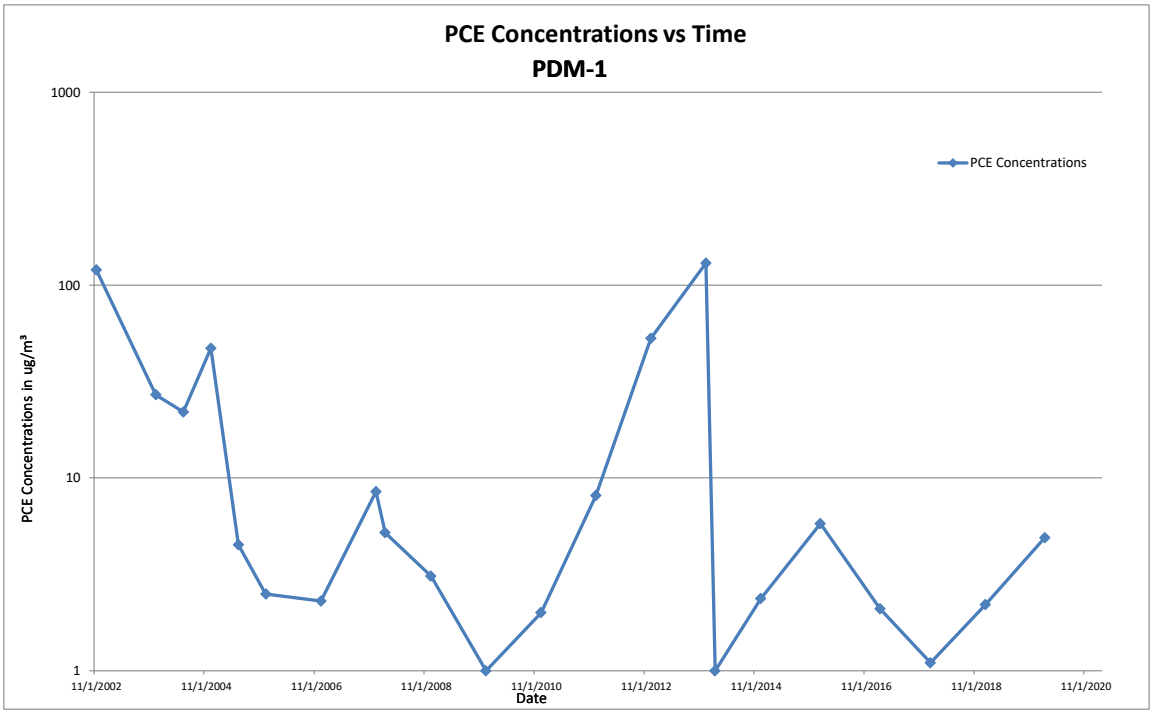
APPENDIX D

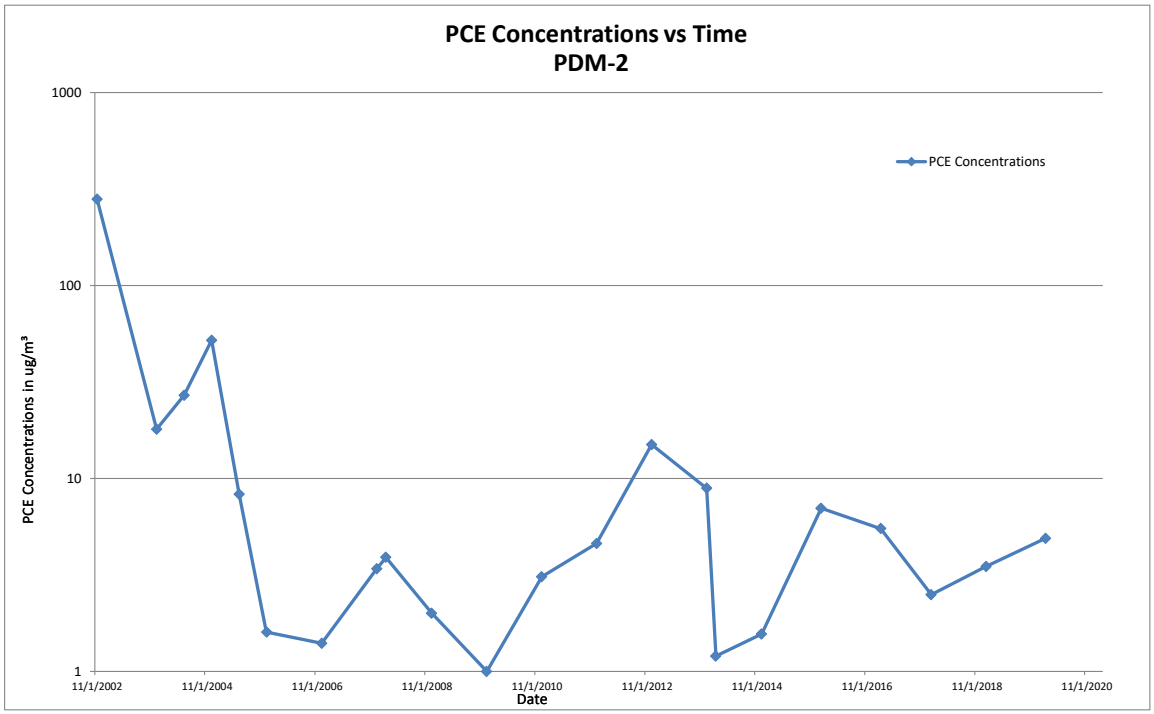
PCE Concentration Trend Graphs

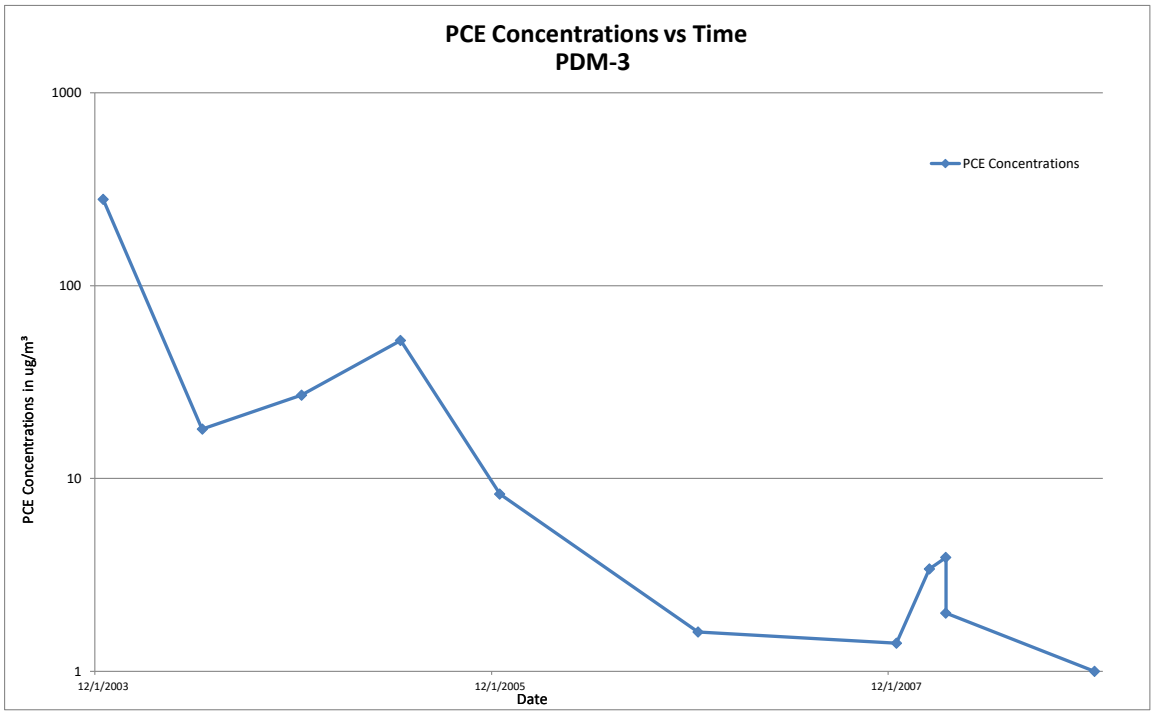
Table 1
Citizens Development Co./Flower Fashion Site
Summary of Perchloroethene Indoor Air & Sub-slab Soil Vapor Results
Units - ug/m3

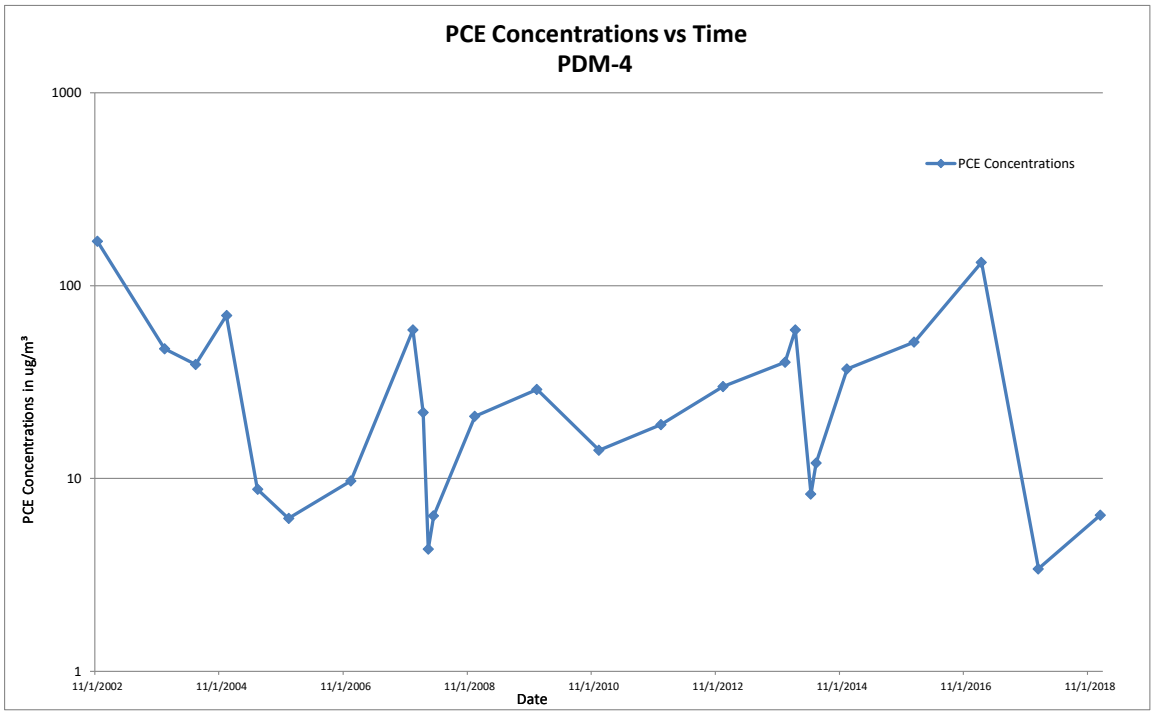
Sample #:	PDM-1	PDM-2	PDM-3	PDM-4	PDM-5	PDM-6*	SS-01 (2012) SVTP-01 (2017)	SVTP-02
Location:	AT&T	AT&T	Health Nut	55 No. Blvd. NW test rm.	55 No. Blvd. Reception	Outdoors	Sub-Slab 47 No. Blvd.	Sub-Slab 55 No. Blvd.
Level:	(Ground Fl.)	(Downstairs)	(Ground Fl.)	(Downstairs)	(Downstairs)	NA	(Bsmt)	(Bsmt)
Date								
11/20/2002	120	280	NA	170	150	7	NA	NA
12/2/2003	27	18	4	47	47	6.4	NA	NA
6/15/2004	22	27	6.6	39	39	10	NA	NA
12/17/2004	47	52	5.5	70	91	2.6	NA	NA
6/23/2005	4.5	8.3	1.4	8.8	10	5.7	NA	NA
12/13/2005	2.5	1.6	<0.5	6.2	6.2	<0.5	NA	NA
12/4/2006	2.3	1.4	<1.4	9.7	8.9	<1.4	NA	NA
12/27/2007	8.5	3.4	2.0	59	48	15	NA	NA
2/6/2008	5.2	3.9	2.6	22	48	6.1	NA	NA
3/27/2008	NA	NA	NA	21	17	3	NA	NA
4/29/2008	NA	NA	NA	29	34	7.1	NA	NA
5/29/2008	NA	NA	NA	14	17	11	NA	NA
12/5/2008	3.1	2.0	<1	19	11	2.9	NA	NA
12/17/2009	<1	<1	NA	30	32	<1	NA	NA
12/2/2010	2	3.1	NA	40	37	<1	NA	NA
12/21/2011	8.1	4.6	NA	59	38	3.2	NA	NA
12/17/2012	53	15	NA	37	48	2	42	42
12/23/2013	130	8.9	NA	51	48	4.8	NA	NA
1/27/2014	Damper on HVAC system at the AT&T store opened to allow more fresh air into building							
2/16/2014	0.76	1.2	NA	NA	NA	NA	NA	NA
3/28/2014	Damper to HVAC unit at 55 Northern Blvd. opened to allow more fresh air into basement							
5/1/2014	NA	NA	NA	132	130	NA	NA	NA
6/12/2014	Exhaust duct at 55 Northern Blvd. repaired and placed into operation							
6/26/2014	NA	NA	NA	3.4	3.8	0.85	NA	NA
12/18/2014	2.37	1.56	NA	6.44	<1.36	7.46	NA	NA
1/6/2016	5.8	7	NA	12	12	0.93	NA	NA
3/22/2016	SSD fan in basement at 47 Northern Blvd was removed and replaced with new fan							
1/19/2017	SSD fans turned off for minimum of four weeks for Termination Sampling							
2/23/2017	2.1	5.5	NA	8.3	10	1.1	20	NA
8/1/2017	SSD fans turned off for Termination Sampling							
1/30/2018	1.1	2.5	NA	4.3	4.3	1	110	NA
1/10/2019	2.2	3.5	NA	6.4	4.3	0.43	330	23
2/5/2020	4.9	4.9	NA	NA	NA	0.85	150	NA

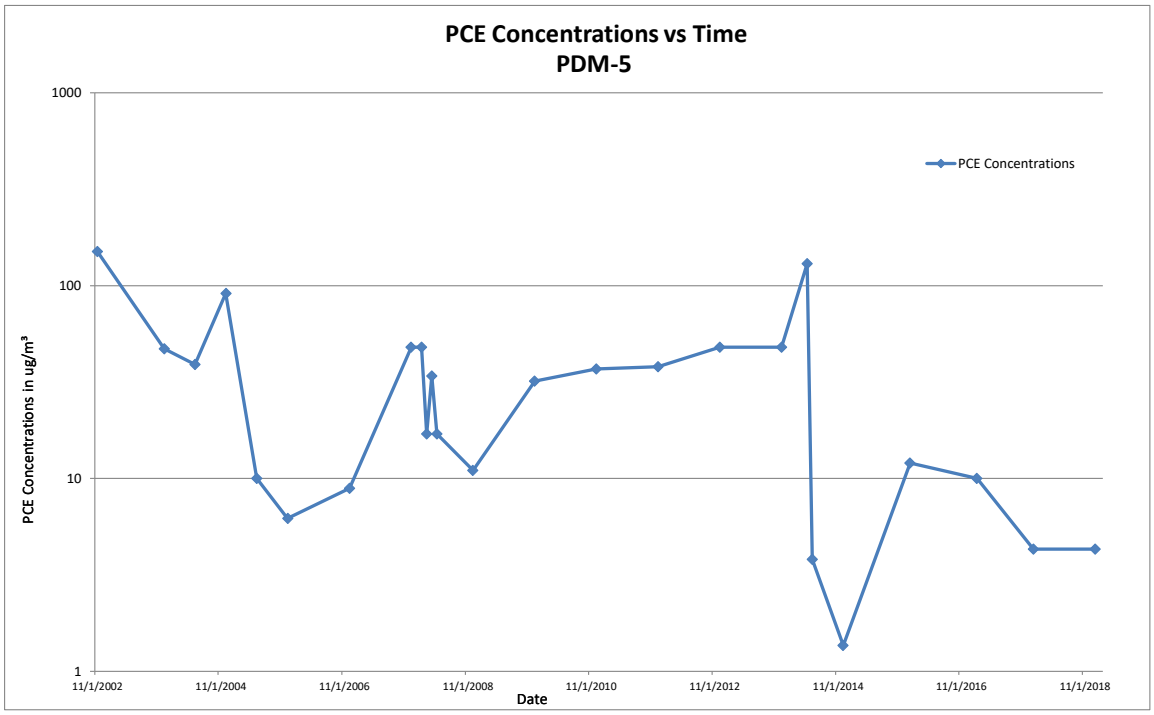
Notes:
1-AT&T store also known as Cingular
2-Subslab venting system in basement of AT&T installed during the Spring of 2002
3-November 20, 2002 samples collected and analyzed by NYSDOH
4-SVE system in rear yard installed January 2005
5-December 27, 2007 - SVE system shut down for <1 month
6-January 25, 2008 - SVE repairs completed and system restarted
7-Additonal SVE wells added during August 2009
8-SVE System turned off and converted to a SSD System on 7/21/11
9-Exhaust duct at 55 Northern Blvd. repaired and placed into operation on June 12, 2014
* - Outdoor air sample NA - Not Analyzed

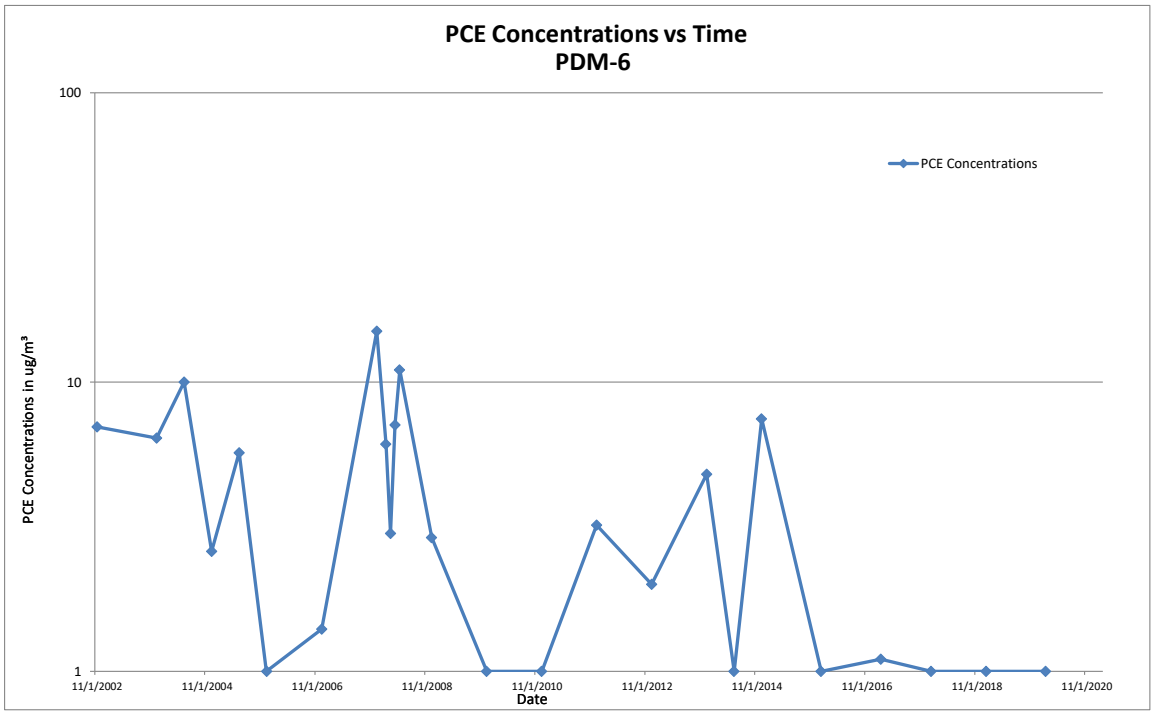

PCE Concentrations vs Time
PDM-1
1000
100
10
1
PCE Concentrations in ug/m³
PCE Concentrations
11/1/2002
11/1/2004
11/1/2006
11/1/2008
11/1/2010
11/1/2012
11/1/2014
11/1/2016
11/1/2018
11/1/2020
Date

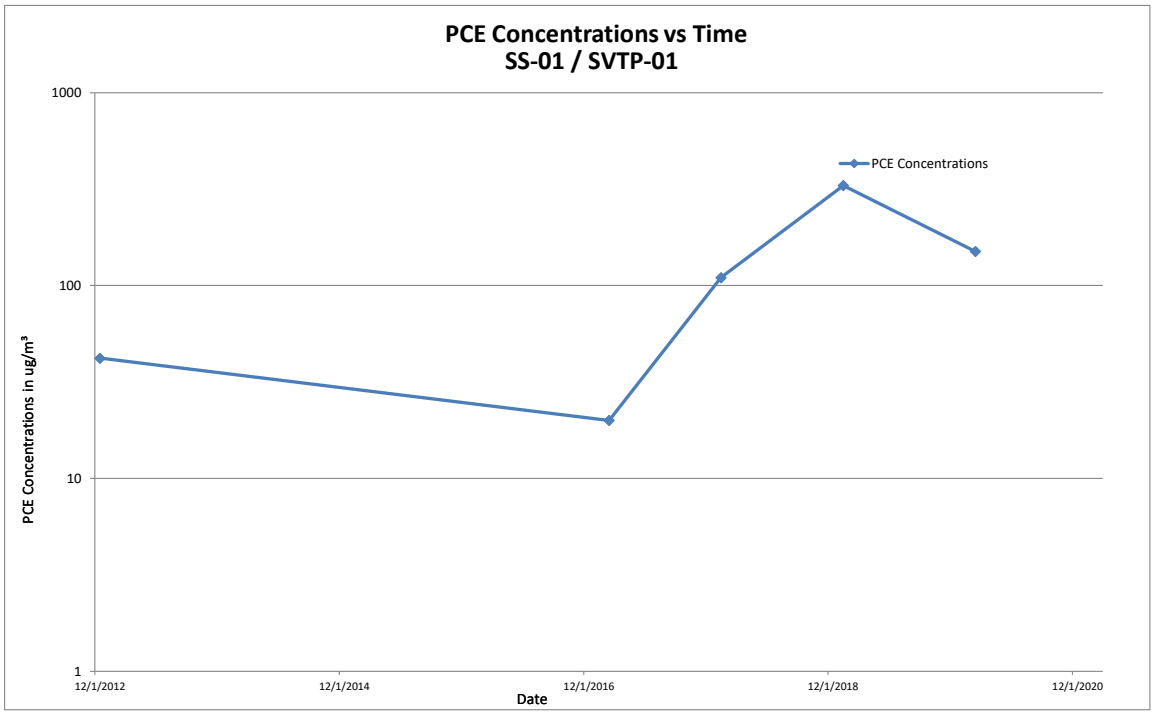

PCE Concentrations vs Time
PDM-2
1000
100
10
1
PCE Concentrations in ug/m³
PCE Concentrations
11/1/2002
11/1/2004
11/1/2006
11/1/2008
11/1/2010
11/1/2012
11/1/2014
11/1/2016
11/1/2018
11/1/2020
Date

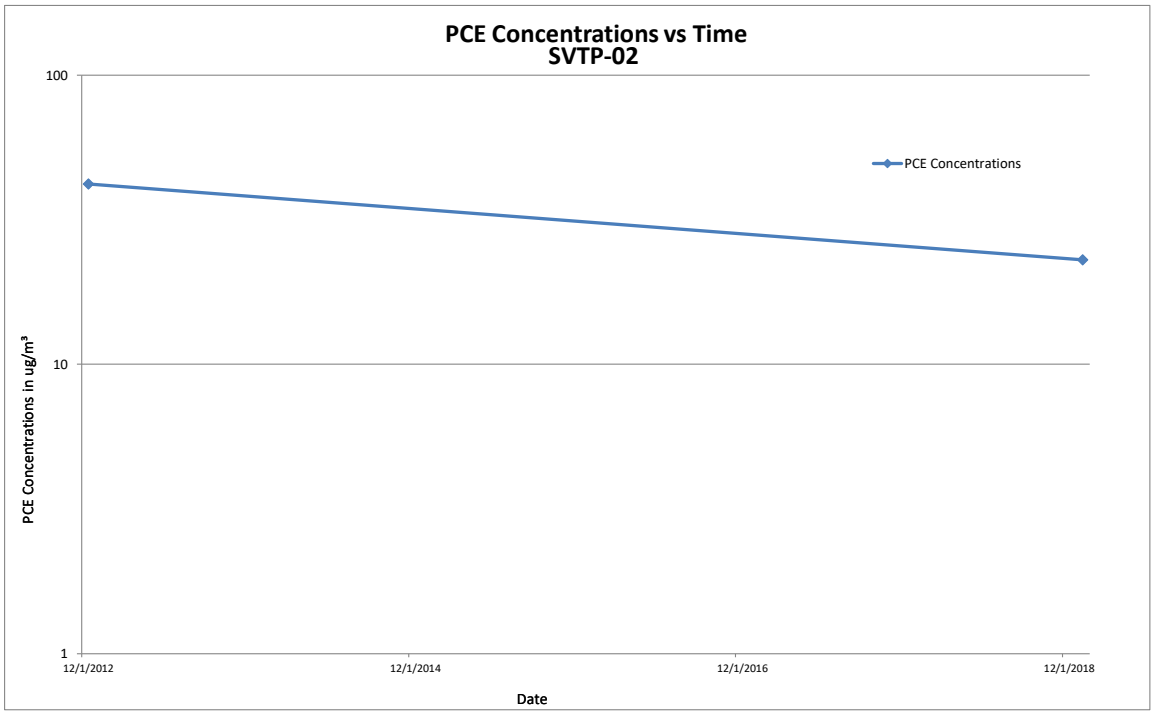

PCE Concentrations vs Time
PDM-3
1000
100
10
1
PCE Concentrations in ug/m³
12/1/2003
12/1/2005
12/1/2007
Date
PCE Concentrations


PCE Concentrations vs Time
PDM-4
1000
100
10
1
PCE Concentrations in ug/m³
PCE Concentrations
11/1/2002
11/1/2004
11/1/2006
11/1/2008
11/1/2010
11/1/2012
11/1/2014
11/1/2016
11/1/2018
Date


PCE Concentrations vs Time
PDM-5
1000
100
10
1
PCE Concentrations in ug/m³
PCE Concentrations
11/1/2002
11/1/2004
11/1/2006
11/1/2008
11/1/2010
11/1/2012
11/1/2014
11/1/2016
11/1/2018
Date


PCE Concentrations vs Time
PDM-6
100
10
1
PCE Concentrations in ug/m³
PCE Concentrations
11/1/2002
11/1/2004
11/1/2006
11/1/2008
11/1/2010
11/1/2012
11/1/2014
11/1/2016
11/1/2018
11/1/2020
Date


PCE Concentrations vs Time
SS-01 / SVTP-01
1000
100
10
1
PCE Concentrations in ug/m³
PCE Concentrations
12/1/2012
12/1/2014
12/1/2016
12/1/2018
12/1/2020
Date


PCE Concentrations vs Time
SVTP-02
100
10
1
PCE Concentrations in ug/m³
PCE Concentrations
12/1/2012
12/1/2014
12/1/2016
12/1/2018
Date