



8976 Wellington Road
Manassas, VA 20109

October 31, 2019

Jessica LaClair
New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau E
625 Broadway, 12th Floor
Albany, New York 12233-7017

Re: Subslab Depressurization System Completion and Startup Report (Phase I) –
Building 330C
Former IBM East Fishkill Facility
EPA ID No. NYD000707901, NYSDEC Site No. 314054

Dear Ms. LaClair:

Enclosed is the *Subslab Depressurization System Completion and Startup Report (Phase I) - Building 330C* at the former IBM East Fishkill facility in Hopewell Junction, New York. The work described in the report was conducted in accordance with IBM's March 24, 2017 Subslab Depressurization Conceptual Design Report, which was approved by the New York State Department of Environmental Conservation (NYSDEC) and Department of Health (NYSDOH) in an August 23, 2017 letter.

If you have any questions, please contact me at (703) 257-2583.

Sincerely yours,
International Business Machines Corporation

Dean W. Chartrand
Program Manager
Corporate Environmental Affairs

Enclosure: Subslab Depressurization System Completion and Startup Report (Phase I) –
Building 330C

cc:	Julia Kenney	NYSDOH	(w/enclosure via e-mail)
	Mike Buckley	National Resources	(w/enclosure via e-mail)
	Carl Monheit	National Resources	(w/enclosure via e-mail)
	Gary Marone	Global Foundries	(w/enclosure via e-mail)
	David Shea	Sanborn Head	(w/enclosure via e-mail)

Dean Chartrand
IBM Corporate Environmental Affairs
8976 Wellington Road
Manassas, VA 20109

October 31, 2019
File No. 2999.04

Re: Subslab Depressurization System Completion and Startup Report (Phase I) -
Building 330C
Former IBM East Fishkill Facility
Hopewell Junction, New York
EPA ID No. NYD000707901
NYSDEC Site No. 314054

Dear Mr. Chartrand:

The enclosed report documents the completion of installation, and presents the results of startup performance monitoring, for Phase I of the subslab depressurization (SSD) system in Building 330C at the former IBM East Fishkill facility, currently owned by iPark East Fishkill LLC.

Please contact us if you require additional information.

Very truly yours,
SANBORN, HEAD ENGINEERING, P.C.



David Shea, P.E.
Sr. Vice President

Encl. Subslab Depressurization System Completion and Startup Report (Phase I) -
Building 330C

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SUBSLAB DEPRESSURIZATION SYSTEM COMPLETION AND STARTUP REPORT (PHASE I)

BUILDING 330C

*Former IBM East Fishkill Facility
Hopewell Junction, New York*



*Prepared for IBM Corporate Environmental Affairs
File No. 2999.04
October 2019*

NYS Professional Engineer Certification
Subslab Depressurization System Completion and Startup Report (Phase I) – Building 330C
Former IBM East Fishkill Facility
EPA ID No. NYD000707901
NYSDEC Site No. 314054

I, David Shea, certify that I am currently a NYS registered professional engineer. I had primary direct responsibility for implementation of the subject construction program, and I certify that the subslab depressurization (SSD) system in Building 330C was implemented and that all construction activities were completed in substantial conformance with the design plans and specifications prepared by Sanborn, Head Engineering, PC (SHPC). This statement of conformance of the installation with the design documents is based on SHPC's on-site observations during construction and start-up of the SSD system in Building 330C.



Date: October 31, 2019

Name: David Shea

NYS P.E. License No. 70026

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**SUBSLAB DEPRESSURIZATION SYSTEM
COMPLETION AND STARTUP REPORT (PHASE I) – BUILDING 330C
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1.0 INTRODUCTION

This report documents the completion of installation and presents the results of startup performance monitoring, including confirmatory indoor air sampling, associated with the Phase I subslab depressurization (SSD) system in Building 330C (B330C) at the former IBM East Fishkill facility located in Hopewell Junction, New York (the site). A site location plan is provided as Figure 1, and the location of B330C at the site is shown on Figure 2. B330C is currently owned by iPark East Fishkill LLC, also referred to as National Resources (NR). iPark renumbered its buildings in 2019, and B330C was renumbered as Building 755. However, to be consistent with prior reports, the building will be referred to as B330C herein.

The work described herein was conducted on behalf of IBM by Sanborn, Head Engineering, PC (SHPC). Progress updates and relevant data have been communicated to the New York State Department of Environmental Conservation and Department of Health (the Departments) through periodic correspondence and meetings.

The services conducted, and this report, are subject to the standard limitations for this type of work, as described in Appendix A.

2.0 BACKGROUND INFORMATION

IBM owned the East Fishkill facility property until July 2015, at which time the property was transferred to Global Foundries. Global Foundries subsequently subdivided the property into 8 lots and sold 6 lots to iPark in September 2017. The lot lines as of the date of this report are shown on Figure 2. B330C is located on Lot 7, which is owned by iPark East Fishkill LLC.

B330C was subject to vapor intrusion assessment under IBM's Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan,¹ and the assessment results were reported to the Departments in November 2009² and July 2014³.

Decommissioning of certain manufacturing areas was subsequently conducted by IBM and much of the building was vacated, although certain areas remained routinely occupied. Additional indoor air quality (IAQ) testing was conducted in April and November 2015 in conjunction with heating, ventilating, and air conditioning (HVAC) system shutdown testing, as described in a February 2016⁴ report to the Departments. As part of this testing, screening of subslab vapor samples collected in April and May 2015 confirmed the presence of tetrachloroethene (PCE) in subslab vapor beneath B330C.

IBM elected to conduct SSD pilot testing in 2015 and 2016 to: 1) evaluate its potential effectiveness in controlling air pressure gradients across the floor slab in certain areas with

¹ Sanborn, Head Engineering, P.C., *Work Plan, RCRA Facility Investigation (RFI), VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, NY*, June 15, 2009.

² Sanborn, Head Engineering, P.C., *Confirmatory Sampling Results, Buildings 330C and 338, VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, NY*, November 2009.

³ Sanborn, Head Engineering, P.C., *Report of Supplemental Remedial Measures, Building 330C VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, NY*, July 2014.

⁴ Sanborn, Head Engineering, P.C., *Report of HVAC Adjustment and Indoor Air Quality Testing – Buildings 330C and 338, Former IBM East Fishkill Facility, Hopewell Junction, New York*, February 2016.

higher potential for vapor intrusion, and 2) obtain observational data that could be used to support design of an SSD system.

Based on favorable results of the SSD pilot testing, in March 2016 IBM elected to install an interim SSD system (designated System VE-4) in the former Baseline Area located in the northwest portion of the building where the highest subslab PCE concentrations were observed and which was adjacent to an area of the building that remained occupied. The location of System VE-4 is shown on Figure 3. IAQ sampling and screening were conducted after the System VE-4 was brought online, the results of which were presented in a July 2016 report⁵ that was submitted to the Departments. As discussed in the report, the interim SSD system was found to be successful in reducing VOC vapor intrusion into the northwest portion of the building.

Results of the subslab vapor assessment, SSD pilot testing, and the conceptual design of a permanent SSD system for B330C were submitted to the Departments in a March 2017 report.⁶ The Departments approved the design in a letter to IBM, dated August 23, 2017, and indicated that IBM may proceed with construction and operation of the SSD system.

In September 2017, iPark purchased the building and renovations have been ongoing for new tenants, including Cozzini Brothers and Country Produce located in the southern and southwestern portions of B330C, respectively. This report documents the installation, startup, and subsequent IAQ testing of the first phase of the permanent SSD system for B330C, which covers the Cozzini Brothers and Country Produce tenant spaces.

IBM plans to construct the remaining phases of the SSD system once iPark has renovated the areas to a point where overhead vacuum piping can be readily installed.

3.0 SUBSLAB DEPRESSURIZATION SYSTEM INSTALLATION AND PERFORMANCE

The purpose of the SSD system is to capture subslab VOC vapors and establish control of cross-slab pressure gradients to reduce the potential for vapor intrusion to impact IAQ. Installation of the SSD piping is being constructed in phases to accommodate the completion of building renovations being conducted by iPark. The permanent Phase 1 SSD system is designated System VE-7. Two equipment enclosures (Systems VE-7 and VE-8 shown on Figure 3) and the associated concrete pad were installed by IBM in November and December 2017. The first phase of the SSD system piping was constructed in March and April 2019 in general accordance with the conceptual design and began operation on April 30, 2019. The layout of the entire system and the extent of the first phase of construction is shown on Figure 3. Figure 3 also provides a summary of current and proposed occupancy within B330C as reported to IBM by iPark.

⁵ Sanborn, Head Engineering, P.C., *Report of Interim Measures and Indoor Air Quality Testing, Building 330C, Former IBM East Fishkill Facility, Hopewell Junction, NY*, July 22, 2016.

⁶ Sanborn, Head Engineering, P.C., *Subslab Depressurization Conceptual Design Report, Building 330C, Former IBM East Fishkill Facility, Hopewell Junction, NY*, March 24, 2017.

The following sections provide a description of the SSD system and summarizes the startup activities, including operating conditions and performance results.

3.1 System Description

The permanent SSD system described in the March 2017 conceptual design report was designed to cover areas where PCE levels in subslab vapor exceeded $50,000 \mu\text{g}/\text{m}^3$, and which generally correspond to areas where PCE levels in indoor air have historically been higher than other areas of the building. The first phase of construction targeted the recently renovated and occupied Cozzini Brothers and Country Produce tenant spaces, which are shown on Figure 3. Cozzini Brothers occupies the former sintering furnace rooms on the south end of B330C, while Country Produce occupies the former casting and ball mill areas in the southwestern portion of the building.

Subslab vapor is withdrawn from extraction ports EP3007, EP3018, and EP3019 as shown on Figure 3. Vapor is withdrawn from beneath the slab using a 25-horsepower, regenerative-type vacuum blower installed inside one of two equipment enclosures (System VE-7) located on the south side of B330C. Subslab vapor is pulled through a vapor-liquid separator and treated via three 700-lb granular activated carbon (GAC) adsorber units plumbed in a lead-lag-polish series configuration. The treated vapor then enters the vacuum blower and is discharged above the B330C roofline and away from any outside air intakes. The system is equipped with instruments, controls, and alarms so that the appropriate personnel are notified automatically in the event of a malfunction. The system in the second SSD enclosure (System VE-8) will cover other areas of B330C, including the area currently covered by System VE-4, once the SSD system piping has been installed in those areas. Photographs of System VE-7 enclosure are provided in Exhibits 3.1 and 3.2 below.

Exhibit 3.1: SSD Equipment Enclosure Interior (System VE-7)



Exhibit 3.2: SSD Equipment Enclosures Exterior (System VE-7 on Left)



3.2 Vapor Extraction Performance Monitoring

The applied vacuums and flow rates measured at the operating extraction ports during startup are shown on Figure 4. A combined total of 430 standard cubic feet per minute (scfm)

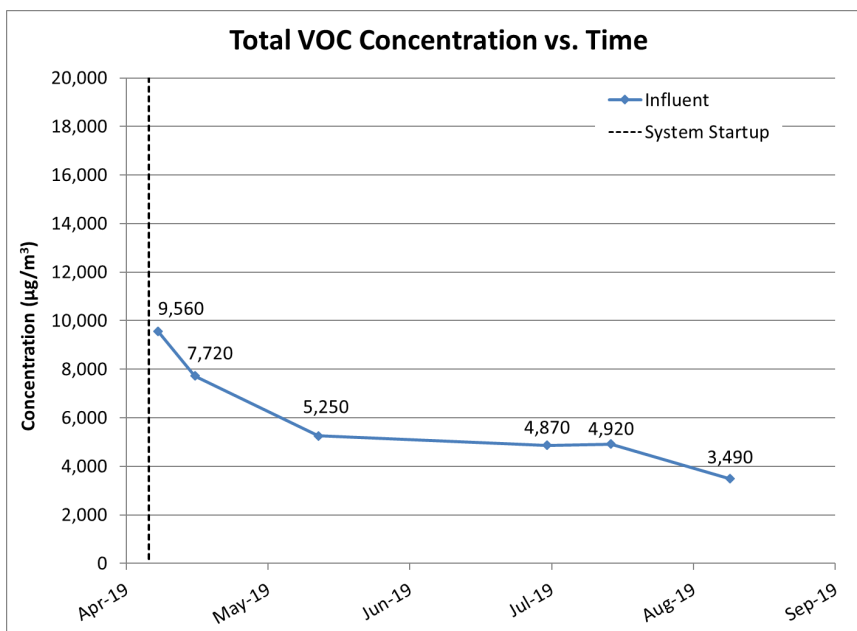
of subslab vapor is being extracted by System VE-7. The resulting cross-slab differential pressure measurements collected at these conditions are also shown on Figure 4, along with the inferred extent of the subslab pressure response depicted by the differential pressure isopleth. The applied vacuums, extracted vapor flow rates, and subslab differential pressure response are generally consistent with observations made during pilot testing activities and indicate subslab depressurization of the occupied Country Produce and Cozzini Brothers tenant space footprints.

The area of influence of System VE-4 is also shown on Figure 4 for reference and is based on a differential pressure measurement round completed in December 2018.

3.3 VOC Mass Removal

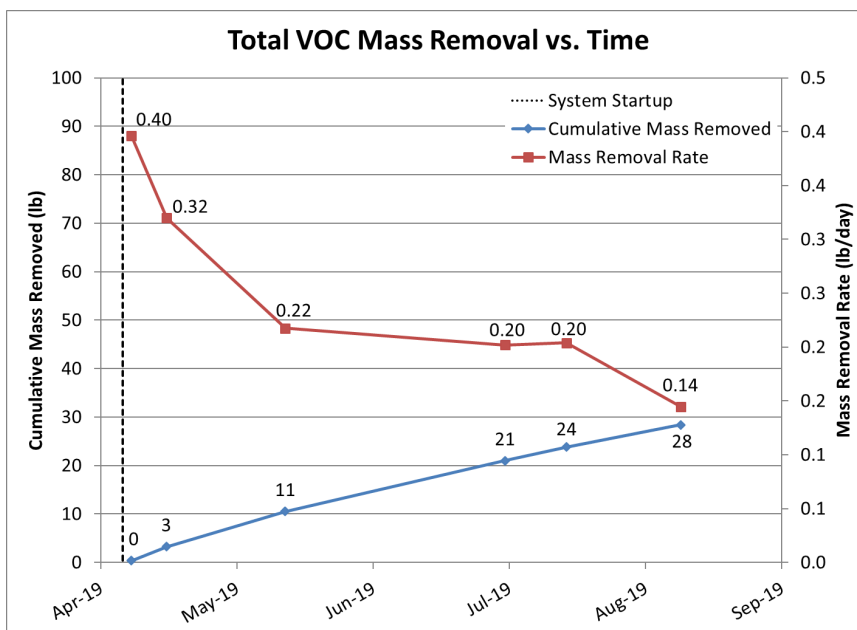
The SSD system is successfully removing VOC mass from beneath the building slab. To estimate the total VOC mass removed by the system, process vapor samples have been collected from the influent of the GAC treatment train a total of six times since initial startup. The plot in Exhibit 3.3 below shows total VOC concentrations versus time at the influent point of the GAC treatment train. The initial VOC vapor stream concentrations were generally consistent with the levels of VOCs in subslab soil vapor observed during the subslab vapor assessment. As expected, influent total VOC concentrations demonstrate a steep decrease after initial startup and subsequent gradual decrease over time thereafter.

Exhibit 3.3: SSD System Influent Total VOC Concentration vs. Time



The plot in Exhibit 3.4 below shows the total VOC mass removal rate and cumulative mass removed since startup. A total of approximately 28 pounds of VOCs have been removed since startup through September 4, 2019.

Exhibit 3.4: SSD System Total VOC Mass Removal vs. Time



To monitor treatment performance of the extracted vapor stream, grab samples will be collected downstream of each of the three GAC vessels, on an approximately quarterly basis. Once the sampling data indicates the existing GAC is near exhaustion, it will be replaced with virgin GAC.

3.4 Operations and Maintenance

The SSD system operations and maintenance monitoring program is outlined below in Exhibit 3.5. In addition to the monitoring described below, the SSD system is equipped with system shut-down alarms that notify operators when the system is not operational (e.g., during power outages, equipment malfunction).

Exhibit 3.5: SSD System Operations and Maintenance Plan

Task	Frequency
SSD system operational monitoring (blower run, vacuum, and flow – manual checks)	Weekly
SSD system combined influent vapor grab Summa® sampling and VOC analysis	Monthly
SSD system GAC treatment train grab Summa® sampling and VOC analysis	Quarterly
SSD system performance monitoring (extraction port flow rates and subslab differential pressures)	Annually

4.0 INDOOR AIR CONFIRMATORY SAMPLING

4.1 Country Produce Tenant Space

On July 25, 2019, approximately three months following startup of the SSD system, Walden Environmental Engineering, PLLC (Walden) conducted IAQ testing in the Country Produce tenant space on behalf of iPark. The IAQ testing is described in Walden's summary report,⁷ which is included as Appendix B.

As described in Walden's report, indoor air samples were collected at 12 locations while the SSD system was operating and the HVAC was operating under occupied conditions. PCE and trichloroethene (TCE) sample results are shown on Figure 5. PCE was detected in each indoor air sample at concentrations ranging from 1.5 to 3.1 $\mu\text{g}/\text{m}^3$. TCE was detected above laboratory reporting limits at 2 of the 12 indoor air sample location at concentrations of 0.27 and 0.69 $\mu\text{g}/\text{m}^3$.

In an August 28, 2019 letter to iPark, the Departments indicated that it appeared that adequate vacuum was achieved by the operation of the SSD system within the space, and that no additional indoor air sampling was necessary at that time for the space to be occupied.

4.2 Cozzini Brothers Tenant Space

Indoor air samples were collected by Sanborn Head on behalf of IBM in the Cozzini Brothers tenant space in September 2018 after the HVAC system was installed and operating under normal conditions, and prior to the installation and startup of the SSD system. The IAQ testing was documented in a letter report submitted to the Departments on November 16, 2018,⁸ which is included in Appendix C.

PCE was detected at each of the four locations sampled at concentrations ranging from 2.4 to 3.5 $\mu\text{g}/\text{m}^3$. TCE was detected in only one of the four locations sampled at a concentration of 0.99 $\mu\text{g}/\text{m}^3$.

Following startup of the SSD system, subslab depressurization beneath the Cozzini Brothers tenant space was achieved as confirmed by subslab differential pressure monitoring shown on Figure 4. Post-SSD system startup IAQ testing was not conducted in the Cozzini Brothers tenant space because the pre-SSD system startup IAQ sample results were acceptable for occupancy.

5.0 CONCLUSIONS

The results of the B330C SSD system Phase I startup performance monitoring and indoor air sampling indicate the system is meeting its design objectives of depressurizing the subslab and reducing VOC vapor intrusion to achieve acceptable indoor air quality. Confirmatory indoor air sampling indicates that the SSD system has reduced PCE concentrations within the

⁷ Walden Environmental Engineering, PLLC, *Building 755 (Former 330C), Country Produce Space, Indoor Air Quality Testing Summary Report*, iPark 84, Former IBM East Fishkill Facility, August 2019.

⁸ Sanborn, Head Engineering, P.C., *Indoor Air Quality Testing Results – FINAL REPORT, Building 330C, Former IBM East Fishkill Facility, Hopewell Junction, NY*, November 14, 2018.

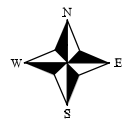
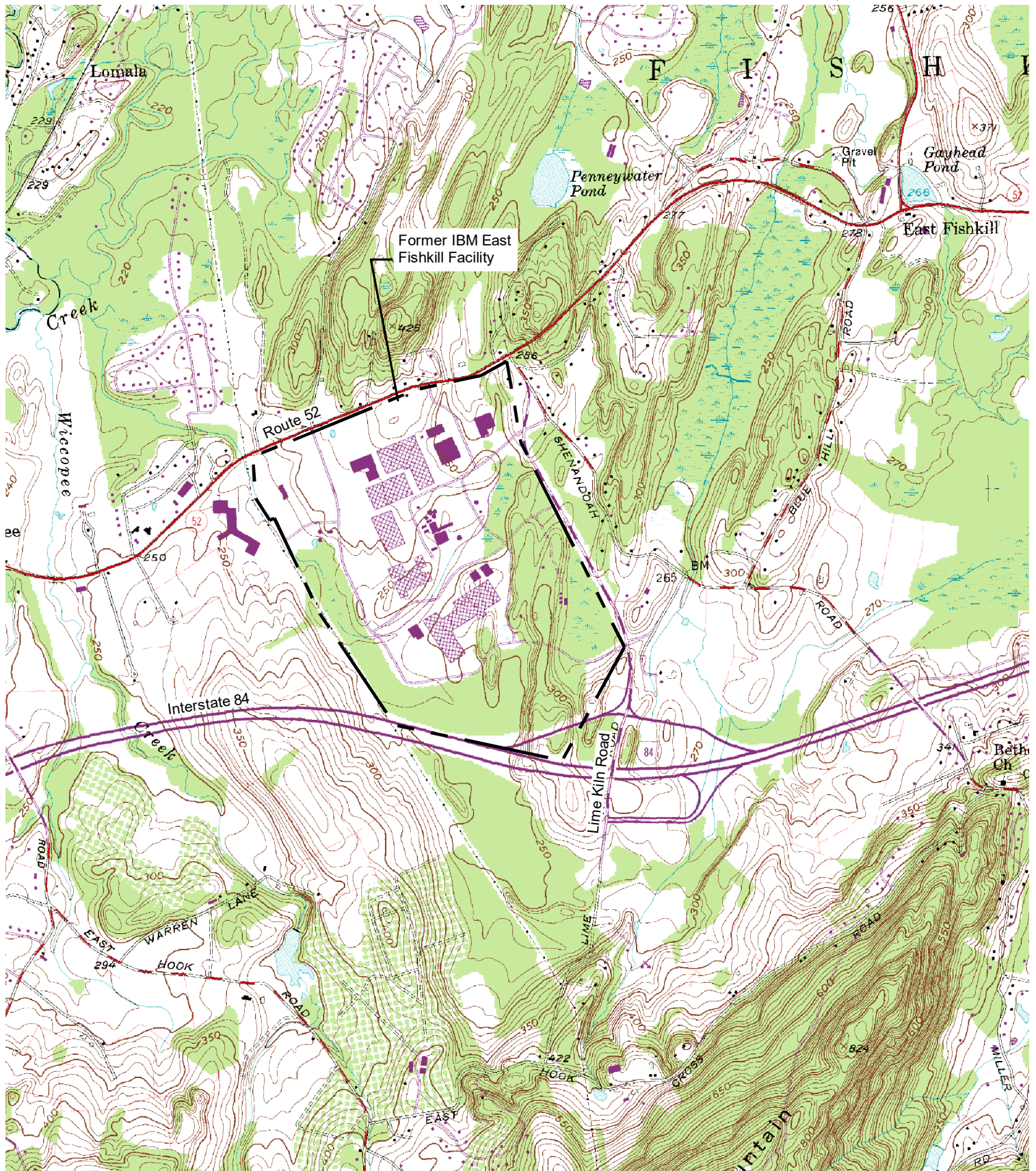
targeted tenant spaces to levels approaching background and are acceptable for occupancy, and TCE concentration to levels at or approaching non-detectable concentrations.

IBM will complete installation of the piping and startup System VE-8 as shown on Figure 3 once iPark has removed inactive piping and utilities above the ceiling so the piping can be readily installed.

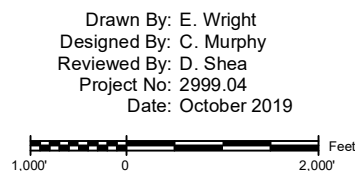
IBM intends to operate and maintain the B330C SSD system as described in Section 3.4.

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FIGURES



Notes:
Base map taken from 7.5 minute
USGS Quadrangle Maps: Hopewell
Junction, New York, Dated 1957,
Photorevised in 1981.



SANBORN HEAD ENGINEERING

Figure 1

Site Location Plan

Subslab Depressurization Completion and
Startup Report (Phase I) - Building 330C

Former IBM East Fishkill Facility
Hopewell Junction, New York



Figure 2

B330C Location Plan

Subslab Depressurization Completion and
Startup Report (Phase I) - Building 330C

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: C. Murphy
Reviewed By: D. Shea
Project No: 2999.04
Date: October 2019

Figure Narrative

This figure shows the buildings at the former IBM East Fishkill facility. Building B330C is highlighted.

Legend

- Property Line
- Unlabeled features include wastewater treatment tanks, pump houses, trailers, and other structures and features not intended for human occupancy

B330C Indicates building number

Indicates the location of B330C

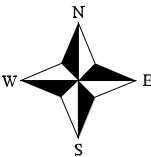
GlobalFoundries

Lot 1 GlobalFoundries U.S.2 LLC
Lot 5 GlobalFoundries U.S.2 LLC

i.Park

Lot 2 i.Park East Fishkill I LLC
Lot 3 i.Park East Fishkill I LLC
Lot 4 i.Park East Fishkill LLC
Lot 6 i.Park East Fishkill LLC
Lot 7 i.Park East Fishkill LLC
Lot 8 i.Park East Fishkill LLC

- Subdivision (GlobalFoundries U.S.2 LLC)
 - Subdivision (i.Park East Fishkill LLC)
 - Subdivision (i.Park East Fishkill I LLC)



200' 100' 0 200' 400' Feet

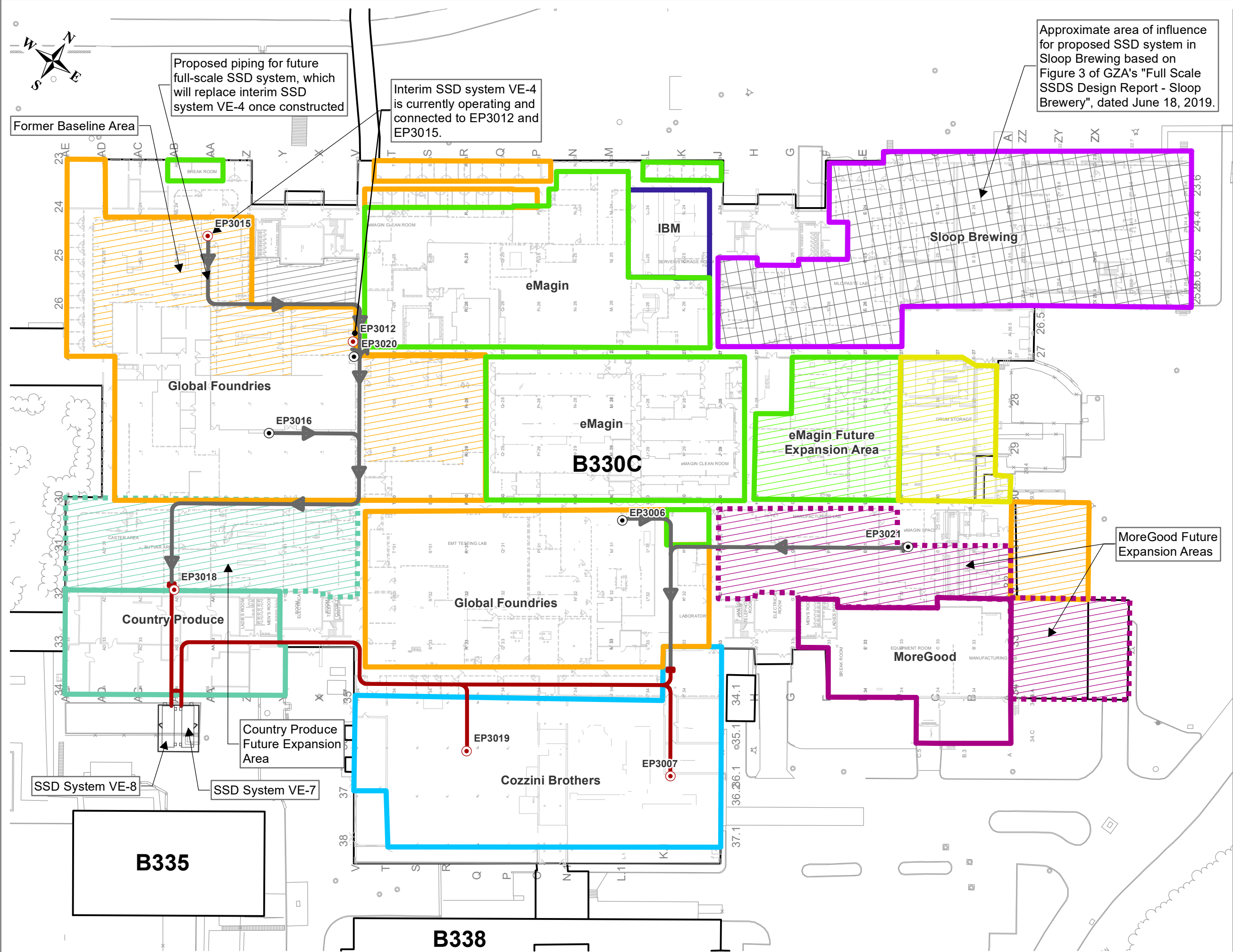


Figure 3

Occupancy and Subslab Depressurization System Summary Figure

Subslab Depressurization Completion and Startup Report (Phase I) - Building 330C

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: J. Sanborn
Reviewed By: D. Shea
Project No: 2999.04
Date: October 2019

Figure Narrative

This figure shows the existing and future subslab depressurization (SSD) systems being installed by IBM. In addition, the building owner (iPark) has submitted a design report for an SSD system in the Sloop Brewing tenant space.

Tenant spaces are based on a figure provided by iPark dated 8/26/2019. IBM is to be notified by the building owner when tenants vacate or occupy spaces within the building.

Legend

- Cozzini Brothers
- IBM
- Country Produce
- Global Foundries
- MoreGood
- Sloop Brewing
- eMagin
- Ronny Brook
- Unoccupied
- Existing SSDS piping connected to system VE-7 installed by IBM (Phase I)
- EP3007 Extraction ports connected to an operating SSD system
- Future SSDS piping to be installed by IBM
- EP3020 Extraction ports to be connected to future piping

30 15 0 30 60 Feet

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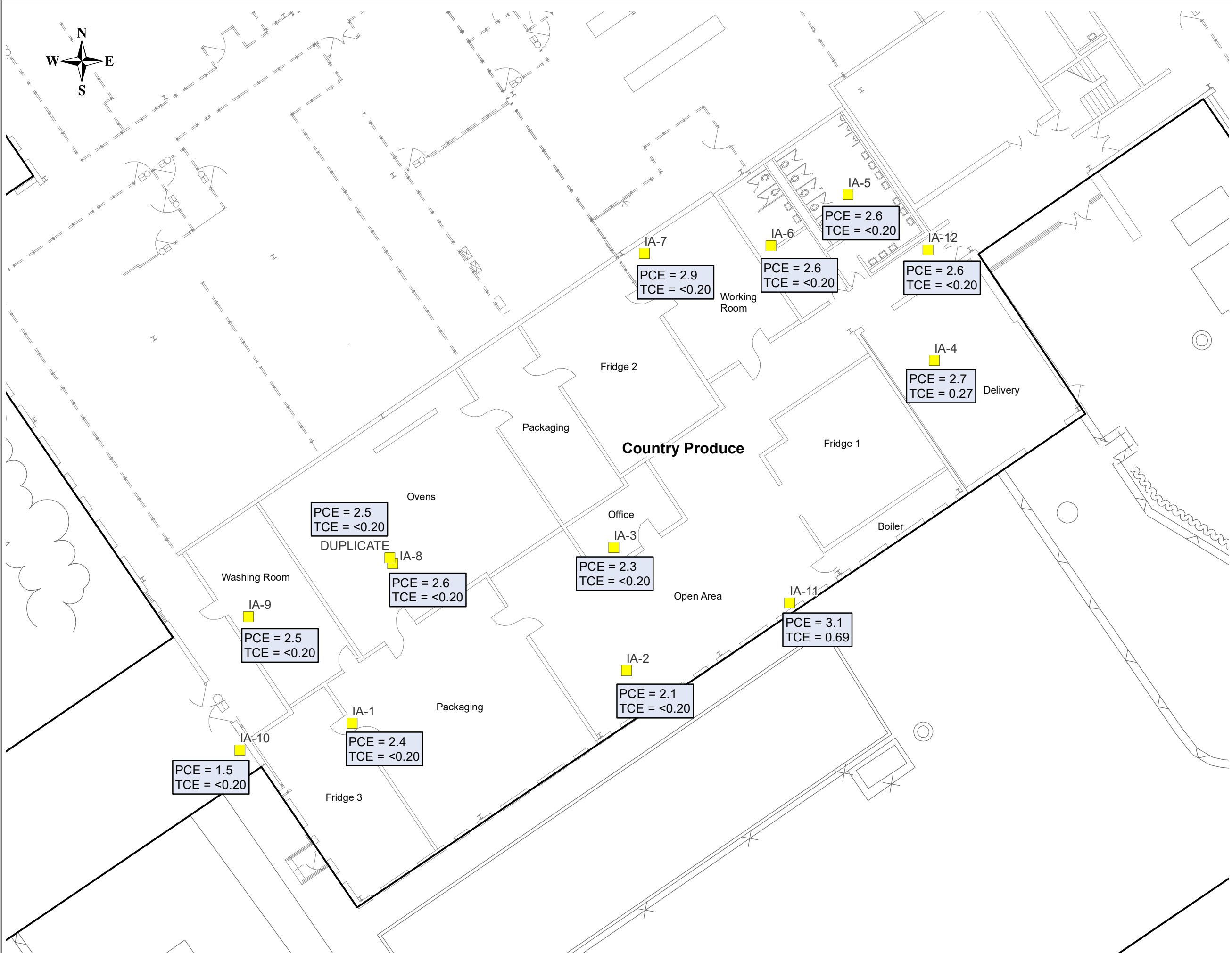


Figure 5

Summary of PCE and TCE Concentrations for 8-Hour Indoor Air Samples Collected by Others

Subslab Depressurization Completion and Startup Report (Phase I) - Building 330C

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: C. Murphy
Reviewed By: D. Shea
Project No: 2999.04
Date: October 2019

Figure Narrative

This figure shows tetrachloroethene (PCE) and trichloroethene (TCE) results for indoor air confirmatory laboratory analytical samples collected in the Country Produce tenant space by Walden Environmental Engineering PLLC on behalf of iPark on July 25, 2019 while the SSD system was operating. The samples were collected as approximately 8-hour time-weighted average samples using 6-L SUMMA canisters. Results are shown in micrograms per cubic meter (ug/m3). Refer to Appendix B of this report for the full list of sampling results.

Analytical results are from Table 2 of Walden's 8/22/2019 report titled "Building 755 (Former 330C) Country Produce Space, Indoor Air Quality Testing Summary Report". Building linework is from Figure 2 of Walden's report.

Legend

- Indoor Air Location Sampled by Walden
- Tetrachloroethene (PCE) sample result (ug/m³)
- Trichloroethene (TCE) sample result (ug/m³)

B330C

7.5 3.75 0 7.5 15 Feet

SANBORN HEAD ENGINEERING

APPENDIX A

LIMITATIONS

APPENDIX A

SHPC LIMITATIONS

1. The observations and conclusions described in this report are based in part on the data obtained from a finite number of samples from widely spaced locations. The figures are intended to depict inferred conditions during a given period of time, consistent with available information. The actual conditions will vary from that shown, both spatially and temporally. Other interpretations are possible. The nature and extent of variations between sampling locations may not become evident until further investigation is initiated. If variations or other latent conditions then appear evident, it may be necessary to re-evaluate the conclusions of this report.
2. The conclusions contained in this report are based in part upon various types of chemical data as well as historical and hydrogeologic information developed by previous investigators. While SHPC has reviewed that data available to us at the time the report was prepared and information as stated in this report, any of SHPC's interpretations and conclusions that have relied on that information will be contingent on its validity. SHPC has not performed an independent assessment of the reliability of the data; should additional chemical data, historical information, or hydrogeologic information become available in the future, such information should be reviewed by SHPC and the interpretations and conclusions presented herein may be modified accordingly.
3. Sampling and quantitative laboratory testing was performed by others as part of the investigation as noted within the report. Where such analyses have been conducted by an outside laboratory, unless otherwise stated in the report, SHPC has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data. It must be noted that additional compounds not searched for during the current study may be present in vapor and indoor air at the site. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their distribution within the vapor and indoor air may occur due to the passage of time, seasonal water table fluctuations, recharge events, and other factors.
4. This report has been prepared for the use of the IBM Corporation for specific application to the former IBM East Fishkill facility in accordance with generally accepted hydrogeologic and engineering practices. No warranty, expressed or implied, is made. The contents of this report should not be relied on by any other party without the express written consent of SHPC.
5. In preparing this report, SHPC has endeavored to conform to generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. SHPC has attempted to observe a degree of care and skill generally exercised by the technical community under similar circumstances and conditions.

APPENDIX B

WALDEN ENVIRONMENTAL ENGINEERING IAQ REPORT

**BUILDING 755 (FORMER 330C)
COUNTRY PRODUCE SPACE
INDOOR AIR QUALITY TESTING
SUMMARY REPORT**

**AT
IPARK 84
FORMER IBM EAST FISHKILL FACILITY**

AUGUST 2019

PREPARED FOR:

**JESSICA LACLAIR
NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION
DEPT. OF ENVIRONMENTAL REMEDIATION
625 BROADWAY
ALBANY, NEW YORK 12233-7013**

WALDEN ENVIRONMENTAL ENGINEERING, PLLC

Industry Leader in Environmental Engineering Consulting

PROACTIVE SOLUTIONS SINCE 1995



Sent via email to jess.laclair@dec.ny.gov

August 22, 2019
iPARK0118.32

Ms. Jessica LaClair
Environmental Engineer
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7013

Re: iPark 84, Former IBM East Fishkill Facility
Building 755 (Formerly 330C)
Country Produce Space
Hopewell Junction, New York 12533
Indoor Air Quality Testing Summary Report

Dear Ms. LaClair:

Walden Environmental Engineering, PLLC (Walden) has prepared this letter to summarize the results of the indoor air quality (IAQ) testing conducted on July 25, 2019 in the Country Produce space within Building 755 (formerly Building 330C). Building 755 is owned by National Resources (NR, iPark East Fishkill LLC); Country Produce is leasing space in the southwestern portion of the building, where it will perform food processing and packaging operations. Refer to Figure 1 for the site location map. IAQ testing was conducted in the Country Produce space prior to tenant occupancy as required by NYSDEC and NYSDOH. The purpose of the testing was to verify that IAQ is acceptable before the Country Produce tenant takes occupancy and begins operating in the space.

Walden, at the request of National Resources, performed the IAQ testing in accordance with prescribed protocols previously approved by NYSDEC. All work was performed in accordance with the *RCRA Facility Investigation (RFI) VOC Source Assessment Work Plan* (RFI Work Plan) dated June 15, 2009, prepared by Sanborn, Head Engineering, PC and Walden's IAQ Testing Plan letter (Testing Plan) dated July 9, 2019 which was approved by NYSDEC on July 18, 2019.



Summary of HVAC Conditions Within the Building

The Country Produce space within Building 755 is served by rooftop handling units (RTUs) that were installed during the recent renovation of the tenant space, prior to occupation. The Country Produce HVAC system is comprised of six supply diffusers with a total cooling capacity of 1,695 CFM, and a calculated 5.79 air changes per hour for the space as a whole. During the July 25th IAQ sampling, National Resources operated the Country Produce HVAC system under the same conditions anticipated during normal operations once the tenant takes occupancy.

Summary of IAQ Testing

IAQ testing was conducted in accordance with the procedures outlined in the NYSDEC-approved RFI Work Plan and Testing Plan. Samples were collected using 6-liter, individually certified clean, stainless-steel Summa[®] canisters (Summa[®] Canisters). The Summa[®] Canisters were calibrated by the laboratory with flow controllers to obtain 8-hour time-averaged samples. Indoor air samples were collected from a height of three (3) to six (6) feet above the ground surface at the following twelve (12) locations throughout the Country Produce space, which are depicted on Figure 2:

- IA-1: Packaging Room
- IA-2: Open Area West
- IA-3: Office
- IA-4: Delivery Area
- IA-5: WC-Men's
- IA-6: WC-Women's
- IA-7: Working Room
- IA-8: Ovens Room
- IA-9: Washing Room
- IA-10: Western Hallway
- IA-11: Open Area East
- IA-12: WC Hallway

Additionally, one outdoor ambient air sample (AMBIENT AIR) was collected during the investigation at the Building 755 rooftop air intake for the Country Produce HVAC system to assess the potential impact of background conditions on the IAQ results. A field blank was also collected by transferring lab-grade nitrogen directly from a compressed gas canister into a Summa[®] Canister.



PID readings were collected at each sample location immediately before sample collection began to evaluate whether VOCs were present in the Country Produce space and had the potential to impact the IAQ results. Zero ppm PID readings were recorded at all of the indoor air sampling locations.

All samples were transferred to Phoenix Labs of Manchester, CT, a NYSDOH ELAP certified laboratory (NYSDOH ELAP #11301) under chain of custody for analysis of volatile organic compound (VOC) analytes via modified Method TO-15 as specified in the June 2009 *RFI Work Plan*.

Please see Table 1 for a summary of field sampling information, Table 2 for a summary of the IAQ analytical data, Attachment 1 for a photographic log of the sampling locations, and Attachment 2 for the full laboratory analytical report. A Data Usability Summary Report (DUSR) is being prepared and will be submitted under separate cover.

Results and Discussion

The Country Produce IAQ analytical data were compared to the typical indoor air background concentrations published in USEPA's 2001 Building Assessment and Survey Evaluation (BASE) database. When developing BASE, USEPA collected indoor air samples at randomly selected office and commercial buildings using Summa[®] canisters. Table 2 presents the Country Produce IAQ data compared to the 75th, 90th and 95th percentile indoor air BASE concentrations for reference in comparing the VOC data to typical indoor background concentrations.

All of the VOC concentrations detected in the Country Produce IAQ samples were within or below the range of background concentrations listed in the USEPA BASE database as noted in Table 2, indicating that indoor air quality is acceptable. In addition, IBM continues to operate a vapor extraction system in Building 755 which remove sub-slab vapors containing elevated concentrations of VOCs from beneath the Country Produce space and adjoining portions of the building.

Based on the results from the pre-occupancy IAQ testing presented herein, please confirm that the Country Produce space within Building 755 is suitable for tenant occupancy.

Ms. Jessica LaClair
Building 755 (Former 330C) Country Produce IAQ Testing
August 22, 2019



- 4 -

Please call me at (516) 624-7200 if you have any questions or need any additional information.

Very truly yours,
Walden Environmental Engineering, PLLC

A handwritten signature in black ink, appearing to read "Nora M. Brew", with a long, sweeping horizontal line extending to the right.

Nora M. Brew, P.E.
Senior Project Manager

Attachments:

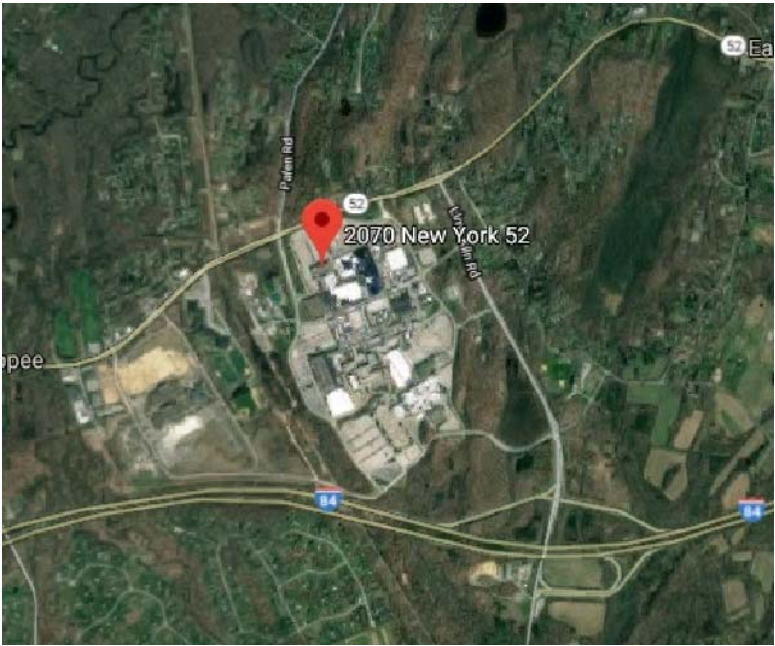
Figure 1 – Site Location Map
Figure 2 – Sampling Locations
Table 1 – Summary of Field Information
Table 2 – Summary of IAQ Analysis
Attachment 1 – Photographic Log of Sampling Locations
Attachment 2 – Laboratory Analytical Report

cc: J. Kenney, NYSDOH
C. Monheit, National Resources
M. Buckley, National Resources
D. Chartrand, IBM

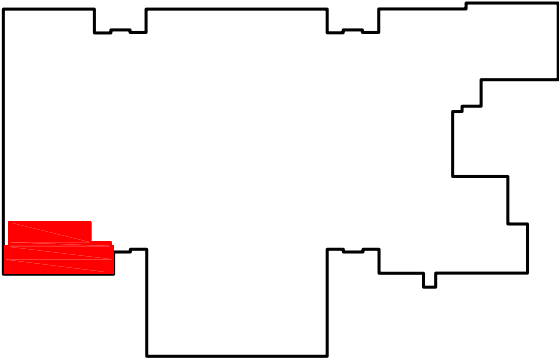
Z:\iPark0118\iPark0118.32 - IAQ Sampling Work Plan - Country Produce\Country Produce IAQ Testing Report 8.22.2019.docx

Figure 1

Site Location Map



SITE LOCATION
N.T.S.
SOURCE: GOOGLEMAPS.COM



BUILDING LOCATION
N.T.S.



SCALE: 1"=800'

SITE BASEMAP: CHAZAN ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE CO. D.P.C. POUGHKEEPSIE, NY (XBASE-SVY_51421-00.DWG 8/10/15); PARCELS: XSUBD_51539-00.DWG.



COUNTRY PRODUCE SPACE

LEGEND
- - - - - PROPERTY LINE

SITE PLAN
SCALE: 1" = 800'-0"



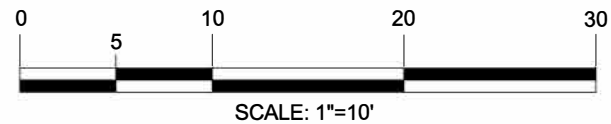
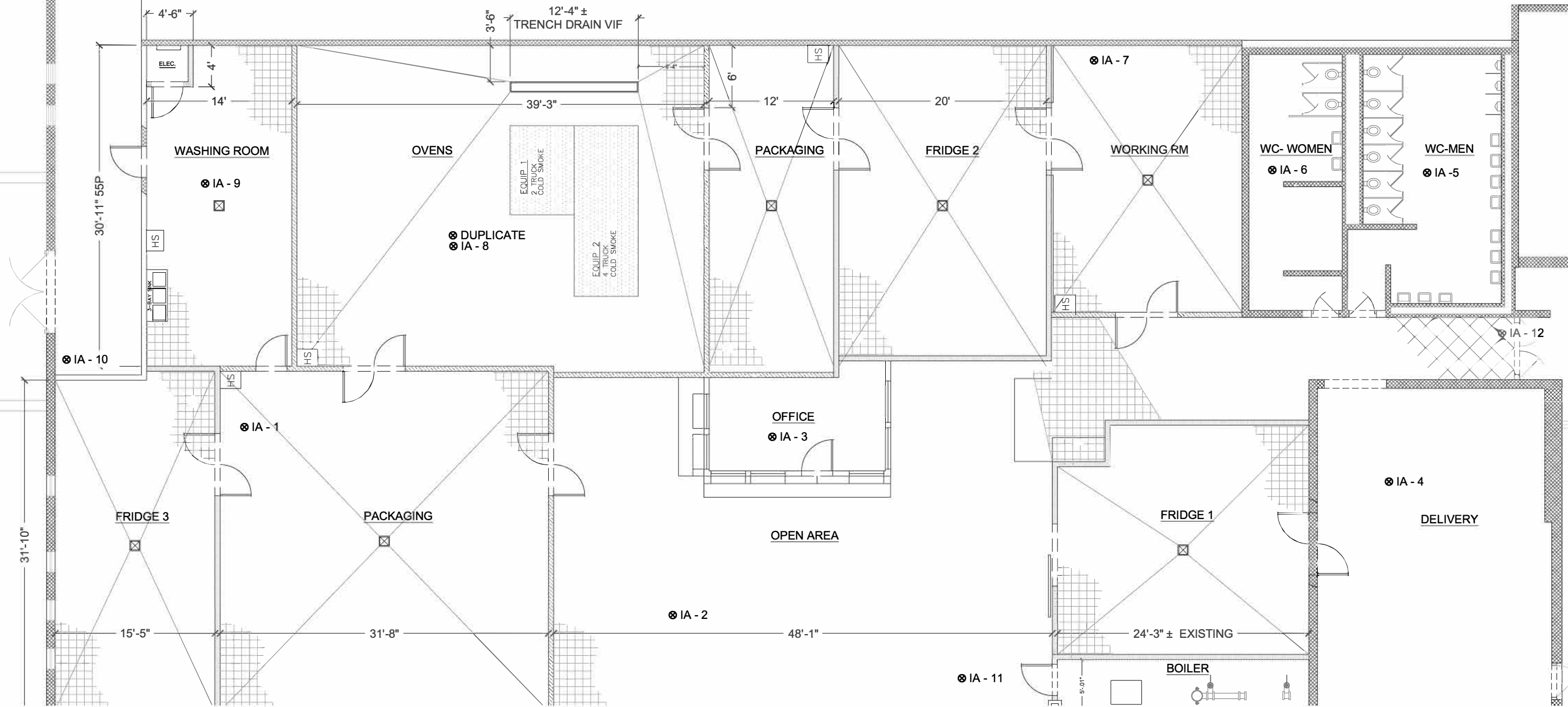
WALDEN ENVIRONMENTAL ENGINEERING, PLLC
16 SPRING STREET
OYSTER BAY, NEW YORK 11771
P: (516) 624-7200 F: (516) 624-3219
WWW.WALDENENVIRONMENTALENGINEERING.COM

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REVISION			FOR: BUILDING 330C iPark 84 Campus 2070 State Route 52 Hopewell Junction, NY 12533	DRAWING TITLE: SITE PLAN iPARK CAMPUS			DRAWING NO: 1		ISSUED	
No.	DATE	COMMENTS							REVISION NO: 0	
0	7/3/19	NYSDEC SUBMISSION		DESIGNED BY: NMB			DRAWN BY: LS		JOB NO: IPARK118.32	
				APPROVED BY: JMH			SCALE: AS NOTED		DATE: 7/3/19	
									11x17	
									SHEET NO: 1 OF 2	
						CAD FILE NAME: Z:\ipark\0118\ipark\0118.32 - 1A0 Sampling Work Plan\ACAD\IPARK118.32 (7-3-19).dwg				

Figure 2

Sampling Locations



ACTUAL INDOOR AIR QUALITY SAMPLING LOCATIONS
SCALE: 1" = 10'-0"

NOTE: AMBIENT AIR SAMPLING LOCATION (ROOF) NOT SHOWN

LEGEND

⊗ IA # - ACTUAL INDOOR AIR
QUALITY SAMPLING LOCATION

REVISION		
No.	DATE	COMMENTS
0	8/1/19	NYSDEC SUBMISSION

FOR: **BUILDING 755 (FORMER 330C)**
iPark 84 Campus
2070 State Route 52
Hopewell Junction, NY 12533

DESIGNED BY: NMB
APPROVED BY: JMH

DRAWN BY: LS / LTG
SCALE: AS NOTED

DRAWING TITLE:
COUNTRY PRODUCE SPACE
INDOOR AIR QUALITY
SAMPLING

JOB NO: IPARK118.32
CAD FILE NAME: Z:\Park0118\IPark0118.32 - IAQ Sampling Work Plan - Country Produce\Report\Figure 1.dwg

FIGURE NO:
2
REVISION NO:
0

DATE: 8/1/19
11x17 SHEET NO: 1 OF 1

Table 1

Summary of Field Information

iPARK 84 Campus
2070 NY-Route 52
Hopewell Junction, New York

TABLE 1
SUMMARY OF INDOOR AIR SAMPLE INFORMATION
BUILDING 755 (FORMER 330C) - COUNTRY PRODUCE

Sample Location	Building Floor	Sample Matrix	Canister Number	Regulator Number	Sample Height (feet above floor)	Start Time (24-hour format)	Start Pressure (mmHg)	PID Reading (ppm)	Stop Time (24-hour format)	Stop Pressure (mmHg)	Temperature (°F)	Location Description	Chemicals Observed Near Sample Location
IA-1	Ground	Indoor Air	493	5395	3.5	1028	-30	0.0	1829	-4	72	Packaging Room	None observed
IA-2	Ground	Indoor Air	355	4492	4.5	1024	-29.5	0.0	1827	-5.5	72	Open Area West	Bleach containers, hydrogen peroxide bottles, single container of white vinegar
IA-3	Ground	Indoor Air	12863	3500	5.5	1023	-29	0.0	1825	-4	72	Office	None observed
IA-4	Ground	Indoor Air	19786	5673	6	1010	-30	0.0	1810	-5	72	Delivery Area	Individual plastic drums separately containing antimicrobial solution, foam additive, and citric activator. Additionally, small cans of PVC primer and PVC cement.
IA-5	Ground	Indoor Air	28597	5615	3.5	1017	-30	0.0	1818	-3.5	72	WC-Men	Scented hand soap
IA-6	Ground	Indoor Air	173	4984	3.5	1020	-30	0.0	1820	-7	72	WC-Women	Scented hand soap
IA-7	Ground	Indoor Air	23340	6981	3.5	1033	-29.5	0.0	1835	-3.5	72	Working Room	None observed
IA-8	Ground	Indoor Air	19426	3512	5	1029	-30	0.0	1832	-4.5	72	Ovens Room	None observed
IA-9	Ground	Indoor Air	476	3413	4	1035	-30	0.0	1837	-6	72	Washing Room	None observed
IA-10	Ground	Indoor Air	21341	4988	3.5	1036	-30	0.0	1839	-5.5	72	Western Hallway	None observed
IA-11	Ground	Indoor Air	495	7009	3	1021	-29.5	0.0	1822	-5	72	Open Area East	None observed
IA-12	Ground	Indoor Air	475	5393	4	1007	-30	0.0	1807	-3.5	72	WC Hallway	None observed
Duplicate	Ground	Indoor Air	21326	4982	5	1041	-30	0.0	1845	-7	72	Ovens Room	None observed
Ambient Air	Building 755 Roof	Ambient Air	11291	7044	3.5	1013	-30	0.0	1813	-4.5	74 (start time) ; 82 (stop time)	Building Roof	None observed
Field Blank	Ground	Nitrogen	28565	7019	4	1145	-29.5	0.0	1306	-5	72	Office	None observed

Table 2

Summary of IAQ Analysis

iPARK 84 Campus
2070 NY-Route 52
Hopewell Junction, New York

TABLE 2
SUMMARY OF IAQ ANALYSIS
BUILDING 755 (FORMER 330C) - COUNTRY PRODUCE

		USEPA 75th Percentile Indoor Air Standard	USEPA 90th Percentile Indoor Air Standard	USEPA 95th Percentile Indoor Air Standard	Collection Date Sample ID Matrix	7/25/2019 IA-1 Air		7/25/2019 IA-2 Air		7/25/2019 IA-3 Air		7/25/2019 IA-4 Air		7/25/2019 IA-5 Air		7/25/2019 IA-6 Air		7/25/2019 IA-7 Air	
CAS					Units	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatiles (TO15) By TO15																			
1,1,1-Trichloroethane	71-55-6	10.8	20.6	33	ug/m3	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09
1,1-Dichloroethene	75-35-4	<1.2	<1.4	<1.6	ug/m3	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40
1,2,4-Trichlorobenzene	120-82-1	<1.2	<6.8	<7.2	ug/m3	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85
1,2-Dichlorobenzene	95-50-1	<1.0	<1.2	<1.3	ug/m3	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90
1,3-Dichlorobenzene	541-73-1	<1.1	<2.4	<2.5	ug/m3	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90
1,4-Dichlorobenzene	106-46-7	1.4	5.5	12.5	ug/m3	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90
Acetone	67-64-1	59.8	98.9	120.2	ug/m3	13.2	2.37	11.6	2.37	11.2	2.37	31.1	2.37	14.1	2.37	14.2	2.37	35.4	2.37
Benzene	71-43-2	5.1	9.4	12.5	ug/m3	0.26	0.16	0.27	0.16	0.27	0.16	0.31	0.16	0.29	0.16	0.31	0.16	0.26	0.16
Carbon Tetrachloride	56-23-5	<1.1	<1.3	0.7	ug/m3	0.44	0.13	0.43	0.13	0.46	0.13	0.47	0.13	0.52	0.13	0.48	0.13	0.45	0.13
Chlorobenzene	108-90-7	<0.8	<0.9	<1.0	ug/m3	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92
Cis-1,2-Dichloroethene	156-59-2	<1.2	<1.9	<2.0	ug/m3	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79
Dichlorodifluoromethane	75-71-8	10.5	16.5	32.9	ug/m3	2.5	0.99	2.26	0.99	2.23	0.99	2.48	0.99	2.79	0.99	2.29	0.99	2.38	0.99
Ethylbenzene	100-41-4	3.4	5.7	7.6	ug/m3	< 0.65	0.65	0.77	0.65	0.74	0.65	1.78	0.65	< 0.65	0.65	< 0.65	0.65	0.69	0.65
m,p-Xylene	179601-23-1	12.2	22.2	28.5	ug/m3	1.42	0.65	2.7	0.65	2.73	0.65	7.98	0.65	1.64	0.65	1.88	0.65	2.18	0.65
Methylene Chloride	75-09-2	5	10	16	ug/m3	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39
o-Xylene	95-47-6	4.4	7.9	11.2	ug/m3	< 0.65	0.65	0.74	0.65	0.92	0.65	4.73	0.65	< 0.65	0.65	< 0.65	0.65	0.79	0.65
Tetrachloroethene	127-18-4	5.9	15.9	25.4	ug/m3	2.38	0.68	2.09	0.68	2.25	0.68	2.72	0.68	2.61	0.68	2.61	0.68	2.88	0.68
Toluene	108-88-3	25.9	43	70.8	ug/m3	< 0.75	0.75	< 0.75	0.75	1.66	0.75	1.26	0.75	< 0.75	0.75	< 0.75	0.75	< 0.75	0.75
Trichloroethene	79-01-6	1.2	4.2	6.5	ug/m3	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	0.27	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20
Trichlorofluoromethane	75-69-4	6.7	18.1	54	ug/m3	14.5	0.84	14.2	0.84	14.1	0.84	18.2	0.84	23.9	0.84	19.1	0.84	13.1	0.84
Trichlorotrifluoroethane	76-13-1	<3.0	3.5	9.4	ug/m3	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15
Vinyl Chloride	75-01-4	<1.0	<1.9	<2.2	ug/m3	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05

iPARK 84 Campus
2070 NY-Route 52
Hopewell Junction, New York

TABLE 2
SUMMARY OF IAQ ANALYSIS
BUILDING 755 (FORMER 330C) - COUNTRY PRODUCE

CAS		USEPA 75th Percentile Indoor Air Standard	USEPA 90th Percentile Indoor Air Standard	USEPA 95th Percentile Indoor Air Standard	Collection Date Sample ID Matrix Units	7/25/2019 IA-8 Air		7/25/2019 IA-9 Air		7/25/2019 IA-10 Air		7/25/2019 IA-11 Air		7/25/2019 IA-12 Air		7/25/2019 DUPLICATE Air		7/25/2019 AMBIENT AIR Air		7/25/2019 FIELD BLANK Air	
						Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatiles (TO15) By TO15																					
1,1,1-Trichloroethane	71-55-6	10.8	20.6	33	ug/m3	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09	< 1.09	1.09
1,1-Dichloroethene	75-35-4	<1.2	<1.4	<1.6	ug/m3	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40
1,2,4-Trichlorobenzene	120-82-1	<1.2	<6.8	<7.2	ug/m3	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85	< 1.85	1.85
1,2-Dichlorobenzene	95-50-1	<1.0	<1.2	<1.3	ug/m3	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90
1,3-Dichlorobenzene	541-73-1	<1.1	<2.4	<2.5	ug/m3	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90
1,4-Dichlorobenzene	106-46-7	1.4	5.5	12.5	ug/m3	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90	< 0.90	0.90
Acetone	67-64-1	59.8	98.9	120.2	ug/m3	13.8	2.37	13.2	2.37	9.09	2.37	10.7	2.37	12.4	2.37	14.1	2.37	6.98	2.37	< 2.37	2.37
Benzene	71-43-2	5.1	9.4	12.5	ug/m3	0.26	0.16	0.23	0.16	0.23	0.16	0.5	0.16	0.25	0.16	0.25	0.16	0.2	0.16	< 0.16	0.16
Carbon Tetrachloride	56-23-5	<1.1	<1.3	0.7	ug/m3	0.46	0.13	0.47	0.13	0.45	0.13	0.47	0.13	0.46	0.13	0.48	0.13	0.45	0.13	< 0.13	0.13
Chlorobenzene	108-90-7	<0.8	<0.9	<1.0	ug/m3	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92	< 0.92	0.92
Cis-1,2-Dichloroethene	156-59-2	<1.2	<1.9	<2.0	ug/m3	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79	< 0.79	0.79
Dichlorodifluoromethane	75-71-8	10.5	16.5	32.9	ug/m3	2.31	0.99	2.44	0.99	2.56	0.99	2.2	0.99	2.32	0.99	2.33	0.99	2.17	0.99	< 0.99	0.99
Ethylbenzene	100-41-4	3.4	5.7	7.6	ug/m3	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	0.95	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65
m,p-Xylene	179601-23-1	12.2	22.2	28.5	ug/m3	0.96	0.65	0.92	0.65	< 0.65	0.65	3.61	0.65	< 0.65	0.65	0.99	0.65	< 0.65	0.65	0.99	0.65
Methylene Chloride	75-09-2	5	10	16	ug/m3	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39	1.41	1.39	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39
o-Xylene	95-47-6	4.4	7.9	11.2	ug/m3	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	1.16	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65
Tetrachloroethene	127-18-4	5.9	15.9	25.4	ug/m3	2.6	0.68	2.53	0.68	1.48	0.68	3.14	0.68	2.63	0.68	2.51	0.68	1.01	0.68	< 0.68	0.68
Toluene	108-88-3	25.9	43	70.8	ug/m3	< 0.75	0.75	< 0.75	0.75	< 0.75	0.75	1.91	0.75	< 0.75	0.75	< 0.75	0.75	< 0.75	0.75	0.99	0.75
Trichloroethene	79-01-6	1.2	4.2	6.5	ug/m3	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	0.69	0.20	< 0.20	0.20	< 0.20	0.20	0.2	0.20	< 0.20	0.20
Trichlorofluoromethane	75-69-4	6.7	18.1	54	ug/m3	15.7	0.84	17.7	0.84	8.7	0.84	16.8	0.84	17.8	0.84	16	0.84	2.98	0.84	< 0.84	0.84
Trichlorotrifluoroethane	76-13-1	<3.0	3.5	9.4	ug/m3	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15	< 1.15	1.15
Vinyl Chloride	75-01-4	<1.0	<1.9	<2.2	ug/m3	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05

Attachment 1

Photographic Log of Sampling Locations

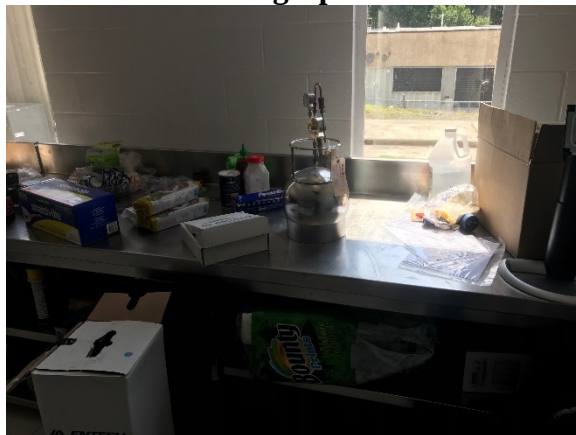
Site Photographs

Photograph #1



Sample Location IA-1, located in Packaging Room

Photograph #2



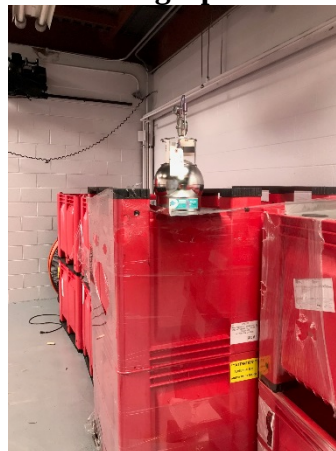
Sample Location IA-2, located in Open Area West

Photograph #3



Sample Location IA-3, located in Office

Photograph #4



Sample Location IA-4, located in Delivery Area

Photograph #5



Sample Location IA-5, located in WC-Men

Photograph #6



Sample Location IA-6, located in WC-Women

Site Photographs (continued)

Photograph #7



Sample Location IA-7, located in Working Room

Photograph #8



Sample Location IA-8, located in Ovens Room

Photograph #9



Sample Location IA-9, located in Washing Room

Photograph #10



Sample Location IA-10, located in Western Hallway

Photograph #11



Sample Location IA-11, located in Open Area East

Photograph #12



Sample Location IA-12, located in WC Hallway

Site Photographs (continued)

Photograph #13



Duplicate Sample, located directly adjacent to IA-8

Photograph #14



Ambient Air Sample located on building rooftop adjacent to air intake

Photograph #15



Field Blank Sample obtained using lab-grade nitrogen canister

Attachment 2

Laboratory Analytical Report



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 19786

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:10
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-4

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66058

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	13.1	1.00	31.1	2.37	07/29/19	KCA	1
Benzene	0.097	0.050	0.31	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.075	0.020	0.47	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.502	0.200	2.48	0.99	07/29/19	KCA	1
Ethylbenzene	0.410	0.150	1.78	0.65	07/29/19	KCA	1
m,p-Xylene	1.84	0.150	7.98	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	1.09	0.150	4.73	0.65	07/29/19	KCA	1
Tetrachloroethene	0.402	0.100	2.72	0.68	07/29/19	KCA	1
Toluene	0.335	0.200	1.26	0.75	07/29/19	KCA	1
Trichloroethene	0.051	0.037	0.27	0.20	07/29/19	KCA	1
Trichlorofluoromethane	3.25	0.150	18.2	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	90	%	90	%	07/29/19	KCA	1
% IS-Bromochloromethane	90	%	90	%	07/29/19	KCA	1

Client ID: IA-4

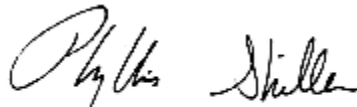
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	96	%	96	%	07/29/19	KCA	1

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

July 30, 2019

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 495

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:22
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-11

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66059

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	4.49	1.00	10.7	2.37	07/29/19	KCA	1
Benzene	0.156	0.050	0.50	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.074	0.020	0.47	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.446	0.200	2.20	0.99	07/29/19	KCA	1
Ethylbenzene	0.219	0.150	0.95	0.65	07/29/19	KCA	1
m,p-Xylene	0.833	0.150	3.61	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	0.268	0.150	1.16	0.65	07/29/19	KCA	1
Tetrachloroethene	0.463	0.100	3.14	0.68	07/29/19	KCA	1
Toluene	0.506	0.200	1.91	0.75	07/29/19	KCA	1
Trichloroethene	0.128	0.037	0.69	0.20	07/29/19	KCA	1
Trichlorofluoromethane	3.00	0.150	16.8	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	96	%	96	%	07/29/19	KCA	1
% IS-Bromochloromethane	94	%	94	%	07/29/19	KCA	1

Client ID: IA-11

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	102	%	102	%	07/29/19	KCA	1

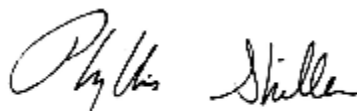
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL

BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

July 30, 2019

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587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 12863

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:25
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-3

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66060

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	4.70	1.00	11.2	2.37	07/29/19	KCA	1
Benzene	0.086	0.050	0.27	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.073	0.020	0.46	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.451	0.200	2.23	0.99	07/29/19	KCA	1
Ethylbenzene	0.170	0.150	0.74	0.65	07/29/19	KCA	1
m,p-Xylene	0.629	0.150	2.73	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	0.211	0.150	0.92	0.65	07/29/19	KCA	1
Tetrachloroethene	0.332	0.100	2.25	0.68	07/29/19	KCA	1
Toluene	0.442	0.200	1.66	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	2.51	0.150	14.1	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	96	%	96	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	98	%	98	%	07/29/19	KCA	1
% IS-Bromochloromethane	96	%	96	%	07/29/19	KCA	1

Client ID: IA-3

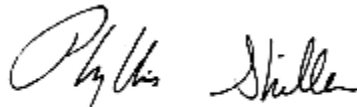
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	100	%	100	%	07/29/19	KCA	1

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

July 30, 2019

Official Report Release To Follow



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 23340

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:35
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-7

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66061

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	14.9	1.00	35.4	2.37	07/29/19	KCA	1
Benzene	0.083	0.050	0.26	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.071	0.020	0.45	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.482	0.200	2.38	0.99	07/29/19	KCA	1
Ethylbenzene	0.158	0.150	0.69	0.65	07/29/19	KCA	1
m,p-Xylene	0.503	0.150	2.18	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	0.182	0.150	0.79	0.65	07/29/19	KCA	1
Tetrachloroethene	0.425	0.100	2.88	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	2.33	0.150	13.1	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	98	%	98	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	93	%	93	%	07/29/19	KCA	1
% IS-Bromochloromethane	93	%	93	%	07/29/19	KCA	1

Client ID: IA-7

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	101	%	101	%	07/29/19	KCA	1

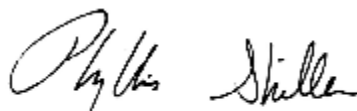
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL

BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

July 30, 2019

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Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 11291

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:13
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: AMBIENT AIR

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66062

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	2.94	1.00	6.98	2.37	07/29/19	KCA	1
Benzene	0.063	0.050	0.20	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.072	0.020	0.45	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.439	0.200	2.17	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.149	0.100	1.01	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	0.038	0.037	0.20	0.20	07/29/19	KCA	1
Trichlorofluoromethane	0.531	0.150	2.98	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	93	%	93	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	104	%	104	%	07/29/19	KCA	1
% IS-Bromochloromethane	107	%	107	%	07/29/19	KCA	1

Client ID: AMBIENT AIR

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	105	%	105	%	07/29/19	KCA	1

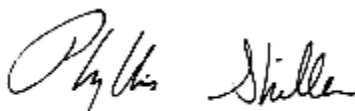
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Phyllis Shiller, Laboratory Director

July 30, 2019

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Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 28597

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:18
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-5

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66063

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	5.96	1.00	14.1	2.37	07/29/19	KCA	1
Benzene	0.090	0.050	0.29	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.082	0.020	0.52	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.565	0.200	2.79	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	0.379	0.150	1.64	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.385	0.100	2.61	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	4.25	0.150	23.9	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	94	%	94	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-Bromochloromethane	92	%	92	%	07/29/19	KCA	1

Client ID: IA-5

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	98	%	98	%	07/29/19	KCA	1

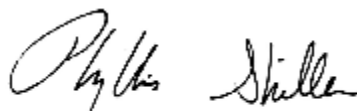
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL

BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

July 30, 2019

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Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 28565

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 13:06
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: FIELD BLANK

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66064

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	ND	1.00	ND	2.37	07/29/19	KCA	1
Benzene	ND	0.050	ND	0.16	07/29/19	KCA	1
Carbon Tetrachloride	ND	0.020	ND	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	ND	0.200	ND	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	0.229	0.150	0.99	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	ND	0.100	ND	0.68	07/29/19	KCA	1
Toluene	0.262	0.200	0.99	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	ND	0.150	ND	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	94	%	94	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	103	%	103	%	07/29/19	KCA	1
% IS-Bromochloromethane	106	%	106	%	07/29/19	KCA	1

Client ID: FIELD BLANK

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	102	%	102	%	07/29/19	KCA	1

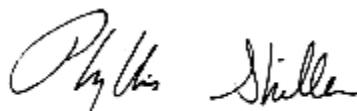
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL

BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

July 30, 2019

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Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 355

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:27
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-2

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66065

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	4.89	1.00	11.6	2.37	07/29/19	KCA	1
Benzene	0.086	0.050	0.27	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.068	0.020	0.43	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.458	0.200	2.26	0.99	07/29/19	KCA	1
Ethylbenzene	0.178	0.150	0.77	0.65	07/29/19	KCA	1
m,p-Xylene	0.622	0.150	2.70	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	0.170	0.150	0.74	0.65	07/29/19	KCA	1
Tetrachloroethene	0.309	0.100	2.09	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	2.53	0.150	14.2	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	96	%	96	%	07/29/19	KCA	1
% IS-Bromochloromethane	93	%	93	%	07/29/19	KCA	1

Client ID: IA-2

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	100	%	100	%	07/29/19	KCA	1

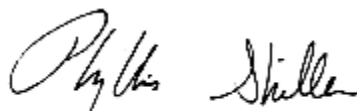
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL

BRL=Below Reporting Level L=Biased Low

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Phyllis Shiller, Laboratory Director

July 30, 2019

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Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 475

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:07
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-12

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66066

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	5.23	1.00	12.4	2.37	07/29/19	KCA	1
Benzene	0.077	0.050	0.25	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.073	0.020	0.46	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.470	0.200	2.32	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Methylene Chloride	0.406	0.400	1.41	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.388	0.100	2.63	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	3.17	0.150	17.8	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	96	%	96	%	07/29/19	KCA	1
% IS-Bromochloromethane	93	%	93	%	07/29/19	KCA	1

Client ID: IA-12

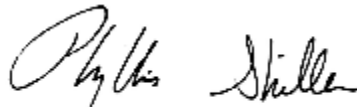
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	100	%	100	%	07/29/19	KCA	1

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

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Phyllis Shiller, Laboratory Director

July 30, 2019

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Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 19426

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:32
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-8

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66067

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	5.82	1.00	13.8	2.37	07/29/19	KCA	1
Benzene	0.081	0.050	0.26	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.073	0.020	0.46	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.468	0.200	2.31	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	0.221	0.150	0.96	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.383	0.100	2.60	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	2.80	0.150	15.7	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	94	%	94	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	94	%	94	%	07/29/19	KCA	1
% IS-Bromochloromethane	91	%	91	%	07/29/19	KCA	1

Client ID: IA-8

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	99	%	99	%	07/29/19	KCA	1

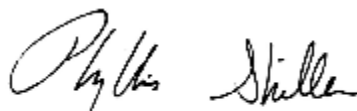
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL

BRL=Below Reporting Level L=Biased Low

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Phyllis Shiller, Laboratory Director

July 30, 2019

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Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 493

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:29
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-1

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66068

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	5.54	1.00	13.2	2.37	07/29/19	KCA	1
Benzene	0.081	0.050	0.26	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.070	0.020	0.44	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.506	0.200	2.50	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	0.327	0.150	1.42	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.351	0.100	2.38	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	2.58	0.150	14.5	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	96	%	96	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	92	%	92	%	07/29/19	KCA	1
% IS-Bromochloromethane	89	%	89	%	07/29/19	KCA	1

Client ID: IA-1

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	98	%	98	%	07/29/19	KCA	1

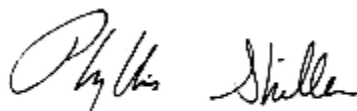
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BRL=Below Reporting Level L=Biased Low

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Phyllis Shiller, Laboratory Director

July 30, 2019

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Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 21326

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:45
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: DUPLICATE

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66069

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	5.94	1.00	14.1	2.37	07/29/19	KCA	1
Benzene	0.077	0.050	0.25	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.077	0.020	0.48	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.471	0.200	2.33	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	0.227	0.150	0.99	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.370	0.100	2.51	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	2.85	0.150	16.0	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	96	%	96	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	94	%	94	%	07/29/19	KCA	1
% IS-Bromochloromethane	91	%	91	%	07/29/19	KCA	1

Client ID: DUPLICATE

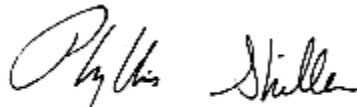
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	98	%	98	%	07/29/19	KCA	1

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

July 30, 2019

Official Report Release To Follow



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 476

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:37
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-9

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66070

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
Volatiles (TO15)							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	5.56	1.00	13.2	2.37	07/29/19	KCA	1
Benzene	0.072	0.050	0.23	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.074	0.020	0.47	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.493	0.200	2.44	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	0.211	0.150	0.92	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.373	0.100	2.53	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	3.16	0.150	17.7	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
QA/QC Surrogates/Internals							
% Bromofluorobenzene	96	%	96	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-Bromochloromethane	92	%	92	%	07/29/19	KCA	1

Client ID: IA-9

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	100	%	100	%	07/29/19	KCA	1

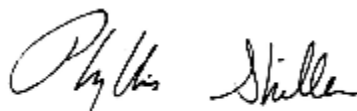
RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL

BRL=Below Reporting Level L=Biased Low

QA/QC Surrogates: Surrogates are compounds (preceded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

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Phyllis Shiller, Laboratory Director

July 30, 2019

Official Report Release To Follow



Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 21341

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:39
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-10

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66071

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	3.83	1.00	9.09	2.37	07/29/19	KCA	1
Benzene	0.072	0.050	0.23	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.072	0.020	0.45	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.517	0.200	2.56	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.219	0.100	1.48	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	1.55	0.150	8.70	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	100	%	100	%	07/29/19	KCA	1
% IS-Bromochloromethane	97	%	97	%	07/29/19	KCA	1

Client ID: IA-10

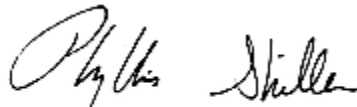
Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	102	%	102	%	07/29/19	KCA	1

RL/PQL=Reporting/Practical Quantitation Level (Equivalent to NELAC LOQ, Limit of Quantitation) ND=Not Detected at RL/PQL
BRL=Below Reporting Level L=Biased Low

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Phyllis Shiller, Laboratory Director

July 30, 2019

Official Report Release To Follow



Environmental Laboratories, Inc.
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Tel. (860) 645-1102 Fax (860) 645-0823



Analysis Report

July 30, 2019

FOR: Attn: Ms. Greta White
Walden Environmental Engineering PLLC
16 Spring Street
Oyster Bay, NY 11771

Sample Information

Matrix: AIR
Location Code: WALDENE
Rush Request: 72 Hour
P.O.#:
Canister Id: 173

Custody Information

Collected by: LG
Received by: LB
Analyzed by: see "By" below

Date

07/25/19 18:20
07/26/19 17:42

Time

Project ID: IPARK0118.32
Client ID: IA-6

Laboratory Data

SDG ID: GCD66058
Phoenix ID: CD66072

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
<u>Volatiles (TO15)</u>							
1,1,1-Trichloroethane	ND	0.200	ND	1.09	07/29/19	KCA	1
1,1-Dichloroethene	ND	0.100	ND	0.40	07/29/19	KCA	1
1,2,4-Trichlorobenzene	ND	0.250	ND	1.85	07/29/19	KCA	1
1,2-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,3-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
1,4-Dichlorobenzene	ND	0.150	ND	0.90	07/29/19	KCA	1
Acetone	5.98	1.00	14.2	2.37	07/29/19	KCA	1
Benzene	0.097	0.050	0.31	0.16	07/29/19	KCA	1
Carbon Tetrachloride	0.076	0.020	0.48	0.13	07/29/19	KCA	1
Chlorobenzene	ND	0.200	ND	0.92	07/29/19	KCA	1
Cis-1,2-Dichloroethene	ND	0.200	ND	0.79	07/29/19	KCA	1
Dichlorodifluoromethane	0.463	0.200	2.29	0.99	07/29/19	KCA	1
Ethylbenzene	ND	0.150	ND	0.65	07/29/19	KCA	1
m,p-Xylene	0.433	0.150	1.88	0.65	07/29/19	KCA	1
Methylene Chloride	ND	0.400	ND	1.39	07/29/19	KCA	1
o-Xylene	ND	0.150	ND	0.65	07/29/19	KCA	1
Tetrachloroethene	0.385	0.100	2.61	0.68	07/29/19	KCA	1
Toluene	ND	0.200	ND	0.75	07/29/19	KCA	1
Trichloroethene	ND	0.037	ND	0.20	07/29/19	KCA	1
Trichlorofluoromethane	3.41	0.150	19.1	0.84	07/29/19	KCA	1
Trichlorotrifluoroethane	ND	0.150	ND	1.15	07/29/19	KCA	1
Vinyl Chloride	ND	0.020	ND	0.05	07/29/19	KCA	1
<u>QA/QC Surrogates/Internals</u>							
% Bromofluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-1,4-Difluorobenzene	95	%	95	%	07/29/19	KCA	1
% IS-Bromochloromethane	92	%	92	%	07/29/19	KCA	1

Client ID: IA-6

Parameter	ppbv Result	ppbv RL	ug/m3 Result	ug/m3 RL	Date/Time	By	Dilution
% IS-Chlorobenzene-d5	101	%	101	%	07/29/19	KCA	1

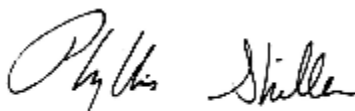
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Phyllis Shiller, Laboratory Director

July 30, 2019

Official Report Release To Follow

Criteria: None
State: NY

Sample Criteria Exceedances Report
GCD66058 - WALDENE

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
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*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

CHAIN OF CUSTODY RECORD
AIR ANALYSES

800-827-5426

email: greg@phoenixlabs.com

P.O. #

Page 1 of 2

Data Delivery:

☐ Fax #:

☒ Email: NBREW@WALDEN-ASSOCIATES.COM

☐ Phone #: (516) 624-7200

Report to: <u>Greta White</u>	Invoice to: <u>Nora Brew, PE</u>	Project Name: <u>PARK0118.32</u>
Customer: <u>Walden</u>	<u>Walden HQ: 16 Spring Street</u>	Requested Deliverable: RCP ☐ ASP CAT B ☒
Address: <u>200 North Dr</u>	<u>Oyster Bay, NY 11771</u>	MCP ☐ NJ Deliverables ☐
<u>Hopewell Junction NY</u>	Sampled by: <u>Louis Goldstein</u>	State where samples collected: <u>NY</u>

Phoenix ID #	Client Sample ID	Canister ID #	Canister Size (L)	Outgoing Canister Pressure ("Hg)	Incoming Canister Pressure ("Hg)	Flow Regulator ID #	Flow Controller Setting (mL/min)	Sampling Start Time	Sampling End Time	Sample Start Date	Canister Pressure at Start ("Hg)	Canister Pressure at End ("Hg)	Ambient/Indoor	Soil Gas	Grab (G) Comp	TO-14	TO-15
THIS SECTION FOR LAB USE ONLY													MATRIX		ANALYSES		
66058	IA-4	19786	6.0	-30	-5	5273	10.8	1010	1810	7/25/19	-30	-5	X	G			X
		460				4963		1053			-29	-5	X	G			X
66059	IA-11	495			-5	7009		1021	1822	7/25/19	-29.5	-5	X	G			X
66060	IA-3	12863			-4	3500		1023	1825	7/25/19	-29	-4	X	G			X
66061	IA-7	23340			-3.5	6981		1033	1835	7/25/19	-29.5	-3.5	X	G			X
66062	AMBIENT AIR	11291			-3.5	7044		1013	1813	7/25/19	-30	-4.5	X	G			X
66063	IA-5	28597			-1.5	8615		1017	1818	7/25/19	-30	-3.5	X	G			X
66064	FIELD BLANK	28565			-4	7019		1145	1306	7/25/19	-29.5	-5	X	G			X
66065	IA-2	355			-4	4492		1024	1827	7/25/19	-29.5	-5.5	X	G			X
66066	IA-12	475			-2	5393		1007	1807	7/25/19	-30	-3.5	X	G			X

Relinquished by: <u>TED NITZ</u>	Accepted by: <u>[Signature]</u>	Date: <u>7-26-19</u>	Time: <u>11:50</u>	Data Format: Excel ☒ Equis ☐ Other ☒ pdf
Turnaround Time: <u>24 Hour</u>				

SPECIAL INSTRUCTIONS, OR REQUIREMENTS, REGULATORY INFORMATION: TO15 "spec" code list needed. See Bobbi or Greg. Modified TO-15 analysis as per project QAPP provided.	Requested Criteria <u>10608hrs</u> <u>Ind. cert. cans</u> <u>Ind. cert. Regs</u>	Quote Number: _____	Signature: _____	Date: _____
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CHAIN OF CUSTODY RECORD
AIR ANALYSES

800-827-5426

email: greg@phoenixlabs.com

P.O. #

Page 2 of 2

Data Delivery:

☐ Fax #:

☒ Email: NBREW@WALDEN-ASSOCIATES.com

☐ Phone #: (516) 624-7200

Report to: Greta White	Invoice to: Nora Brew, PE	Project Name: IPARK0118.32
Customer: Walden	Walden HQ: 16 Spring Street	Requested Deliverable: RCP ☐ ASP CAT B ☒
Address: 200 North Drive (IPark) Hopewell Junction NY	Oyster Bay, NY 11771	MCP ☐ NJ Deliverables ☐
	Sampled by: Louis Goldstein	State where samples collected: NY

Phoenix ID #	Client Sample ID	Canister ID #	Canister Size (L)	Outgoing Canister Pressure ("Hg)	Incoming Canister Pressure ("Hg)	Flow Regulator ID #	Flow Controller Setting (mL/min)	Sampling Start Time	Sampling End Time	Sample Start Date	Canister Pressure at Start ("Hg)	Canister Pressure at End ("Hg)	Ambient/Indoor Air	Soil Gas	Grab (G) Composite (C)	TO-14	TO-15
THIS SECTION FOR LAB USE ONLY													MATRIX		ANALYSES		
66067	IA-8	19426	6.0	-30	-3	3512	108	1029	1832	7/25/19	-30	-4.5	X	G		X	
66068	IA-1	493	1	1	-3	5315	1	1028	1829	7/25/19	-30	-4	X	G		X	
66069	DUPLICATE	21326	1	1	-5	4982	1	1041	1845	7/25/19	-30	-7	X	G		X	
66070	IA-9	476	1	1	-5	3413	1	1035	1837	7/25/19	-30	-6	X	G		X	
66071	IA-10	2341	1	1	-4	4988	1	1036	1839	7/25/19	-30	-5.5	X	G		X	
66072	IA-6	173	1	1	-5	4984	1	1020	1820	7/25/19	-30	-7	X	G		X	

Relinquished by: [Signature]	Accepted by: [Signature]	Date: 7-26-19	Time: 11:50	Data Format: Excel ☒ Equis ☐ Other ☒ (pdf)
Turnaround Time: 24 Hour				

SPECIAL INSTRUCTIONS, QC REQUIREMENTS, REGULATORY INFORMATION: TO15 "special code/list" needed. See Bobbi or Greg. Modified TO-15 analysis as per project QAPP provided.	Requested Criteria Ind. cert. cans Ind. cert. reags	Quote Number: _____ Signature: _____ Date: _____
--	---	---

**CHAIN OF CUSTODY RECORD
AIR ANALYSES**

800-827-5426

email: greg@phoenixlabs.com

P.O. #

Page 1 of 2

Data Delivery:

☐ Fax #:

☒ Email: NBREW@WALDEN-ASSOCIATES.COM

☐ Phone #: (516) 624-7200

Report to: Greta White	Invoice to: Nora Brew, PE	Project Name: IPARK0118.32
Customer: Walden	Walden HQ: 16 Spring Street	Requested Deliverable: RCP ☐ ASP CAT B ☒
Address: 200 North Dr Hopewell Junction NY	Oyster Bay, NY 11771	MCP ☐ NJ Deliverables ☐
	Sampled by: Louis Goldstein	State where samples collected: NY

Phoenix ID #	Client Sample ID	Canister ID #	Canister Size (L)	Outgoing Canister Pressure ("Hg)	Incoming Canister Pressure ("Hg)	Flow Regulator ID #	Flow Controller Setting (mL/min)	Sampling Start Time	Sampling End Time	Sample Start Date	Canister Pressure at Start ("Hg)	Canister Pressure at End ("Hg)	Ambient/Indoor Air	Soil Gas	Grab (G) Composite (C)	TO-14	TO-15
THIS SECTION FOR LAB USE ONLY													MATRIX		ANALYSES		
66058	IA-4	19786	6.0	-30	-5	5073	10.8	1010	1810	7/25/19	-30	-5	X	G		X	
		460				4963		1053			-29	-5	X	G			
66059	IA-11	495			-5	7009		1021	1822	7/25/19	-29.5	-5	X	G		X	
66060	IA-3	12863			-4	3500		1023	1825	7/25/19	-29	-4	X	G		X	
66061	IA-7	23340			-3.5	6981		1033	1835	7/25/19	-29.5	-3.5	X	G		X	
66062	AMBIENT AIR	11291			-3.5	7044		1013	1813	7/25/19	-30	-4.5	X	G		X	
66063	IA-5	28597			-1.5	7015		1017	1818	7/25/19	-30	-3.5	X	G		X	
66064	FIELD BLANK	28565			-4	7019		1145	1306	7/25/19	-29.5	-5	X	G		X	
66065	IA-2	355			-4	4492		1024	1827	7/25/19	-29.5	-5.5	X	G		X	
66066	IA-12	475			-2	5393		1007	1807	7/25/19	-30	-3.5	X	G		X	

Relinquished by: JED NITZKE	Accepted by: [Signature]	Date: 7-26-19	Time: 11:50	Data Format: Excel ☒ Equis ☐ Other ☒ (pdf)
		7-26-19	1742	Turnaround Time: 3 day instead of 24 hrs

SPECIAL INSTRUCTIONS, OR REQUIREMENTS, REGULATORY INFORMATION

TO15 "special code/list" needed.
See Bobbi or Greg.
Modified TO-15 analysis as per
project QAPP provided.

⑩ 608 hrs
Ind. cert. cans
Ind. cert. Regs

Requested Criteria

Quote Number:

☒ 24 Hour ☐ 48 Hour ☐ 72 Hour ☒ Standard

I attest that all media released by Phoenix Environmental Laboratories, Inc. have been received in good working condition and agree to the terms and conditions as listed on the back of this document:

Signature:

Date:



800-827-5426

email: greg@phoenixlabs.com

Page 2 of 2

☐ Fax #:

☒ Email: NBREW@WALDEN-ASSOCIATES.COM

☐ Phone #: (516) 624-7200

Report to: Greta White	Invoice to: Nora Brew, PE	Project Name: IPARK0118.32	ir	ite (C)
Customer: Walden	Walden HQ: 16 Spring Street	Requested Deliverable: RCP ☐ ASP CAT B ☒		
Address: 200 North Drive (IPark) Hopewell Junction NY	Oyster Bay, NY 11771	MCP ☐ NJ Deliverables ☐		
Sampled by: Louis Goldstein		State where samples collected: NY		

[illegible]

Relinquished by:	Accepted by:	Date:	Time:	Data Format:
TRONITZA, WAK	[Signature]	7-26-19	11:58	Excel ☒ Equis ☐ Other ☒ (pdf)
	[Signature]	7-26-19	1742	Turnaround Time: s/b 3day TAT per michael

SPECIAL INSTRUCTIONS, QC REQUIREMENTS, REGULATORY INFORMATION:

TO15 "special code/list" needed.
See Bobbi or Greg.
Modified TO-15 analysis as
per project GAPP provided.

Requested Criteria

④ 68 hrs	Rec
Ind. cert. cans	
Ind. cert Regs	

☒ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ Standard

I attest that all media released by Phoenix Environmental Laboratories, Inc. have been received in good working condition and agree to the terms and conditions as listed on the back of this document:

Quote Number:

Signature: _____

Date: _____

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 | F: (518) 402-9773

www.dec.ny.gov

August 28, 2019

Joseph Cotter
iPark 84
200 North Drive
Hopewell Junction, NY 12533

Re: Building 330C – Country Produce Tenant Space
Indoor Air Quality Report
iPark 84, Former IBM East Fishkill Facility
NYSDEC Site No. 314054, EPA ID NYD000707901

Dear Mr. Cotter:

The New York State Department of Environmental Conservation and Department of Health (Departments) have reviewed the Indoor Air Quality Testing Results for Building 330C – Country Produce tenant space dated August 28, 2019. This sampling was conducted by Walden Environmental Engineering on behalf of National Resources (NR). This report presents the results of the indoor air sampling that was conducted after the installation of the sub-slab depressurization (SSDS) but prior to occupancy and under normal operating conditions. Based on the data it appears that adequate vacuum was achieved for the installation of the SSDS within this space.

Based on the Departments' review of the results no additional indoor air sampling is necessary at this time for the space to be occupied. During occupancy and/or use of this space the SSDS must continue to operate as designed.

If you have any questions, please call me at (518) 402-9821.

Sincerely,



Jessica LaClair
Project Manager
Remedial Section A, Remedial Bureau D
Division of Environmental Remediation

ec: M. Buckley, iParks
C. Monheit, National Resources
N. Brew, Walden



Department of
Environmental
Conservation

D. Chartrand, IBM
D. Shea, Sanborn Head
E. Lutz, GF
G. Marone, GF
J. Armitage, NYSDEC
D. Bendell, NYSDEC, Region 3
B. Conlon, NYSDEC
S. Edwards, NYSDEC
J. Kenney, NYSDOH
M. Schuck, NYSDOH

APPENDIX C

SANBORN HEAD ENGINEERING, INDOOR AIR QUALITY TESTING RESULTS (COZZINI)



8976 Wellington Road
Manassas, VA 20109

November 16, 2018

Jessica LaClair
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E, 12th Floor
625 Broadway
Albany, New York 12233-7017

Re: Indoor Air Quality Testing Report - Final
B330C Cozzini Brothers Tenant Space
Former IBM East Fishkill Facility
Hopewell Junction, New York
EPA ID No. NYD00707901

Dear Ms. LaClair:

The enclosed report presents the results of the September 2018 indoor air quality (IAQ) testing that was conducted in Buildings 330C (Cozzini Brothers tenant space) at the Former IBM East Fishkill Facility in Hopewell Junction, New York. B330C is owned by iPark East Fishkill LLC. IAQ testing was conducted in accordance with IBM's Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan dated June 15, 2009.

If you have any questions or need additional information. please contact me at (703) 257-2583.

Sincerely yours,

Dean W. Chartrand
Program Manager
Corporate Environmental Affairs

Enclosure *Indoor Air Quality Testing Report - Final
B330C Cozzini Brothers Tenant Space*

Cc:	Julia Kenney	NYSDOH	(w/ enclosure via email)
	Mike Buckley	National Resources	(w/ enclosure via email)
	Gary Marone	Global Foundries	(w/ enclosure via email)
	David Shea	Sanborn Head and Associates	(w/ enclosure via email)

Dean Chartrand
IBM Corporation
8976 Wellington Road
Manassas, VA 20109

November 14, 2018
File No. 2999.06

Re: Indoor Air Quality Testing Results – FINAL REPORT
Building 330C, Former IBM East Fishkill Facility
Hopewell Junction, NY
EPA ID No. NYD000797901, NYSDEC Site No. 314054

Dear Mr. Chartrand:

This letter transmits the results of indoor air quality (IAQ) testing that was conducted in a portion of Building 330C (B330C) on September 5, 2018 at the former IBM East Fishkill facility. These testing results were originally transmitted to you in a September 27, 2018 letter; this transmittal provides additional information related to the sampling event, including a summary of HVAC operating conditions, data usability review, and photograph log.

B330C is currently owned by iPark East Fishkill LLC, also referred to as National Resources (NR). IAQ testing was conducted in the Cozzini Brothers tenant space, a commercial knife sharpening business, which is housed in IBM's former sintering furnace rooms on the south side of B330C. The purpose of the testing was to assess whether the building modifications made prior to the tenant's occupancy and the tenant's operations have affected the potential for soil vapor intrusion and resulting IAQ. The testing was commissioned by IBM Corporation and conducted by Sanborn, Head Engineering P.C. (SHPC).

The services conducted, and this letter report, are subject to the standard limitations for this type of work described in Attachment 1.

Summary of HVAC Operating Conditions

The Cozzini space is served by 10 rooftop air handling units (RTUs) that were installed as part of the renovation of this tenant space. The table below provides a summary of the areas served, maximum outside air (OA) flow rate (according to mechanical design plans provided by NR dated January 20, 2018), and observed OA and return air (RA) damper position on the day of sampling on September 5, 2018.

Rooftop Air Handling Unit (RTU) ¹	Area Served	Maximum Outside Air (OA) Flow Rating (CFM) ¹	OA Damper Position Observed on 9/5/2018	Return Air (RA) Damper Position Observed on 9/5/2018
1	Production Area - West	500	Closed	Open
2	Production Area - West	500	Closed	Open
3	Production Area - West	500	Closed	Open
4	Production Area - West	500	Closed	Open
5	Production Area - East	500	Closed	Open
6	Production Area - East	500	NR representative unable to locate RTU on sampling date	
7	Production Area - East	500	Closed	Open
8	Storage/Stockroom	0 (heat pump)	NR representative unable to locate RTU on sampling date	
9	Break Room/Restrooms	100	Closed	Open
10	Offices/ Conference Room	500	Closed	Open

Note:

1. RTU numbers and outside air flow rating were obtained from mechanical design plans dated January 20, 2018 provided to IBM by National Resources via e-mail on June 18, 2018.

The RTUs were found to be running on the day of sampling, when the outside air temperature reached a high of 90°F; however, the RTUs are thermostat controlled, and switch on and off depending on the temperature in the building. RTUs #1 and #10 were observed to be switching off and on during the sampling day based on our observations of the RTUs when on the roof to check on the outdoor air sample collection (see below).

Summary of Indoor Air Quality Testing

IAQ testing was conducted in conformance with the procedures described in IBM's RCRA Facility Investigation (RFI) Work Plan, which was approved by the New York State Department of Environmental Conservation and Department of Health. IAQ samples were collected using 6-liter, pre-evacuated, stainless-steel canisters (Summa® canisters) equipped with flow controllers to obtain 8-hour time-averaged samples. Indoor air samples were collected from breathing zone height of 3 to 5 feet above the floor at the four locations shown on attached Figure 1. These locations are identified as follows:

IA0416: storage/loading area
IA0438: production area
IA0486: break room
IA0487: conference room

In addition, an outdoor air sample was collected on the roof of the tenant space proximate to the air intake of air handler RTU-7, which serves the storage/loading area in the eastern production area. A field duplicate sample was collected in the break room (location IA0486).

A photographic log of sampling locations is provided as Attachment 2, and a summary of field sampling information is provided in Table 1.

The samples were submitted to Eurofins/Air Toxics of Folsom, California for analysis of 22 VOCs listed in the RFI Work Plan using modified USEPA Method TO-15. The sample results are presented in attached Table 2, and the laboratory report is included as Attachment 3.

Tetrachloroethene (PCE) was detected in each indoor air sample at concentrations ranging from 2.4 to 3.5 $\mu\text{g}/\text{m}^3$. Trichloroethene (TCE) was not detected above the laboratory reporting limit in 3 of the 4 indoor air samples, and was detected in the fourth sample at a concentration of 0.99 $\mu\text{g}/\text{m}^3$. The sample location where TCE was detected (IA0487) was collected in the area served by RTU-10, which was observed to be turning off and on throughout the day.

Quality Assurance/Quality Control

The analytical data were provided to New Environmental Horizons, Inc. (NEH) of Skillman, NJ for an independent, third-party data usability review (i.e., data validation) in accordance with the RFI Work Plan. The data validation report is provided in Attachment 4. The review found that all results were considered usable for project objectives/decisions, with the following qualifications:

- Two results were flagged as estimated (EB) because the Field Blank also reported a result for the same compounds at comparable levels. The affected results have a potential high bias, and are as follows:
 - Acetone – detected at 17 $\mu\text{g}/\text{m}^3$ in AA0402; and
 - Toluene – detected at 1.2 $\mu\text{g}/\text{m}^3$ in IA0487

This is not considered a significant issue since acetone and toluene are not primary contaminants of concern at the site, AA0402 is an outside air blank, and the results have a high bias, which is a conservative bias.

- Freon 12 was non-detect in ambient air sample AA0402 with a reporting limit (RL) that exceeded the project-specific requirements. This is not considered a significant issue since Freon 12 is not a primary contaminant of concern at the site, and the sample is an outside air blank.

Tenant Notifications

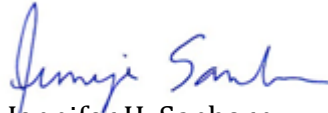
We understand that the property owner, NR, may be responsible for notifying its tenant of these IAQ testing results under the tenant notification requirements of New York Environmental Conservation Law ENV Section 27-2405.

Please contact us if you have any questions.

Very truly yours,
SANBORN, HEAD ENGINEERING, P.C.



David Shea, P.E.
President



Jennifer H. Sanborn
Sanborn, Head & Associates, Inc.

Encl. Figure 1 – Indoor Air Sample Locations of September 5, 2018
Table 1 – Summary of Confirmatory Indoor Air Sample Information
Table 2 – Summary of 8-Hour Indoor Air Sampling Results
Attachment 1 – Limitations
Attachment 2 – Photograph Log
Attachment 3 – Analytical Laboratory Report
Attachment 4 – Data Validation Report

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Figure 1

Indoor Air Sample Locations of September 5, 2018

Building 330C

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: J. Sanborn
Reviewed By: D. Shea
Project No: 2999.06
Date: November 2018

Figure Narrative

This figure shows the locations of indoor air samples collected on September 5, 2018 by Sanborn Head Engineering P.C. on behalf of IBM Corporation. The samples were collected into 6-L SUMMA canisters over a period of approximately 8 hours.

In addition to the indoor air locations shown on the figure, one outdoor air sample was collected on the roof at the outside air intake for air handler RTU-7.

Legend

- Indoor air sample location and designation
- HVAC zone (approximate)
- Occupied area
- Proposed/new tenant spaces

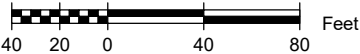


Table 1
Summary of Indoor Air Sample Information
Building 330C - Cozzini Space
Former IBM East Fishkill Facility
Hopewell Junction, NY

Sample Location	Building Floor	Sample Matrix	Canister Number	Sample Height (ft above floor)	Start Time (hours)	Start Pressure (mm Hg)	Stop Time (hours)	Stop Pressure (mm Hg)	Temperature (°F)	Location Description	Chemicals Observed Near Sample Location
Collection Date: September 5, 2018											
Ambient Air	Roof	Ambient Air	N1725	1	7:26	-28	14:59	-4	75	RTU-7-C intake	None observed
Nitrogen Blank	Roof	Nitrogen	N2755	1	7:26	-30	15:00	-10.5	75	RTU-7-C intake	None observed
IA0416	Ground	Indoor Air	O0982	3.5	7:11	-28.5	15:20	-5	70	Production Floor	None observed
IA0438	Ground	Indoor Air	N3480	3	7:18	-30	15:18	-7	70	Production Floor	None observed
IA0486	Ground	Indoor Air	N110	3	7:12	-29.5	15:14	-6	70	Breakroom	None observed
FD0486	Ground	Indoor Air	N3528	3	7:12	-27.5	14:55	-3	70	Breakroom	None observed
IA0487	Ground	Indoor Air	N1593	3	7:09	-29.5	15:12	-5	65	Conference Room	None observed

Notes:

1. Samples were collected by Sanborn, Head Engineering, PC on September 5, 2018.
2. Samples were collected into 6-liter, stainless steel, pre-evacuated SUMMA® canisters using 8-hour metering regulators. Each canister and regulator was laboratory-certified clean (100% certification). The samples were submitted to Eurofins/Air Toxics of Folsom, California for analysis of 22 project-specific analytes using modified USEPA Method TO-15 and Method TO-15 in selective ion monitoring (SIM) mode.

Table 2
Summary of 8-Hour Indoor Air Sampling Results
Building 330C
Former IBM East Fishkill Facility
Hopewell Junction, New York

Analyte	Field Sample Name	AA0402			IA0416			IA0438			IA0486			IA0486 (Dup)			IA0487			FB0402		
	Collection Date	9/5/2018			9/5/2018			9/5/2018			9/5/2018			9/5/2018			9/5/2018			9/5/2018		
	Units	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias
Acetone	µg/m3	17	EB	H	20			26			22			27			20			20		
Benzene	µg/m3	<0.57	U		0.50			<0.53	U		<0.51	U		<0.55	U		<0.52	U		<0.64	U	
Carbon tetrachloride	µg/m3	0.43			0.43			0.50			0.44			0.44			0.45			<0.25	U	
Chlorobenzene (Monochlorobenzene)	µg/m3	<0.82	U		<0.72	U		<0.76	U		<0.74	U		<0.79	U		<0.74	U		<0.92	U	
Dichlorobenzene (1,2-)	µg/m3	<1.1	U		<0.94	U		<1.0	U		<0.97	U		<1.0	U		<0.97	U		<1.2	U	
Dichlorobenzene (1,3-)	µg/m3	<1.1	U		<0.94	U		<1.0	U		<0.97	U		<1.0	U		<0.97	U		<1.2	U	
Dichlorobenzene (1,4-)	µg/m3	<1.1	U		<0.94	U		<1.0	U		<0.97	U		<1.0	U		<0.97	U		<1.2	U	
Dichlorodifluoromethane (CFC12)	µg/m3	<4.4	U		4.2			4.1			4.4			4.7			5.6			<4.9	U	
Dichloroethene (1,1-)	µg/m3	<0.071	U		<0.062	U		<0.066	U		<0.064	U		<0.068	U		<0.064	U		<0.079	U	
Dichloroethene (cis-1,2-)	µg/m3	<0.14	U		<0.12	U		<0.13	U		<0.13	U		<0.14	U		<0.13	U		<0.16	U	
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	µg/m3	<1.4	U		<1.2	U		<1.3	U		<1.2	U		<1.3	U		<1.2	U		<1.5	U	
Ethylbenzene	µg/m3	<0.78	U		0.98			<0.72	U		0.96			0.93			<0.70	U		<0.86	U	
Methylene Chloride (Dichloromethane)	µg/m3	2.8			1.9			<1.2	U		9.0			9.4			<1.1	U		<1.4	U	
Tetrachloroethene (PCE)	µg/m3	<1.2	U		2.8			3.5			3.1			2.8			2.4			<1.3	U	
Toluene	µg/m3	<0.67	U		3.4			2.2			2.5			2.2			1.2	EB	H	2.2		
Trichlorobenzene (1,2,4-)	µg/m3	<6.6	U		<5.8	U		<6.2	U		<6.0	U		<6.4	U		<6.0	U		<7.4	U	
Trichloroethane (1,1,1-)	µg/m3	<0.98	U		<0.86	U		<0.90	U		<0.88	U		<0.94	U		<0.88	U		<1.1	U	
Trichloroethene (TCE)	µg/m3	<0.19	U		<0.17	U		<0.18	U		<0.17	U		<0.18	U		0.99			<0.21	U	
Trichlorofluoromethane (CFC11)	µg/m3	1.7			45			48			49			52			24			<1.1	U	
Vinyl chloride	µg/m3	<0.046	U		<0.040	U		<0.042	U		<0.041	U		<0.044	U		<0.041	U		<0.051	U	
Xylene (m,p-)	µg/m3	<0.78	U		2.9			1.6			2.2			2.3			1.1			0.91		
Xylene (o-)	µg/m3	<0.78	U		1.1			<0.72	U		0.88			0.80			<0.70	U		<0.86	U	

Notes:

1. Samples were collected by Sanborn Head Engineering P.C. on behalf of IBM Corporation on the dates indicated over an approximately 8-hour sampling interval. The samples were analyzed by Eurofins Air Toxics of Folsom, California for the project-specific list of volatile organic compounds (VOCs) by United States Protection Agency (USEPA) Method TO-15 using a combination of full scan and selective ion monitoring (SIM) mode.
2. Results are presented in micrograms per cubic meter (µg/m³).
3. The "AA" designation indicates that the sample consists of ambient air collected from outside the building. The "FB" designation represents a field blank sample, where laboratory-supplied nitrogen was transferred from one SUMMA canister into another.
4. Results are displayed with two significant figures.
5. A data usability review (DUR) was performed on the data by New Environmental Horizons, Inc. (NEH) . All results were considered acceptable, with the understanding of the potential uncertainty (bias) in the qualified results. In some cases, NEH assigned the following qualifiers and biases to the data. Refer to the DUR report for further details.
 "U" indicates the analyte is non-detect at or above the indicated sample specific practical quantification limit (PQL).
 "EB" indicates the analyte was also present in a Field Equipment Blank.
 "H" indicates high bias due to equipment blank action.

ATTACHMENT 1

SHPC LIMITATIONS

1. The findings and conclusions described in this report are based in part on the data obtained from a finite number of samples from widely spaced locations. The figures are intended to depict inferred conditions during a given period of time, consistent with available information. The actual conditions will vary from that shown, both spatially and temporally. Other interpretations are possible. The nature and extent of variations between sampling locations may not become evident until further investigation is initiated. If variations or other latent conditions then appear evident, it may be necessary to re-evaluate the conclusions of this report.
2. Quantitative laboratory testing was performed by others as part of the investigation as noted within the report. It must be noted that additional compounds not searched for during the current study may be present in indoor air at the site. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their distribution within the indoor air may occur due to the passage of time, seasonal fluctuations, and other factors.
3. This report has been prepared for the exclusive use of the IBM Corporation for specific application to the former IBM East Fishkill facility in accordance with generally accepted hydrogeologic and engineering practices. No warranty, expressed or implied, is made. The contents of this report should not be relied on by any other party without the express written consent of SHPC.
4. In preparing this report, SHPC has endeavored to conform to generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. SHPC has attempted to observe a degree of care and skill generally exercised by the technical community under similar circumstances and conditions.

P:\2900s\2999.06\Source Files\201811 B330C Cozzini Sample Letter Validated\Attachment 1 - Limitations\Attachment 1 - Limitations.doc

Attachment 2

B330C Cozzini Space 8-Hour Confirmatory Sampling Photograph Log



Photo 1: Samples AA0402 and FB0402 on roof of 330C at the intake for RTU-7

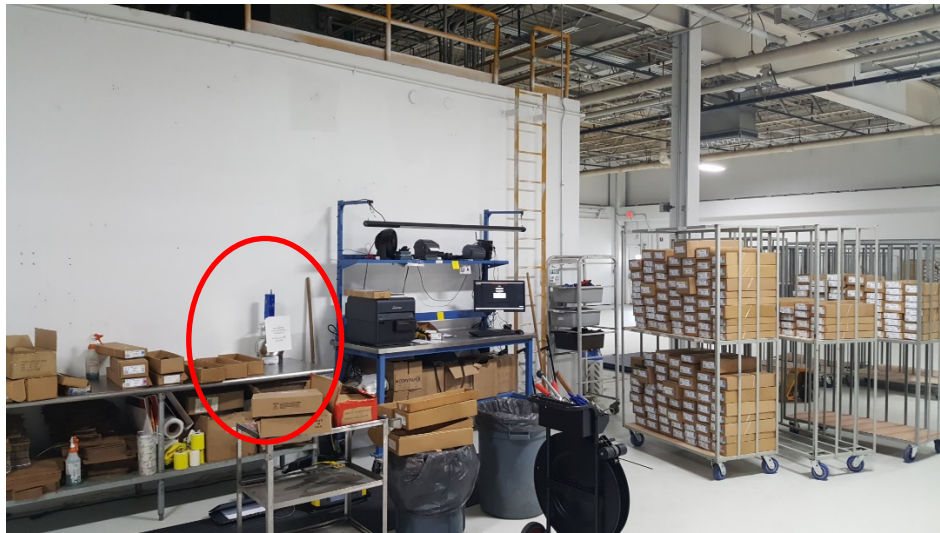


Photo 2: Sample IA0416, located in storage/loading area of production floor east



Photo 3: Sample IA0438, located on production floor west



Photo 4: Sample IA0486 and FD0486, located in breakroom

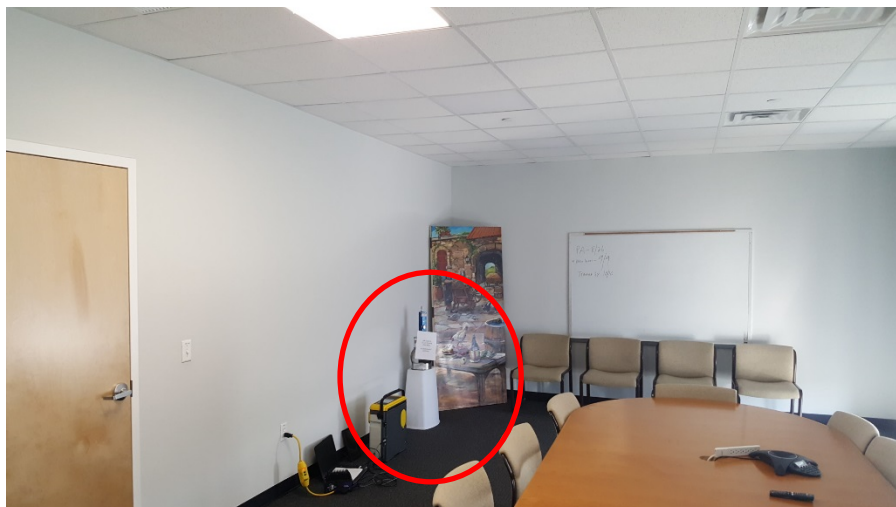


Photo 5: Sample IA0487, located in conference room

ATTACHMENT 3

Analytical Laboratory Report

9/20/2018

Ms. Erica Bosse
Sanborn, Head & Associates
24 Wade Road

Latham NY

Project Name: EFK
Project #: 2999.06
Workorder #: 1809112

Dear Ms. Erica Bosse

The following report includes the data for the above referenced project for sample(s) received on 9/10/2018 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Ausha Scott
Project Manager

WORK ORDER #: 1809112

Work Order Summary

CLIENT:	Ms. Erica Bosse Sanborn, Head & Associates 24 Wade Road Latham, NY	BILL TO:	Accounts Payable Sanborn, Head & Associates 20 Foundry Street Concord, NH 03301
PHONE:	518-207-0769	P.O. #	
FAX:		PROJECT #	2999.06 EFK
DATE RECEIVED:	09/10/2018	CONTACT:	Ausha Scott
DATE COMPLETED:	09/20/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	AA0402_20180905	Modified TO-15	7.3 "Hg	5.2 psi
01B	AA0402_20180905	Modified TO-15	7.3 "Hg	5.2 psi
02A	FB0402_20180905	Modified TO-15	9.8 "Hg	5 psi
02B	FB0402_20180905	Modified TO-15	9.8 "Hg	5 psi
03A	FD04_20180905	Modified TO-15	6.5 "Hg	5.1 psi
03B	FD04_20180905	Modified TO-15	6.5 "Hg	5.1 psi
04A	IA0416_20180905	Modified TO-15	4.1 "Hg	5.3 psi
04B	IA0416_20180905	Modified TO-15	4.1 "Hg	5.3 psi
05A	IA0438_20180905	Modified TO-15	5.7 "Hg	5.1 psi
05B	IA0438_20180905	Modified TO-15	5.7 "Hg	5.1 psi
06A	IA0487_20180905	Modified TO-15	5.1 "Hg	5.1 psi
06B	IA0487_20180905	Modified TO-15	5.1 "Hg	5.1 psi
07A	IA0486_20180905	Modified TO-15	5.1 "Hg	5 psi
07B	IA0486_20180905	Modified TO-15	5.1 "Hg	5 psi
08A	Lab Blank	Modified TO-15	NA	NA
08B	Lab Blank	Modified TO-15	NA	NA
09A	CCV	Modified TO-15	NA	NA
09B	CCV	Modified TO-15	NA	NA
10A	LCS	Modified TO-15	NA	NA
10AA	LCSD	Modified TO-15	NA	NA
10B	LCS	Modified TO-15	NA	NA
10BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 09/20/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.
 Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 1809112

Seven 6 Liter Summa Canister (SIM Certified) samples were received on September 10, 2018. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	For Full Scan: 30% RSD with 4 compounds allowed out to $< 40\%$ RSD For SIM: Project specific; default criteria is $\leq 30\%$ RSD with 10% of compounds allowed out to $< 40\%$ RSD
Daily Calibration	$\pm 30\%$ Difference	For Full Scan: $\leq 30\%$ Difference with four allowed out up to $\leq 40\%$.; flag and narrate outliers For SIM: Project specific; default criteria is $\leq 30\%$ Difference with 10% of compounds allowed out up to $\leq 40\%$.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) information for samples AA0402_20180905, FB0402_20180905, FD04_20180905, IA0416_20180905, IA0438_20180905, IA0487_20180905, and IA0486_20180905 did not match the entries on the sample tags with regard to sample identification. Therefore the information on the COC was used to process and report the samples.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

CN - See case narrative explanation

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: AA0402_20180905

Lab ID#: 1809112-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.18	0.30	1.0	1.7
Acetone	0.90	7.3	2.1	17
Methylene Chloride	0.36	0.80	1.2	2.8

Client Sample ID: AA0402_20180905

Lab ID#: 1809112-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.036	0.069	0.22	0.43

Client Sample ID: FB0402_20180905

Lab ID#: 1809112-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	1.0	8.5	2.4	20
Toluene	0.20	0.59	0.75	2.2
m,p-Xylene	0.20	0.21	0.86	0.91

Client Sample ID: FB0402_20180905

Lab ID#: 1809112-02B

No Detections Were Found.

Client Sample ID: FD04_20180905

Lab ID#: 1809112-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.86	0.95	4.2	4.7
Freon 11	0.17	9.2	0.97	52
Acetone	0.86	12	2.0	27
Methylene Chloride	0.34	2.7	1.2	9.4
Toluene	0.17	0.57	0.65	2.2
Tetrachloroethene	0.17	0.41	1.2	2.8

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: FD04_20180905

Lab ID#: 1809112-03A

Ethyl Benzene	0.17	0.21	0.75	0.93
m,p-Xylene	0.17	0.52	0.75	2.3
o-Xylene	0.17	0.18	0.75	0.80

Client Sample ID: FD04_20180905

Lab ID#: 1809112-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.034	0.070	0.22	0.44

Client Sample ID: IA0416_20180905

Lab ID#: 1809112-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.78	0.85	3.9	4.2
Freon 11	0.16	8.0	0.88	45
Acetone	0.78	8.3	1.9	20
Methylene Chloride	0.31	0.54	1.1	1.9
Benzene	0.16	0.16	0.50	0.50
Toluene	0.16	0.91	0.59	3.4
Tetrachloroethene	0.16	0.41	1.1	2.8
Ethyl Benzene	0.16	0.22	0.68	0.98
m,p-Xylene	0.16	0.66	0.68	2.9
o-Xylene	0.16	0.25	0.68	1.1

Client Sample ID: IA0416_20180905

Lab ID#: 1809112-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.031	0.068	0.20	0.43

Client Sample ID: IA0438_20180905

Lab ID#: 1809112-05A

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0438_20180905

Lab ID#: 1809112-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.83	0.84	4.1	4.1
Freon 11	0.17	8.5	0.93	48
Acetone	0.83	11	2.0	26
Toluene	0.17	0.60	0.62	2.2
Tetrachloroethene	0.17	0.51	1.1	3.5
m,p-Xylene	0.17	0.38	0.72	1.6

Client Sample ID: IA0438_20180905

Lab ID#: 1809112-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.033	0.079	0.21	0.50

Client Sample ID: IA0487_20180905

Lab ID#: 1809112-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.81	1.1	4.0	5.6
Freon 11	0.16	4.2	0.91	24
Acetone	0.81	8.6	1.9	20
Toluene	0.16	0.31	0.61	1.2
Tetrachloroethene	0.16	0.36	1.1	2.4
m,p-Xylene	0.16	0.26	0.70	1.1

Client Sample ID: IA0487_20180905

Lab ID#: 1809112-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.032	0.071	0.20	0.45
Trichloroethene	0.032	0.18	0.17	0.99

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0486_20180905

Lab ID#: 1809112-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.80	0.90	4.0	4.4
Freon 11	0.16	8.8	0.90	49
Acetone	0.80	9.2	1.9	22
Methylene Chloride	0.32	2.6	1.1	9.0
Toluene	0.16	0.65	0.61	2.5
Tetrachloroethene	0.16	0.45	1.1	3.1
Ethyl Benzene	0.16	0.22	0.70	0.96
m,p-Xylene	0.16	0.51	0.70	2.2
o-Xylene	0.16	0.20	0.70	0.88

Client Sample ID: IA0486_20180905

Lab ID#: 1809112-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.032	0.070	0.20	0.44



Air Toxics

Client Sample ID: AA0402_20180905

Lab ID#: 1809112-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091407	Date of Collection:	9/5/18 2:59:00 PM
Dil. Factor:	1.79	Date of Analysis:	9/14/18 01:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.90	Not Detected	4.4	Not Detected
Freon 11	0.18	0.30	1.0	1.7
Freon 113	0.18	Not Detected	1.4	Not Detected
Acetone	0.90	7.3	2.1	17
Methylene Chloride	0.36	0.80	1.2	2.8
1,1,1-Trichloroethane	0.18	Not Detected	0.98	Not Detected
Benzene	0.18	Not Detected	0.57	Not Detected
Toluene	0.18	Not Detected	0.67	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
Chlorobenzene	0.18	Not Detected	0.82	Not Detected
Ethyl Benzene	0.18	Not Detected	0.78	Not Detected
m,p-Xylene	0.18	Not Detected	0.78	Not Detected
o-Xylene	0.18	Not Detected	0.78	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.90	Not Detected	6.6	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: AA0402_20180905

Lab ID#: 1809112-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091407sim	Date of Collection:	9/5/18 2:59:00 PM
Dil. Factor:	1.79	Date of Analysis:	9/14/18 01:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.071	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
Carbon Tetrachloride	0.036	0.069	0.22	0.43
Trichloroethene	0.036	Not Detected	0.19	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: FB0402_20180905

Lab ID#: 1809112-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091408	Date of Collection:	9/5/18 3:00:00 PM
Dil. Factor:	1.99	Date of Analysis:	9/14/18 01:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	Not Detected	4.9	Not Detected
Freon 11	0.20	Not Detected	1.1	Not Detected
Freon 113	0.20	Not Detected	1.5	Not Detected
Acetone	1.0	8.5	2.4	20
Methylene Chloride	0.40	Not Detected	1.4	Not Detected
1,1,1-Trichloroethane	0.20	Not Detected	1.1	Not Detected
Benzene	0.20	Not Detected	0.64	Not Detected
Toluene	0.20	0.59	0.75	2.2
Tetrachloroethene	0.20	Not Detected	1.3	Not Detected
Chlorobenzene	0.20	Not Detected	0.92	Not Detected
Ethyl Benzene	0.20	Not Detected	0.86	Not Detected
m,p-Xylene	0.20	0.21	0.86	0.91
o-Xylene	0.20	Not Detected	0.86	Not Detected
1,3-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
1,4-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
1,2,4-Trichlorobenzene	1.0	Not Detected	7.4	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: FB0402_20180905

Lab ID#: 1809112-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091408sim	Date of Collection:	9/5/18 3:00:00 PM
Dil. Factor:	1.99	Date of Analysis:	9/14/18 01:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.020	Not Detected	0.051	Not Detected
1,1-Dichloroethene	0.020	Not Detected	0.079	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected
Carbon Tetrachloride	0.040	Not Detected	0.25	Not Detected
Trichloroethene	0.040	Not Detected	0.21	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: FD04_20180905

Lab ID#: 1809112-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091409	Date of Collection:	9/5/18 2:55:00 PM
Dil. Factor:	1.72	Date of Analysis:	9/14/18 02:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.86	0.95	4.2	4.7
Freon 11	0.17	9.2	0.97	52
Freon 113	0.17	Not Detected	1.3	Not Detected
Acetone	0.86	12	2.0	27
Methylene Chloride	0.34	2.7	1.2	9.4
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
Toluene	0.17	0.57	0.65	2.2
Tetrachloroethene	0.17	0.41	1.2	2.8
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	0.21	0.75	0.93
m,p-Xylene	0.17	0.52	0.75	2.3
o-Xylene	0.17	0.18	0.75	0.80
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: FD04_20180905

Lab ID#: 1809112-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091409sim	Date of Collection:	9/5/18 2:55:00 PM
Dil. Factor:	1.72	Date of Analysis:	9/14/18 02:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.068	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected
Carbon Tetrachloride	0.034	0.070	0.22	0.44
Trichloroethene	0.034	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: IA0416_20180905

Lab ID#: 1809112-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091410	Date of Collection:	9/5/18 3:20:00 PM
Dil. Factor:	1.57	Date of Analysis:	9/14/18 03:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.78	0.85	3.9	4.2
Freon 11	0.16	8.0	0.88	45
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	0.78	8.3	1.9	20
Methylene Chloride	0.31	0.54	1.1	1.9
1,1,1-Trichloroethane	0.16	Not Detected	0.86	Not Detected
Benzene	0.16	0.16	0.50	0.50
Toluene	0.16	0.91	0.59	3.4
Tetrachloroethene	0.16	0.41	1.1	2.8
Chlorobenzene	0.16	Not Detected	0.72	Not Detected
Ethyl Benzene	0.16	0.22	0.68	0.98
m,p-Xylene	0.16	0.66	0.68	2.9
o-Xylene	0.16	0.25	0.68	1.1
1,3-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: IA0416_20180905

Lab ID#: 1809112-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091410sim	Date of Collection:	9/5/18 3:20:00 PM
Dil. Factor:	1.57	Date of Analysis:	9/14/18 03:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.062	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
Carbon Tetrachloride	0.031	0.068	0.20	0.43
Trichloroethene	0.031	Not Detected	0.17	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: IA0438_20180905

Lab ID#: 1809112-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091411	Date of Collection:	9/5/18 3:18:00 PM
Dil. Factor:	1.66	Date of Analysis:	9/14/18 03:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.83	0.84	4.1	4.1
Freon 11	0.17	8.5	0.93	48
Freon 113	0.17	Not Detected	1.3	Not Detected
Acetone	0.83	11	2.0	26
Methylene Chloride	0.33	Not Detected	1.2	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Benzene	0.17	Not Detected	0.53	Not Detected
Toluene	0.17	0.60	0.62	2.2
Tetrachloroethene	0.17	0.51	1.1	3.5
Chlorobenzene	0.17	Not Detected	0.76	Not Detected
Ethyl Benzene	0.17	Not Detected	0.72	Not Detected
m,p-Xylene	0.17	0.38	0.72	1.6
o-Xylene	0.17	Not Detected	0.72	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.83	Not Detected	6.2	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: IA0438_20180905

Lab ID#: 1809112-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091411sim	Date of Collection:	9/5/18 3:18:00 PM
Dil. Factor:	1.66	Date of Analysis:	9/14/18 03:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.017	Not Detected	0.042	Not Detected
1,1-Dichloroethene	0.017	Not Detected	0.066	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected
Carbon Tetrachloride	0.033	0.079	0.21	0.50
Trichloroethene	0.033	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130

Client Sample ID: IA0487_20180905

Lab ID#: 1809112-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091412	Date of Collection:	9/5/18 3:12:00 PM
Dil. Factor:	1.62	Date of Analysis:	9/14/18 04:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.81	1.1	4.0	5.6
Freon 11	0.16	4.2	0.91	24
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	0.81	8.6	1.9	20
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Benzene	0.16	Not Detected	0.52	Not Detected
Toluene	0.16	0.31	0.61	1.2
Tetrachloroethene	0.16	0.36	1.1	2.4
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.70	Not Detected
m,p-Xylene	0.16	0.26	0.70	1.1
o-Xylene	0.16	Not Detected	0.70	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.81	Not Detected	6.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: IA0487_20180905

Lab ID#: 1809112-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091412sim	Date of Collection:	9/5/18 3:12:00 PM
Dil. Factor:	1.62	Date of Analysis:	9/14/18 04:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
Carbon Tetrachloride	0.032	0.071	0.20	0.45
Trichloroethene	0.032	0.18	0.17	0.99

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: IA0486_20180905

Lab ID#: 1809112-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091413	Date of Collection:	9/5/18 3:14:00 PM
Dil. Factor:	1.61	Date of Analysis:	9/14/18 05:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.80	0.90	4.0	4.4
Freon 11	0.16	8.8	0.90	49
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	0.80	9.2	1.9	22
Methylene Chloride	0.32	2.6	1.1	9.0
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Benzene	0.16	Not Detected	0.51	Not Detected
Toluene	0.16	0.65	0.61	2.5
Tetrachloroethene	0.16	0.45	1.1	3.1
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	0.22	0.70	0.96
m,p-Xylene	0.16	0.51	0.70	2.2
o-Xylene	0.16	0.20	0.70	0.88
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	6.0	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: IA0486_20180905

Lab ID#: 1809112-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091413sim	Date of Collection:	9/5/18 3:14:00 PM
Dil. Factor:	1.61	Date of Analysis:	9/14/18 05:16 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.064	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
Carbon Tetrachloride	0.032	0.070	0.20	0.44
Trichloroethene	0.032	Not Detected	0.17	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1809112-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091406	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/14/18 12:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1809112-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091406sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/14/18 12:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1809112-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/14/18 09:33 AM

Compound	%Recovery
Freon 12	105
Freon 11	102
Freon 113	90
Acetone	99
Methylene Chloride	101
1,1,1-Trichloroethane	94
Benzene	100
Toluene	101
Tetrachloroethene	96
Chlorobenzene	97
Ethyl Benzene	97
m,p-Xylene	96
o-Xylene	95
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	84
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1809112-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091402sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/14/18 09:33 AM

Compound	%Recovery
Vinyl Chloride	99
1,1-Dichloroethene	92
cis-1,2-Dichloroethene	93
Carbon Tetrachloride	114
Trichloroethene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCS

Lab ID#: 1809112-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/14/18 10:13 AM

Compound	%Recovery	Method Limits
Freon 12	102	70-130
Freon 11	100	70-130
Freon 113	86	70-130
Acetone	95	70-130
Methylene Chloride	95	70-130
1,1,1-Trichloroethane	90	70-130
Benzene	97	70-130
Toluene	98	70-130
Tetrachloroethene	96	70-130
Chlorobenzene	99	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	98	70-130
o-Xylene	96	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	91	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	93	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: LCSD

Lab ID#: 1809112-10AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/14/18 10:53 AM

Compound	%Recovery	Method Limits
Freon 12	103	70-130
Freon 11	101	70-130
Freon 113	86	70-130
Acetone	96	70-130
Methylene Chloride	97	70-130
1,1,1-Trichloroethane	90	70-130
Benzene	97	70-130
Toluene	98	70-130
Tetrachloroethene	93	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	96	70-130
o-Xylene	93	70-130
1,3-Dichlorobenzene	90	70-130
1,4-Dichlorobenzene	88	70-130
1,2-Dichlorobenzene	89	70-130
1,2,4-Trichlorobenzene	90	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1809112-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091403sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/14/18 10:13 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	99	70-130
1,1-Dichloroethene	89	70-130
cis-1,2-Dichloroethene	84	70-130
Carbon Tetrachloride	102	60-140
Trichloroethene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1809112-10BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20091404sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/14/18 10:53 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	98	70-130
1,1-Dichloroethene	88	70-130
cis-1,2-Dichloroethene	84	70-130
Carbon Tetrachloride	100	60-140
Trichloroethene	94	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130

ATTACHMENT 4

Data Usability Review



Data Usability Review Method TO-15 Hi/Lo Analysis

Client: Sanborn, Head & Associates, Inc., Concord, New Hampshire (SHA)

Site: IBM East Fishkills Facility, Hopewell Junction, New York
Building 330C

Laboratory: Eurofins Air Toxics, Inc. (EATL), Folsom, California

SDG / Work Order: 1809112

Date(s) of Collection: September 5, 2018

**Number and type
Samples & analyses:** 5 Indoor Air, 1 Ambient Air, and 1 Field Blank sample for twenty-two project-specific VOCs by Method TO-15 Hi/Lo

Senior Data Reviewers: Dr. Nancy C. Rothman, New Environmental Horizons, Inc.
Susan D. Chapnick, New Environmental Horizons, Inc.

Date Completed: October 26, 2018

This Data Usability Report was performed on the Work Order identified with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Work Plan, RCRA Facility Investigation (RFI), VOC Source Assessment IBM East Fishkill Facility, Hopewell Junction, New York*, prepared by Sanborn, Head & Associates, June 2009; NYSDEC Analytical Services Protocol, June 2005 with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria, February 2008; USEPA Region 9, *Volatile Organic Compounds (VOCs) in Air (Ambient Air/Soil Vapor/Stack Gas) Samples Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/ Mass Spectrometry (GC/MS), EPA Method TO-15* (January 1999), 01/21/2000 revision; USEPA Region II SOP HW-31, *Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15*, Rev. 6, June 2014; and Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, Publication EPA/625/R-96/010b, January 1999; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to update the project database with appropriate data quality qualifiers.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification of quality control (QC) samples, if applicable, and the analytical parameters reviewed in this In-Depth data usability review are listed in Table 1. Any deviations noted for sample collection and receipt (*e.g.*, temperature or preservation issues) are included in Section III, below.

Table 1. Sample Descriptions and Analytical Parameters

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters	Sample Type
AA0402_20180905	1809112-01A	9/5/2018	Ambient Air	VOCs	Field Sample
FB0402_20180905	1809112-02A	9/5/2018	Air	VOCs	Field Blank
FD04_20180905	1809112-03A	9/5/2018	Indoor Air	VOCs	Field Duplicate of IA0486_20180905
IA0416_20180905	1809112-04A	9/5/2018	Indoor Air	VOCs	Field Sample
IA0438_20180905	1809112-05A	9/5/2018	Indoor Air	VOCs	Field Sample
IA0487_20180905	1809112-06A	9/5/2018	Indoor Air	VOCs	Field Sample
IA0486_20180905	1809112-07A	9/5/2018	Indoor Air	VOCs	Field Sample

Analytical method reference:

VOC: TO-15 Hi/Lo – Method TO-15 with simultaneous Full Scan and Selected Ion Monitoring (SIM) analysis for twenty-two project-specific VOCs

II. Data Deficiencies, Analytical Protocol Deviations, and Quality Control Problems

The following QC elements, as applicable to the analytical methods, were reviewed during this validation:

- Data package completeness and reporting protocols
- Sample receipt, holding times, and canister condition
- Calibration criteria (instrument tuning, initial and continuing calibration verifications)
- Method and field blank results
- Laboratory Control Sample (LCS) recoveries
- Internal Standard (IS) Recoveries
- Sample/Laboratory Duplicate (LD) or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including reporting limits and units)
- Other method-specific QC if applicable and reported
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

During this review of VOCs two results were estimated (EB) due to QC issues. Table 2 summarizes the actions taken during this review. NEH generated validated data spreadsheets based on the electronic project database files received from SHA for this Work Order. All results were considered acceptable compared to QAPP and method criteria and usable for project decisions with the understanding of the potential uncertainty (bias) in the qualified results.

The attached Data Review Checklist documents the method and matrix-specific QC reviewed and the issues that required action (as listed in Table 2) or affected the data certainty in terms of data quality objectives (DQO) of accuracy, precision, and sensitivity.

The laboratory reported results for 22 project-specific VOCs from a single analysis with two mass spectrometer (MS) detectors, each operated in a different detection mode: one operated in the full scan electron impact mode and the other operated in the Selected Ion Monitoring (SIM) mode. This analysis, called TO-15 Hi/Lo by ATL, allowed the sensitivity requirements of the project, unless otherwise discussed in this report, to be met for all of the compounds. The Data Review Checklist indicates the compounds reported from each of the two modes of MS operation. The full scan analysis was reported with an “A” suffix and the SIM analysis with a “B” suffix appended to the laboratory sample ID.

The canister number identified on the Chain-of-Custody for sample IA0486_20180905 was incorrectly identified as N0110; however, the actual canister number, which was verified in the logbooks and certification records, was N1253.

Two results were estimated (EB) to indicate the Field Blank also reported a result for the same compounds at comparable levels. The affected results have a potential high bias and are shown in Table 2.

Precision was acceptable for all VOCs in the Field Duplicate pair of IA0486_20180905 and FD04_20180905. These results are an indication of acceptable precision and representativeness of the samples for this site location for the project-specific VOCs.

All reporting limits were at a level below the Project required RL (as shown in Table B.1 of the QAPP) except for carbon tetrachloride in samples AA0402_20180905, FD04_20180905, and IA0438_20180905 and Freon 12 in all samples due to calibration issues; however, carbon tetrachloride and Freon 12 were detected in all samples with one exception. Freon 12 was non-detect in sample AA0402_20180905 with an RL that exceeded QAPP requirements. The data user will need to evaluate the usability of this result for project decisions.

All other quality control information associated with accuracy, precision, and sensitivity for the VOCs reported met method and QAPP criteria for the samples in this Work Order with the exceptions included in Table 2.

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
AA0402_20180905	Acetone	EB	H	Equipment Blank Action
IA0487_20180905	Toluene	EB	H	Equipment Blank Action

Qualifiers: U = Analyte is non-detect at or above the sample-specific reporting limit (RL); UJ = Non-detect is estimated at the RL; J = Result is estimated; EB = Analyte was also present in a Field Equipment Blank; R = Result is rejected and is unusable for project decisions.

Bias: L = Low; H = High; I = Indeterminate

Date Sampled: 9/5/18

No. Samples

4 IA + 1 FD + 1 AA + 1FB

Method of Analysis: TO-15 Hi/Lo

Data Element Acceptable	Canister Receipt	HT	GC/MS Tunes + Calibrations	Internal Stds + Surrogates	LCS	Lab Dup (LCS and LD)	Field Duplicates	RL & Quant.
Yes	✓	✓	✓	✓	✓	✓	✓	
No								Sensitivity not met for 1 result

Other Issues :**Blank Action:** Estimate (EB) 2 results

A combined Full Scan and SIM Analysis was performed for each sample for 22 Project-specific VOCs listed in Table B.1 of the Work Plan, as shown on page 6 of this checklist. The full scan analysis was reported with an "A" suffix and the SIM analysis with a "B" suffix appended to the laboratory sample ID.

DV Summary: All quality control information associated with accuracy, precision, and sensitivity for the project-specific list of 8 VOCs reported met project criteria for the samples in this SDG except for Freon 12 in AA0402_20180905, which was reported as a non-detect above the project-required RL. Two results were estimated (EB) indicating that the Field Blank reported results at levels comparable to the levels found in the samples. All data are considered usable for project decisions.

A limited data checklist review (Tier 2) was performed on Quality Control forms associated with this data package, which involved evaluation of the following (where applicable): agreement of analyses conducted with COC requests; Holding times and sample preservation; Laboratory blanks/equipment blanks/ field blanks results compared to field sample results; Field duplicate results; Quantitation limits and sample results; Surrogate and Internal Standard recoveries; LCS/LCSD results; Laboratory duplicate results; instrument tuning and calibration summaries; and evaluation of laboratory qualifiers applied to the dataset. The project narrative was also reviewed to determine whether additional issues were found that weren't reported in the QC previously evaluated. No raw data was reviewed nor were any re-calculations of data performed.

Data Package Completeness: All required forms (results, summary QC, COC), as needed to validate the data in accordance with NYSDEC ASP and the Work Plan were present in the data package.

Date: 10/25/18Data Reviewer: Nancy C. Rothman, Ph.D.

Associated Blanks: Method Blank: 20091406 /20091406simFB: FB0402_20180905

Blank ID	Contaminant / Level ($\mu\text{g}/\text{m}^3$)	Action Level FB DF = 1.99	Sample and reported result ($\mu\text{g}/\text{m}^3$)	Corrected Database Result
20091406	None		No Blank Action Required	
20091406sim	None		No Blank Action Required	
FB0402_20180905	Acetone 20	18	AA0402_20180905 17	17 EB
		17	FD04_20180905 27	No Action
		16	IA0416_20180905 20	No Action
		17	IA0438_20180905 26	No Action
		16	IA0487_20180905 20	No Action
		16	IA0486_20180905 22	No Action
FB0402_20180905	Toluene 2.2	1.9	FD04_20180905 2.2	No Action
		1.9	IA0416_20180905 3.4	No Action
		1.7	IA0438_20180905 2.2	No Action
		1.8	IA0487_20180905 1.2	1.2 EB
		1.8	IA0486_20180905 2.5	No Action
			The other sample was ND - no additional action	
FB0402_20180905	m,p-Xylene 0.91	0.79	FD04_20180905 2.3	No Action
		0.72	IA0416_20180905 2.9	No Action
		0.76	IA0438_20180905 1.6	No Action
		0.74	IA0487_20180905 1.1	No Action
		0.74	IA0486_20180905 2.2	No Action
			The other sample was ND - no additional action	

Additional Notes:

Sample Receipt: Samples were collected in 6 L Summa Canisters. Samples were all collected for about 8 hours (the "Time of Collection" listed on the COC shows 2 times such as 7:18 - 15:18). The vacuum for all samples was > 25" Hg in field prior to sample collection. The samples were received intact at Eurofins - Air Toxics on 9/10/18. The canister number identified on the Chain-of-Custody for sample IA0486_20180905 was incorrectly identified as N0110; however, the actual canister number, which was verified in the logbooks and certification records, was N1253.

Canister Certification: Canisters were Certified pre-cleaned - certificates of analysis were reported and indicate that all Target compounds were non-detect in the canisters prior to being sent to the field.

Sample Integrity: The canister vacuums (field initial, field final and lab receipt) were acceptable for all samples. All canisters were over-pressurized to 5 - 5.2 psi prior to analysis. No Action required.

Holding Time (HT): Samples were analyzed on 9/14/18; therefore HT was met. No Action required.

BFB Tunes: Instrument 20 Tunes (2 for ICAL + 1 for CCAL) - all criteria in all tunes were met and all samples were analyzed within 12 hours of tune; therefore, No Action Required.

ICALs: Instrument 20 Full Scan and SIM performed on 9/10/18-9/11/18. Full Scan = 7- to 9-level calibration from 0.05, 0.1, or 0.5 to 40 ppbV for all 22 Target compounds plus several non-target compounds. SIM = 9- to 10-level calibration from 0.01 or 0.02 to 20 ppbV for 3 Targets shown in the Table on page 5 plus 1,1-dichloroethene and cis-1,2-dichloroethene plus several other non-target compounds. %RSD ≤ 30% for all 22 Target Compounds. RLs reported (as indicated in the table at the end of this checklist for DF=2 analysis) were supported by the ICALs. NOTE: 1,1-dichloroethene and cis-1,2-dichloroethene were reported by SIM analysis even though RLs by full scan met project sensitivity requirements. No Action required

CCALs: 20091402/20091402sim - % Recovery 70-130% for all 22 Target compounds - No Action required.

Surrogates & Internal Standards: All 3 Surrogates had %Recovery within criteria and all IS' had Areas and RTs within criteria in all analyses; therefore, No Action Required.

LCS/LCSD: 20091403/20091404 & 20091403sim/20091404sim - %Recovery acceptable for all 22 Targets in LCS and LCSD and LCS/LCSD RPDs all OK; therefore, acceptable accuracy and precision demonstrated for analysis of the 22 VOCs by Full Scan + SIM analysis.

LD: LD analysis not performed for the samples in this Work Order. LCS/LCSD reported instead, which reported acceptable precision except as listed above.

Additional Notes:

Qualifier Action: There were no qualifiers other than "U" placed on the data (i.e., no "J" results reported). All data were reported within the instrument calibration range.

Compound Reporting & Sensitivity: All reporting limits were at a level below the Project required RL (as shown in Table B.1, which is reproduced on page 6 of this Checklist) except for Carbon Tetrachloride in samples AA0402_20180905, FD04_20180905, and IA0438_20180905, which had RLs exceeding the expected RL; however, as carbon tetrachloride was detected in all of these samples, sensitivity for these data are considered acceptable. Freon 12 RLs were all higher than required due to calibration issues; however, Freon 12 was detected in all samples except AA0402_20180905, so sensitivity was not acceptable for Freon 12 in AA0402_20180905. The data users will need to evaluate this one Freon 12 non-detect above project sensitivity criteria for project uses.

Narrative: The narrative did not raise any additional issues that would affect data quality.

Field Duplicate Evaluation_ Sample IDs:

Sample = IA0486_20180905

FD = FD04_20180905

Analyte Name	CAS No.	DF = 1.61* RL (µg/m³)	Sample Result µg/m3	Q	Result Level	FD Result µg/m3	Q	FD Level	RPD	Action
Freon 12	75-71-8	4.2	4.7		< 5xRL	4.4		< 5xRL	6.6	None
Freon 11	75-69-4	0.97	52		< 5xRL	49		< 5xRL	5.9	None
Freon 113	76-13-1	1.3	1.3	U	RL	1.2	U	RL	NA	None
Acetone	67-64-1	2	27		> 5xRL	22		> 5xRL	20.4	None
Methylene Chloride	75-09-2	1.2	9.4		> 5xRL	9		> 5xRL	4.3	None
1,1,1-Trichloroethane	71-55-6	0.94	0.94	U	RL	0.88	U	RL	NA	None
Benzene	71-43-2	0.55	0.55	U	RL	0.51	U	RL	NA	None
Toluene	108-88-3	0.65	2.2		< 5xRL	2.5		< 5xRL	12.8	None
Tetrachloroethene	127-18-4	1.2	2.8		< 5xRL	3.1		< 5xRL	10.2	None
Chlorobenzene	108-90-7	0.79	0.79	U	RL	0.74	U	RL	NA	None
Ethyl Benzene	100-41-4	0.75	0.93		< 5xRL	0.96		< 5xRL	3.2	None
m,p-Xylene	108-38-3/ 106-42-3	0.75	2.3		< 5xRL	2.2		< 5xRL	4.4	None
o-Xylene	95-47-6	0.75	0.8		< 5xRL	0.88		< 5xRL	9.5	None
1,3-Dichlorobenzene	541-73-1	1	1	U	RL	0.97	U	RL	NA	None
1,4-Dichlorobenzene	106-46-7	1	1	U	RL	0.97	U	RL	NA	None
1,2-Dichlorobenzene	95-50-1	1	1	U	RL	0.97	U	RL	NA	None
1,2,4-Trichlorobenzene	120-82-1	6.4	6.4	U	RL	6	U	RL	NA	None
Vinyl Chloride	75-01-4	0.044	0.044	U	RL	0.041	U	RL	NA	None
1,1-Dichloroethene	75-35-4	0.068	0.068	U	RL	0.064	U	RL	NA	None
cis-1,2-Dichloroethene	156-59-2	0.14	0.14	U	RL	0.13	U	RL	NA	None
Carbon Tetrachloride	56-23-5	0.22	0.44		< 5xRL	0.44		< 5xRL	0.0	None
Trichloroethene	79-01-6	0.18	0.18	U	RL	0.17	U	RL	NA	None

*The FD DF was 1.72

** Action only taken for RPD > 20% if one or both results are > 5 x RL or if one result ND and other results > 5 x RL

Q = Data Qualifier as reported by EATL and/or NEH; U = non-detect, J = estimated result; UJ = non-detect is estimated; EB = Equipment Blank Action

NA = Not Applicable. RPD not calculated since one or both results were non-detect.

FD precision was acceptable for all Target VOCs in the FD pair of IA0486_20180905 and FD04_20180905 - No Action required.

Date: 10/25/18Data Reviewer: Nancy C. Rothman, Ph.D.

Method of Analysis: TO-15 Hi/Lo

Compound List and Project-required Reporting Limits (RL)

Target Analyte Name		Full Scan (Full) or SIM		RL ($\mu\text{g}/\text{m}^3$)
Tetrachloroethene (PCE)		Full		1.4
Trichloroethene (TCE)		SIM		0.22
cis-1,2-Dichloroethene (cDCE)		Full		0.8
1,1-Dichloroethene (DCE)		Full		0.8
Vinyl chloride (VC)		SIM		0.06
1,1,1-Trichloroethane (TCA)		Full		1.1
Carbon Tetrachloride		SIM		0.2
Methylene chloride (MeCL)		Full		1.4
Chlorobenzene		Full		0.92
1,2,4-Trichlorobenzene		Full		7.4
1,2-Dichlorobenzene		Full		1.2
1,3-Dichlorobenzene		Full		1.2
1,4-Dichlorobenzene		Full		1.2
Acetone		Full		2.4
Benzene		Full		0.64
Ethylbenzene		Full		0.86
m, p-Xylene		Full		0.86
o-Xylene		Full		0.86
Toluene		Full		0.77
Trichlorofluoromethane (Freon 11)		Full		1.1
Dichlorodifluoromethane (Freon 12)		Full		1
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)		Full		1.5

Reported by SIM for this Work Order
Reported by SIM for this Work Order

Actions (see References below):

Canister Integrity: If certification forms indicate issues, J/U or UJ results in samples

Canister Vacuum (Vac): Initial Field Vac < 25" Hg, J/UJ all results; Lab Receipt Vac > 15" Hg, J/UJ results; Lab Receipt Vac > ± 5" Hg of Final Field Vac, J/UJ results

Hold Time (HT): HT > 30 days, J detects/ UJ non-detects

Blank Actions: Sample-specific Blank Action Level = Level in the Blank x (Sample DF/Blank DF)

Method Blank (MB): Result < RL, U result at RL; RL < Result < Blank Action, U result at level reported

Equipment Blank (EB): Result < Blank Action, EB result at level reported

BFB Tune: SW-846 method 8260B tune criteria not met, professional judgment on R of all data; samples analyzed > 12-hours after tune; professional judgment on J/UJ or R of results

LCS and CCV: Percent Recovery (%Rec) < 10%, J detects, R non-detects; 10% < %Rec < 70%; J/UJ all associated data; %Rec > 130%, J detects - no action for non-detects

Initial Calibration (ICAL): %RSD > 30%, J/UJ associated results

Internal Standard (IS): RT > ± 0.33 min of IS RT in daily CCV, J/UJ associated results;

Area < 25% Area in CCV, J detects, R non-detects (or professional judgment); 25% < Area < 60% of CCV Area, J/UJ associated results; Area > 140% of CCV Area, J detects, no action for non-detects

Surrogates: %Rec < 10%, J detects, R non-detects; 10% < %Rec < 70%; J/UJ all associated data; %Rec > 130%, J detects - no action for non-detects

Laboratory Duplicates: LCS/LCSD RPD or Sample/LD RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL

Field Duplicates: RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL

RLs + Quant: Compound reported outside calibration range (< RL or at ppbV level > sample-specific highest ICAL standard for compound), J data. Note if RL > expected RL from Table B.1 of Work Plan (see above)

References: *Work Plan, RCRA Facility Investigation (RFI), VOC Source Assessment IBM East Fishkill Facility, Hopewell Junction, New York*, prepared by Sanborn, Head & Associates, June 2009; NYSDEC Analytical Services Protocol, June 2005 with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria, February 2008; USEPA Region II SOP HW-31, Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15, Rev. 6, June 2014; and Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS), Publication EPA/625/R-96/010b, January 1999